

REDEVELOPMENT OF BROWNFIELDS IN THE NORTH JERSEY PORT AREA

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Presentation Overview

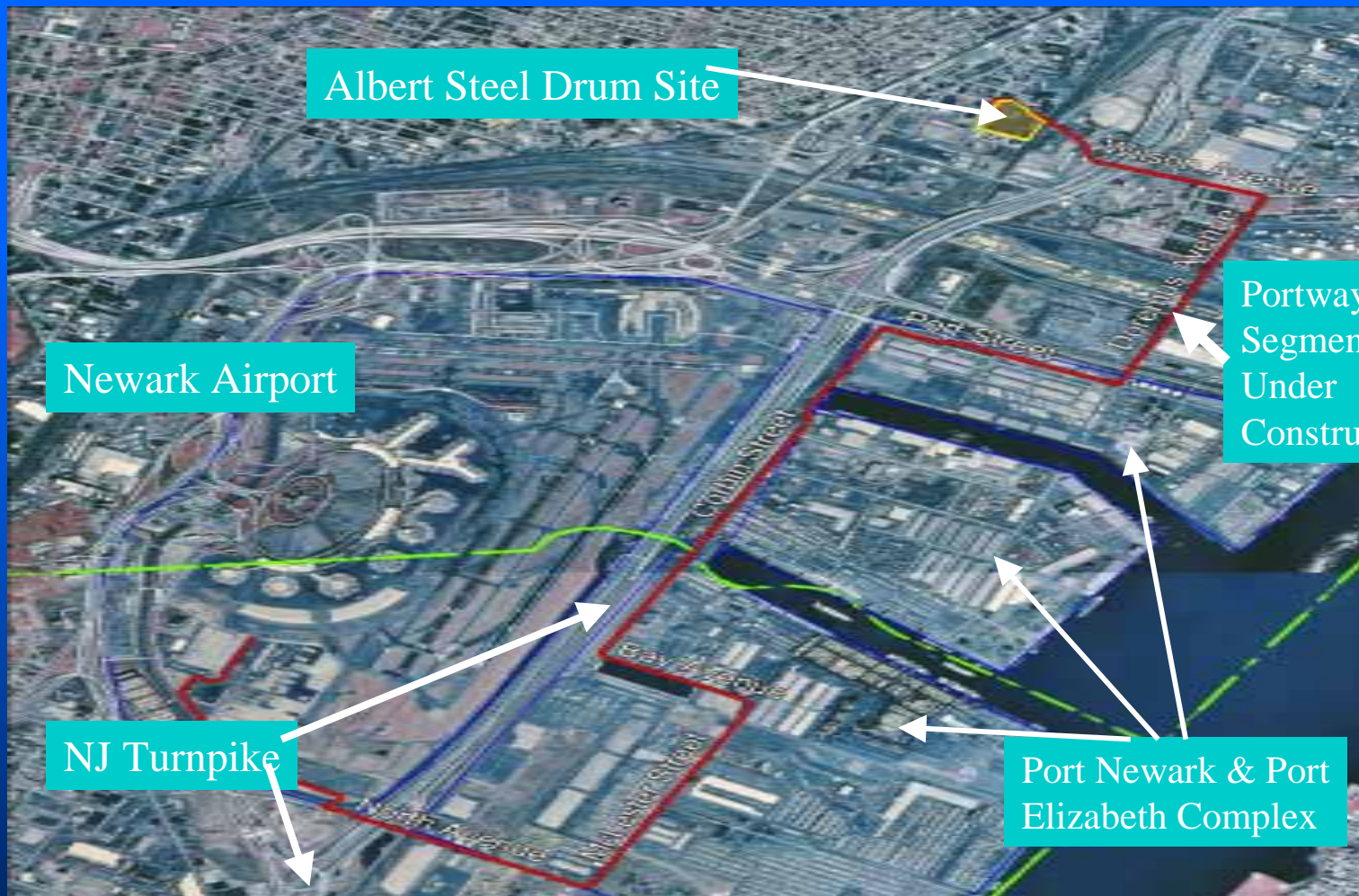
- Relationship between Triad and Brownfields Redevelopment
- What is the Triad approach
- Albert Steel Drum Case Study
- Issues/Barriers to Acceptance of Triad Approach

Project Background

Facilitate the redevelopment of abandoned industrial Brownfield sites by freight related businesses that are participating in the dramatic growth in trade through the port, airport, and rail terminals in northern New Jersey.

Major Partners

- FHWA (Funding)
- NJTPA (North Jersey Transportation Planning Authority) see www.njtpa.org for report
- NJIT (New Jersey Institute of Technology)
- Steering Committee (NJDOT, NJDEP, OSP, USEPA, Port Authority of NY&NJ, NJDOL)
- Consultants



Albert Steel Drum Site

Newark Airport

NJ Turnpike

Portway Segment Under Construction

Port Newark & Port Elizabeth Complex

Ease of Access to Albert Steel Drum Site from Airport & Seaports Key Factor In Site Selection

What is Triad Approach

- Triad Approach is an integrated site characterization process that combines:
 - Systematic planning
 - Dynamic or adaptive decision making –
Dynamic Work Plan
 - Use of field analytical methods (FAM's) and other techniques to generate real time data

ON Site Analysis: FAMs & Labs

XRF



UVF



Field
Analytical
Methods

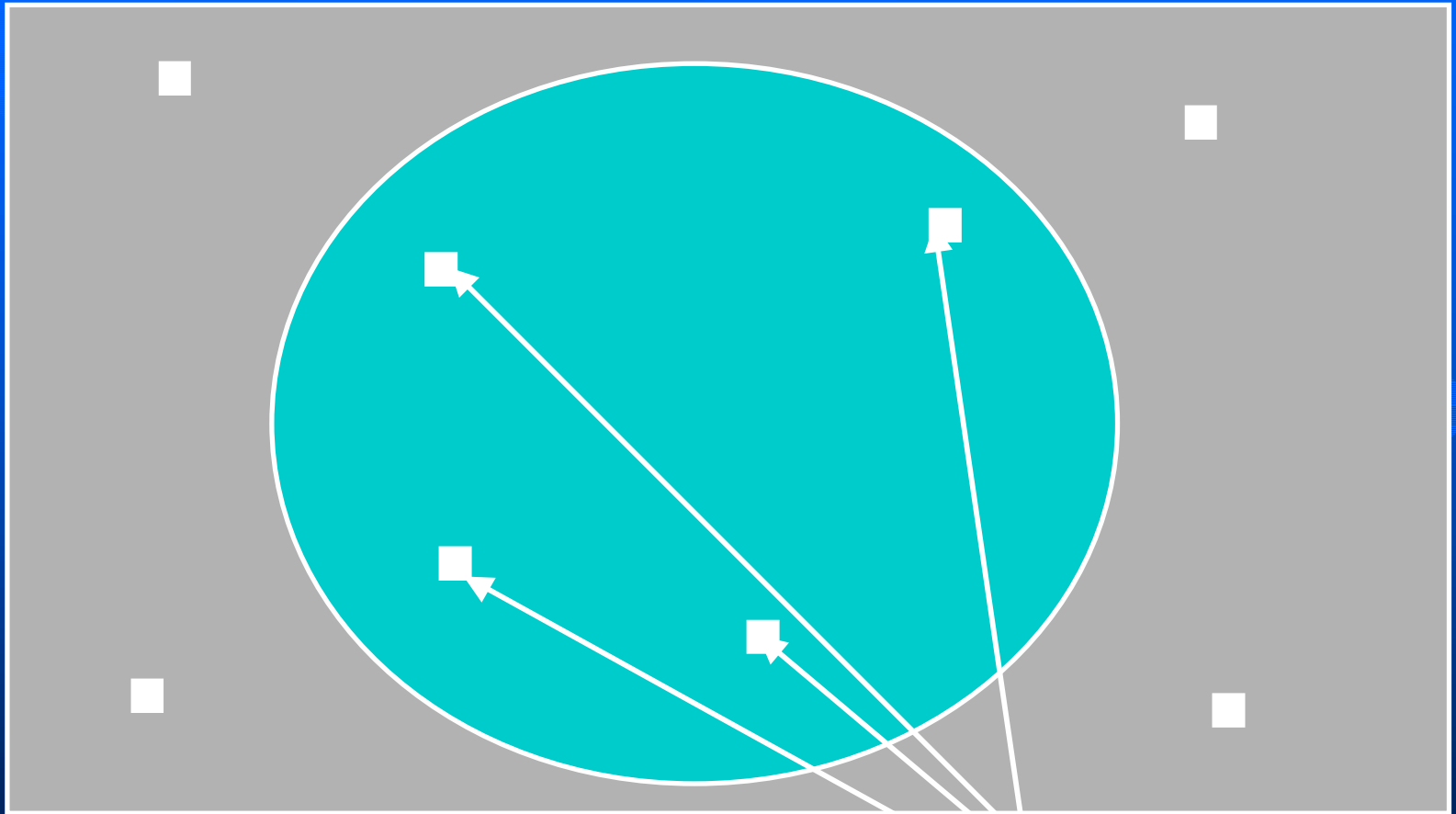
Mobile Laboratory

Field GC



Combine FAM & Mobile Lab for Data Quality

Conventional Approach

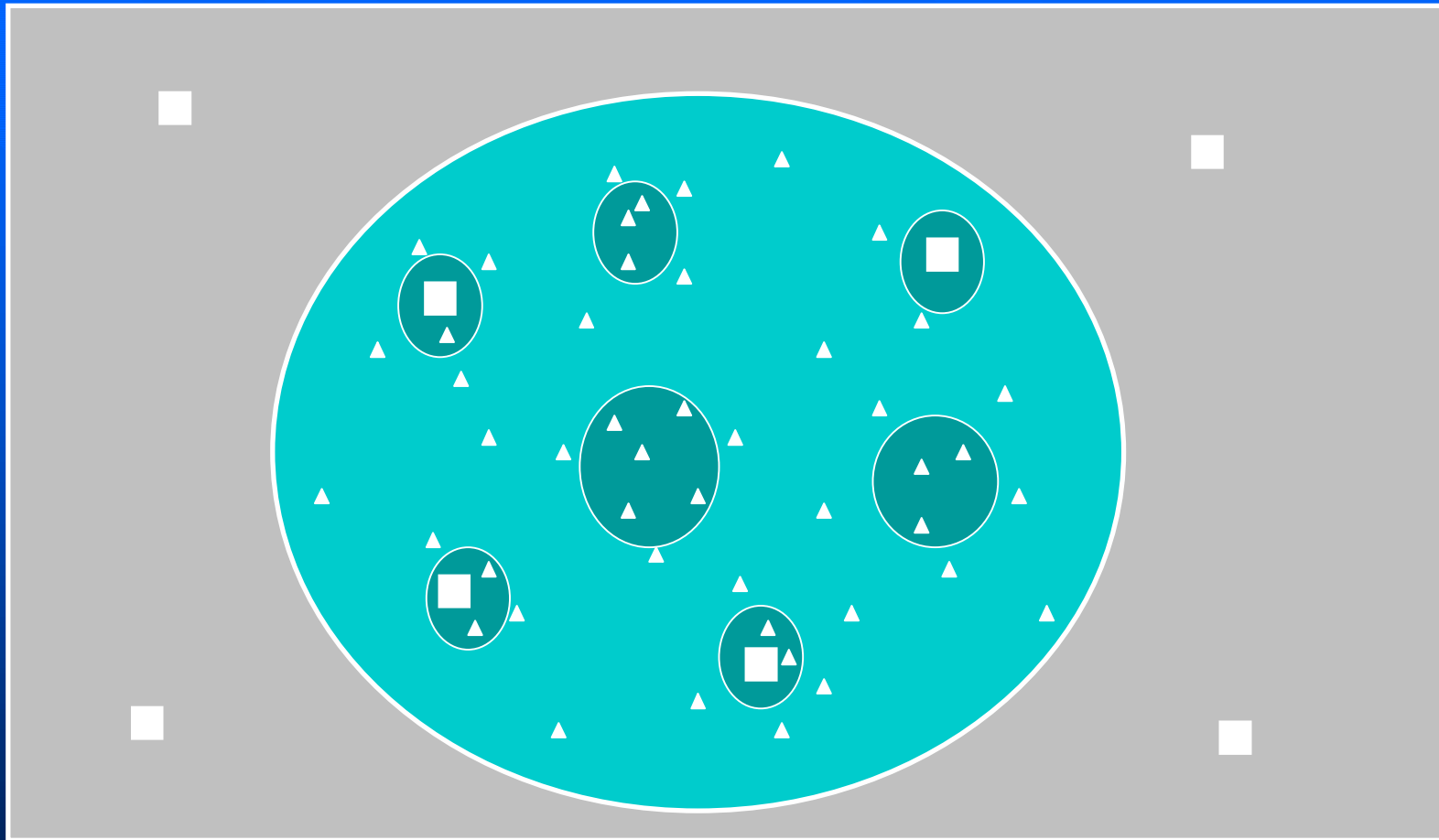


■ RI Sampling Point

● Estimated Volume of Impacted Soil

Samples That Exceeded
Cleanup Standards

Case Example: Triad Sampling



- Traditional Sampling Point
- ▲ Triad Sampling Point
- Volume by Traditional Sampling
- Volume by Triad Sampling

Triad Sampling Process Provides More Precision to Delineation

Triad Approach Can Reduce Uncertainty on Brownfields Sites

- Less costly analytical testing allows for greater sampling density
- Almost real-time analysis allows samples to be taken in a strategic manner
- Higher density strategic sampling produces data that is more representative of site
- Reduced uncertainty = lower remedy costs

Albert Steel Drum Site Case Study

Industrial Clean Property Valued
at
\$4.5 - \$5 million

- 13 Acres in Newark, New Jersey
- 20+ Year History of Investigation
 - » Initial Analysis Produced Large Uncertainty
- Triad Approach Used to Define “Hot-Spots”
 - » Triad Analysis Significantly Reduced Uncertainty

Albert Steel Drum

- RI/FS performed in two stages over several years; breaks up continuity of sampling
- Isolated “hits” (VOCs & PCBs) above standards indicate “hot spot” type impacts
- Due to inconclusive data, FS takes conservative approach to remediation magnitude
- Result: Significant uncertainty & overly conservative cost estimate
- Too much risk for developers

Albert Steel Drum Site

Post Triad Application

- One week field effort involving FAMs, mobile lab, Geoprobe & infield decisions
- Greater sample density – more precision to “hot spot” delineation
- One large “hot spot” was actually several smaller ones
- “In place post ex” samples allowed clean-up to be a straight dig & haul
- Reduced uncertainty- lowered insurance premiums & provided more precision to clean-up cost

Field Extracts



Albert Steel Drum Site Outcome

- Developer has entered into a sale agreement with owner
- Planning for 350,000 s.f. W/DC facility
- Potential for 250 jobs & needed tax revenues to Newark region

Issues/Barriers to Acceptance

- More regulatory recognition of Triad usefulness
- Uniform acceptance criteria as opposed to case by case acceptance
- More skilled practitioners
- More “how-to” guidance
- Guidance on QA/QC practices unique to FAMs
- Pricing mechanisms compatible w/ dynamic sampling program style investigations

Lessons Learned

- Triad Approach is appropriate for use at Brownfield sites
- Regulators have to be committed to the process
- Systematic planning is key & requires considerable “buy in/stay in” from stakeholders
- Implementing Triad requires greater experience and expertise of field personnel

Conclusion

Many Brownfields sites could be addressed in this way. Reducing uncertainty regarding time and cost of remediation can help move forward many Brownfields property transactions.