WHAT IS A BROWNFIELD?

EPA’s Definition: A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.
BLIGHTED AREAS
ENVIRONMENTAL RISK NEIGHBORHOODS
DRY CLEANER PROPERTIES
ABANDONED BUSINESSES

ABANDONED HOMES
OLDER NEIGHBORHOODS
NEIGHBORHOODS WITH ADJACENT CONTAMINATION
Petroleum

Approximate Carbon and Boiling Ranges of Petroleum Products [15]
CHLORINATED SOLVENTS

\[
\begin{align*}
PCE & : \quad \text{CH}_2\text{Cl}_2 \\
TCE & : \quad \text{CH}_2\text{Cl}_2 \\
\text{cis-DCE} & : \quad \text{CH}_2\text{Cl}_2 \\
\text{trans-DCE} & : \quad \text{CH}_2\text{Cl}_2 \\
\text{VC} & : \quad \text{CH}_2\text{Cl}_2 \\
\text{Ethene} & : \quad \text{CH}_2\text{Cl}_2
\end{align*}
\]
ASBESTOS AND LEAD-BASED PAINT

Potential sources of asbestos in the home

Please note: This floor plan depicts a typical older home. Asbestos use has declined significantly; homes built before 1980 are more likely to contain asbestos products.
Emerging and Other Chemicals

- 1,4-Dioxane
- PFAS
- PCBs
- Pesticides
- Herbicides
- Metals
- Methane
- Methamphetamines
- Molds
Why should my community care about Brownfield?

ECONOMIC TAX BASE

PROPERTY VALUE

HUMAN/ENVIRONMENTAL SAFETY

AESTHETICS/POPULATION GROWTH
WHAT IS THE PROCESS OF REGULAR REDEVELOPMENT VS. BROWNFIELD REDEVELOPMENT?
Regular Redevelopment

1. Identify
2. Funding
3. Plan
4. Permits
5. Construct
6. Rent
1. Identify
2. Work with Owner / Obtain Property
3. Apply for Grant / Funding
4. Conduct Phase 1
WHAT IS THE PROCESS FOR IDENTIFYING, INVENTORY, AND PRIORITIZING PROPERTIES?
(Item 1)
PHASE I ENVIRONMENTAL SITE ASSESSMENT (ITEM 4)
PHASE I ENVIRONMENTAL SITE ASSESSMENT
5. Reassess

6. Conduct Phase II
Planning Documents (Item 6)

- Sampling and Analysis Plan
- Quality Assurance Project Plan
- Health and Safety Plan
- Public Outreach Plan
- Work Plan
PHASE II ENVIRONMENTAL SITE ASSESSMENT EQUIPMENT
PHASE II ENVIRONMENTAL SITE ASSESSMENT
COOLERS AND BOTTLES
DECONTAMINATION
PHASE II ENVIRONMENTAL SITE ASSESSMENT

PPE
HOW IS THE INFORMATION GATHERED DURING THE PHASE I AND II ESA USED?

TRIHYDRO’S APPROACH TO HAZARDOUS PROPERTY ASSESSMENT

CONDUCT PHASE I

Are there any Recognized Environmental Conditions?

→ NO

Redevelop or Reuse Property

PROPERTY TYPE 1

→ YES

Is the site selected for Phase II?

OTHER POSSIBLE SCENARIO

Property held for future evaluation

CONDUCT PHASE II

Are there impacts in air, water, or soil that risk human or environmental health?

→ NO

Redevelop or Reuse Property

PROPERTY TYPE 2

→ YES

Begin cleanup process: Enter Voluntary Cleanup Program. Develop Reuse Plan and Institutional Controls.

Redevelop or Reuse Property

PROPERTY TYPE 3

BENEFICIAL REUSE OF BLIGHTED PROPERTIES
7. Reassess
8. Conduct Additional Assessment
9. Conduct Remediation
WHAT IS THE PROCESS FOR CLEANING UP A PROPERTY? (ITEM 9)
WHAT IS THE PROCESS FOR CLEANING UP A PROPERTY?

TRIHYDRO APPROACH TO ASBESTOS AND LEAD BASED PAINT

- Suspect ACM and LBP Containing Buildings
  - Building Reuse Requires no Structural Changes
    - Assess Building for Friable Asbestos and Chipping Paints
      - Potentially Minor Remediation $$$ to $$$$$
      - Sell and Reuse
  - Building Reuse Requires Structural Changes
    - Assess Building for ACM and LBP Material
      - Sample Suspect Materials
      - Potentially Large Remediation and Remedy Required $$$$$ - $$$$$$
      - Sell and Reuse
  - Building is Structurally Unsound or Requires Demolition
    - Assess Building for ACM and LBP Material
    - Dispose of Partial or Entire Building with ACM/LBP Contractor $$$$$$ to $$$$$$$
    - Sell and Reuse
10. Develop Controls

11. Plan Redevelopment

12. Complete Redevelopment
BROWNFIELD REDEVELOPMENT CONSIDERATIONS?
What is the regulatory site status?

Is the site under a current Cleanup program?

Cleanups in My Community From the EPA
www.epa.gov/cleanups/cleanupsinmycommunity
What is the community liability?

- Environmental
- Safety
- Regulatory
- Financial
- Others?
Know your Laws

CERCLA
- Exemptions
- Third-Party Defense
- Bona Fide Prospective Purchaser (BFPP)
- BUILD ACT

- Wyoming Laws and Programs
- Voluntary Remediation Program (VRP)
- Brownfield Program
ECONOMIC DEVELOPMENT ASSOCIATION

Wyoming Economic Development Association (WEDA)
COMMUNITY AND OWNER BY-IN

NOT ON MY PROPERTY!
Community By-In

- Anticipate Barriers
- Support and Promote Current Business
- Identify Key Stakeholders
- Identify Key Partners
- Identify Key Opportunities
- Create a Vision
- Create Goals
- Create a Measurable Decision Making Process
- Communicate Openly
- Celebrate Milestones
Redevelopment

- Incentives
- Recognitions
- Tax Credits
  - New Market
  - *Opportunity Zones*
  - Low-Income
  - Historic Rehabilitation
  - Energy Efficiency
  - Tax Incremental Financing
  - *Revolving Loan Fund*
  - Tax Abatement
SAFETY

DANGER
KEEP OUT
WHAT RESOURCES ARE AVAILABLE?
As leaders in ENGINEERING & ENVIRONMENTAL CONSULTING,
Trihydro’s mission is to:

Strengthen our clients’ businesses
Empower our employees
Serve & improve our communities

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OTHER “FIELDS”: BROWNFIELD
OTHER “FIELDS”: REDFIELD
OTHER “FIELDS”: GREYFIELD
OTHER “FIELDS”: BLUEFIELD
OTHER “FIELDS”: GREENFIELD
OTHER “FIELDS”: BRIGHTFIELD