



# Clean Fill

CT DEP March 2009



# Revising the Definition of Clean Fill: Managing Contaminated Soil, Sediments, and Other Materials

- Where we are today
- Where we are going
- Why we are proposing changes
- What changes are being proposed

# Which is clean fill?



# Soil/Fill Management:

## *Where we are going*

- **Regulatory** change proposing— *public notice soon*
  - Revise “clean fill” and clarify materials reuse options
- **Statutory** change proposed—*current bill*
  - Beneficial Use Determination authority
- 3 General Permits Being Developed
  - **Staging and Transfer** -- *issued September 2006*
    - allows stockpiling for characterization, treatment, and consideration of re-use options
  - **Beneficial Use** – *being developed—paused to update regulations*
    - Simplify ability to reuse soil, dredged sediment, etc. for common uses that are specifically pre-determined
  - **Treatment** -- *Next (after issuance of Beneficial Use General Permit)*

## Beneficial Use Means:

- Soil or fill--if soil/sediment meets criteria
- Cover material at landfills
- Feedstock to asphalt/aggregate plants
- Aggregate in road structure/sub-base
- Manufactured soil [after treatment and testing]

# Current (1996) Regulatory Framework

- **Clean Fill**

- “Natural Soil” = no detectable contaminants, rock
- Brick, Ceramics, Concrete, Asphalt Paving Fragments
  - *Must be “virtually inert” and not pose a fire hazard or threat to groundwater*
- Polluted soil *reused per RSR re-use rules*
  - *submit map to CT DEP; meet RSR criteria; anti-degradation*

- **Solid Waste**

- *Mismanaged “clean fill” materials [polluted soil, asphalt, brick, concrete]*
- *“Contaminated dredge spoils” [“contaminated” not defined in regulations]*
- *No clear path to reuse or recycling*

Is this clean fill?



10/07/2008

# Revision of “Clean Fill” Definition

*Goal: Reduce the costs of cleanup and redevelopment by simplifying reuse of soil and recycling of construction materials.*

## Problem

*Different practices within and between construction industry and remediation industry results in varied and inefficient disposal and reuse decisions, generally creating unlevel field for brownfields.*

## Current state

- **CT RSRs 1996 version allows for reuse of soil as clean fill only if soil meets RSR criteria-must map and get DEP reuse approval on individual basis**
- Limited reuse options means material often shipped long distances for disposal.
- **Declining capacity of landfills in CT & MA limits future options of reusing soil as cover material.**

***Where we are going: to simplify reuse we will:***

- **Define bright line for reuse:** clarify point at which waste regulations do & don't apply
- Eliminate or minimize sampling at receiving site
- Balance reuse concerns with limited disposal capacity and reduced greenhouse gas emissions for net environmental benefit

***What we are doing: to address the problem we are:***

**Revising Solid Waste Management Regulations** to clarify “clean fill” definition and establish “regulated /recyclable fill” definition

**Establishing permit for reuse facilities**

Generators can simply send excess soil, sediments, asphalt, brick, concrete to a registered reuse facility

**Creating General Permit for Beneficial Use**

[to allow reuse as road sub-base, reuse in asphalt, as landfill cover, etc.]

# Regulatory Reform Goal

**Purpose:** Simplify and de-regulate reuse of materials generated during remediation and redevelopment projects.

**How: Revise “clean fill”** definition and **create “regulated/reusable fill”** definition to clearly distinguish between “natural soil” and contaminated soil, sediments, and construction materials.

# ***Proposed De-regulation:***

## ***New section 22a-209d-1***

*The below materials would not be regulated as solid waste when used, reused, or recycled as a construction or grading material [and would not require specific approval as is currently required]:*

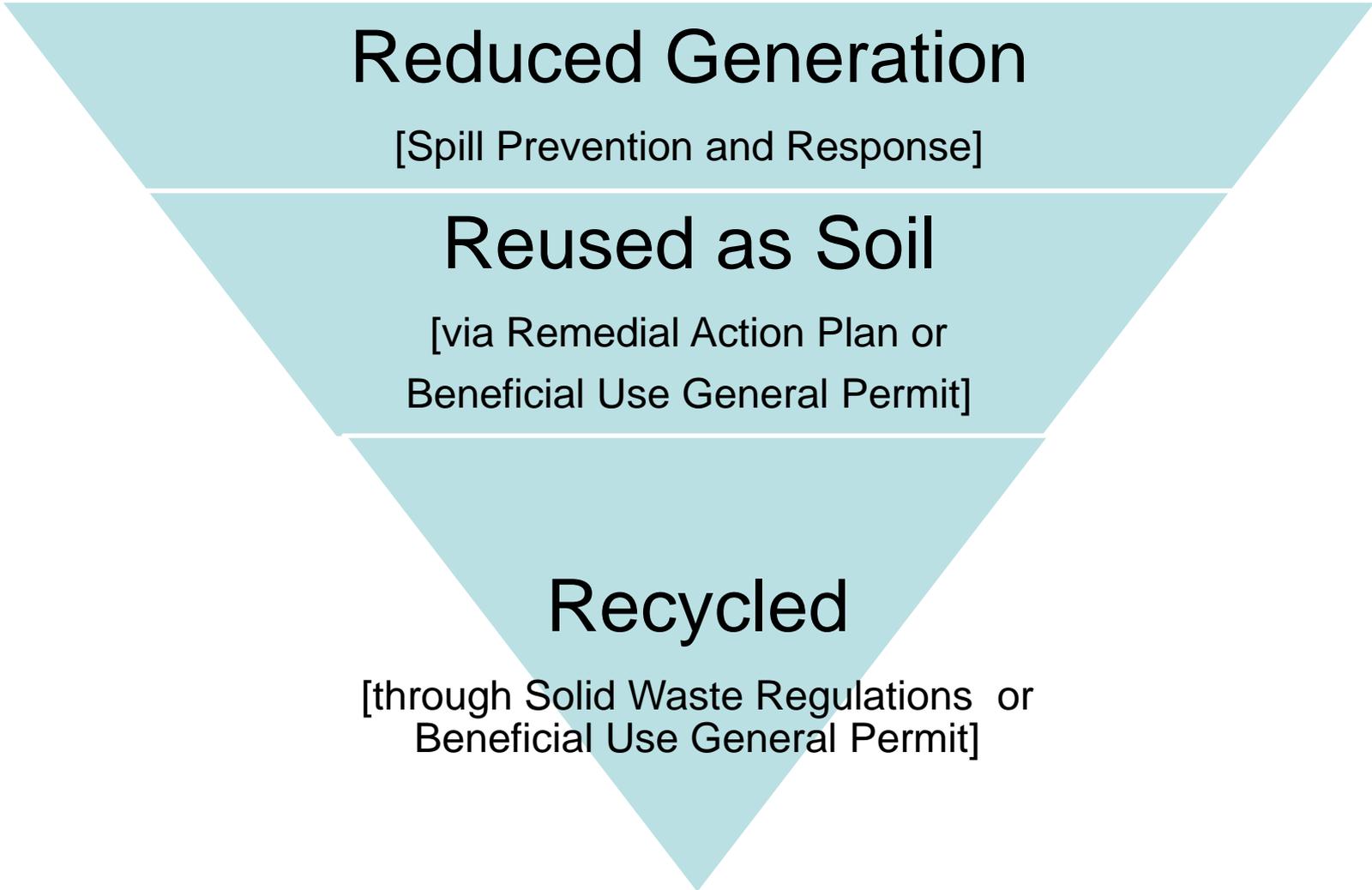
- ✓ Clean Fill [natural soil with no contamination]
- ✓ Clean brick, concrete, ceramics **reused in construction**
- ✓ Reclaimed asphalt **directly reused** in construction of roads, bridges, incidental construction, parking areas, etc.

# Summary of Proposed Solid Waste Regulatory Revisions *November 2008*

- **Clean Fill** *[used per 22a-209d-1]*
  - Natural Soil
  - Soil, sediments, rock, stone
    - From quarries, banks, borrow pits, etc.
    - From households
- **Conditional Fill** *[may be reused per 22a-209d-1]*
  - Soil below GA PMC and Res DEC for general use
  - Soil below approximately 50% of RSR criteria for sensitive receptors
    - if reused at schools, residential property, if on-site supply well, etc.
- **Regulated fill** *[may be reused or recycled per 22a-209-18]*
  - Excavated soil and freshwater sediments above GA PMC and Residential DEC
  - Dredged marine sediments
  - Used brick, concrete, ceramics
  - Used asphalt
  - Street sweeps
- **Conditionally Exempt Solid Waste** *[if used per 22a-209d-1]*
  - Clean Fill
  - Clean brick, concrete, ceramics reused directly in construction or grading
  - Reclaimed asphalt directly reused as asphalt
- **Special Wastes** *[Solid Waste]*
  - Any of the above materials when **discarded instead of reused**
  - Other solid wastes identified in the definition of “special wastes”

Material/Media	Manage As: <i>Current</i>	Manage As: <i>Proposed</i>
Street Sweeps	<i>Solid Waste</i>	<b>Regulated Fill</b> if reused; <b>Solid Waste</b> if disposed
Asphalt paving fragments	<i>Solid Waste or</i> <b>If demonstrate that is inert and does not pose groundwater threat:</b> <i>Clean Fill</i>	<b>Exempt if direct reuse, otherwise - Regulated Fill</b>
Brick, ceramics, concrete	<i>Solid Waste or</i> <b>If demonstrate that is inert and does not pose groundwater threat:</b> <i>Clean Fill</i>	<b>Exempt if direct reuse, otherwise - Regulated Fill</b>
Dredged sediments—marine-all	Special wastes [“contaminated dredge spoils”]	<b>Regulated Fill</b>
Dredged sediments—freshwater-above GA PMC, Res DEC	Special wastes [“contaminated dredge spoils”]	<b>Regulated Fill</b>
Polluted soil -Above GA PMC, Res DEC	<i>Solid Waste or (Conditionally)</i> <i>Clean fill if reused per RSR rules</i>	<b>Regulated Fill</b>
Polluted soil & freshwater sediments -Below GA PMC, Res DEC	<i>Solid Waste or (Conditionally)</i> <i>Clean fill if reused per RSR rules</i>	<b>Exempt when managed as Conditional Fill, otherwise-Regulated Fill</b>
Natural soil [soil, stones, rocks]	<b>Clean fill</b> (no detections)	<b>Clean fill</b> <i>if natural soil and/or from quarry</i>

# Waste Management Hierarchy for Polluted Soil: Reduce, Reuse, Recycle (then dispose)



**Reduced Generation**

[Spill Prevention and Response]

**Reused as Soil**

[via Remedial Action Plan or  
Beneficial Use General Permit]

**Recycled**

[through Solid Waste Regulations or  
Beneficial Use General Permit]

# Next Steps

- Public Notice Proposed Regulations
- Consider comments received during formal public comment period as well as the many comments received in recent weeks as part of receiving input from various groups such as this one.
- Complete regulation revision process.

# Reference slides follow

- The following slides are provided for a quick reference to the proposed revisions.
- The proposed revisions are also at CT DEP's website at:
  - excerpt [easier to read] version
  - [http://www.ct.gov/dep/lib/dep/waste\\_management\\_and\\_disposal/regulations/draft\\_soil\\_sediment\\_fill\\_regs\\_and\\_summary\\_october\\_30\\_2008.pdf](http://www.ct.gov/dep/lib/dep/waste_management_and_disposal/regulations/draft_soil_sediment_fill_regs_and_summary_october_30_2008.pdf)
  - regulations proposed revisions--full edits with attached tables  
[http://www.ct.gov/dep/lib/dep/waste\\_management\\_and\\_disposal/solid\\_waste/solid\\_waste\\_regs--october\\_30\\_2008-revised.pdf](http://www.ct.gov/dep/lib/dep/waste_management_and_disposal/solid_waste/solid_waste_regs--october_30_2008-revised.pdf)

# Definitions

## Existing “Clean Fill”

“Clean fill” means:

- (1) **natural soil**
- (2) **rock, brick, ceramics, concrete, and asphalt paving fragments** *which are virtually inert and pose neither a pollution threat to ground or surface waters nor a fire hazard and*
- (3) **polluted soil** *as defined in subdivision (45) of subsection (a) of Section 22a-133k-1 of the Regulations of Connecticut State Agencies which soil has been treated to reduce the concentration of pollutants to levels which do not exceed the applicable pollutant mobility criteria and direct exposure criteria established in Sections 22a-133k-1 through 22a-133k-3 of the Regulations of Connecticut State Agencies and which soil is reused in accordance with R.C.S.A. subdivision (3) of Subsection (h) of section 22a-133k-2 of such Regulations.]*

## Proposed “Clean Fill”

(12) “Clean fill” means:

- (a) **Natural soil** *as defined in this section; or*
- (b) **Earthen materials** *consisting only of soils, stones or rocks, or a mixture or combination of such materials, which are:*
  - **Raw materials excavated or extracted** *from a borrow pit, earthen bank, gravel bank, mine or quarry; or*
  - **Excavated from a single residential real property** *composed of four residential units or fewer and not affected by a release of petroleum products, oils, chemicals or by any other polluting substance;*

# Definitions—New— “Conditional Fill”

**(13) “Conditional fill” means** any of the following or any mixture or combination of only the following - earthen material consisting only of **soil, stones or rocks** that have been excavated, **or sediments dredged from fresh water** - that:

(a) are known or may reasonably be expected to contain one or more substances **at concentrations at or below:**

1. all of the **Residential Direct Exposure Criteria** included as Appendix 1 to this section which is excerpted from Appendix A to sections 22a-133k-1 to 22a-133k-3, inclusive, of the Regulations of Connecticut State Agencies; and
2. all of the **GA Pollutant Mobility Criteria** included as Appendix 2 to this section which is excerpted from Appendix D to sections 22a-133k-1 to 22a-133k-3, inclusive, of the Regulations of Connecticut State Agencies;

(b) **are used, reused or recycled as fill, including structural fill, or as a grading material;** and

(c) **are used in compliance with section 22a-209d-1** of the regulations of Connecticut state agencies;

# Definitions—New— “Regulated Fill”

- (41) **“Regulated fill” means** any one or a mixture of the following, which is or will be used, reused or recycled as fill, including as structural fill, or as a grading material:
- A. **Earthen materials**, other than clean fill, consisting only of soil, stones or rocks that have been excavated, or sediments dredged from fresh water, any of which are known or may reasonably be expected to contain one or more substances at concentrations **exceeding either**:
    1. Any Residential Direct Exposure Criterion in Appendix 1 of this section which is excerpted from Appendix A to sections 22a-133k-1 to 22a-133k-3, inclusive, of the Regulations of Connecticut State Agencies; or
    2. Any **GA Pollutant Mobility Criterion** in Appendix 2 of this section which is excerpted from Appendix D to sections 22a-133k-1 to 22a-133k-3, inclusive, of the Regulations of Connecticut State Agencies;
  - B. **Sediments** dredged from salt water;
  - C. **Used brick, ceramic or concrete**, any of which are from construction, remodeling, repair or demolition operations or activities except when such materials are being or will be used, reused or recycled pursuant to section 22a-209d-1 of the Regulations of Connecticut State Agencies;
  - D. **Used asphalt or bituminous concrete** except when any such materials are being or will be used, reused or recycled pursuant to section 22a-209d-1 of the Regulations of Connecticut State Agencies; or
  - E. **Sand, waste and other debris from street sweeping activities**;

**(NEW) Section 22a-209-18.**  
**REGULATED FILL**  
**USE, REUSE AND RECYCLING**

*(a) Regulated fill shall be managed only as provided for in this section.*

*(1) No person shall use, reuse or recycle regulated fill unless such fill:*

*A. Is **used or reused beneficially** in compliance with a valid and effective written **authorization or permit** issued by the commissioner; or*

*B. Is **recycled at a facility** in compliance with a valid and effective written **authorization or permit** issued by the commissioner to the owner or operator of any such recycling facility.*

*(2) No person shall accumulate or store regulated fill for longer than three years before using, reusing or recycling such fill. Any person accumulating or storing such fill shall prevent erosion of such fill by implementing and maintaining sedimentation and erosion control measures, including, but not limited to, dust control measures.*

*(3) Any person accumulating, storing, using, reusing or recycling regulated fill shall comply with all other applicable requirements regarding such fill.*

(NEW) 22a-209d-1(b)  
**CATEGORIES AND REQUIREMENTS**  
**(for conditionally exempt solid wastes)**

*Provided the requirements of this section applicable to a material listed in the subdivisions to this subsection have been complied with, any such material shall not be considered a solid waste.*

*If the requirements of this section applicable to a material have not been complied with, any such material shall be a solid waste and shall be subject to all of the requirements applicable to the management of a solid waste.*

## **22a-209d-1(b) CATEGORIES AND REQUIREMENTS (for conditionally exempt solid wastes)**

- 1. CLEAN FILL.** *No person shall use clean fill, except in a lawful manner or for any lawful purpose.*
  
- 2. USED BRICK, CERAMIC, OR CONCRETE.** *Any person reusing or recycling used brick, ceramics or concrete, or any mixture of combination of only such materials shall:*
  - A. Determine that such materials are:*
    - i. clearly recognizable as containing only bricks, ceramics, or concrete;**
    - ii. visibly free of oil, adhesives, stains, and paint; and**
    - iii. free of contaminants,** *including, but not limited to, oils, paint, lead, mercury and PCBs, based on knowledge of the source of the material or on representative sampling and analyses of such material. The basis for compliance with this subclause shall be maintained, in writing, for three years by any person claiming that used brick, ceramics or concrete meets the requirements of this subclause. This three year period shall begin when it is first determined that any such material meets the requirements of this subclause; and*
  - B. Use, reuse or recycle such materials as a construction or grading material and not for any other purpose.*

***(b) CATEGORIES AND REQUIREMENTS  
(for conditionally exempt solid wastes)***

**3. RECLAIMED ASPHALT PAVEMENT.** *Any person reusing or recycling excavated bituminous concrete or asphalt pavement, including millings, shall ensure that:*

*A. such concrete or pavement is reused **as bituminous concrete or asphalt pavement** or is recycled by being added **as an ingredient to asphalt mix**; and*

*B. such **material is used, reused or recycled within two years** of its excavation.*

#### **4. CONDITIONAL FILL.**

*Any person who generates, manages, accumulates, collects, stores, uses, reuses, recycles, sells, or offers for sale material claiming that it is conditional fill:*

- (A) shall determine, **based upon knowledge of the material's source or based upon representative sampling and analyses** of such material, that all material claimed to be conditional fill meets the requirements of subsection (a)(2)(A)(i) and (ii) of this section [i.e., is below the Residential DEC and the GA PMC]. Notwithstanding the foregoing, any person that places, deposits, uses, reuses or recycles material claimed to be conditional fill, at any property, as provided for in subparagraph (D)(i) or(ii) of this subdivision, shall determine that such material meets the requirements of subsection (a)(2)(A)(i) and (ii) of this section based only upon representative sampling and analyses of such material;*
- (B) shall **maintain written records** regarding the basis for any determination made pursuant to subparagraph (a) of this subdivision. Such records shall include, but need not be limited to, a written description of the source of material claimed to be conditional fill or any written data from representative sampling and analyses of such material. Such records shall be kept for a minimum period of three years from the date of the excavation, transfer or sale of such fill material;*
- (C) shall provide written documentation that material claimed to be conditional fill meets the requirements of this section, **if** within three years of excavation, storage, accumulation or placement of such fill, such documentation is **requested** by the commissioner, a regional or municipal land use official, or a property owner on which such fill material is accumulated, stored, placed, used, reused or recycled. Such **written documentation shall be provided** no later than seven business days from the date of such request; and*

## Conditional fill, continued

***(D) shall use, reuse, or recycle such material as fill, including structural fill, or as a grading material only and not for any other purpose, except that such person shall not place, deposit, use, reuse or recycle material claimed to be conditional fill at:***

***(i) any property that includes a residence, dwelling, twelfth grade or lower level school, day care center, playground, or outdoor recreational area if such material contains any substance that exceeds any numeric criteria identified in Appendix 3 to this section [note: approx. 50% of RSR Residential Direct Exposure criteria for inorganic substances]; or***

***(ii) any property served by an on-site drinking water supply well if such material contains any substance that exceeds any numeric criteria identified in Appendix 4 to this section [note: approx. 50% of RSR soil criteria].***

*However, the additional requirements of subclauses (i) and (ii) of this subdivision shall not apply if the placement, use, reuse or recycling of material claimed to be conditional fill*

*(1) is approved in writing by the commissioner, or*

*(2) occurs at a **mixed-use development**. For purposes of this subdivision mixed-use development shall mean a development containing one or more multi-family or single family dwelling units or a twelfth grade or lower level school, day-care center, playground or outdoor recreational area and one or more commercial, public, institutional, retail, office or industrial uses.*