

# Brownfields Redevelopment and Long Term Stewardship



Pennsylvania Brownfields 2008  
*Putting the Deal Together*

Harrisburg, Pennsylvania  
October 1-2, 2008

# Long Term Stewardship 101

## Engineering and Institutional Controls

- Engineering controls (ECs) are the physical barriers used or constructed to prevent exposure or isolate materials from people, animals and the environment.
- Institutional controls (ICs) are the legal and administrative tools used to maintain protection of human health and the environment and frequently used in combination with ECs to provide additional protection.

### Examples of Engineering Controls

- Landfill soil caps
- Impermeable liners
- Other containment covers
- Underground slurry walls
- Fences
- Bioremediation
- Groundwater pump-and-treat and monitoring systems

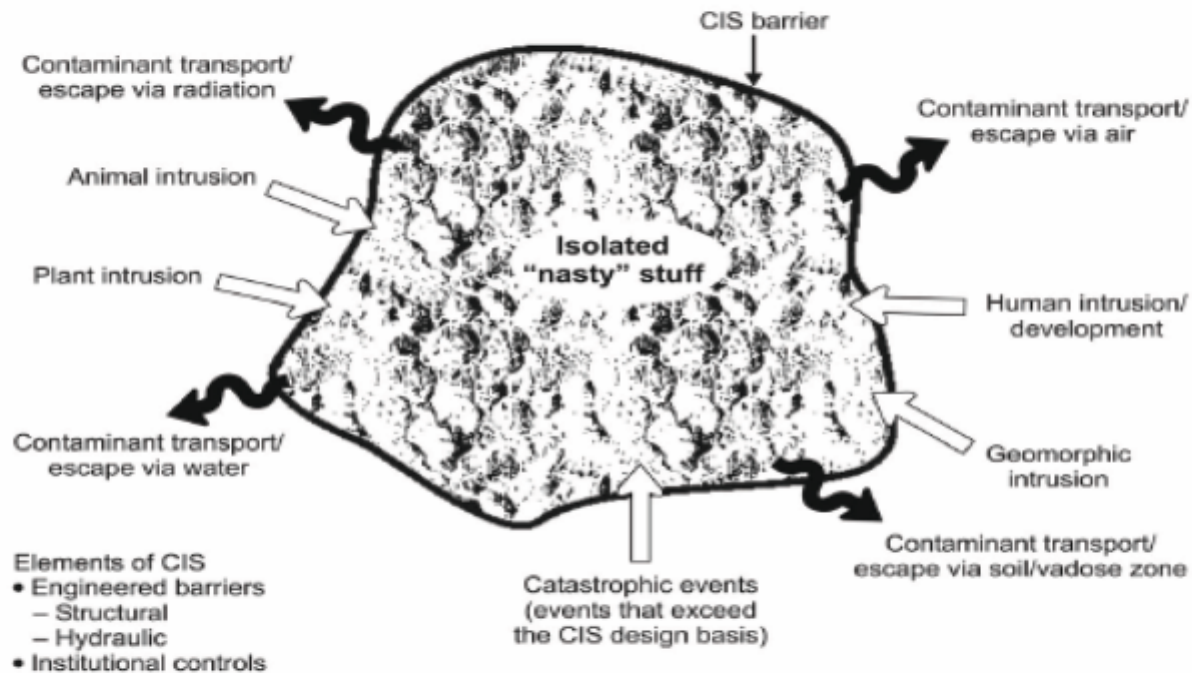
### Examples of Institutional Controls

- Zoning
- Notices and warnings
- Easements
- Restrictive covenants
- Other land or resource use restrictions
- Permits/Governmental Controls
- Administrative Orders



# How Engineering and Institutional Controls Work

## Generic Contaminant Isolation System (CIS)



Source: Department of Energy, Office of Legacy Management, used with permission, Art Kleinrath

## EC/ICs and Redevelopment Overlap

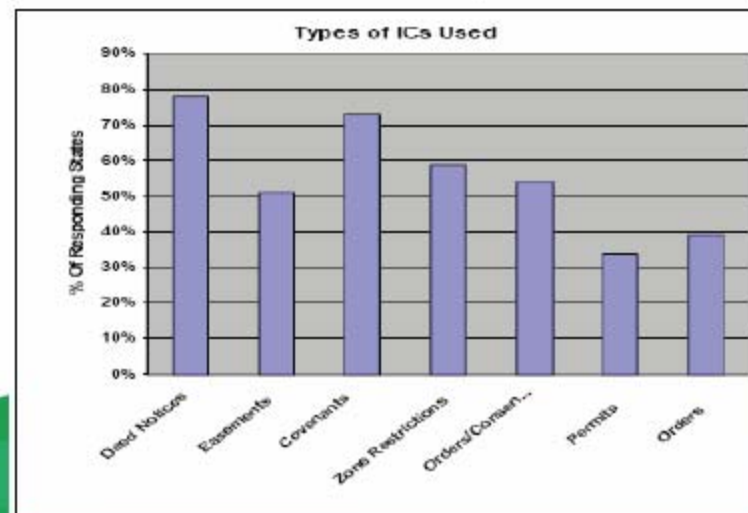
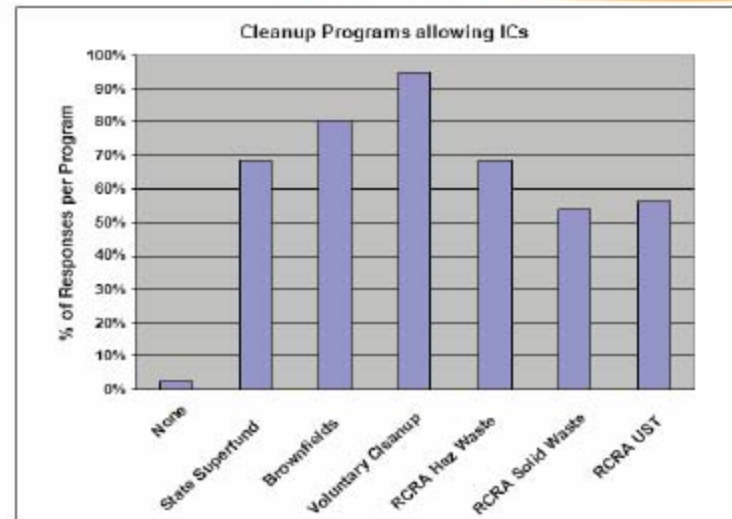
- EC/ICs and redevelopment allow communities to reclaim once blighted properties and return them to productive use
- ICs and redevelopment can help to protect remedies:
  - Discourages illegal or inappropriate activities
  - Establishes responsible site stewards
- Redevelopment can help ensure engineering and institutional controls are properly implemented
- **\* Like other parts of your redevelopment finances and investment, they must be planned and funded !**



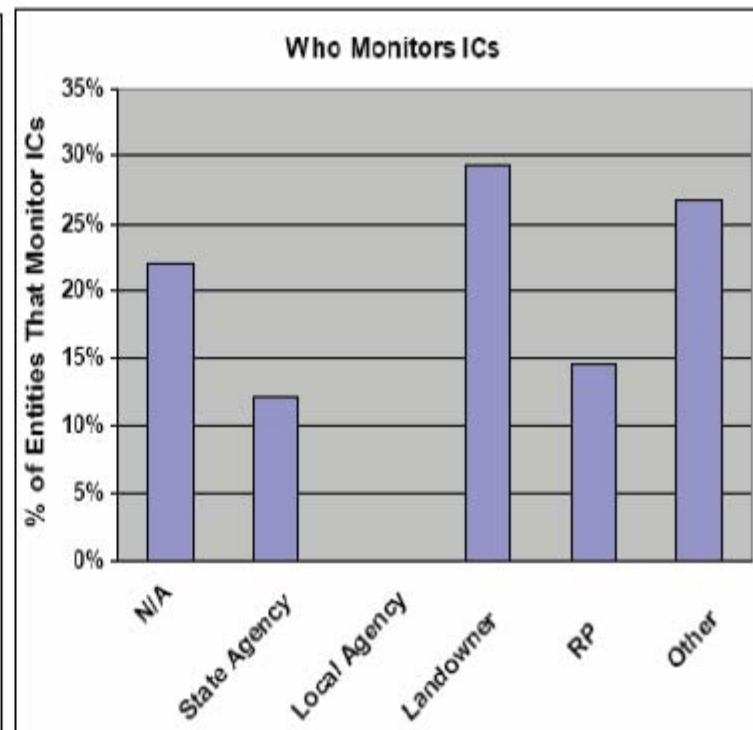
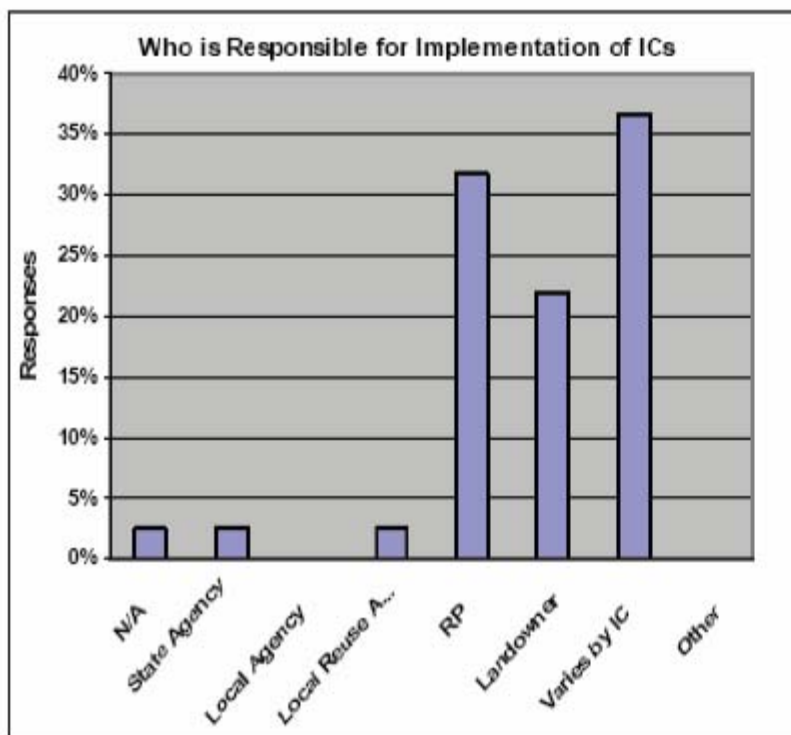
# Status of States use of ICs

- Risk-based cleanup furthered the use of ICs.
- 41 states participated in survey.
- 39 of 41 permit use of ICs when standards for unrestricted use not met by cleanup.
- Terms used may be:
  - Unrestricted/Restricted Use (UU/RU),
  - Activity Use Restrictions (AUR)
  - Land Use Control Implementation Plan (LUCIP)

Source: *State Status in the Implementation of Institutional Controls: Summary of Inventory Findings*, ASTSWMO, 2007



# LTS Challenges

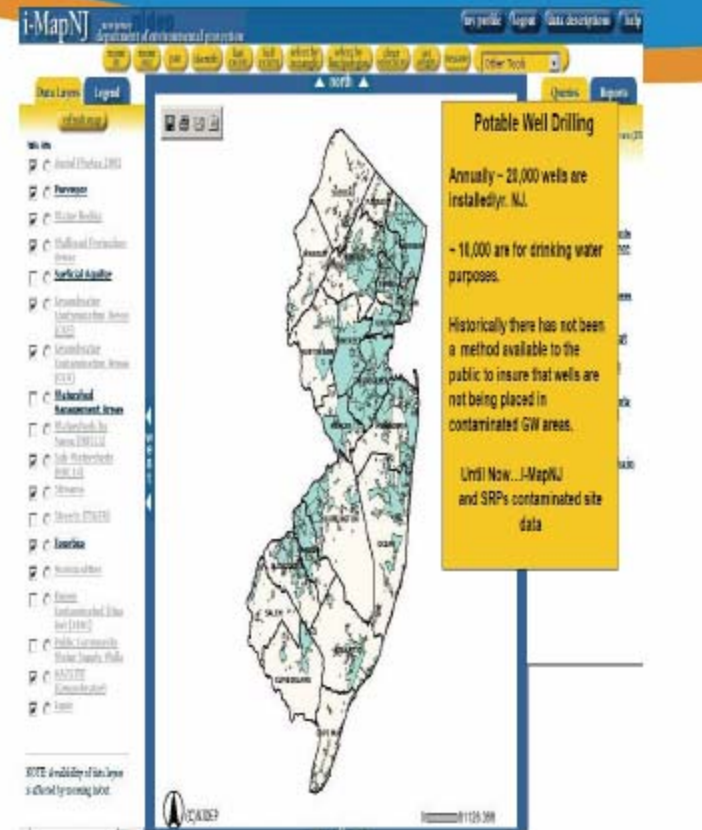
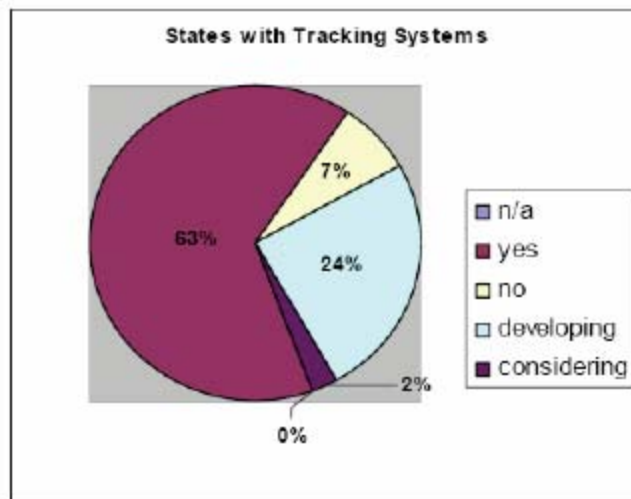


Source: *State Status in the Implementation of Institutional Controls: Summary of Inventory Findings*, ASTSWMO, 2007



# IC Tracking

- 27 States with tracking systems.
- Many State also list, maintain public inventories or map sites.



Source: *State Status in the Implementation of Institutional Controls: Summary of Inventory Findings*, ASTSWMO, 2007



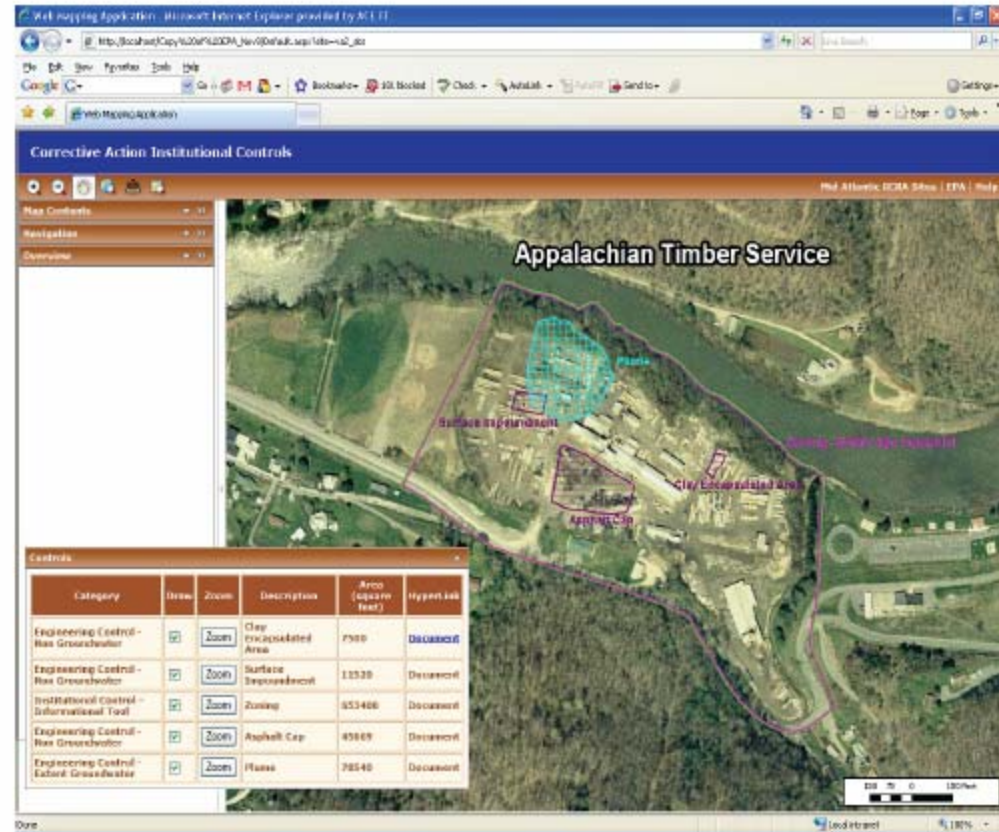
# Enviromapper and Cleanups in My Community...

- EPA Enviromapper  
<http://maps.epa.gov/>
- Example to right from Open Link
- EPA Cleanups  
<http://www.epa.gov/cleanup/index.html>
- EPA Cleanups in My Community  
<http://iaspub.epa.gov/Cleanups/>



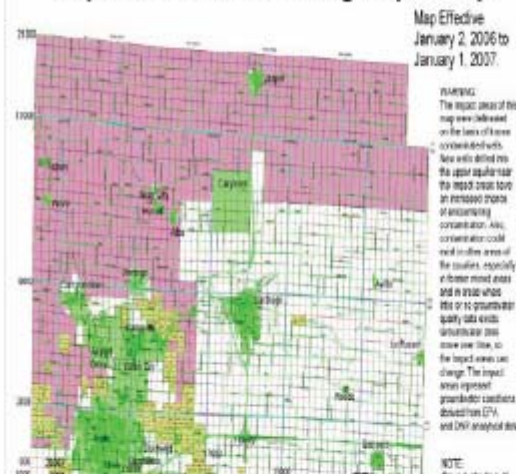
# Mapping Site Information

- EPA's Enviromapper, Cleanups in my Community, Google, Microsoft, Terradex and others import Superfund, RCRA, Brownfield and other site information
- EPA participates in Environmental Data Standards efforts



# Tracking sites and their reuse – Newton & Jasper County, MO, and Arlington, VA

## Special Area 2- Newton and Jasper County Impact Areas and Casing Depth Map



Yellow- contaminated with  
Pb, Cd, TCE

Green- City water districts  
and extensions

Pink- Public water districts



# Brownfield Redevelopment and Long Term Stewardship is important because ...

Cleaning up contaminated properties for reuse can:

- Protect human health and the environment
- Catalyze the assessment and cleanup process;
- Result in more protective cleanups;
- Reinvigorate neighborhoods and whole communities;
- Preserve greenspace and prevent sprawl;
- Return unproductive land to tax rolls;
- Create public parks or restore natural habitat;
- Spur economic development by retaining or establishing new businesses and creating or retaining jobs.
- Protect clean land - one of our nation's most valuable resources



**Engineering and Institutional controls and their Long Term Stewardship protect property values, investments, the environment and public health !**



# Land Revitalization &

# Long Term Stewardship

