Indiana Brownfields Bulletin

Bi-annual Newsletter, Winter 2023

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Brownfield Story Maps

The Indiana Brownfields Program is excited to share Story Maps it has created for Sites across the state. Story Maps allow us to share success stories by presenting site history, investigation and clean-up activities, and redevelopments in a new and interactive way. To view the Story Map website and explore the various Maps created, please visit: https://storymaps.arcgis.com/stories/e6880065e53d4df094991707b143d59f

Update to the ASTM Standard

On December 14, 2022, the EPA published a final rule in the Federal Register amending the All-Appropriate Inquiries (AAI) Rule by recognizing ASTM E1527-21 as a method for complying with AAI and withdrawing the reference to ASTM E1527-13. The rule became effective 60 days from the date of publication on February 13, 2023. Under the final rule, reports written under the ASTM E1527-13 will only remain AAI-rule compliant until February 13, 2024. The Program's preference is that all Phase I Environmental Site Assessment reports from February 13, 2023 forward comply with the ASTM E1527-21 standard. The final rule is available HERE.

Common ERC Recording Errors

Over time, the Program has noticed some recurring errors with the recordation of environmental restrictive covenants (ERCs), often requiring a corrective document to be prepared and filed resulting in additional costs being incurred by site owners. Some of the most observed errors are outlined below, followed by updates we are making to our ERC recording instructions to assist anyone unfamiliar with the recording process.

Recording the ERC recording instructions page with the ERC

- Often times the recording instructions sheet sent with every ERC is also recorded. This may be the most common error seen by the Program. The recording instruction sheet states "**DO NOT RECORD THIS PAGE.**" Please take the time to read the instruction sheet and contact your Program Project Manager if you need assistance or guidance.

Recording the issued letter on top of the ERC

- The issued letter should only be included as Exhibit C of the ERC. Recording a copy of the letter on top of the ERC may create errors with how the county recorder's office indexes the document potentially affecting the searchability of the document as a covenant.

Recording the ERC without Exhibit C inserted

- The Program used to mail the paper copy of the letter and attached ERC to the recipient as separate documents. The recording instructions indicated that the issued letter should be inserted in the ERC as Exhibit C prior to recording; however, this step is often forgotten. To help alleviate this error, we have changed the way we send the physical copy of the issued letter and ERC to the letter recipient; we will include the issued letter as Exhibit C of the ERC and mail the properly assemble ERC in a format that is ready to record to avoid the inadvertent omission of including the issued letter as part of Exhibit C.

Recording the ERC without a recorded copy of the new deed in Exhibit A

- For new owners of a property, a copy of the new current recorded deed should be inserted as Exhibit A and no prior deeds or legal descriptions should remain in the exhibit.

Recording an ERC Termination and/or Modification together with New/Replacement ERC

- An ERC Termination and/or Modification should not be recorded together with a New/Replacement ERC. The ERC Termination and/or Modification should be a stand-alone document and should receive its own Instrument Number and be recorded prior to the New/Replacement ERC being recorded.

Making changes to the ERC prior to recording it

- It is important that no changes be made to the document including re-typing without approval from IDEM/Program. The document should be kept organized just as it was issued when presented to the county recorder's office. It is acceptable to fill in new deed information if not included in the ERC issued by the Program.

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Common ERC Recording Issues, Continued from Page 2

Identifying IDEM/Program as the 'Preparer' of the document

- The person preparing the document or recording the ERC is the owner, an authorized representative of the owner, or an attorney of the owner, not IDEM or the Program.

Below is a summary of the changes we have recently made to our recording instructions to help prevent these errors from happening.

- A scanned copy of the ERC with letter already included in Exhibit C and Recording Instructions Sheet will be sent via email.
- The email will include the scanned copy of the ERC with the original letter included as Exhibit C with the recording instructions as a separate document. The VFC Document # for the letter/ERC document will also be in the text of the email for reference.
- A hardcopy of the Recording Instructions Sheet will be on top of ERC with the original signed letter in Exhibit C, in the physical package mailed to the letter recipient.

General Oversights Observed by the Brownfields Program

Below is a list of some common issues observed by the Program that have been proven to complicate or delay redevelopment, particularly on residential reuse projects, which are subject to the most stringent closure levels:

1. **No soil management plan (SMP)** – SMPs are essential for properly managing contaminated soil on a site. SMPs are site-specific and approval does not carry from site to site without approval from IDEM/Program.

2. **No legitimate use approval** – Prior to moving contaminated soil from one part of a site to another for construction of berms and/or consolidation beneath a building or parking lot, approval of a Legitimate Use Application is required. This approval is issued by the IDEM Industrial Waste Compliance section and is site-specific. The Program does not approve reuse of contaminated on-site soil.

3. **Unverified backfill brought onto the site** – The Program has developed a Backfill fact sheet to ensure proper screening of soils brought onto a site for grading, etc. and will be creating a Legitimate Use fact sheet in the future, pending the approval of an IDEM non-rule Policy Document (NPD) for SMPs.

4. **Inadequate soil sampling or Misunderstanding of soil sampling requirements** - Soil in any area on the site where a standalone single family or duplex residential housing structure will be constructed must be sampled down to 10 feet below ground surface. Any soil contamination identified above applicable R2 residential published levels (RSPLs) must be excavated, leaving only soil that meets R2 RSPLs in place.

5. **Inadequate vapor sampling** – common mistakes are related to soil gas (vapor) sampling or single-family occupancy.

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Per lot sampling for soil, groundwater, and soil gas is necessary for single-family residential redevelopment projects (even under RCG). The R2 considers vapor as a separate media and a contaminant exceedance in groundwater is no longer the sole driver to evaluate vapor. Vapor sampling should be incorporated into the conceptual site model and evaluated for characterization and closure determination. IDEM does not anticipate routinely requiring soil gas delineation at petroleum releases. Instead, IDEM recommends using criteria listed in Table 2-C (Section 2.3.6.5) to decide whether petroleum vapor intrusion investigation is necessary at existing structures, or for potential structures. For information related to changes from RCG to R2, please refer to page 6.

6. **Redevelopment plans not readily communicated to the Program** – When evaluating potential land use restrictions appropriate for a site, knowing the planned redevelopment is important. In the instance a specific redevelopment is not known or communicated to the Program, the Program may have to take a conservative approach and over-restrict the site to ensure potential residential use scenarios are protective of human health. Single-family versus multi-tenant residential redevelopment projects have different sampling requirements and are easier to tailor to specific site redevelopment if plans are shared.

7. **Name on the Comfort Letter Request matches the entity's legal name** – When submitting a Comfort Letter Request, the name listed as 'Letter Recipient' should match the legal name of the entity (or person) listed on the deed that owns or who will acquire the Site and be listed on the deed as the grantee. BFPP Comfort Letters are entity specific and lack of clarity on this point may result in a delay in issuing a letter.

8. **Not speciating chromium in soil during sampling** – Chromium has multiple forms - trivalent chromium (chromium III) and hexavalent chromium (chromium VI), together considered total chromium. Numerous reports submitted to the Program do not speciate (identify a specific form) chromium, compare analytical data to total chromium, and assume that the results do not warrant additional investigation or necessitate a land use restriction. When analytical results are not speciated, actual subsurface conditions are undetermined and the Program takes a conservative approach comparing the analytical results to the chromium VI published level to ensure the protection of human health. Therefore, a site may be unnecessarily restricted in the absence of speciated data and additional sampling may be requested to avoid unnecessary restriction(s). Bottom line – speciate chromium samples to obtain the most useful data and avoid potentially unnecessary restriction on land use or having to go back and resample.

Noteworthy Case Studies

Case Study #1:

The Program reviewed a site in which a redevelopment had started prior to a Comfort Letter Request being sent into the Program for review. With no prior communication on the status of the redevelopment, the Program evaluated the site without knowing the planned use was for single-family residential. This was not communicated to, but discovered by, the Program. Following this discovery, the Program learned that crushed concrete and contaminated soil were being moved around the Site without a legitimate use determination. With unsegregated contaminated soil and crushed concrete being spread and graded across the site slated for single-family residential redevelopment, the Program advised the developer/owner that a Comfort Letter would include multiple requirements related to soils including additional sampling and requiring a Legitimate Use determination to be obtained. The Program is currently waiting on IDEM Industrial Waste to make a Legitimate Use determination to help dictate the sampling requirements moving forward. These issues have forced the single-family portions of the redevelopment into a standstill, pending Legitimate Use approval from IDEM Industrial Waste.

Case Study #2:

The Program reviewed a site that previously had manufacturing operations that ceased in the 1980s. Prior to Program involvement, remedial activities included the removal of contaminated soil, concrete, and debris from the site under IDEM oversight. IDEM conducted an inspection as part of a RCRA Facility Assessment and concluded that the remedial activities warranted no additional investigation and no corrective action was needed (Corrective Action Complete without Controls). Once the site was entered into the Program, it was discovered that the imported backfill was not sampled following remedial activities and was never verified to be ‘clean fill.’ Subsequent soil sampling identified metal-contaminated surface soil on the site in a large portion of the previously ‘remediated’ areas. A compounding issue was that the owner of the site does not qualify for BFPP, which made it harder to access financial assistance for clean up. Following these discoveries, the redeveloper backed out of the project and the Comfort Letter Request was withdrawn. The withdrawal was partly due to the fact that a Corrective Action Complete without Controls from RCRA does not necessarily equal a clean site with no restrictions for residential use and that a site is ready for redevelopment. Without a soil management plan, sampling data from the surrounding neighborhood, and a “no residential use” restriction on the site, there are many hurdles remaining before the planned residential development can occur.

The Risk-based Closure Guide (R2)

The Summer 2022 Brownfields Bulletin summarized the major changes in the Risk-based Closure Guide (R2) which supersedes the Remediation Closure Guide (RCG) and went into effect July 8, 2022. As noted in this bulletin issue, some errors related to implementation under the new guidance are occurring. In an effort to assist developers, consultants, prospective purchasers, and/or owners, the noteworthy changes included in the R2 are restated below:

- Screening levels are now called **published levels**.
- IDEM recommends delineating groundwater-to-vapor source areas by collecting soil gas samples from the vadose zone just above the groundwater table. Vapor is considered its own independent media and requires sampling for closure for specific types of releases. Vapor samples will be incorporated into the conceptual site model and evaluated for characterization and closure determination.
- IDEM does not anticipate routinely requiring soil gas delineation at petroleum releases. Instead, IDEM recommends using criteria listed in Table 2-C (Section 2.3.6.5) to decide whether petroleum vapor intrusion investigation is necessary at existing structures, or for potential structures. For chlorinated volatile organic compound (cVOC) releases, soil gas screening should occur at facilities that use, store, dispense, or dispose of cVOCs, or did so historically, and at any facility where sampling data shows or has shown the presence of cVOCs.
- Exterior soil gas (SGe) sampling is appropriate for determining a soil vapor source, delineating soil vapor plumes, use as a stand-alone investigative tool to evaluate vapor intrusion potential at structures whose owners do not grant access for subslab sampling, during preferential pathway backfill investigations (in limited circumstances), or when evaluating vapor intrusion potential at undeveloped properties.
- Preferential pathways, including conduits, can allow vapors to reach indoor air without significantly affecting the subsurface beneath a building. For this reason, vapor characterization must include consideration of, and in some cases, sampling in preferential pathways, including conduits. Conduit vapor is recommended to be sampled, on a quarterly basis, over the course of the year (if applicable).
- Closure requires meeting remediation objectives for each release-related chemical in all affected media.
- Soil-to-groundwater source areas should be delineated by evaluating the leaching potential of soil samples using a leaching test, such as the synthetic precipitation leaching procedure (SPLP).
- There are no longer published soil levels for volatile chemicals, except for excavation worker levels, because volatile chemicals in exposed soil have short half-lives. IDEM's published levels for soil assume exposure via ingestion, dermal contact, and inhalation of volatiles and particulates. The R2 Tables contain soil levels for three different exposure scenarios. Note that IDEM caps some of its published levels for soil at either the soil saturation limit or the maximum cap. Except for excavation worker levels, IDEM does not publish soil levels for volatile chemicals, defined for this purpose as chemicals listed as having a vapor pressure equal to or greater than one millimeter of mercury in the RSL Chemical-specific Parameters Supporting Table. This is because volatile chemicals in exposed soil have

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short half-lives relative to the exposure durations assumed by U.S. EPA's equations for residential and commercial soil.

- R2 follows an outline with three major sections that address, in turn, characterization, risk evaluation, and remedy selection and implementation. Content within these major sections is arranged into a total of nine broadly defined tasks necessary to comply with statutory requirements for risk-based closure.

Program staff have recommended the collection of vapor data for some time now and the implementation of the R2 now mandates such collection. Please be advised we will use R2 guidance to evaluate data for all sites prior to the issuance of any letter (Comfort Letters, Site Status Letters, No Further Action Letters, Project Status Letters, Reasonable Steps Update Letters, etc.). The Program is prepared to answer any questions you may have related to these changes for Brownfield specific questions and concerns. The Published Levels tables can be viewed on the IDEM Office of Land Quality's website which includes all technical guidance. https://www.in.gov/idem/cleanups/resources/technical-guidance-for-cleanups/.

Risk-based Closure Guide (R2) Acronym List

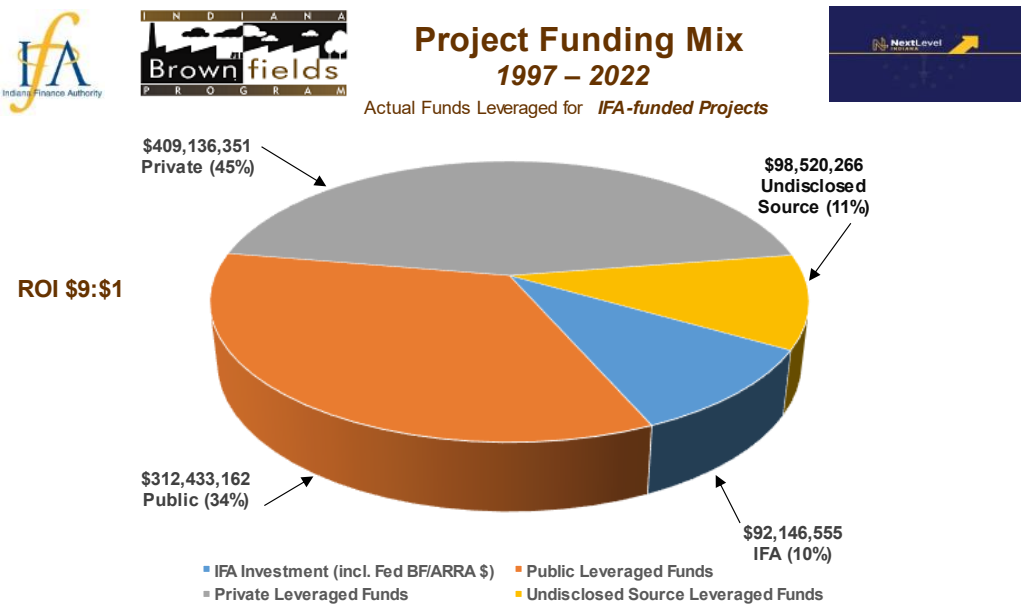
CCVPL	commercial conduit vapor published level
CIAAL	commercial indoor air action level
CIAPL	commercial indoor air published level
CSGPL	commercial soil gas published level (shallow and deep)
CSPL	commercial soil published level
CSSPL	commercial subslab published level
GWPL	groundwater published level
PL	published level
RCVPL	residential conduit vapor published level
RIAAL	residential indoor air action level
RIAPL	residential indoor air published level
RSGPL	residential soil gas published level (shallow and deep)
RSPL	residential soil published level
RSSPL	residential subslab published level
XSPL	excavation soil published level
Rec SPL	recreational published level (trail/park/playing field)

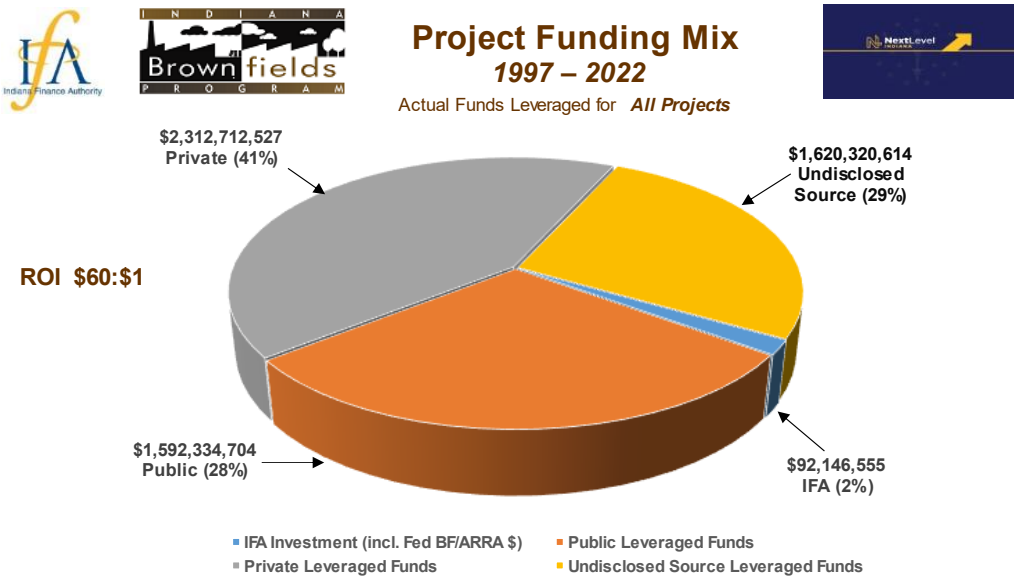
New Staff

Jean Krueskamp joined the Indiana Brownfields Program in September 2022 as a Project Manager. Before joining the Program, she worked as a Project Manager for 3.5 years for the IDEM Voluntary Remediation Program. Prior to IDEM, Jean worked at a small environmental consulting company in Fishers, Indiana for 2 years. She graduated from Indiana University with a B.S. in Physics with minors in Geology and Mathematics. During her time at IU, she worked as a research assistant in a geochemistry lab for 2 years.

Return on Investment (ROI)

The graphics below illustrate Program accomplishments in 2022. Return on Investment (ROI) information is critical to measuring Program and project successes.





Upcoming Webinars

Vapor Intrusion Mitigation (VIM-1) - A Two Part Series – February 21, 2023 1:00pm EDT

ITRC's Vapor Intrusion Mitigation training is a series of eight (8) modules, presented over two sessions. The Vapor Intrusion Mitigation training series provides an overview of vapor intrusion mitigation and presenting information from the ITRC.

Environmental Data Management (EDM): Real Life Application of Data Management Planning and Field Data Collection Best Practices – February 23, 2023 1:00pm EDT

The ITRC Environmental Data Management Best Practices Team (EDMBP Team) prepared a series of guidance documents and case studies on best practices for all phases of EDM to address the need for guidance on managing large stores of environmental data.

Environmental Data Management (EDM): Best Practices for Exchanging Environmental Data – April 6, 2023 1:00pm EDT

The ITRC Environmental Data Management Best Practices Team (EDMBP Team) prepared a series of guidance documents and case studies on best practices for all phases of EDM to address the need for guidance on managing large stores of environmental data.

ITRC PFAS Introductory Training – April 13, 2023 1:00pm EDT

Per- and polyfluoroalkyl substances (PFAS) are a large and complex class of anthropogenic compounds whose prevalence in the environment are an emerging, worldwide priority in environmental and human health.

Environmental Data Management (EDM): Best Practices for Achieving and Maintaining Quality within Environmental Data Management – May 2, 2023 1:00pm EDT

The ITRC Environmental Data Management Best Practices Team (EDMBP Team) prepared a series of guidance documents and case studies on best practices for all phases of EDM to address the need for guidance on managing large stores of environmental data.

Sustainable Resilient Remediation (SRR) – May 11, 2023 1:00pm EDT

Extreme weather events and wildfires are increasing and impacting hazardous waste sites. The primary goal of cleanups, which is protecting human health and the environment, is undermined.

BROWNFIELDS 2023
SUSTAINABLE COMMUNITIES START HERE

The next Brownfields Training Conference will be held in Detroit, Michigan from **August 8-11, 2023**. Due to the COVID-19 pandemic, the previous Conference was delayed a year, resulting in just a year between these Conferences, which is normally offered every two years. Mark your calendars and save some time to connect with new and familiar Brownfield colleagues. For more details, please visit their website: https://brownfields2023.org/2022/08/brownfields-2023-detroit-michigan/

Disclaimer

Mention of non-Indiana Finance Authority (IFA) website links and documents does not constitute an IFA endorsement of their contents, only an acknowledgement that they exist and may be relevant to our brownfield redevelopment stakeholders.

Indiana Brownfields Program Staff Directory

Jim McGoff
IFA Director of Environmental Programs
(317) 232-2972
jmcgoff@ifa.IN.gov

Meredith Gramelspacher
Director & General Counsel
(317) 233-1430
mgramels@ifa.IN.gov

Cindy Shively Klem
Program Counsel
(317) 234-6018
cklem@ifa.IN.gov

Tonya Keller
Program Assistant
(317) 234-4293
tokeller@ifa.in.gov

Tracy Concannon
Planning, Measures & Compliance Coordinator
(317) 233-2801
nadollar@ifa.in.gov

John Morris
Stakeholder Engagement Coordinator
(317) 234-0235
jmorris@ifa.IN.gov

Andrea Robertson Habeck
Technical Staff Coordinator
(317) 234-0968
aroberts@ifa.IN.gov

Sara Westrick Corbin
Financial Resources Coordinator
(317) 234-1688
tconcann@ifa.IN.gov

Ken Coad
Senior Environmental Advisor
(317) 233-8409
kcoad@ifa.IN.gov

Carmen Anderson
Policy & Guidance Team Leader
(317) 233-2415
CarAnderson@ifa.IN.gov

Vickey Robinson
GIS & Digital Services Specialist
(317) 234-9764
VRobinson1@ifa.in.gov

Mitchell Smith
Communications Lead
(317) 234-8833
mismith@ifa.in.gov

Tracey Michael
Project Manager
(317) 232-4402
tmichael@ifa.IN.gov

Dawn Andershock
Project Manager
(317) 234-4861
DAndershock@ifa.in.gov

Lori Bebinger
Project Manager
(317) 234-8099
LBebinger@ifa.in.gov

Michele Bettis
Project Manager
(317) 234-4860
MBettis1@ifa.in.gov

Haley Faulds
Project Manager
(317) 234-0685
HFaulds1@ifa.in.gov

Jean Krueskamp
Project Manager
(317) 234-3605
JKrueskamp@ifa.in.gov

Susie Holmes
Program Associate
(317) 232-6772
SHolmes1@ifa.in.gov

The Indiana Brownfields Program offers educational, financial, legal, and technical assistance and works in partnership with the U.S. Environmental Protection Agency and other stakeholders to assist Indiana communities in making productive use of brownfield properties.

Indiana Brownfields Program
100 N. Senate Avenue, Room 1275
Indianapolis, Indiana 46204
Phone: (317) 234-4293
Fax: (317) 234-1338
Email: brownfields@ifa.IN.gov