

# BROWNFIELDS PROCESS OVERVIEW

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# Redevelopment | Urban Infill or Agricultural

- Opportunities & Public Policy Goals
  - Growth management
  - Economic development
  - Efficient use of existing infrastructure
  - Minimize environmental impacts of growth



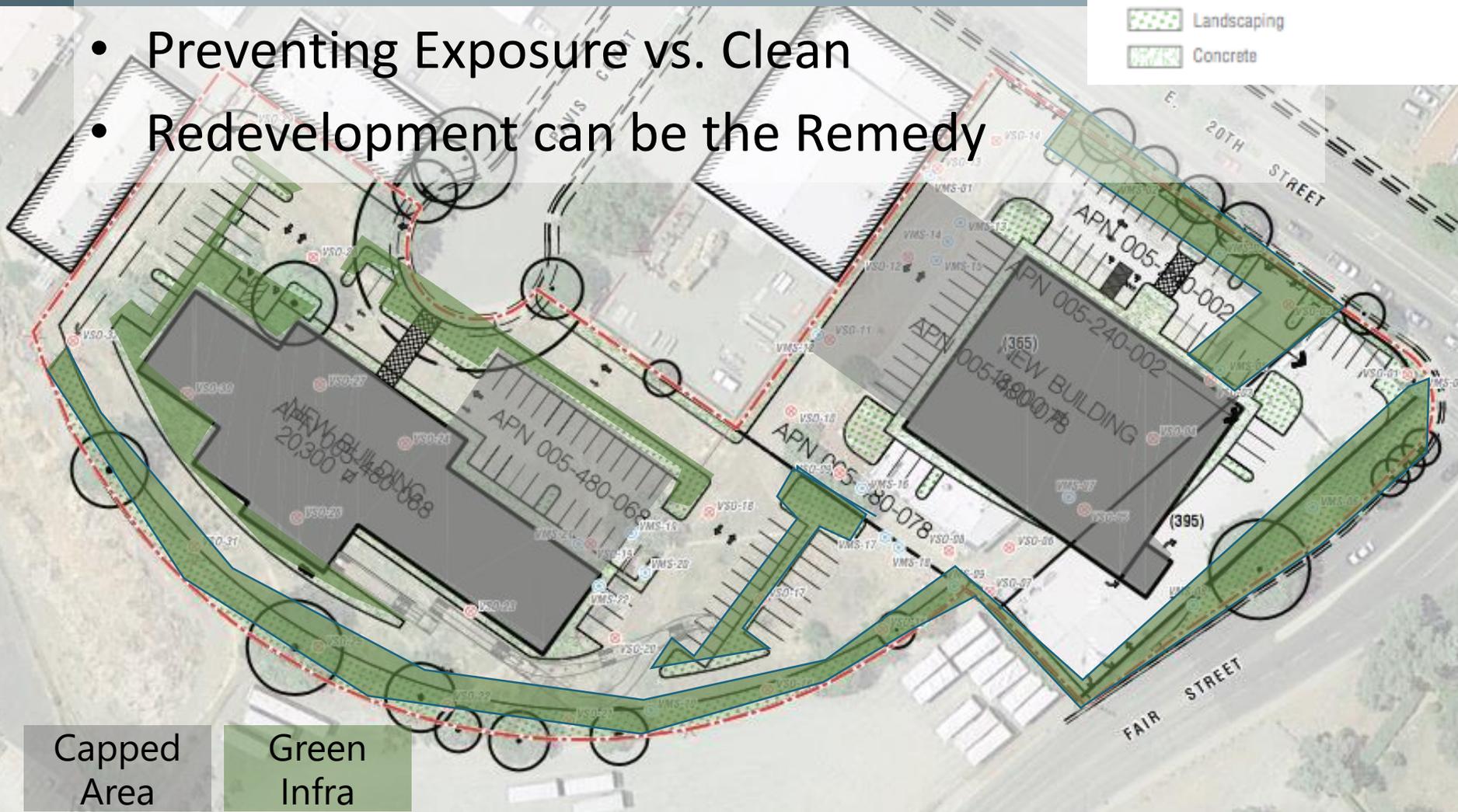
# Redevelopment | Urban Infill or Agricultural

- Challenges
  - Costs of Development Compared to Greenfield Sites
  - Potential To Encounter Environmental Contamination

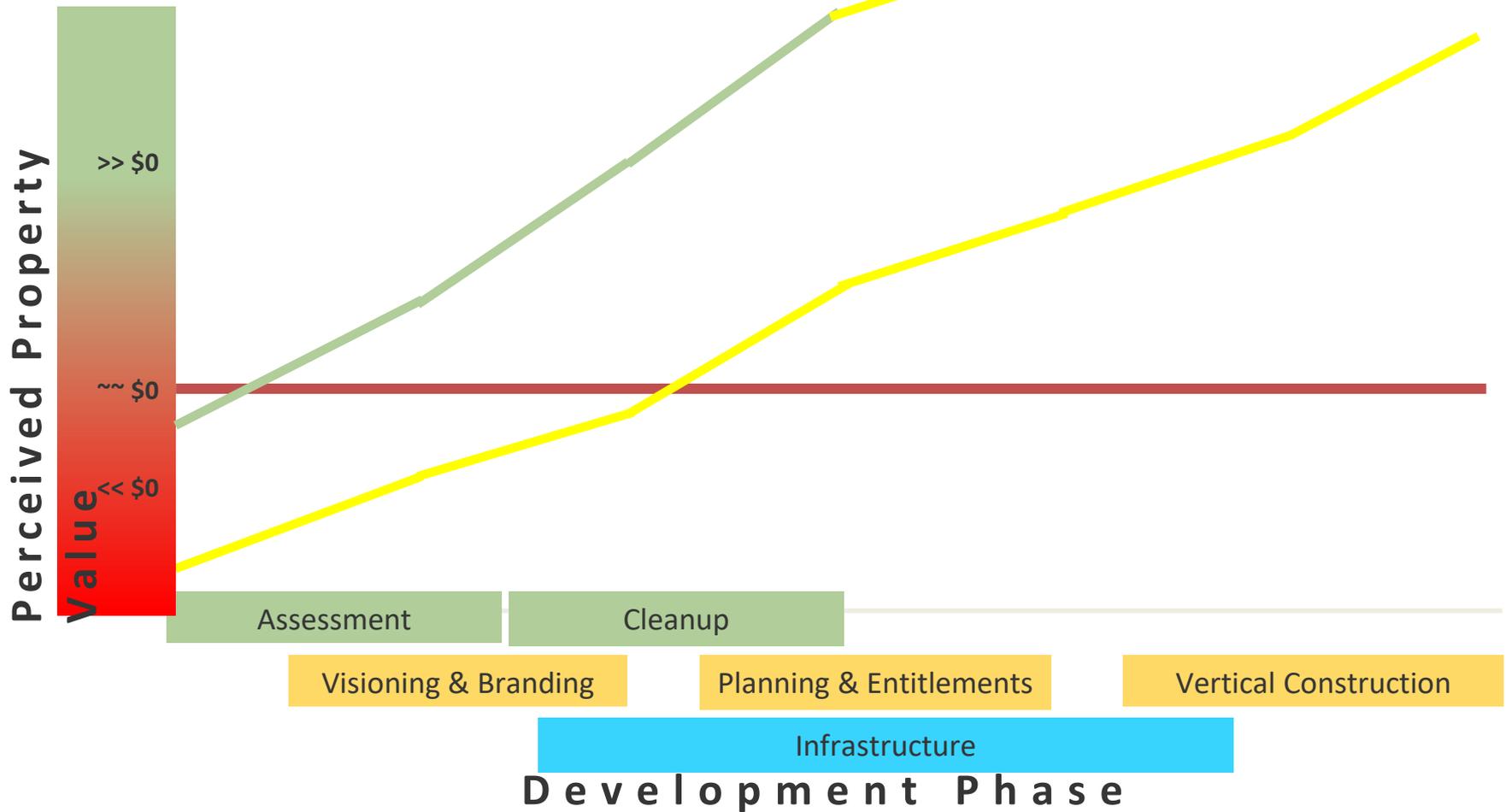


# Integrating Remedy & Redevelopment

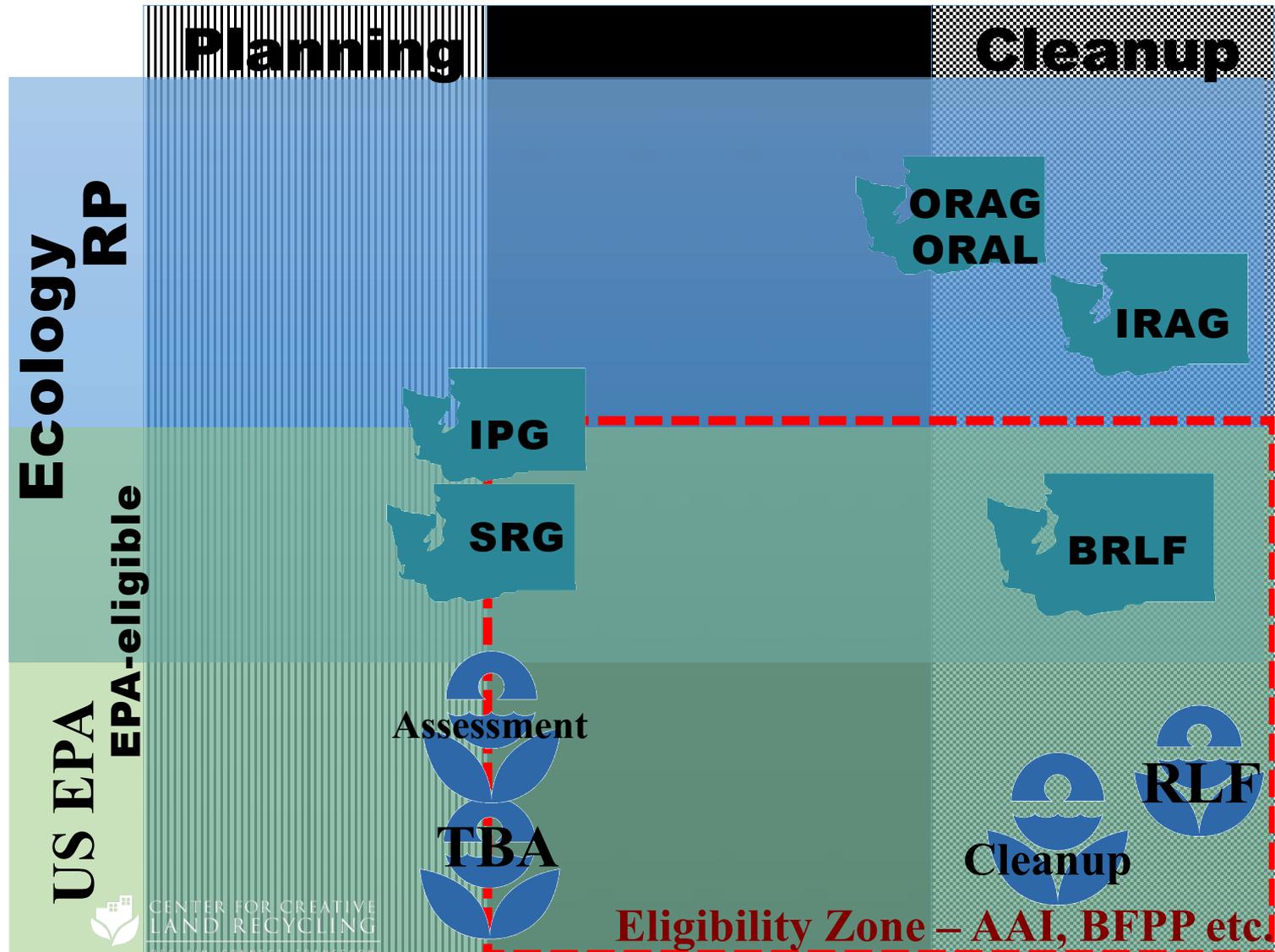
- Future Use Drives the Cleanup
- Preventing Exposure vs. Clean
- Redevelopment can be the Remedy



# Brownfield Value over Time and (Un)Certainty



# Getting from out of the "Red"



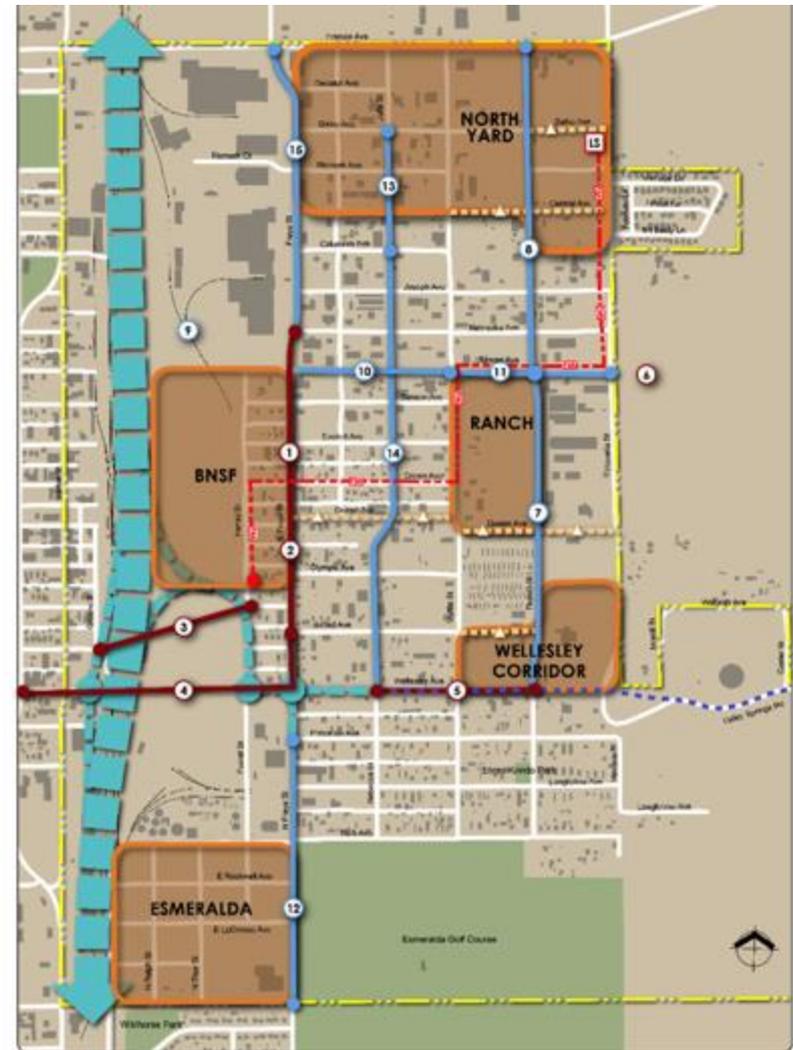
# Nurture Relationships

- Public Investments - and relationships
- Coordinate otherwise disparate investments
- Leverage public/institutional anchors



# Planning/Broader Investments

- Create structure for future development
- Support greater intensity
- Public amenities with broad-based benefits



# Seed Investments

- Improve Urban Fabric
- Attract/Foster Urban Pioneers
- Catalyze Small Projects
- Activate Public Spaces
- Prepare for redevelopment – of infill sites



# Legal Framework

- **CERCLA** or Superfund: Comprehensive Environmental Response, Compensation & Liability Act (1980)
- Liability: *Owner, Operator, Arranger, Transporter*
  - Strict—Regardless of fault, lack of diligence or ignorance
  - Joint & Several—All parties responsible for all costs
  - Retroactive
- Other laws
  - Resource Conservation and Recovery Act (RCRA)
  - Toxic Substances Control Act (TSCA)
  - LUST/UST – Leaking Underground Storage Tanks
  - Laws governing lead and asbestos
- State Laws

# How It All Began

- Industrialization absent of regulation
- Cuyahoga River (OH) and Love Canal (NY)
- 1980's to early 1990s – Superfund chill
  - Enforcement and fear of cost and liability
  - 1990's: Evolution of brownfield programs
  - Redevelopment, not enforcement
- EPA administratively encourages shift in practical responsibility to states, thru policy guidance and funding
- 1993: first “brownfield pilots” to more than 500 (2001)
- Acceptance of “risk-based” cleanups and “institutional controls”

# Formalizing the Brownfields Program

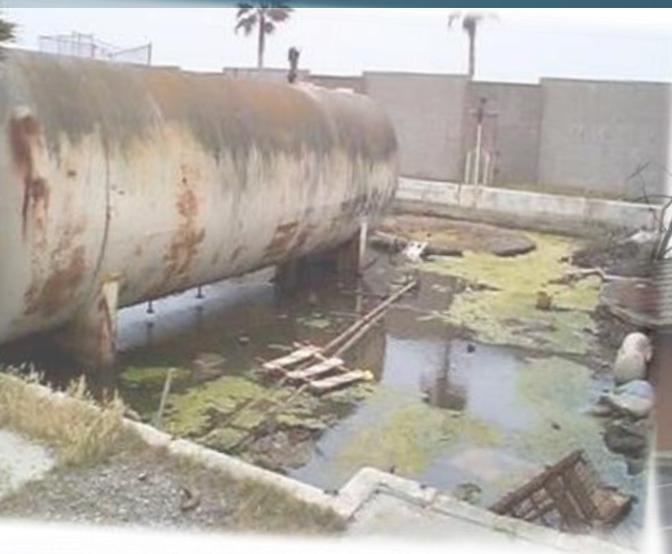
- 2002 Brownfields Revitalization Act
  - Under CERCLA
  - Authorizes program funding
  - Clarifies liability for innocent landowners, contiguous property owners, and prospective purchasers
    - Leads to All Appropriate Inquiry (AAI) rule
- Innovations
  - Development of responsive grant programs
  - Partnerships with other Federal agencies
- BUILD Act of 2018
  - Reauthorizes Brownfields program
  - Made changes to our brownfields grants, ownership and liability provisions, and state and tribal response programs

# What Are Brownfields?

Practical impact of this definition –

- Includes all types of sites, in large cities, small towns everywhere
- Can include:
  - Abandoned factories, strip shopping centers, gas stations, grocery stores, foundries, power plants, old apartment buildings, dry cleaners, orchards, vacant lots, corporation yards, landfills, waterfront sites, rail yards, etc.
  - And sites adjacent to these uses
- Formal estimates indicate 500,000 to 1 Million

# What do brownfields look like?



# Definitions

- Brownfields

*Real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant*

- Land Recycling, Reuse or Redevelopment

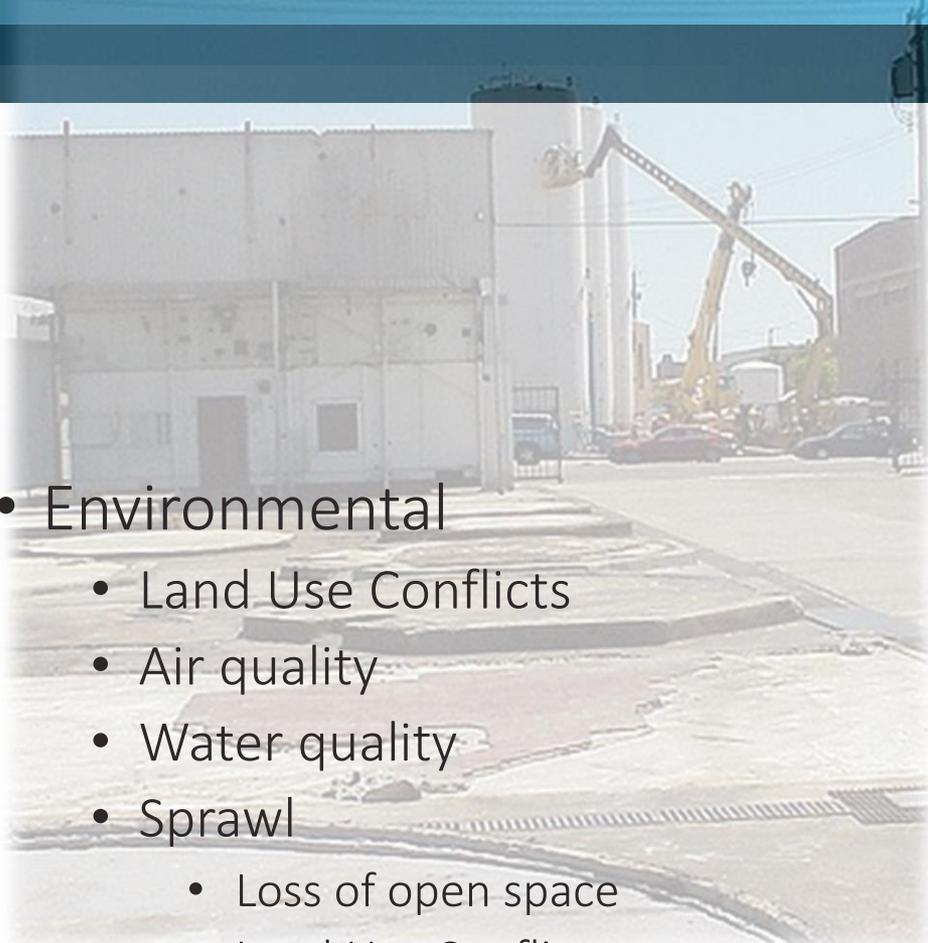
*The reuse of abandoned, vacant, or underused properties for redevelopment*

- Our objective

*Using Federal, State and Local Tools to Revitalize Blighted Areas*

# Brownfields Impacts

- Economic
  - Abandon potential assets
  - Tax base and property value loss
  - Domino effect
  - Job stagnation / loss
  - Opportunity cost and lost leveraging
- Social
  - Blight
  - Public Service impacts: crime, fire, public works
  - Public health risks
  - Environmental justice



- Environmental

- Land Use Conflicts
- Air quality
- Water quality
- Sprawl
  - Loss of open space
  - Land Use Conflicts
  - Air quality from additional vehicle miles traveled
  - Water quality from runoff

# Benefits of Land Recycling

- Economic
    - Increases property values
    - Creates commercial/retail and jobs
    - Leverages investment & employment
  - Social
    - Removes health and safety hazards
    - Creates housing, open space and services
    - Decreases crime
    - Improves public health outcomes
  - Environmental
    - Preserves open space
    - Promotes infill development
    - Removes threat to environment
  - EPA studies show:
    - A 32-57% reduction in VMT between brownfield and greenfield development
    - Fewer VMT reduces pollution emissions including greenhouse gases
- 

# Brownfields & CERCLA Liability

- So you want to use Federal tools and resources?
  - To be eligible for an EPA Brownfield and other Federal programs, entities must demonstrate they are not liable for the contamination under CERCLA
  - To claim protection from liability, prospective purchasers/property owners must conduct **All Appropriate Inquiry (AAI)**
  - AAI also required by lenders for property transactions
- But why do you even need these resources?

# Redevelopment Barriers



## Description

Market Value Exceeds Cleanup Costs

Value Close to Covering Development & Cleanup Costs

Environmental Liability Far Exceeds Property Value

## Implication

Private Market Completes Cleanup & Redevelopment

Targeted Public Investment Can Make Project Feasible

Requires Significant Public Investment or Market Change

- Uncertainty of Cost
- Fear of Liability
- Uncertainty of Timing

# Integrating Cleanup & Redevelopment

## Redevelopment Assessment

- Infrastructure
- Topography
- Natural Resources
- Demographic and Market Study

## Future Use Vision

- Land use(s)
- Conceptual Site Layout

## Design

- Site Improvements
- Vertical
- Economics

Community Involvement

## Environmental Due Diligence and Assessment

- Phase I
- Phase II's

## Analysis of Cleanup Options

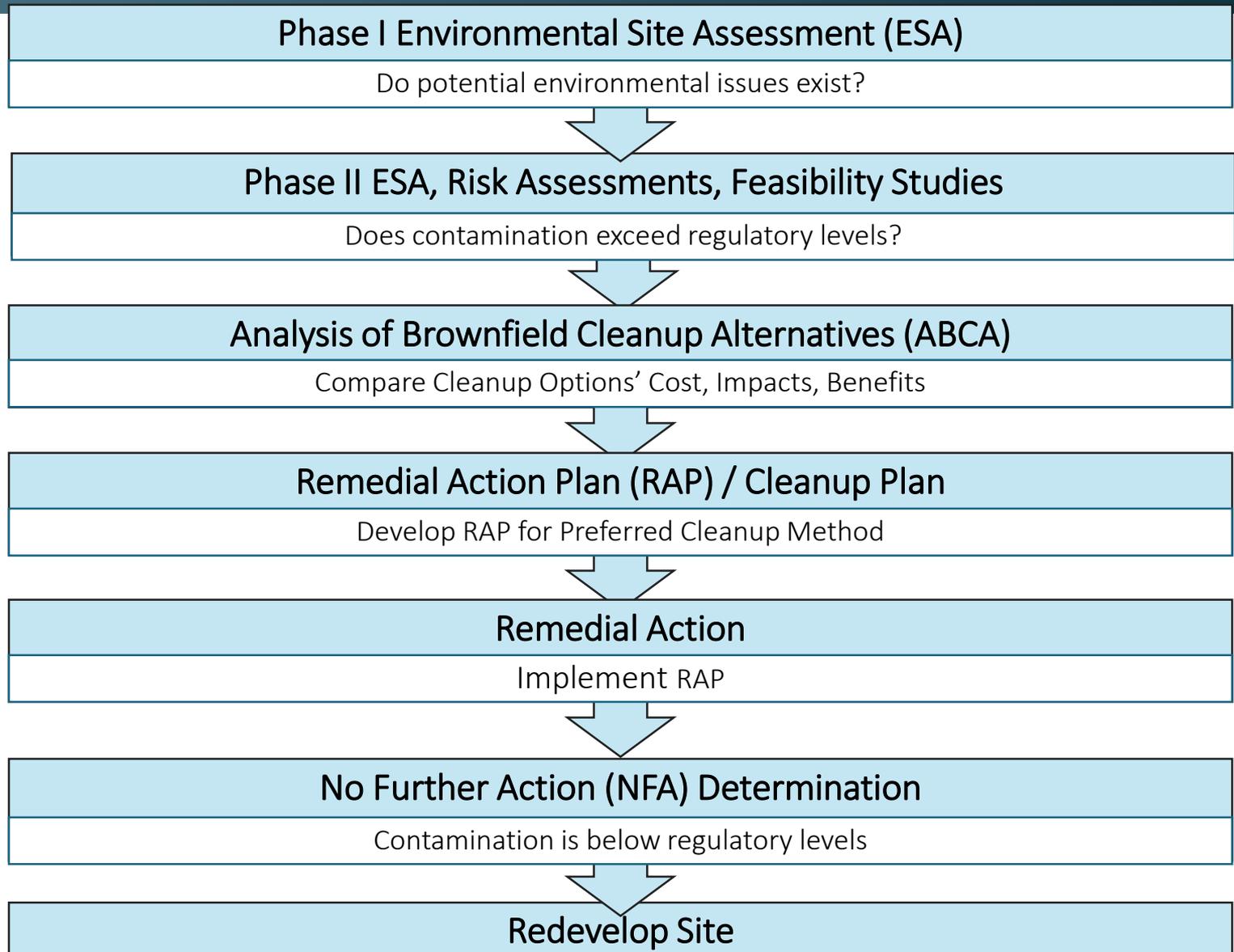
- Risk Assessment
- Feasibility Study

## Cleanup Action Plan

- Cost
- Implementation

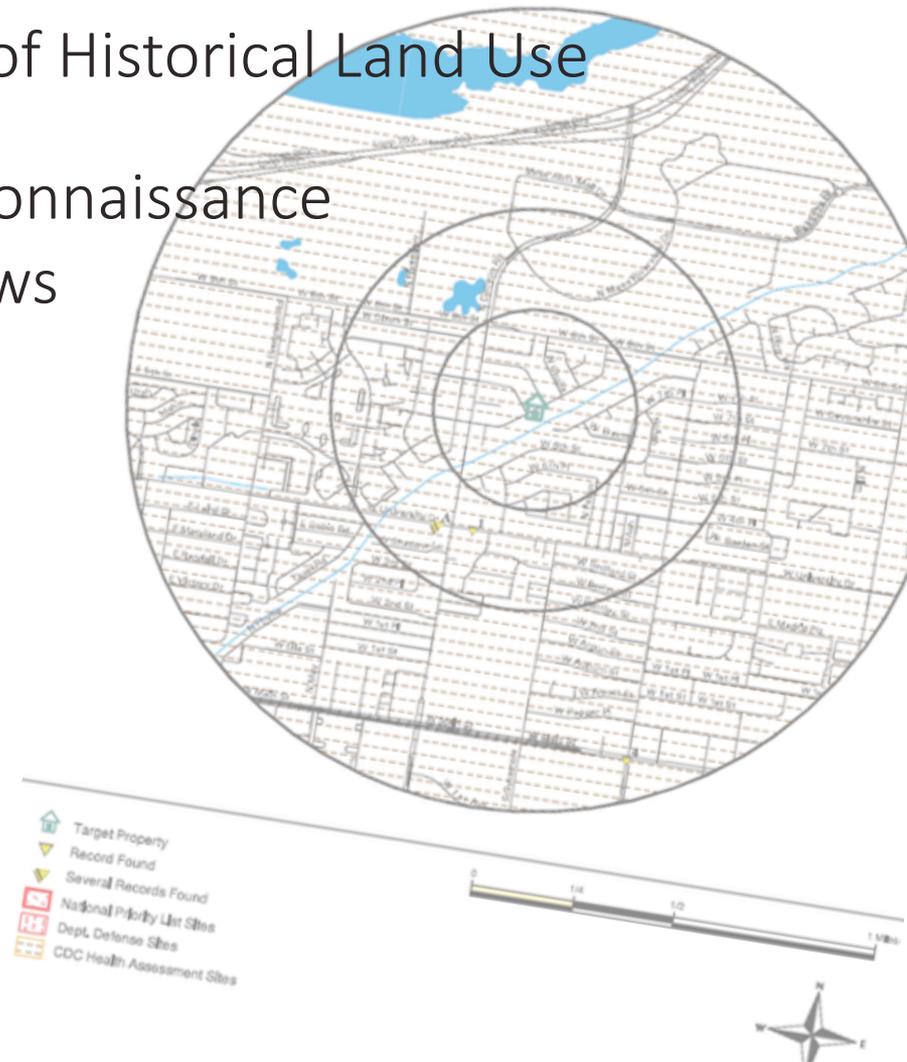
Risk Management

# Due Diligence & Cleanup Process



# PURPOSE OF A PHASE I ESA

- Liability Defense—AAI
- Support go/no go decision making
- EPA Brownfield Grant and Lender requirement
- Follow ASTM standards
  - D1527-13
  - D2247-16
- Environmental Records Review
- Review of Historical Land Use Sources
- Site Reconnaissance
- Interviews
- Report

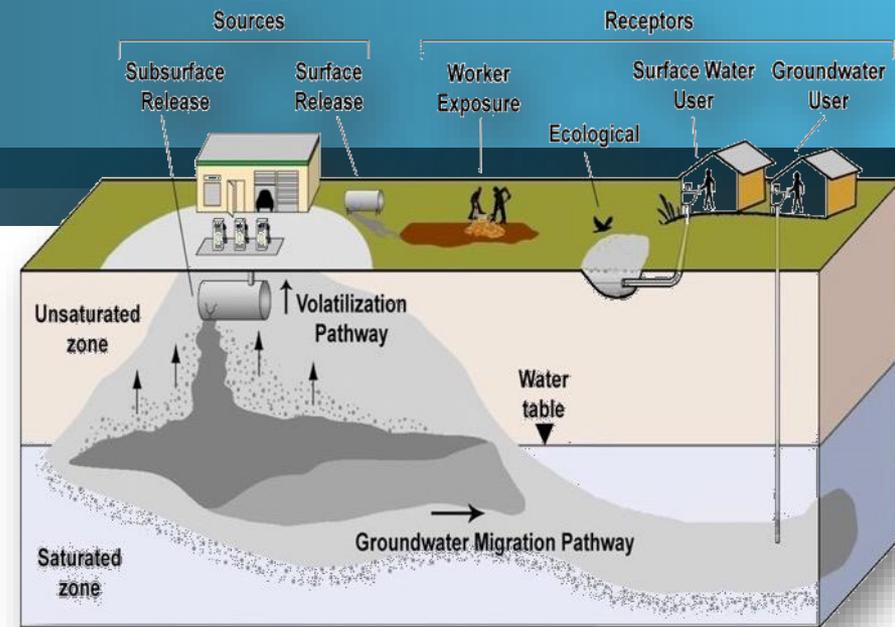


# PHASE I ESA OUTCOMES

- Recognized Environmental Conditions (RECS)
- Controlled RECS
- Historical RECS
- Phase I ESAs must be completed prior to closing
- Phase I ESAs are valid for 180 days
- ~\$5000, depending on location, size and complexity

# PHASE II ESA ETC.

- Sampling and data analysis to evaluate RECS
- Assess exposure pathways and cleanup scenarios
- Cost depends on sampling and analysis requirements
- Understand the nature and extent of contamination to develop and evaluate cleanup alternatives
- Iterative process of sampling and data gap analysis
- Outcomes: Cleanup necessary?
- Enter regulatory program? Voluntary Cleanup?
- Agreements among parties? Prospective Purchaser?



## OTHER STUDIES



- Feasibility Study
  - Evaluate cleanup action alternatives to be selected
  - Evaluates Short- and Long-term risk
- Analysis of Brownfields Cleanup Alternatives (ABCA)
- Risk Assessment
  - Establishes site-specific cleanup goals
- Hazardous Building Materials Survey (Lead / Asbestos)
- Indoor Air
- Historic building evaluations

# Cleanup Action Plan / Remedial Action Plan



- To outline the preferred cleanup approach
- Implement selected/combination of response actions
- Engineering Design Report / Plan Set & Specifications



# Cleanup Options



- Natural attenuation
- Removal actions, source controls & containment, engineered treatments
- Institutional controls and site management/monitoring

## • Soil

- Excavation (dig & haul)
- In situ: Soil Vapor Extraction (SVE), Thermal, Bioremediation, Stabilization
- Contain & Manage - Engineered “cap” remedies; Vapor mitigation systems

## • Groundwater

- Removal: Pump & Treat
- Hydraulic or Physical Controls
- Air Sparging - Liquid to Vapor
- Dual-Phase Extraction
- In-situ: Bioremediation, chemical oxidation

# VCP Cleanup Opinions in WA

## Property No Further Action (NFA)

- Cleanup levels met on a specific parcel
- Site status remains “Cleanup Started”
- Often accepted by lenders

## Site NFA

- Cleanup levels met throughout the Site
- Site removed from CSCS List

## NFA with Environmental Covenant

- Institutional control that runs with property deed
- Recorded with County Assessor
- Monitoring, inspections, 5-year periodic review

# Reuse Trends

- Equitable development
  - Affordable housing
  - “Healthfields” and Quality of Life
  - Rural and tribal
- Sustainable development
  - In-fill and Transit Oriented Development
  - Adaptive reuse
  - Brightfields
  - Adaptation - Bluefields
- Economic development
  - Jobs – Manufacturing and commercial
  - Mixed-use



# Assessment, Cleanup & Redevelopment Resources

Program	Purpose(s)
EPA programs <i>Note: Look out for ARC MARC grants October 2020</i>	Grants planning and environmental assessment and remediation; technical assistance; capacity building; sustainable development
State programs (varies)	Grants planning and environmental assessment and remediation; technical assistance; sustainable development
Commerce (EDA)	Infrastructure, planning, utilities, improvements
USDA	Business, infrastructure, utilities, feasibility studies
HUD	Housing, infrastructure, planning
Treasury	Tax credits and forgiveness: loans (NMTC) and equity programs (Opportunity Zones), historic rehabilitation
Energy	Feasibility, capacity building, construction
Insurance / Deal structure	Remediation, Site monitoring and management, cost recovery/off-setting

# What has worked?

Leadership  
perseverance  
commitment  
a team  
partnerships  
leveraging  
resources  
long-range visions  
implementation plans



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