Controlling Surface Water Pollutants at Brownfield Sites

How Is Our Division Involved?

- Ohio Brownfields are commercial/industrial properties with known or perceived contamination.

- Concerns for run-off could be leftover toxic materials or fuel – soils, sediments, or source areas impacted by historical releases of hazardous substances or petroleum - or leachate or ground water impacts into surface water conveyance.

Brownfield Sites 101

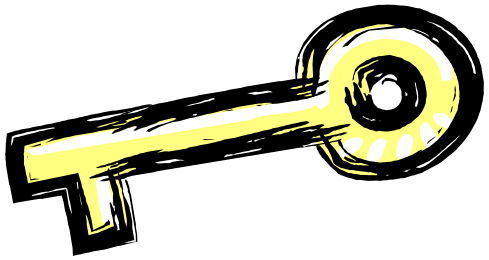
Division of Environmental Response and Revitalization (DERR) oversees Voluntary Action Program, Clean Ohio Fund and other Cleanup Programs.

DERR conducts investigations and oversees cleanup of contaminated sites including brownfields, enforcement and federal facilities.

Ashta Chemical – Astabula, Ohio

Voluntary Action Program (VAP) is Voluntary

- **VAP is privatized Cleanup program overseen by DERR.**
- **Properties meeting eligibility requirements can go through VAP and must be in compliance with all applicable regulations.**
- **VAP maximizes resources/expertise using Ohio EPA certified professionals (CP) and labs**
- **CPs submit No Further Action Letters for Covenant Not to Sue**



VAP Property Assessment - 101

- **Phase I Property Assessment**
- **Phase II Property Assessment**
- **Determine applicable cleanup standards**
- **Conduct a remedy if necessary to meet applicable standards for property**
  - **Soil removal**
  - **Install engineering controls**
  - **Record activity use limitations on property deed**

Potential Sources of Pollution at Brownfield Construction Sites

- Construction wastes - leftover toxic materials or fuel; drums or containers of paints, solvents, fertilizer; remedial soil additives; concrete wash water; construction debris
- Demolition of Buildings – asbestos; lead paint
- **Must consider for run- off and property Storm Water requirements**

ODNR's Rainwater and Land Development Manual

Chapter 8: Additional Construction Site Pollution Prevention & Small Construction Site Controls

Rainwater and Land Development

Ohio's Standards for Stormwater Management
Land Development and Urban Stream Protection

Third Edition 2006

Ohio Department of Natural Resources
Division of Soil and Water Conservation

2045 Morse Road, Building B-3
Columbus, Ohio 43229-6605
(614) 265-6610

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Construction Planning Considerations

- Educate Construction Personnel – implement Risk Mitigation Measures
- Provide waste disposal containers
- Construction related waste should not be left on site. Dispose of CD&D properly.
- Handle construction chemicals/fuel away from watercourses.
- Concrete wash water management

Construction Planning Considerations

- **Contaminated soils management**
- Spill reporting requirements
- Open burning
- Dust control/Suppressants
- Air permitting
- Process waste water/leachate management
- PTI

Brownfields may have Restrictions!

If you are conducting construction activities at a Brownfield site be aware that there may be specific restrictions on construction activities.

Activity and Use Limitations,

Risk Mitigation Plan, or

an Operation and Maintenance Plan.

These documents may define protective equipment; soil handling; controls or restrictions on work to be conducted at the site.

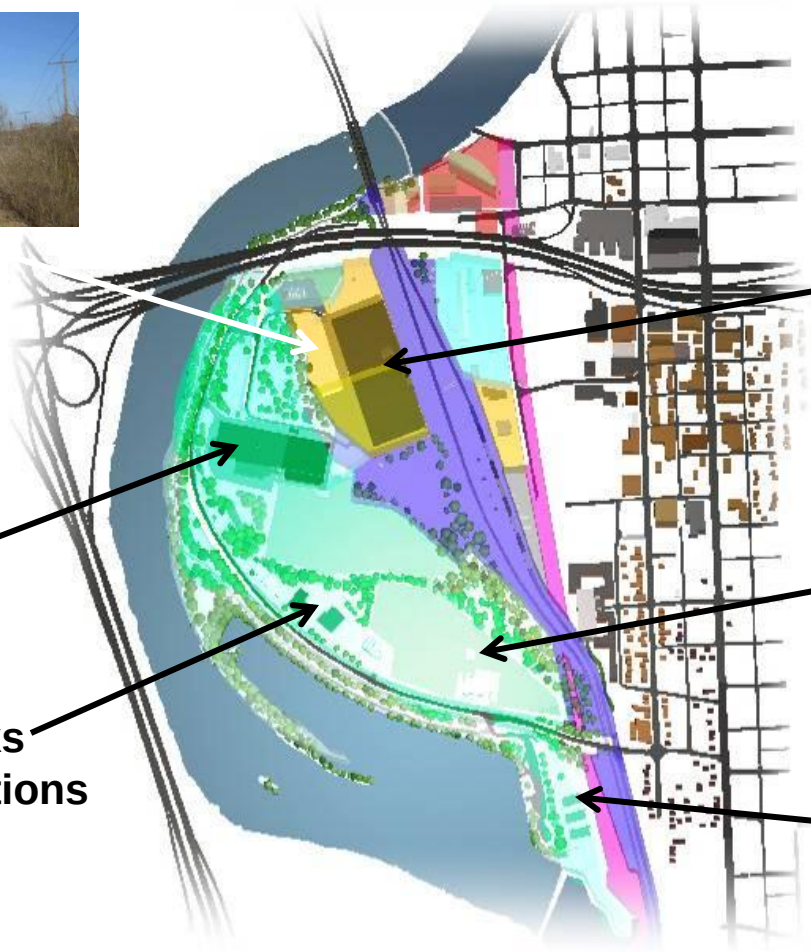
Partnering to Redevelop Urban Brownfields
A Public/Private and Multi-jurisdictional Urban Nature Park
Kinzelman Kline Gossman | Burgess & Niple | Columbus & Franklin County Metro Park District

Pre-Existing Conditions
Whittier Peninsula | Columbus, OH - Case Study

Power Substation

Private Warehouse

City Impound Lots



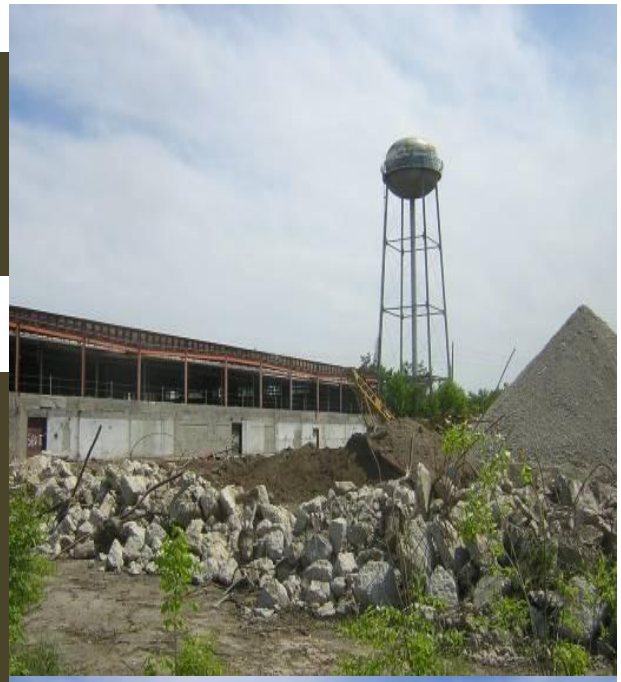
Lazarus Warehouse

Recreation & Parks offices and operations

Whittier St. storm tanks

Phase I Results

- Northern Tier
  - 30 Identified Areas
  - Potential Chemicals of Concern (COCs)
    - Petroleum compounds
    - Metals
    - Volatiles Organic Compounds (VOCs)
- Southern Tier
  - 14 Identified Areas
  - Potential COCs
    - Petroleum Compounds
    - Metals
    - VOCs
    - SVOCs



Partnering to Redevelop Urban Brownfields

A Public/Private and Multi-jurisdictional Urban Nature Park

Kinzelman Kline Gossman | Burgess & Niple | Columbus & Franklin County Metro Park District

Permeable Pavers

Porous Pavement

Solar panels and green roof drainage

Bio-Swale & Boardwalk

NASA – Central West Area
The main campus

NASA Glenn Research

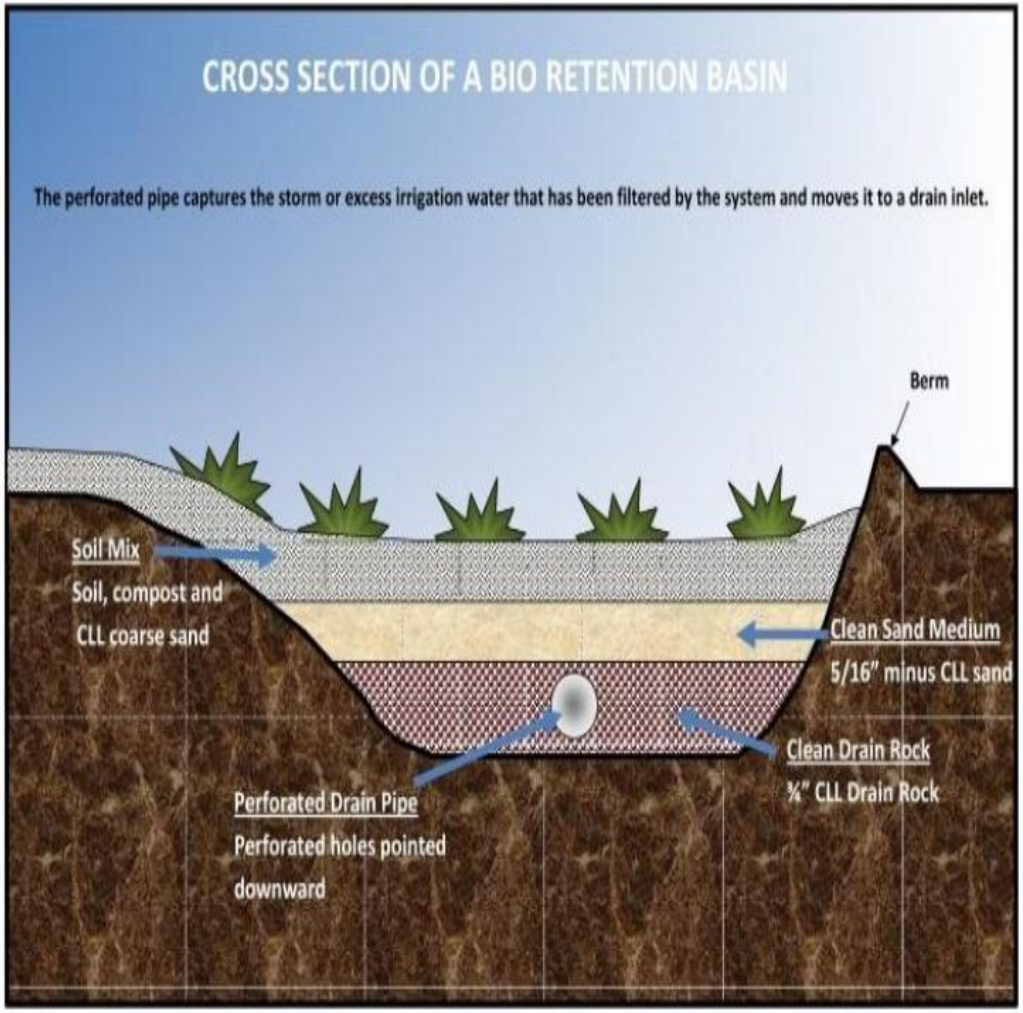
- Identified Value Added Approach for Green Remediation
- Planning and Contracting:
  - Recycle, Reuse, Reduce key for project planning
  - **Reuse** of anything in buildings, clean hard fill, or soils at site. Large stockpile with test results at NASA
  - Recycle all materials, segregate at time of remediation to reduce cost of disposal.
  - Ensure native plants used and protected at property with landfill and flood plain shooting range.
  - Transportation to disposal distances

NASA Glenn Research

- Known contamination imposed runoff controls
- Identified what worked for storm and surface runoff controls at the site.
- Storm water controls, construction of stone roadways to reduce erosion and dust generation required; silt fence; phased construction; keep green space.
- Sustainable Project - Designed remedy to reduce impact to stream (bridge designed for crossing and not impact bank or stream).

Stormwater Controls for Remediation at NASA

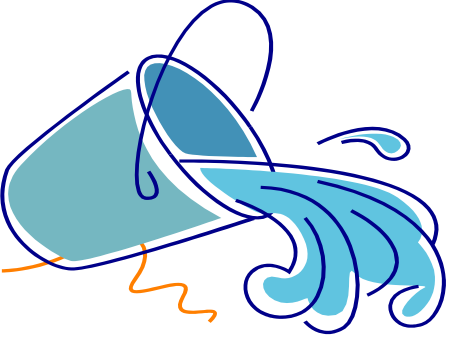
Steelyard Common –Compatible Approach?



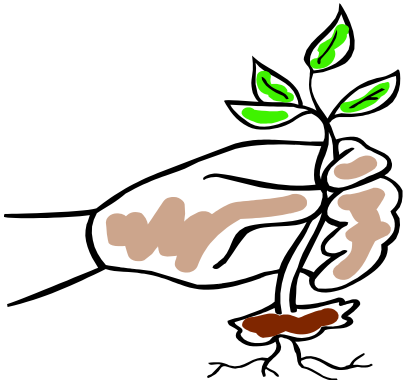
Problems Encountered With Storm Water Requirements

- Bio Retention Basin in Slag
- Permeable Pavement over slag and contaminated soils
- Bio Swales in Slag and areas of VOC contaminated ground water
- Landscaping with native plants in slag?
- Bio Remediation Technology for Ground Water with pH = 9.
- Storm water collection to discharge to river – may need treatment?

Flats East Property in Cleveland– Buildings Down and Fenced



Storm water and LEED Problems



- Can you collect potentially contaminated water? New CSO project in area.
- Is permeable pavement a good idea over waste disposal areas?
- Is storm water moving through areas of potential contamination appropriate?
- How do you maintain "engineering controls" while incorporating green design elements?

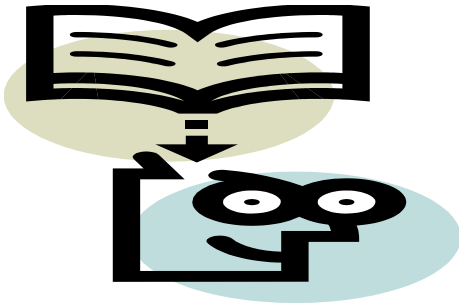
Let's Get on Same Page

- Remediation Team designing the clean up

Verses

- Construction Team working on a Construction design for the project
- Neither Team talking to the other.
- **Regulators do talk!**
- Ohio EPA – NEDO discovered Storm water and Permitting issues due to the lack of communication between the Teams

KNOW YOUR SITE



- Brownfield Sites have contamination issues
- May have Restrictions through Engineering or Institutional Controls
- May have clean and dirty areas
- Impacts to water through ground water and sediment run-off.

Funds for Sustainability in Ohio

New Loan Program – Ohio Water Development Agency

The Main Goals

- Increase water quality and decrease water quantity
- Make alternative storm water infrastructure more affordable, and therefore, more mainstream
- Maximum term of 10 years on loan; Up to $5,000,000 (@2%)

Pays for (as related to the storm water project):

- Indirect and/or administrative costs
- Consulting fees (look back of 12 months)
- Site preparation
- Materials
- Educational signage
- Construction and installation
- Initial maintenance
- LEED certification fees

When In Doubt Call! ☺

- Susan Netzly Watkins – NEDO DERR-
  – 330-963-1201 susan.netzly@epa.state.oh.us

- Nancy Zikmanis- NEDO DERR
  – 330-963-1160 nancy.zikmanis@epa.state.oh.us

Central Office Contact:

- Eric Sainey – CO – DERR/ACRe
  – 614-644-2309 eric.sainey@epa.state.oh.us