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By Alameda County Environmental Health 3:09 pm, Jun 15, 2017

May 19, 2017

Mr. Keith Nowell
Hazardous Materials Specialist
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502



City Ventures

Re:

**Second Addendum to the Remedial Action Plan for Import Fill Approval
City Ventures Oakland 2 Site
2240 Filbert Street, Oakland
ACEH Site RO#0003157
Stantec PN: 185703027**

Dear Mr. Nowell:

Enclosed with this cover letter is the Second Addendum to the Remedial Action Plan for Import Fill Approval for Multiple Parcels for the above-referenced City Ventures Oakland 2 location.

As an authorized representative of City Ventures, I offer the following statement:

I, Andrew Warner, have read and acknowledge the content, recommendations, and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Should you have any questions please contact me at (415) 845-0293 or andrew@cityventures.com.

Thank you,

Andrew Warner
Director Development
City Ventures



May 19, 2017

Mr. Keith Nowell
Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

SUBJECT: City Ventures Oakland 2 - MULTIPLE PARCELS, WEST GRAND AVENUE, FILBERT AND MYRTLE STREET, OAKLAND, CALIFORNIA – RO0003157

REFERENCE: SECOND ADDENDUM TO THE REMEDIAL ACTION PLAN FOR IMPORT FILL APPROVAL

Dear Mr. Nowell,

On behalf of City Ventures (CV) for the real property located at 2240 Filbert Street in Oakland, California (the "Site"; Figure 1), Stantec Consulting Services Inc. (Stantec) is submitting this Second Addendum ("Addendum") to the previously approved *Remedial Action Plan* (RAP), prepared by Stantec and dated March 2, 2017. This addendum addresses the selection process for potential fill material to be used at the Site and the procedures for obtaining approval for use of imported material. Following the selection process and sampling criteria outlined below, and with approval from Alameda County Environmental Health (ACEH), any import fill material identified by CV and approved by ACEH that meets the criteria and testing described below can be used at the Site.

Previously, Stantec identified a source for fill material to be imported to the site and obtained approval from ACEH in a letter dated May 26, 2016 (Attachment A). In that letter, ACEH authorized the use of the Vulcan Materials Pleasanton Quarry as import material for the Site. That material can be used at the Site without limitations.

Additionally, adequate site characterization has been completed at the Site. Excess soil generated from shallow grading during construction may be used at other parts of the Site, as long as the soil was not generated from areas previously identified for remedial excavation and offsite disposal.

This addendum provides sampling and handling procedures for the use of other import fill materials at the Site. These other materials fall into two categories; the import fill may either be permeable or non-permeable material. The following sections describe the approval process.

Non-Permeable Import Fill

CV or its contractors seeking approval for the use of a non-permeable fill material will follow criteria in the October 2001 Department of Toxic Substance Control (DTSC) *Information Advisory Clean Import Fill Material* ("guidance document"). The guidance is summarized in the following bullets:

- Generally, fill material should be from a non-industrial location such as an area that was previously undeveloped, or previously used strictly for residential or agricultural purposes. If agriculture was the previous use, care should be taken to ensure that the fill does not include



SECOND ADDENDUM TO THE REMEDIAL ACTION PLAN FOR IMPORT FILL APPROVAL

agricultural waste process by products. Additionally, areas where hazardous materials may have been handled or stored, or unpaved parking areas where petroleum hydrocarbon impacts could be present should be avoided.

- Sampling of the import fill source area will be completed in accordance with the DTSC guidance document. This sampling protocol differs if the borrow area is a stockpile or currently in place. Sampling shall meet the minimum requirements by number and spacing to adequately characterize the import fill material.
- Profiling of the import fill material will be conducted as appropriate for the source. The DTSC guidance document will be followed to ensure the proper target compounds are analyzed for in the samples collected from the borrow area. If a Phase I or Preliminary Environmental Assessment (PEA) has been completed for this borrow area, findings of that evaluation shall be used to create the appropriate list of analyses.
- Analytical results from the samples collected from the borrow area will be compared to acceptable guidelines presented by DTSC Human and Ecological Risk Office (HERO), currently Note 3 (June 2016) and Note 7 (October 2016 for PCE). If a constituent of concern is not presented in HERO Note 3, it will be compared to applicable screening levels provided in the USEPA Regional Screening Levels (updated May 2016). Should ACEH default to a local Waterboard agency for soil screening, then the borrow area source soils would be compared to the most updated San Francisco Regional Board Environmental Screening Levels (ESLs), currently June 2016. Associated metals in the borrow area should be screened to region-specific background levels.

Details of the sampling and a summary of analytical data in comparison to the appropriate screening levels will be summarized in a report, and certified by an appropriately licensed CA Professional Engineer or Geologist to document the acceptance of the fill material imported to the Site. Appropriately characterized and approved non-permeable fill material can be used at the Site without limitation.

Crushed Concrete Permeable Import Fill

CV or its contractors seeking approval for the use of a non-permeable fill material will follow criteria in the New Jersey Department of Environmental Protection (NJDEP) *Solid and Hazardous Waste Management Program, Guidance for Characterization of Concrete and Clean Material Certification for Recycling* and NJDEP's *Guidance for the Sampling and Analysis of Concrete Designated for Recycling* (Attachment B). Crushed concrete material, if used, will be placed at a minimum of five feet above the highest site groundwater elevation and used in accordance with specifications established by the project geotechnical engineer. The guidance is summarized in the following bullets:

- Concrete material identified for recycling will be analyzed in accordance with the NJDEP *Guidance for the Sampling and Analysis of Concrete Designated for Recycling* which is preferably conducted on in situ concrete core samples or can also be conducted on post-demolition samples;



May 19, 2017
Page 3

SECOND ADDENDUM TO THE REMEDIAL ACTION PLAN FOR IMPORT FILL APPROVAL

- Sampling will include analysis of the concrete for contaminants applicable to the source site in accordance with the NJDEP guidance (number of samples per cubic yard and applicable analytes); and
- Applicable contaminants will include, at a minimum, CAM 17 metals. The final contaminant list will depend on the type of site providing the concrete and the operations that were carried out at the site. Selection of applicable contaminants for analysis will be conducted in consultation with the ACEH.

Details of the sampling and a summary of analytical data in comparison to the appropriate screening levels will be summarized in a report, and certified by an appropriately licensed CA Professional Engineer or Geologist, in consultation with the ACEH, to document the acceptance of the fill material imported to the Site. Appropriately characterize and approved permeable fill material can be used at the Site only if placed on top of the existing grade. Any import fill needed to replace excavated soils will need to be from a non-permeable source.

Thank you for your cooperation on this project. Should you have any questions or need additional information, please contact either of the undersigned.

Regards,

STANTEC CONSULTING SERVICES INC.

Dan Schreiner, P.G.
Senior Geologist
916.472.3915

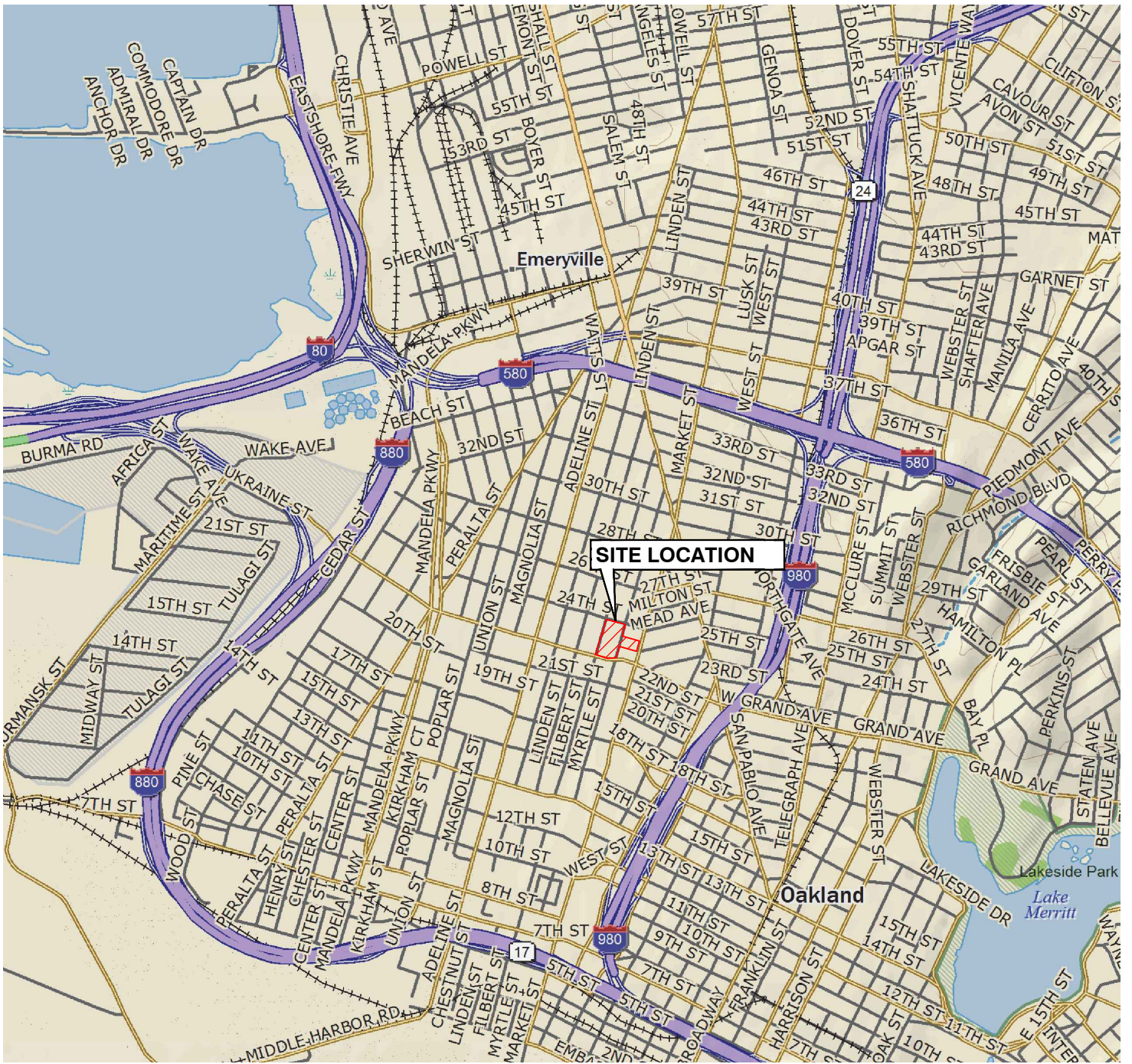


Angus McGrath
Principal Geochemist
925.296.2134

Cc: Andrew Warner, City Ventures
Geotracker (upload)

Attachments: **Figure 1 – Site Location Map**
Attachment A – ACEH May 26, 2016 Approval Letter
Attachment B – NJDEP Guidance Documents

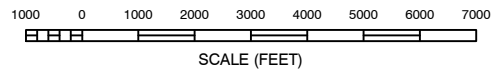
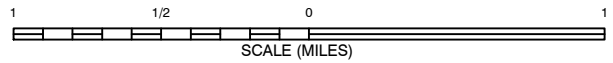
Figure



North



CALIFORNIA



REFERENCE: USGS 7.5 MINUTE QUADRANGLE, OAKLAND WEST, CALIFORNIA



1340 Treat Boulevard, Suite 300
Walnut Creek CA 94597-7966
Ph: (925) 296-2133 Fax: (925) 941-1401

FOR:
CITY VENTURES
MULTIPLE PARCELS
W. GRAND AVE, FILBERT, AND MYRTLE ST.
OAKLAND, CALIFORNIA

SITE LOCATION MAP

FIGURE:

1

JOB NUMBER:
185703027.200.0001

DRAWN BY:
MDR

CHECKED BY:
DS

APPROVED BY:
AS

DATE:
2/27/17

Attachment A



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

May 26, 2016

Andrew Warner
City Ventures
444 Spear Street, Suite 200
San Francisco, CA 94105
(Sent via electronic mail to andrew@cityventures.com)

Subject: Import Fill Approval; Voluntary Cleanup Program Case No. RO0003157 and GeoTracker Global ID T10000006445 - City Ventures, 2240 Filbert Street, Oakland, CA 94607

Dear Mr. Warner:

Alameda County Environmental Health (ACEH) has reviewed the case file including the recently submitted document entitled *Quality Assessment of Virgin Class 2 Aggregate Base (VAB)*. The VAB was prepared by Berlogar Stevens & Associates and dated February 28, 2013. The VAB was provided as an attachment to an electronic mail provided to ACEH by Stantec Consulting Services Inc. (Stantec), dated May 24, 2016.

The VAB provides laboratory analysis data for two samples of Virgin Class 2 Aggregate Base (VC2) material from the Vulcan Materials Quarry (VMQ) in Pleasanton, CA. The scope of analysis for the VC2 includes total petroleum hydrocarbons (TPH) as gasoline (TPHg), TPH as diesel (TPHd), TPH as motor oil (TPHo), benzene, toluene, ethylbenzene, and xylenes (collectively BTEX), methyl tertiary butyl ether (MTBE), the 17 Title 22 metals (CAM 17 metals), polychlorinated biphenyls (PCBs), and organochlorine pesticides (OCPs).

Concentrations of TPHg, TPHd, TPHo, BTEX, MTBE, PCBs, and OCPs were reported below the laboratory reporting limits for the two samples. Concentrations of the Title 22 metals were reported at concentrations below the laboratory reporting limits or within background concentrations for the respective metals.

ACEH authorizes the use of the VC2 material from the Vulcan Materials Pleasanton Quarry as import for the subject case if VMQ personnel are of the opinion the 2013 VAB analytical results are reflective of the VC2 material currently being quarried from the Vulcan Materials facility. Please include a communication from the VMQ, as an attachment to the report requested below, addressing the applicability of using the 2013 VAB analytical results as a surrogate for the current VC2 quarry source.

Following completion of the backfilling of the lead-impacted-soil excavation, ACEH requests preparation and submittal of a report documenting the excavation activities by the date specified below. The report should include, but not be limited to, summary data tables for air monitoring, and interim and final excavation confirmation samples with depths and analytical results, and figure(s) documenting the soil sample depths and locations and air monitoring stations, and disposal manifests.

TECHNICAL REPORT REQUEST

Mr. Andrew Warner
RO0003157
May 26, 2016, Page 2

Please upload technical reports to the ACEH ftp site (Attention: Keith Nowell), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- **June 17, 2016 – Interim Remediation Report** - File to be named RO3157_IR_R_yyyymm-dd

Thank you for your cooperation. ACEH looks forward to working with you and your consultants to advance the case toward closure. Should you have any questions regarding this correspondence or your case, please call me at (510) 567-6764 or send an electronic mail message at keith.nowell@acgov.org.

Sincerely,



Digitally signed by Keith Nowell
DN: cn=Keith Nowell, o, ou,
email=keith.nowell@acgov.org, c=US
Date: 2016.05.26 09:26:25 -07'00'

Keith Nowell, PG, CHG
Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

cc: Eva Hey, Stantec Environmental Consulting Services Inc., 1340 Treat Boulevard, Suite 300 Walnut Creek CA 94597-7966 (*Sent via electronic mail to Eva.Hey@stantec.com*)

Angus McGrath, Stantec, Stantec Environmental Consulting Services Inc., 1340 Treat Boulevard, Suite 300 Walnut Creek CA 94597-7966 (*Sent via electronic mail to Angus.McGrath@stantec.com*)

Dilan Roe, (*sent via electronic mail to dilan.roe@acgov.org*)
Keith Nowell (*sent via electronic mail to keith.nowell@acgov.org*)
Electronic File, GeoTracker

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: May 15, 2014
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to deh.loptoxic@acgov.org
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
 - a) Using Internet Explorer (IE4+), go to <ftp://alcoftp1.acgov.org>
 - (i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
 - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

Attachment B

**The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program**

**Guidance for Characterization of Concrete and
Clean Material Certification for Recycling**

(Updated January 12, 2010)

I. Overview:

The New Jersey Department of Environmental Protection (Department or NJDEP) is requiring the characterization, preferably by in situ predemolition sampling, or post-demolition sampling, through the laboratory analysis of concrete, post-demolition concrete-processing fines and brick and block (referred to herein as concrete) at all New Jersey demolition and construction sites that have the Department's Site Remediation Program's and Licensed Site Remediation Professional Program's, (SRP) oversight when the concrete is designated for: 1) recycling pursuant to N.J.A.C. 7:26A *et seq.*; or, 2) beneficial use pursuant to N.J.A.C. 7:26-1.7(g), rather than disposal as solid waste. This characterization requirement applies to demolished buildings, concrete roadways and related structures such as, but not limited to, sidewalks and curbing. The Department is taking this step to ensure that the concrete entering the State's concrete recycling system is clean and will not contaminate otherwise clean sites. The Department is also outlining in the, "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" (Guidance), how site owners can self-certify building materials as clean prior to demolition without sampling and analysis. See Section VI for information on clean building certification compliance procedures.

The Sampling and Analysis Protocol outlined below is for certain contaminants that the Department recognizes may be found in concrete from contaminated sites. Only uncontaminated concrete will normally qualify for unrestricted recycling, while some minimally contaminated concrete or concrete fines may qualify for beneficial uses but only with Department approval.

For example, asphalt-contaminated concrete or concrete mixed with soils may meet beneficial use requirements for certain conditional uses at roadways. No sampling of the concrete from a site is required under this guidance if the property owner chooses to dispose of all of the material as solid waste. Note that Department approval pursuant to N.J.A.C. 7:26-1.7(g)8 is required for the beneficial use of materials out of state, which may require sampling and analysis of the material to meet the receiving State's requirements.

II. Concrete Materials Characterization:

Through either in situ, which is the preferred approach, or post demolition sampling the site owner is responsible for characterizing the concrete in the structures the owner is demolishing. In situ sampling and analysis is sampling prior to demolition at targeted areas of the structure, which are known and suspected areas of contamination, in order to determine contamination levels. More detailed information concerning in situ sampling requirements is described in Section V below.

Alternatively, the owner may elect to conduct post-demolition sampling and analysis of the concrete from a structure or consolidation of concrete from roadway and related structures. The concrete material must be stockpiled on the property where it is generated if it is to be considered for either recycling or beneficial use. The material should be staged in Sampling Areas of segregated material based on any knowledge of contamination and sampled according to the Sampling and Analysis Protocol below in Section V. Otherwise the concrete must be managed as solid waste per the solid waste regulatory requirements at N.J.A.C. 7:26 *et seq.* All sampling must take place where the material is generated in accordance with the Department's Technical Requirements for Site Remediation at N.J.A.C. 7:26E, including the Field Sampling Procedures Manual.

III. Criteria for Materials Disposition:

The disposition of all concrete material from contaminated sites with the Department's **SRP's** oversight at contaminated sites shall be determined by characterization of the material using the results of sampling and analysis conducted according to this Guidance. The analytical results shall be compared to the Department's most recent Soil Remediation Standards (SRS) at N.J.A.C. 7:26D, which are publicly available at the following website: <http://www.nj.gov/dep/srp/regs/rs/> .

Note that the Impact to Groundwater Soil Remediation Standards are not applicable to the materials addressed in this guidance.

Data averaging is not permitted in order to achieve compliance with the standards.

For material that is intended to be used on the site of generation sampling and management of material must be conducted in compliance with the requirements of the Department's case manager.

Concrete materials containing contamination entirely below the Department's Residential Direct Contact Soil Remediation Standards (RDCSRS) shall be considered eligible for transfer: 1) to a Class B Recycling Center holding a General or Limited Approval for recycling, 2) for recycling per the recycling site approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20, or 3) for direct unrestricted use on or off site in compliance with all other requirements. Compliance with any Federal, State, and local requirements is still required for all uses of concrete materials.

Materials containing any contaminant above the Department's RDCSRS are considered solid wastes and must be managed in accordance with all statutory and Department regulatory requirements including, but not limited to, the full requirements for solid waste pursuant to the Solid Waste Regulations at N.J.A.C. 7:26 *et seq.* including classification as hazardous waste as necessary, or at specific Class B recycling centers authorized to accept the material, or beneficial use in accordance with Department requirements. Department guidance for conducting Beneficial Use Projects and a project application form are available at <http://www.state.nj.us/dep/dshw/rtrp/bud.htm> . These contaminated materials do not qualify for the following: 1) recycling at the State's Class B, or other, Recycling Centers holding a General Approval or at Class B Limited Recycling Centers approved in

accordance with the requirements at N.J.A.C. 7:26A-3.7 unless the facilities are specifically authorized to accept the material; 2) recycling at sites operating per the recycling approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20; and, 3) for direct reuse or recycling on or off of the site of generation without Department approval.

IV. Separation of Distinct Demolition Areas and Materials:

The sampling and analysis protocol specified in this document in Section V is based on defining distinct areas of the structure for initial in situ sampling or demolition based on known and suspected areas of contamination within or on a structure, roadway or pad or any other “area of concern”. Demolition shall be planned to prevent the mixing of areas of demolition that are contaminated with uncontaminated areas in the form of a demolition workplan. The site owner is obligated to develop and implement a plan to segregate contaminated materials from uncontaminated materials. Demolition practices should separate out materials that may be contaminated prior to and/or concurrent with demolition, for proper manifesting and/or disposal as solid waste.

V. Sampling and Analysis:

1. What Demolition Materials to Sample: Source Separated Concrete, Block, Brick and Concrete Fines (processed concrete fines or concrete mixed with soil, sand, stone, etc.) at all New Jersey demolition and construction sites that have the Department’s Site Remediation Program’s oversight at a contaminated site.

2. How to Sample:

- a. **Biased Sampling:** All sampling, including in situ sampling, shall be biased toward visible staining or other indication of potential contamination: such as the source of the material, coloration or odor.
- b. **Sampling Methods:** the Department is specifying approved sampling methods as either chip or core samples. Core samples shall be no deeper than 1 inch unless staining or discoloration indicates that contamination is below that depth. Sampling logs shall record the depth of core samples. This would further support the Self Certification Process discussed below. Confirmatory sampling is required of material intended for recycling if suspected contaminated sections of material are removed.
- c. **Sampling Areas:** Sampling areas shall be determined based on each distinct area of demolition such as separate properties, separate structures on the same property, known or suspected areas of contamination within a structure or roadway, or designated Areas of Concern (AOC). The Department case manager may be consulted as an option for advice, or a determination, of which structures to sample.

Sampling Frequency: In situ sampling frequency is dependent on the number of areas of biased sampling and whether contamination is found at sampling locations. Material used for samples shall not exceed 1 (one) inch maximum in

depth. If additional material is needed for a sample additional sample(s) should be colocated at the sampling point. In situ samples shall always be discrete samples and not composited.

Each post-demolition Sampling Area, such as accumulated concrete material in individual staged stockpiles, shall be sampled at the following rate. Material used for individual samples shall not exceed 1 (one) inch maximum in size, and depth. If additional material is needed for a sample additional sample(s) should be colocated at the sampling point.

(Each composite sample must include 1 sample for each 20 yds³.)

<u>Quantity</u>	<u>Number of Composite Samples</u>
Less than 400 yds ³ -	1/100 total yds ³
400 yds ³ – 2000 yds ³ -	1/200 total yds ³ + 2
Over 2000 yds ³ -	1/500 total yds ³ + 8

(Ex. 1: 310 total yds³ project requires: (310/100) = 4 samples.)
 (Ex. 2: 735 total yds³ project requires: (735/200) + 2 = 6 samples.)
 (Ex. 3: 1,750 total yds³ project requires: (1750/200) + 2 = 11 samples.)
 (Ex. 4: 5,000 total yds³ project requires: (5000/500) + 8 = 18 samples.)
 (Note: for any amount over a volume increment round up to the next highest number of samples as in ex. 1 and 2.)

3. What Contaminants to Analyze: (Analysis Profile)

All sampling and sample analyses shall be conducted in accordance with the criteria and methods specified in the Technical Requirements for Site Remediation at N.J.A.C. 7:26E *et seq.* The Department sanctions composite sampling for the purposes of post-demolition materials characterized for management per this Guidance. In situ samples shall always be discrete samples and not composited.

For all sites:

a. **PCBs & PAHs: :**

Sample and analyze in all concrete and concrete fine materials. If the recycled concrete is going to be used as road base, the requirement to analyze for PAHs may be eliminated by the site case manager.

Based on site-specific factors, or as directed by the SRP Manager:

b. **TCLP, TAL/TCL+30, TPH:**

If known or suspected at industrial, mining or other sites, or as directed by the Department’s Case Manager for the site, analyze for VOCs, SVOCs, TCLP Pesticides, Herbicides; TAL/TCL+30, TPH, and as required on a case-specific basis RCRA TCLP including TCLP metals.

c. **Dioxins/Furans:**

If known or suspected at industrial, mining or other sites, or as directed by the site Case Manager for the site, use USEPA Method 1613B, 1ppt detection limit, 17-congener profile, or the latest Department-approved method. Consult the Department for a case-specific determination for use of materials containing

elevated levels of dioxins/furans above a screening level of 50 parts per trillion (ppt) total 17-congener Toxicity Equivalent (TEQ) off site.

d. **Radionuclides as Naturally Occurring Radioactive Material (NORM):**

If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, analyze by gamma spectroscopy for the natural series of radionuclides. The representative samples should be dried, sealed and counted after 21 days. The minimum detectable concentration requirement for Ra-226 and Th-232 daughter nuclides should be 0.5 picoCuries per gram (pCi/g) on dried material. Provide laboratory documentation of analysis and methodology. The laboratories must be certified by the Department's Office of Quality Assurance (OQA) for radionuclides in soil analysis DOE 4.5.2.3. Contact Mr. Vas Komanduri of OQA at (609)984-0855 for a current list of certified laboratories.

The following industries are recognized by the Department's Bureau of Environmental Radiation as having the potential to have technologically enhanced Naturally Occurring Radioactive Material (NORM) contamination potential: Paper and pulp facilities; Ceramics manufacturing; Paint and pigment manufacturing; Metal foundry facilities; Optical glass; Fertilizer plants; Aircraft manufacture; Munitions and armament manufacture; Scrap metal recycling; Zirconium manufacturing; Oil and gas production, refining, and storage; Electricity generation; Cement and concrete product manufacture; Radiopharmaceutical manufacturing; Geothermal energy production.

If material is from a radioactive materials licensee or a former licensee, or is a radioactively contaminated site, contact the Bureau of Environmental Radiation case manager for assistance.

VI. Clean Building Self Certification Compliance:

This section discusses the procedures for the owner of a structure self certifying that the structure is clean. The Department will allow the owner of a site that is a demolition and construction site with the **SRP's** oversight that is required to comply with this Guidance, to self certify the site, or a portion or portions of the site's structures, as clean either based on the results of in situ or post-demolition sampling and analysis prior to concrete material disposition per this guidance document or by reviewing the historical uses and construction features of the site. Note that each individual building or structure at the site from which concrete will be generated for recycling or use as outlined above must undergo either sampling and analysis per the guidance in sections I through V of the "Guidance for Characterization of Concrete and Clean Material Certification for Recycling," or one of the two self-certification procedures described in this section.

The person completing the certification must be a principal executive officer, general partner or proprietor of the company or a high level official of a government-owned site. The site owner has the option of providing a delegation of authority, which assigns responsibility for signing the Certification Statement from the officer or high ranking official to the local site manager, to the Department with the Certification Statement.

1. Self Certification with Sampling/Analysis:

The self Certification process with sampling specifies that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants based on site-specific factors or as directed by the SRP's Case Manager, below the Department's Soil Remediation Standards. The site owner shall base the self Certification on analytical data from the testing of the concrete in accordance with this Guidance and certify that the concrete was fully characterized and also managed according to the requirements of this Guidance. The owner of the site is responsible for compliance with this Guidance, maintaining all documentation related to the demolition and material characterization process including demolition and sampling plans, analytical testing documentation and material disposition after self Certification and filing self Certification documents with the Department.

The owner of the property where the concrete sampling was conducted shall complete the Certification in Addendum 2 of this Guidance, which the owner shall have notarized and retain with the characterization documentation on site for a minimum of five years. The owner of the property is responsible for submitting a copy of the executed Certification to the SRP Case Manager for the site.

2. Self Certification without Sampling/Analysis using the "Clean Building Checklist":

The self Certification process without sampling specifies that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants based on site specific factors or as directed by the SRP's Case Manager, below the Department's Soil Remediation Standards based on an assessment of the historical uses of the site and building construction materials. The site owner shall base the self Certification on the results of the "Clean Building Checklist" in accordance with this Guidance and certify that the concrete is clean based on the assessment of the building and also managed according to the requirements of this Guidance. The owner of the site is responsible for compliance with this Guidance, maintaining all documentation related to the demolition and assessment process including demolition and sampling plans, analytical testing documentation and material disposition after self certification and filing self Certification documents with the Department.

The owner of the property for which the, "Clean Building Checklist for Recycling" was used to assess the status of material contamination in the building shall complete the Certification in Addendum 2 of this Guidance, noting that the "Clean Building Checklist" was used to determine the building's concrete and related materials are clean. The owner shall have the Certification notarized and retain with the other related facility documentation. The owner of the property is responsible for submitting a copy of the executed Certification to the SRP Case Manager for the site.

ADDENDUM 1
The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program
CLEAN BUILDING CHECKLIST for RECYCLING

Activity	Yes	No	* If “Yes”, Include Detailed Comments
1. Was the building constructed or concrete poured in the year 2000 or later?			
2. Was the building constructed or the concrete poured between 1990 and 1999?			
<u>3. The following questions apply to the current and historic use of the building (including prior owners and operators):</u>			
a. Did the building contain liquid filled transformers?			
b. Did the building contain liquid filled PCB equipment?			
c. Did the building contain oil filled equipment?			
d. Did the building contain chemicals?			
e. Did the building contain heat transfer equipment?			
f. Was the building utilized for an industrial process where chemicals may have been manufactured or used?			
4. Does the building have doorways that are caulked?			
5. Does the building have windows that are caulked?			
6. Does the building have exterior panels with joints that are caulked?			
7. Does the building have floor concrete expansion joints that are caulked?			
8. Are there any sumps, floor drains or pits in a chemical room or process area <u>(include current and historic operations)</u> ?			
9. Did the building have chemical waste collection areas <u>(current and historic operations)</u> ?			
10. Did the building have storage areas for raw materials or finished products that contained liquids <u>(include current and historic operations)</u> ?			

(March 2007)

Sampling and Analysis Summary: (Detailed direction for sampling and analysis is described in the Guidance.)

- No sampling or analysis is required for any buildings or concrete poured 2000 or later
- Buildings constructed between 1990 and 1999; sampling is only required in areas with an affirmative response as required in the, “Clean Building Checklist for Recycling”
- Buildings containing caulking, expansion joints and constructed between 1990 and 1999, sampling for PCBs is required
- Nonbuilding structures (i.e., sidewalks, curbs, driveways, etc.) constructed between 1990 and 1999, analysis of PCBs & PAHs is required
- * Include or attach appropriate documentation to support claims.

ADDENDUM 1 (cont.)

CLEAN BUILDING CHECKLIST for RECYCLING - INSTRUCTIONS

Clean Building Checklist Determination:

To certify that a nonindustrial use building (i.e., cafeterias, offices hotels, etc.) or structure (i.e., sidewalks, etc.) are free of contamination (a.k.a., clean) because of the building's historical uses and operations, the owner of the facility should, at a minimum, conduct the following:

For nonindustrial use buildings or structures constructed in the year 1990 or later, complete the Department's "Clean Building Checklist", a series of questions related to the historical use(s) of such structures and buildings, the age, etc. If, after completing the checklist, the owner determines that no evidence of industrial use has occurred, the building or structure is considered clean and no sampling will be required. If the building or structure can not be documented as clean, then targeted sampling is required using the protocol below. Follow the Certification process in the Guidance.

Building Self Certification Process Summary:

For nonindustrial use buildings and structures constructed prior to 1990 or if the completion of the "Clean Building Checklist" revealed possible industrial uses, targeted sampling shall be performed of the caulking from windows, doorways, expansion joints in floors and external panels, spacers from other structures, transformers and electrical supply areas and other known or suspected contaminated building components;

Targeted sampling shall be completed as follows: the caulking from one outer doorway will be sampled for PCBs and PAHs. If it can be documented that all the doorways were installed at the same time and no physical alterations were made since installation, then the one sample shall be representative. Otherwise, samples will be taken from multiple outer doorways and composited into one sample. At a minimum, at least one 5-sample composite from different doorways shall be analyzed from each building's doorway caulking for PCBs. The same sampling protocol shall be followed for windows, expansion joints in floors and external panels, spacers from other structures, transformers and electrical supply areas or other known or suspected contaminated building components;

A copy of the results shall be retained for five years and shall be certified by the site operations manager or the ranking corporate officer at the site according to the procedure in the Department's "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" available at:

<http://www.state.nj.us/dep/dshw/resource/techman.htm#concrete> .

Note: that this is the recommended Guidance at this time only for determining that concrete and related materials are suitable for recycling in the State's recycling system.

ADDENDUM 2:
The New Jersey Department of Environmental Protection
Solid and Hazardous Waste Management Program

CERTIFICATION STATEMENT FOR CONCRETE DESIGNATED
FOR RECYCLING

"I certify under penalty of law that I have personally examined and am familiar with the information related to this material characterization documentation concerning the self Certification of the site named herein and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, complete and meets the requirements of the latest, **“Guidance for Characterization of Concrete and Clean Material Certification for Recycling”** issued by the New Jersey Department of Environmental Protection that all of the concrete and concrete materials contain contamination of PCBs and PAHs, and other contaminants as directed by the SRP Case Manager, below the Department’s Soil Remediation Standards. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I understand that, in addition to criminal penalties, I may be liable for a civil administrative penalty pursuant to N.J.A.C. 7:26-5 and that submitting false information may be grounds for denial, revocation or termination of any solid waste facility permit, vehicle registration or other Department authorization for which I may be seeking approval or now hold."

Note below whether Sampling was conducted and/or the “Clean Building Checklist” was completed:

Sampling Conducted: Complete “Clean Building Checklist:

NAME OF SITE

ADDRESS

CITY, STATE & ZIP CODE

NAME OF CERTIFYING PERSON (must be a corporate officer) **TITLE**

SIGNATURE OF CERTIFYING PERSON (must be a corporate officer) **DATE**

TELEPHONE **FAX**

INTERNET WEBSITE ADDRESS **EMAIL**

IMPORTANT

Pursuant to N.J.S.A. 47:1A-1 et seq. the information provided in this form and its attachments shall be available to the public for review unless a specific claim of confidentiality is submitted pursuant to the procedures set forth in N.J.A.C. 7:26-17 et seq. and is approved by the Department. For assistance regarding confidentiality claims, please contact the Solid and Hazardous Waste Management Program at (609) 984-6985.

SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Certification of Concrete Sampling as of the date first written above.

[If Owner is an individual]

WITNESS:

[Signature]

[Print name below signature]

[If Owner is a corporation]

ATTEST:

[Name of corporation]

By _____

[Print name and title]

[Signature]

[If Owner is a general or limited partnership]

WITNESS:

[Name of partnership]

[Signature]

By _____, General
[Print name] Partner

[If Owner is an individual]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person [or if more than one person, each person]

(a) is named in and personally signed this document; and

(b) signed, sealed and delivered this document as his or her act and deed.

_____, Notary Public
[Print Name and Title]

[If Owner is a corporation]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the [secretary/assistant secretary] of [Owner], the corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the [president/vice president] of the corporation;

(c) this document was signed and delivered by the corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

[Signature]

[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

[Print name and title]

[If Owner is a partnership]

STATE OF [State where document is executed] SS.:
COUNTY OF [County where document is executed]

I certify that on _____, 20__, [Name of person executing document on behalf of Owner] personally came before me, and this person acknowledged under oath, to my satisfaction, that this person:

(a) is a general partner of [Owner], the partnership named in this document;

(b) signed, sealed and delivered this document as his or her act and deed in his capacity as a general partner of [owner]; and

(c) this document was signed and delivered by such partnership as its voluntary act, duly authorized.

[Signature]

_____, General Partner

[Print Name]

_____, Notary Public

[Print name and title]

Guidance for the Sampling and Analysis of Concrete Designated for Recycling

I. Overview:

The New Jersey Department of Environmental Protection (Department) is requiring the characterization by sampling and analysis of concrete and concrete-processing fines at all New Jersey demolition and construction sites that have the Department's Site Remediation and Waste Management Program's (SRWMP) oversight at a contaminated site when the concrete is designated for: 1) recycling pursuant to N.J.A.C. 7:26A *et seq.*; or, 2) beneficial use pursuant to N.J.A.C. 7:26-1.7(g), rather than disposal as solid waste. This characterization requirement applies to demolished buildings, concrete roadways and related structures such as, but not limited to, sidewalks and curbing. The Department is taking this step to ensure that the concrete entering the State's concrete recycling system is clean and will not contaminate otherwise clean sites.

The Sampling and Analysis Protocol outlined below is for certain contaminants that the Department recognizes may be found in concrete from contaminated sites. Only uncontaminated concrete will qualify for recycling, while some minimally contaminated concrete or concrete fines may qualify for beneficial uses but only with Department approval. For example, asphalt-contaminated concrete or concrete mixed with soils may meet beneficial use requirements for certain conditional uses at roadways.

II. Materials Management:

After demolition of a structure or consolidation of concrete from roadway repairs, if the concrete material is designated for either recycling or beneficial use then the concrete material must be stockpiled at the site of generation and sampled according to the Sampling and Analysis Protocol below. Otherwise the concrete must be managed as solid waste per the requirements at N.J.A.C. 7:26 *et seq.* All sampling must take place at the site of generation in accordance with the Department's Technical Requirements for Site Remediation at N.J.A.C. 7:26E, including the Field Sampling Procedures Manual. The Department Case Manager may authorize in situ sampling, which is sampling prior to demolition, for initial site screening and may make site-specific modifications to these sampling and analysis requirements at the Department's discretion. No material may be moved from the site of generation until the analytical results for the material are provided to the Department for review and the Department has approved the material for recycling or beneficial use. The Department may require the disposal of some or all of the material as solid waste if it determines that the material is too contaminated for recycling or beneficial use.

III. Criteria for Materials Disposition:

The disposition of all concrete material from contaminated sites with the Department's SRWMP's oversight at contaminated sites shall be determined by characterization of the material using the results of sampling and analysis conducted according to this guidance.

The analytical results shall be compared to the Department's most recent Soil Cleanup Criteria (SCC), which are publicly available at the following website:
<http://www.state.nj.us/dep/srp/regs/scc/index.html> .

Materials containing contamination entirely below the Department's Residential Direct Contact Soil Cleanup Criteria (RDCSCC) shall be considered eligible for transfer: 1) to a Class B Recycling Center holding a General or Limited Approval for recycling, 2) for recycling per the recycling site approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20, or 3) for direct unrestricted use on or off site in compliance with all other requirements. Compliance with any local ordinances would still be required.

Materials containing any contaminant above the Department's RDCSCC are considered solid wastes and must be managed in accordance with the full requirements for solid waste pursuant to the Department's Solid Waste Regulations at N.J.A.C. 7:26 *et seq.* These materials do not qualify for the following: 1) recycling at the State's Class B, or other, Recycling Centers holding a General Approval or at Class B Limited Recycling Centers approved in accordance with the requirements at N.J.A.C. 7:26A-3.7; 2) recycling at sites operating per the recycling approval exemption requirements at N.J.A.C. 7:26A-1.4(a)2, 7, or 20; and, 3) for direct reuse or recycling on or off of the site of generation without Department approval. The generator of materials containing contamination above the RDCSCC may apply to the Department for a Certificate of Authority to Operate a Beneficial Use Project per the requirements at N.J.A.C. 7:26-1.7(g) in order to obtain authorization to use the materials either in or out of the State.

IV. Separation of Distinct Demolition Areas and Materials:

The sampling and analysis protocol specified in this document is based on defining distinct areas of demolition based on properties, structures and known and suspected areas of contamination within or on a structure, roadway or pad or any other "area of concern". Based on these factors, demolition shall be planned to prevent the mixing of these "distinct areas of demolition" and the consultant/responsible party is obligated to develop, implement and provide justification for how the "distinct areas of demolition" piles were generated. Demolition practices shall separate out materials such as paint, caulk, and contaminated residue or material, prior to and/or concurrent with demolition, for proper manifesting and waste disposal. This information and practices shall be used to support and justify sampling frequency and protocols.

V. Sampling and Analysis Protocol:

1. What Demolition Materials to Sample: Source Separated Concrete, Block, Brick and Concrete Fines (processed concrete fines or concrete mixed with soil, sand, stone, etc.) at all New Jersey demolition and construction sites that have the Department's Site Remediation Program's oversight at a contaminated site.

2. How to Sample:

- a. **Biased Sampling:** All sampling shall be biased toward visible staining or other indication of potential contamination: such as the source of the material, coloration or odor.
- b. **Sampling Areas:** Sampling areas shall be determined based on each distinct area of demolition such as separate properties, separate structures on the same property, known or suspected areas of contamination within a structure or roadway, or designated Areas of Concern (AOC) as previously proposed and approved and/or supplemented by the Department case manager.
- c. **Sampling Frequency:** Each Sampling Area shall be sampled at the following rate:
 - (Cumulative composite sampling of 1 sample per 20 yds³)
 - Less than, or first 400 yds³ - 1 Composite Sample per each first 100 yds³
 - 400 yds³ – 2000 yds³ - 1 Composite Sample per each next 200 yds³
 - Over 2000 yds³ - 1 Composite Sample per each next 500 yds³

3. What Contaminants to Analyze: (Analysis Profile)

For All Sites:

- a. **PCBs & PAHs:** sample and analyze in all concrete and concrete fine materials.

Based on site-specific factors or as directed by the Department Case Manager:

- b. **TCLP, TAL/TCL+30, TPH:** If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, analyze for RCRA TCLP including TCLP metals, VOCs, SVOCs, TCLP Pesticides, Herbicides; TAL/TCL+30, TPH.
- c. **Dioxins/Furans:** If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, use USEPA Method 1613B, 1ppt detection limit, 17-congener profile, or the latest Department-approved method.
- d. **Radionuclides:** If known or suspected at industrial, mining or other sites, or as directed by the Department's Case Manager for the site, analyze by gamma spectroscopy for the natural series of radionuclides. The representative samples should be dried, sealed and counted after 21 days. The minimum detectable concentration requirement for Ra-226 and Th-232 daughter nuclides should be 0.5 picoCuries per gram (pCi/g) on dried material. Provide laboratory documentation of analysis and methodology. The laboratories must be certified by the Department's Office of Quality Assurance (OQA) for radionuclides in soil analysis (SHW09.60130). Contact Mr. Vas Komanduri of OQA at (609) 984-0855 for a current list of certified laboratories.