

# Regulatory Issues for Health Officers



# Vapor Intrusion (VI) and The Challenger of Trichloroethylene (TCE) & Soil Management

[www.Mass.Gov/dep](http://www.Mass.Gov/dep)

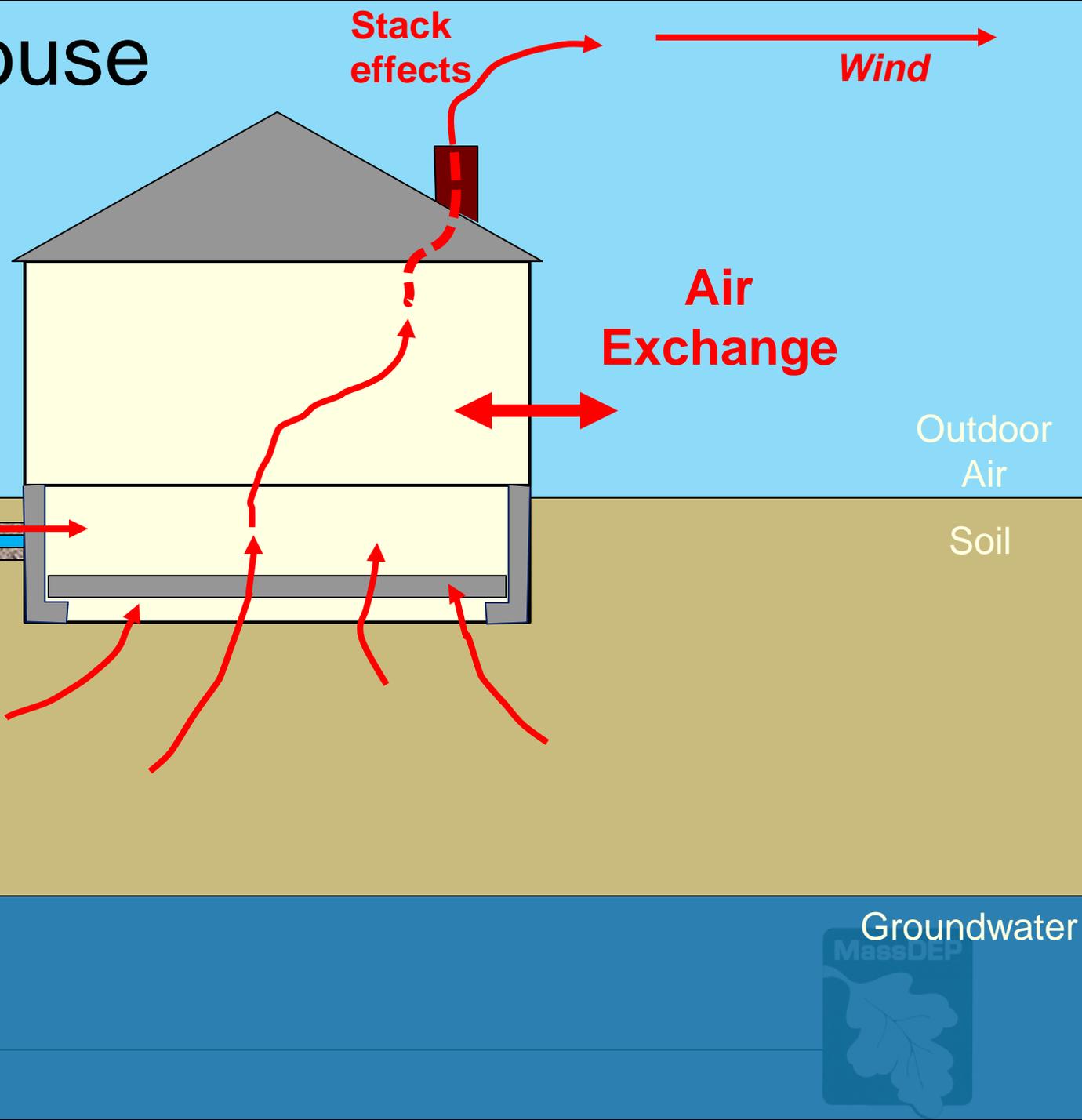


# What is Vapor Intrusion?



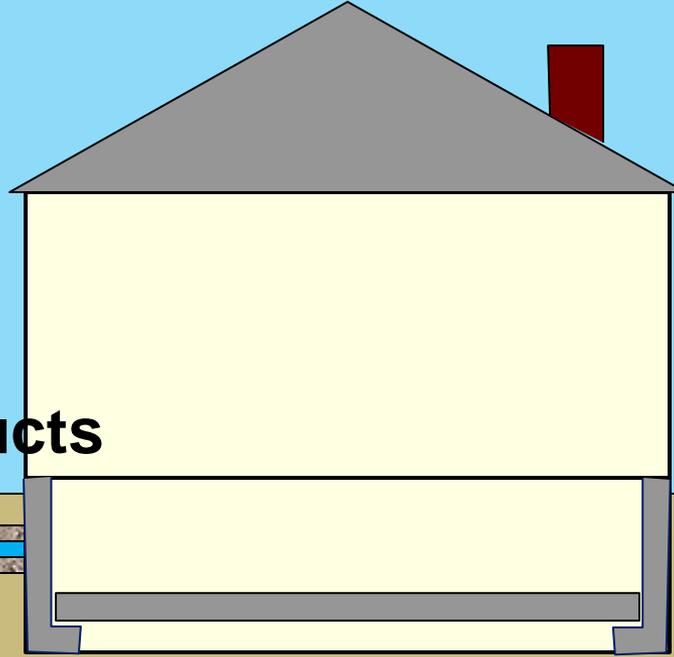
# A typical house breathes.

- Windows, Doors & Walls
- Chimney
- Foundation cracks
- Utility Lines



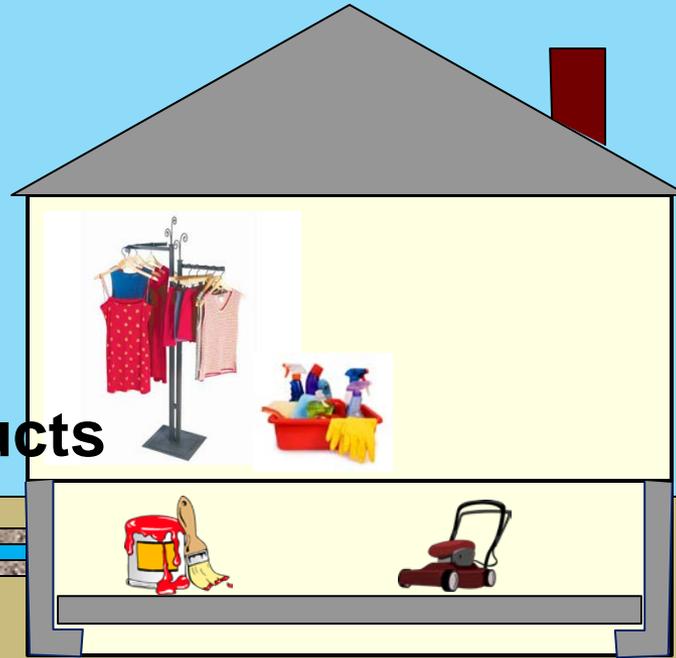
# A typical house contains chemicals

- Dry cleaning
- Old paint cans
- Gasoline
- Cleaning products



# A typical house contains chemicals

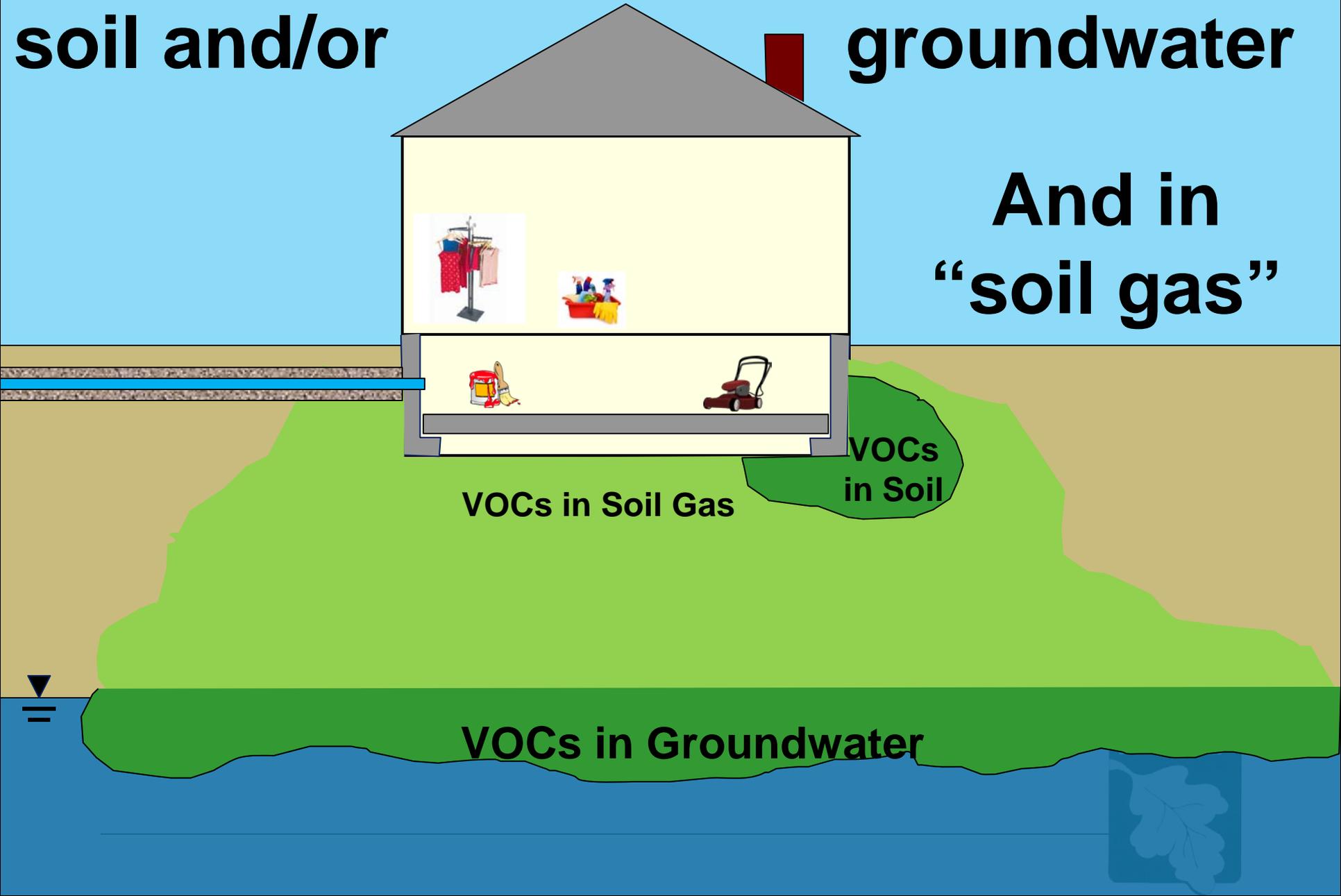
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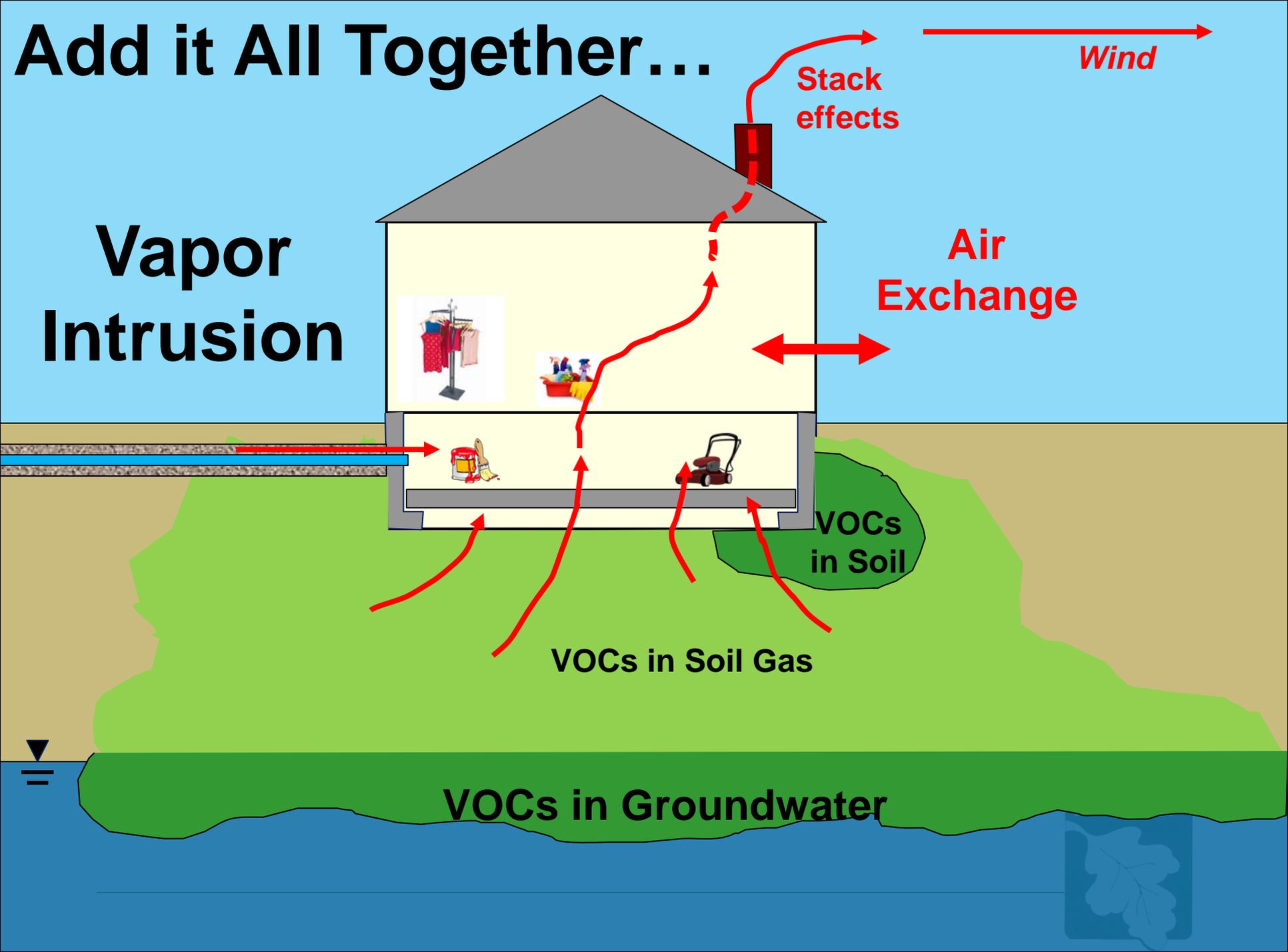
***Indoor sources of contamination  
COMPLICATES evaluation of  
Vapor Intrusion!***

**SOME houses have contaminated soil and/or groundwater**

**And in “soil gas”**



# Add it All Together...



**Vapor  
Intrusion**

**Stack  
effects**

*Wind*

**Air  
Exchange**

**VOCs  
in Soil**

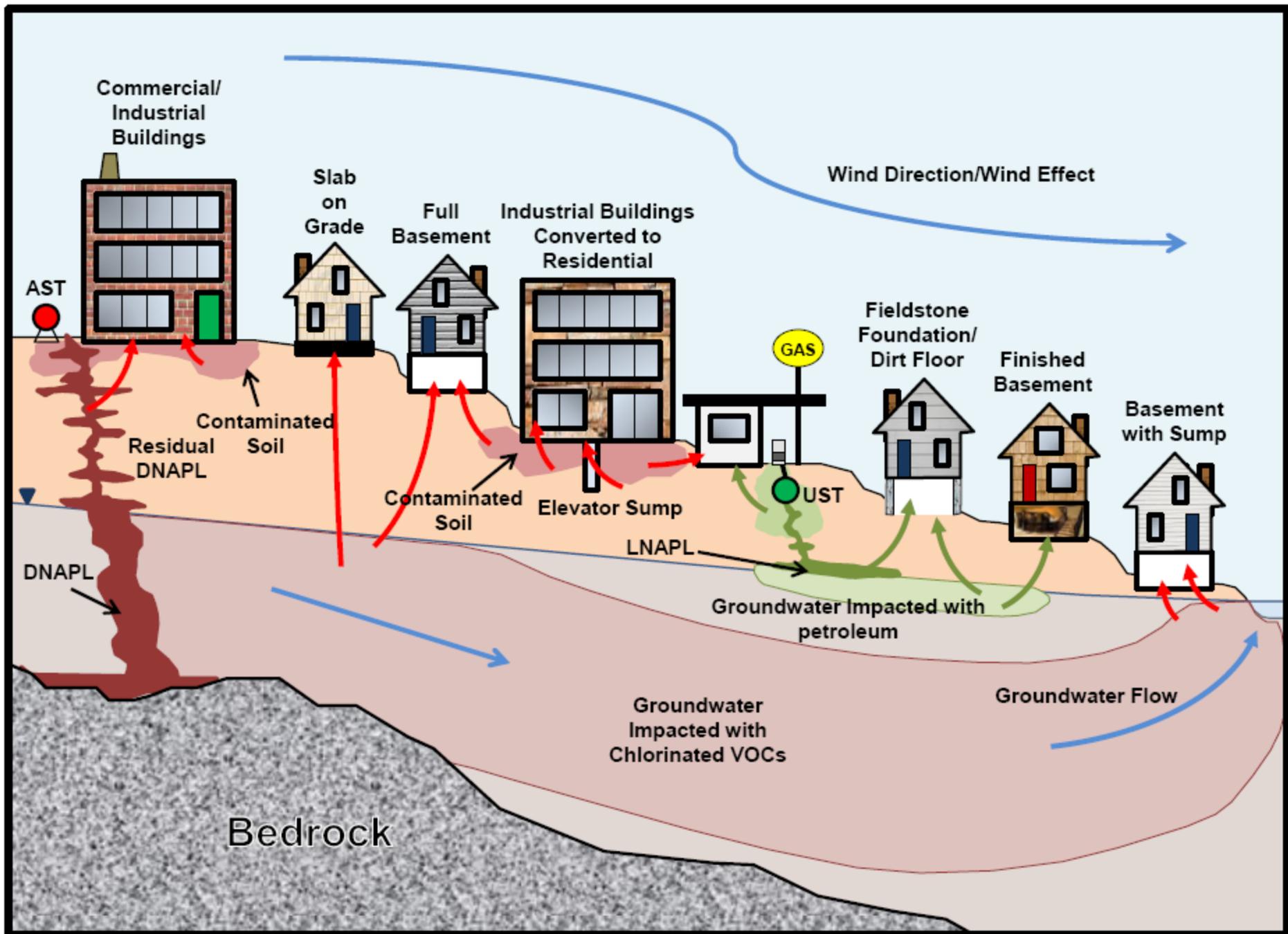
**VOCs in Soil Gas**

**VOCs in Groundwater**

That is a simple case.

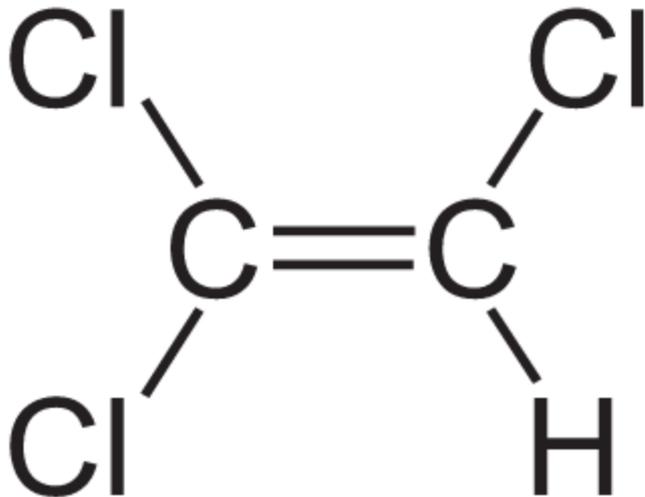
Meanwhile in the Real World...





# What is Trichloroethylene (TCE)?

- Chlorinated Volatile Organic Compound (cVOC)
- Used as a solvent, cleaner & metal degreaser
- Also a breakdown product of tetrachloroethylene



- Dense liquid (1.46 g/cm<sup>3</sup>)
- Volatile (58 mm Hg)
- Somewhat soluble (1.28 g/L)



# New USEPA Toxicity Information

*Considered carcinogenic to humans but most sensitive endpoint is non-cancer health effects:*

- 2011 EPA released new “Reference Concentration” (RfC) of  $2 \mu\text{g}/\text{m}^3$
- $2 \mu\text{g}/\text{m}^3$  is safe for short- and long-term exposure
- RfC considers developmental effects (fetal cardiac malformations) that may occur *after only a few days exposure* during early pregnancy



# At what point above $2 \mu\text{g}/\text{m}^3$ is TCE exposure a concern pregnant women?

- MassDEP raised the issue with its Health Effects Advisory Committee
- Short-term levels of concern identified for
  - Women who may be in their first 8 weeks of pregnancy;
  - General population;
  - Residential settings; and
  - Workplace settings



# Why is the Combination of VI & TCE of Concern?

1. Relatively low levels of TCE in soil or groundwater can result in low-but-significant contamination in indoor air
2. Limited options for effective short-term actions to reduce exposure potential
3. Sites closed under OLD cleanup standards may still have levels of concern in soil or groundwater



# MassDEP Review of Conditions at TCE Sites Closed Under Old Standards

- MassDEP will contact current owners
- MassDEP willing to conduct sampling to determine if current conditions require further assessment or response actions
- Primary concern is potential for exposure, NOT enforcement
- DEP will work with BoH (and DPH)



# Where Can I Learn More?

<http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/site-cleanup-policies-guidance.html#4>

- A Fact Sheet, *“TCE Toxicity Information: Implications for Chronic and Shorter-Term Exposure”* targeted to the regulated community;
- Two sets of *“Frequently Asked Questions”*, for residential and workplace exposures, to address concerns raised by individuals who live and work in buildings affected by the TCE contamination;
- Documentation of MassDEP’s review of the USEPA’s toxicity values for TCE and the Department’s advisory committee recommendations for addressing short-term exposure; and
- (existing) technical guidance:  
*“Interim Final Vapor Intrusion Guidance”*



# SOIL Management

*This time last year,  
at this very same meeting...*



# Soil Management

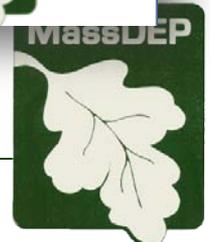
Dirt: *Can't live with it, can't get rid of it.*



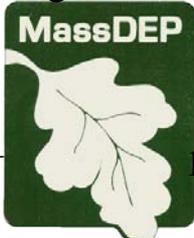
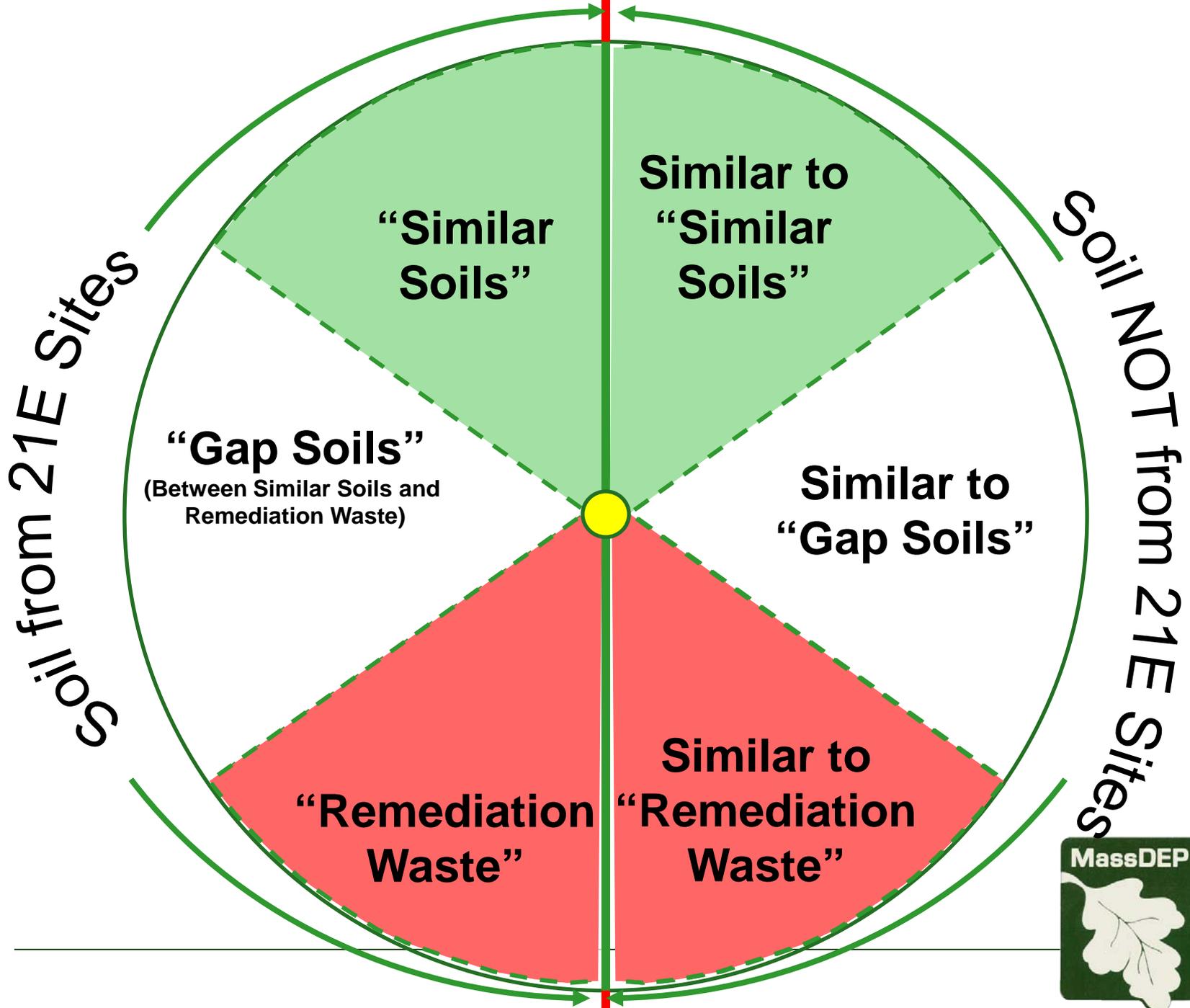
Paul W. Locke  
Director – Response & Remediation  
MassDEP Bureau of Waste Site Cleanup  
One Winter Street, Boston, MA 02108  
617-556-1160

Paul.Locke@state.ma.us

www.Mass.Gov/dep  
www.ReclamationSoil.org



Online at: <https://youtu.be/trW2kPy0jl0>



# Where Can This Uncontaminated Soil Go??

**“Gap Soils”**  
(Between Similar Soils and Remediation Waste)

Similar to  
**“Gap Soils”**

Soil from 21E Sites

Soil NOT from 21E Sites





DEPARTMENT OF ENVIRONMENTAL PROTECTION

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker  
Governor

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Lieutenant Governor

Matthew A. Beaton  
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Martin Suuberg  
Commissioner

# Interim Policy on the Re-Use of Soil for Large Reclamation Projects

## Policy # COMM-15-01

August 28, 2015

<http://www.mass.gov/eea/agencies/massdep/cleanup/regulations/site-cleanup-policies-guidance.html#1>

### **Policy Statement**

This Interim Policy provides notice of MassDEP's intent to issue site-specific approvals, in the



# APPLICABILITY

applicable to any **quarry, gravel pit, or sand pit** reclamation project that receives, or plans to receive **greater than 100,000 cubic yards of soil** for the reclamation/filling of said quarry, gravel pit, or sand pit **after August 28, 2015**



- Reclamation projects that **will begin to receive** on site more than 100,000 cubic yards of soil after August 28, 2015;
- Reclamation projects that **have commenced physically receiving soil on site on an “at risk” basis** prior to August 28, 2015 subject to the regulations, policies and procedures in place prior to August 28, 2015 **and which will receive more than 100,000 cubic yards after October 31, 2015;**



# Implications

The use of soil for the reclamation of a quarry, sand pit or gravel pit under the conditions of this policy is considered approved re-use for the purposes of the notification exemption described at 310 CMR 40.0317(13).

*and*

Soil fill projects to which this policy applies and that are not managed in compliance with this policy may be found to have caused, contributed to, or exacerbated a release of OHM and may be subject to enforcement pursuant to Section 277 of Chapter 165 of the Acts of 2014, M.G.L. c. 21E, § 6 and 310 CMR 40.0000, and/or M.G.L. c. 111, § 150A and 310 CMR 16.00 and 19.000.



# Nuts & Bolts

- Come and Talk – Early & Often
  - Talk to the MassDEP Regional Director
  - Talk to the municipal officials
  - Talk with us all together and/or separately
- Listen to Local Concerns & Be a Good Partner
- Work with DEP to develop an approvable Soil Management Plan



# What's **NOT** covered by the policy:

- Quarry reclamation projects that involve less than 100,000 yd<sup>3</sup> of soil;
- Projects (of any size) needing fill material that are not quarries, sand pits or gravel pits (although DEP would entertain a request should an operator voluntarily choose to come forward for an approval);
- Quarry reclamation projects that choose to operate under the current rules, “at risk” for creating a disposal site requiring notification, assessment and cleanup and/or creating an illegal solid waste dumping ground;
- Excavation Projects
- Disposal Projects



# Projects Underway (with ACO's):

- St. Mary's Cemetery (Tewksbury)
- Jordan Overlook Farm (Rutland)

& ~Handful of Projects in Pipeline  
(Developing ACOs)



# MassDEP's Asbestos Program: Upcoming Regulation Amendments



# MassDEP's 2014 Asbestos Regulation Amendments

- Updated rules for managing asbestos in demolition/renovation projects
- Did not change the fundamental structure and conditions for notification and implementation of asbestos abatements
- Added:
  - Pre-demolition renovation survey, post-abatement visual inspection
  - Notification exemptions
  - Moved work practices for some specific material types into the regulation
  - New permit for “Non-Traditional Work Practice Approvals”
  - Massachusetts Waste Shipment Record form
  - Requirements for keeping records



## Public Comments Received via E.O. 562

- Identified inconsistencies between MassDEP's and MA Dept. of Labor Standards' regulations, requested that inconsistencies be resolved.
- Requested clarification of requirements for repair/replacement of underground asbestos-cement pipe
- Questioned the scope/depth of MassDEP's asbestos regulation (covers more than EPA or DLS)
- Requested maintaining the level of environmental protection



# MassDEP is Responding in Two Phases

Phase 1 will propose:

- addition of specific work practices for underground asbestos-cement pipe repair/replacement
- technical corrections to resolve implementation issues with the 2014 amendments



## Phase 2: A Broader Discussion

- Collaborate with DLS to resolve inconsistencies between DLS and MassDEP rules
- Seek stakeholders' comments on the current regulation, its scope and depth (e.g., materials covered, level of detail for requirements)
- Review ideas for streamlining process, simplifying implementation, and expanding regulatory flexibility
- Evaluate options to encourage innovative approaches, reduce compliance costs
- Research legal constraints to implementing some streamlining amendments



## Questions? Comments?

- What improvements would you like to see in the Commonwealth's asbestos program?
- Email [michael.elliott@state.ma.us](mailto:michael.elliott@state.ma.us) to sign up for information about the Phase 2 stakeholder discussions

