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The Challenges of Redeveloping
Urban Landfill Sites
Presented By

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Ohio EPA’s Targeted Brownfield Assessment Program
Today’s Outline

• Landfills and regulations – a brief history.
• Special technical considerations.
• Special non-technical considerations.
• Development potential.
• Examples
A Brief History

• What is a landfill?

• A landfill is a property where waste (municipal, hazardous, C&DD, industrial, etc.) was or is deposited on or into the ground.

• It might be engineered, mostly at modern operating facilities.

• It might be historic, much more common.
Modern Operating Landfill
Historic Orphan Landfill ???
Historic Orphan Landfill (Gowdy Field)
A Brief History

- Prior to 1967, landfills were largely unregulated.
- No state regulatory programs at the time.
- Historic records show about 670 “open dumps” in existence.
A Brief History

• In 1968, Ohio Department of Health rules and regulations were enacted.
• Required permits and annual operating licenses.
• No real engineering requirements.
• In 1969, ODH issued 644 licenses.
A Brief History

• In 1972, Ohio EPA was created.
• Established dual oversight for landfills (state and local).
• Many sites were improperly closed or abandoned.
• In 1976, Ohio EPA developed new operation and engineering standards.
A Brief History

• In the early 1980’s, Ohio EPA began tracking public health and environmental issues with operating facilities.

• Explosive gas, ground water contamination, siting, operational compliance, and long-term planning.

• Led to H.B. 317 which was not enacted.
A Brief History

• H.B. 592 was enacted in 1988.
• Goal of the law was to 1) strengthen enforcement, 2) develop Best Available Technology standards for construction, 3) increase public participation, and 4) increase solid waste planning and recycling.
• Ohio EPA enacted rules in 1990.
A Brief History

• Number of operating facilities in Ohio:
  – In 1967 (670)
  – In 1969 (644)
  – In 1977 (237)
  – In 1991 (103)
  – In 2007 (42 MSW) and (13 ISW)
Other Regulatory Requirements

- Any filling, grading, excavating, building, drilling, or mining activities on land where a landfill facility operated requires Ohio EPA approval.
- Ensure that it will not create a nuisance, and is unlikely to adversely affect the public safety or health or the environment.
Regulatory Oversight

- Div. of Materials and Waste Management (solid and hazardous waste), or
- Div. of Environmental Response and Revitalization (Voluntary Action Program).
Special Technical Considerations

• Not a greenfield.
• Not a typical brownfield.
• Assessment – limits of waste placement, methane generation and migration potential, geotechnical issues, ground water contamination and migration
Special Technical Considerations

• Engineering – foundation design, gas management, utility placement, surface water management.

• Regulatory – approval from either DMWM or DERR. Should account for Rule 13 approval(s) in the project schedule. For DERR, can open a technical assistance account for help.
Foundation Construction
Special Economic Considerations

• Additional costs associated with assessment and engineering.
• Source of funding to off-set those costs.
• Both Up-front and long-term costs.
Eric’s Slides and Examples

• Gowdy Field – completed commercial development.
• Grandview Crossing – on-going mixed-use development.
• Central Park of Gahanna – completed recreational/commercial development.
Central Park of Gahanna (Bedford LF)
Aerial
History

- 89-acre landfill.
- Claycraft Brick Company initially operated the site in 1990 as a shale mine.
- Site was converted to municipal landfill and accepted about 10 million $\text{yd}^3$ of waste.
History

- Ohio EPA approved closure plan for the rest of the site in 2003 (17.7 acres).
- Additional areas include the Columbus Tile Yard property to the southwest (~26 acres) and the undeveloped north area (~23 acres).
- Total development = 138 acres in the city.
- Near airport, I-270 outerbelt, and I-70.
Regulatory Highlights

• Subject to closure requirements under solid waste rules & a closure plan approved in 2003.
• DMWM retained oversight.
• Not eligible for VAP.
• Implement approved closure plan; no Rule-13 approval required.
Funding Sources

- $3 million grant (Clean Ohio Fund).
- $1.4 million loan (COCIC).
- $655k cash (Ohio EPA escrow).
- $400k grant (U.S. EPA).
- $616k from Value Recovery Group.

Total > $6 million dollars prior to development.
Redevelopment

- Team – the City of Gahanna, VRG Real Estate, the Central Ohio Community Improvement Corporation (land bank), and various technical and engineering consultants.
- Redevelop the landfill site for an executive golf course, driving range, club house, golf training center, and bar & grille.
- Surrounding properties for commercial.
Executive Golf Course
Driving Range
Clubhouse
Golf Training Center
Summary

• Landfills can be redeveloped.
• Start with the right team.
• Redevelopment should be tailored to a specific end-user; speculative is risky.
• Secure funding to offset environmental and engineering costs. Numbers must work.
• Be patient.
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