



**Hartford Landfill Post-Closure  
Community Advisory Committee  
Luis E. Cotto, Chairperson**

**CONSIDERATIONS FOR POST  
CLOSURE PLANNING**

**Meeting Number 3  
June 17, 2009**

# Welcome

- Alan Benevides, P.E.
- City of Hartford hired Woodard & Curran to provide as-need support to Committee – We work for you!
- Woodard & Curran designed and is now overseeing construction of City's new Bulky Waste and Recycling Transfer Station



# Overview

- **Considerations for Landfill Post-Closure Planning**
  - Physical
  - Technical
  - Regulatory
  - Human health and the environment
  - Financial

(Considerations... not Constraints)

- **Examples of Landfill Post Closure Uses**
- **Suggestions for Post Closure Planning**



# Two “Rules of Thumb” for Post Closure Planning

- You can do *nearly* anything on a closed landfill, it is matter of how much it will cost to do it.
- It is *generally* more expensive to do something on a closed landfill than it is to do it on a undeveloped property.





# CONSIDERATIONS FOR POST CLOSURE PLANNING

# Physical Considerations

- Large overall site (124 ac total; 96 ac LF)
- Steep side slopes (3:1) over most of site
- Shallow slopes (20:1) on top only (36+6 acres)
- Very high (from elev. ~20' to elev. 138')
- Visible and accessible from I-91
- Good view of, and close proximity to, Connecticut River
- Unimpeded view of Hartford skyline and Connecticut Valley



# Technical Considerations

- Large, complex mounded landfill
- Closure design already completed
- Must protect and maintain functionality of:
  - 78 Gas extraction wells (key issue)
  - Cap/Synthetic membrane over entire LF surface (key issue)
  - Subsurface slurry wall around LF
  - CT River flood control dike
  - LF Gas treatment, Ash-Leachate collection and treatment
- Geotechnical – bearing capacity and settlement
- Site Security/Access



# Regulatory Considerations

## **From Section 22a-209-13 (d) of CTDEP Solid Waste Management Regulations:**

*“Detailed information concerning the use of the site following closing shall be submitted to the Commissioner for approval and such approval shall be obtained before any use is made of the site. Upon approval, such plan shall become part of the facility plan.”*



## Regulatory Considerations (cont.)

### From CTDEP Guidance for Disruption Activities, Closure Activities, and/or Post-Closure Use at Solid Waste Disposal Areas:

- **What is post-closure use?** Post-closure use is considered as any activity at a closed solid waste disposal area. Post-closure use requires approval of the Commissioner prior to the redevelopment or re-use to ensure that the use is protective of human health and the environment.
- **What is the process for obtaining post-closure use approval?** Department regulations require that a plan for post-closure use be submitted to the Commissioner for review and written approval as part of a closure plan or whenever a change in an approved post-closure use is sought. The plan must identify the proposed redevelopment or post-closure uses and what controls will be used to minimize exposures during redevelopment to protect human health and the environment.



# Human Health and the Environment Considerations

- Required by CTDEP to “protect human health and the environment”.
- Air emissions – active gas collection and treatment system at this site
- Safety – Proximity to landfill infrastructure and steep slopes
- Public perception



# Financial Considerations

- Capital costs for post closure improvements can be expensive
  - Example: 1 foot of soil over 1 acre => \$20,000
- Long term operation, monitoring and maintenance
  - CRRA responsible for landfill (30 yrs+)
  - City responsible for post-closure use (?+)
- Opportunities for revenue generation, grants, or other funding





# EXAMPLES OF LANDFILL POST CLOSURE USE

# CTDEP POST CLOSURE USE APPROVALS

- Stamford (K-Park) - athletic fields, walking paths, picnic area
- Stamford (Cove Island Park) - (Birding Area)
- Norwalk - passive recreation
- Westport - library on old MSW site
- Coventry - athletic fields
- East Hartford – transfer station on eastern landform
- Ridgefield - bus parking area, garage
- New London - (Bates Woods) - athletic fields
- Orange - Home Depot (built on portion of msw landfill)
- Newington - Loewes (historic brush dump under parking area)
- Meriden - post office constructed on historic disposal area - Center St.
- Berlin - Manafort Landfill - top of landfill used for storage of containers
- Berlin - Legion Square - Massario Drive - historic disposal area - parking area for Stop & Shop
- Hartford - (Brookfield St. & Flatbush Ave.) - historic disposal area - Hartford Magnet School athletic fields
- Hartford - Bulkely High School - historic disposal area - softball fields
- Hartford – Adrians Landing - historic disposal area - Convention Center, Science Museum
- Hartford – McDonough School – historic disposal area (wood & coal ash) – school addition
- Hartford – Meadows Music Theater – historic disposal area (incinerator ash)
- Hartford – 1450 Main Street – historic disposal area – commercial/residential development
- Mansfield - UCONN campus - 2-3 sites - cell towers, parking areas
- Monroe - (Guinea Rd. site) - cell tower



# CTDEP POST CLOSURE USE APPROVALS

- Milford - Silver Sands State Park
- Mansfield - RT 89 - brush chipping
- Waterford - Minor Lane - brush chipping
- Groton – Welles Rd. - leaf composting
- Greenwich - Cos Cob Power Plant - park development
- Redding –brush storage and processing; storage of empty containers and storage of containerized tires
- Old Saybrook - park development, leaf composting
- Middletown - historic disposal area - North Main St.- building development
- Middletown – RTSI (Phil Armetta) Newfield Street site - storage area for front-loading containers and as a parking area for new excess inventory automobiles from a local dealership
- Stafford - historic disposal area - Sellars Lane - lay down area for public works projects
- Norwich - Occum Park - park development
- New Haven - Grannis Island - lay down area for construction equipment
- Haddam - historic disposal area (behind old jail site) - athletic fields
- Bristol - ash landfill - portion approved for leaf composting
- Hamden - (Wintergreen Ave.) - leaf composting
- Simsbury - leaf composting
- Ellington - Hoffman Rd. - brush processing
- Stonington - Greenhaven Rd. - transfer station
- West Hartford - Brixton St. - transfer station
- West Hartford - Albany Ave. - leaf composting



# Examples of Woodard & Curran Post Closure Use Projects

- Wayside Youth and Family Support Services Campus/Headquarters/School
- Salem State College Athletic Field
- Upton Railcar storage yard container storage facility
- Champion City Transfer Station
- Pound Ridge Recycling Drop-off Center
- Burrillville recreational trails



# Salem State College Athletic Fields



# Wayside School/Campus



# Other Examples of Landfill Post Closure Use

- Wind Turbines and Solar Panels
- Public Art
- Skiing or sledding
- Golf/Driving Ranges





# Suggestions for Post-Closure Planning

# Suggestions for your Consideration

- **Three phase planning process**
  - 1 – Consider all possible uses – be creative
  - 2 – Create short list of uses
  - 3 – Select recommended use(s)
- **Multi-phase implementation process**
- **Divide site into sub-areas for planning purposes**
  - Flat (top) vs. steep (side slopes)
  - North (no wells) vs. south (wells)
- **Situational or part time use**
- **Non-intrusive uses (low cost-easy to permit)**
- **Continued public involvement**

