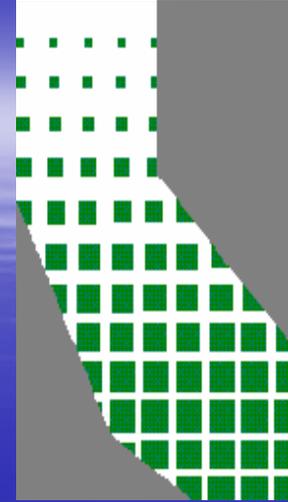


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Postclosure Land Use Regulatory Criteria

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Introduction

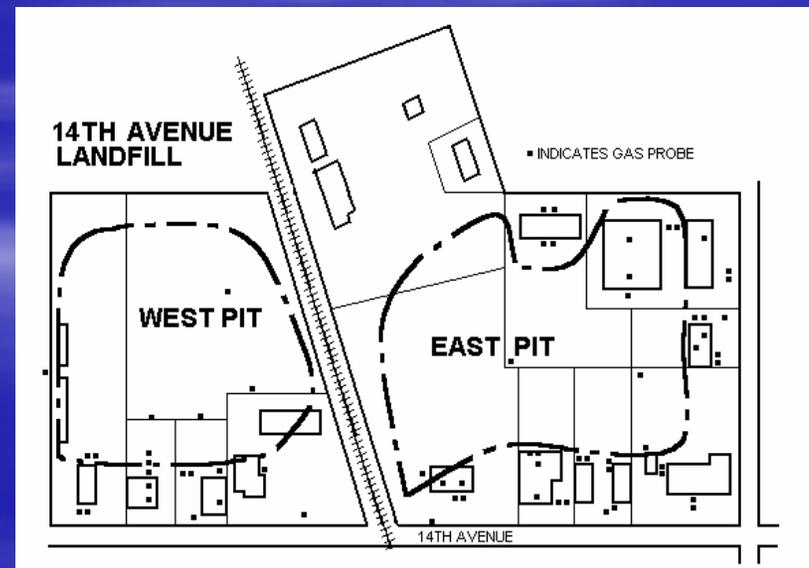
- Development of former and existing disposal sites creates risk issues
- Development “triggers” Postclosure Land Use regulations
- Investigation and remediation of these sites requires resolution of technical, economic and legal issues
- Responsibility lies with current property owners/developers



Gas Monitoring Near
Condominium Complex

PCLU Regulations

- Postclosure Land Use (PCLU) Regulations enacted in 1988
- 27 CCR 21190 addresses postclosure landfill development
- Landfill Gas Migration is a key concern with respect to public safety



27 CCR 21190

- protect public health and safety and prevent damage to structures, roads, utilities and gas monitoring and control systems
- prevent public contact with waste, landfill gas and leachate
- prevent landfill gas explosions

Regulation Specifics

- Structural Improvement on Waste Footprint
 - Automatic methane gas sensors
 - Enclosed basement prohibited
 - No pilings through bottom liner
 - Flexible connections for utilities
 - Utilities cannot be in or below low permeability layer
 - Periodic gas monitoring (utilities and structures)

Enclosed Structures

- Impermeable barrier
- Venting layer
- Venting system designed to go active if necessary
- Automatic methane sensors
- Periodic monitoring

Applicability of Standards

- Pre-regulation sites
 - Existing land uses/development
 - Grandfathered
 - New land uses/development
 - Must comply with regulations
- Post-regulation sites
 - Comply through Closure/Postclosure Maintenance Plans

Enclosed Structures Applicability

- Onsite structures w/in 1000' of waste footprint
 - Onsite = within permitted property boundary
- Offsite structures are outside of regulations
 - recommendations to local planning departments
 - Comment on CEQA and CUP documents
 - While agencies recognize property boundaries, Landfill gas does not.

Agency Authority

- RWQCB/LEA
 - Approval for all new Postclosure Land Uses
- CIWMB
 - No direct approval authority
 - Pre-88 site – can provide technical assistance
 - Post-88 site – indirect approval through closure/post closure maintenance plans
 - Had authority prior to regulation revision in 1997

Uses

- PCLU standards do not restrict uses
 - Prescribes standards if developed
- Most benign - nonirrigated open space
- Not realistic in urban settings
 - Land costs
 - Encroachment
 - Infill development

SWRCB Regulations

- “Closure and Postclosure Maintenance Requirements...”
 - Title 27, §21090 includes cover design
- Final Cover
 - Horizontal-to-Vertical Slope $\geq 1.75:1$
 - Minimum 3% slope
 - Fifteen-Foot Wide Bench for Each 50 Vertical Feet
 - Foundation, Low-Hydraulic Conductivity, and Erosion Resistant (Vegetative) Layers
 - Alternative Cover Designs Allowed

SWRCB Regulations (cont.)

- Discharges of Liquids
 - Waste Liquids Subject to §20200(d)
 - Prohibited unless demonstration that will not exceed moisture-holding capacity
 - Research, Development, and Demonstration
 - Other Liquids: Dust Control, Irrigation, Other Non-Disposal Purposes
 - Minimize throughflow to waste
- Grading
 - Prevent Ponding, Erosion, and Run-on

SWRCB Processes

- Final Closure Plan = Amendment to Report of Waste Discharge (§21710)
 - RWQCB staff review
- Public Participation (§21730)
 - Notice of hearing 45 days prior to hearing
 - Agenda package 30 days prior to hearing
- Board Approval and Final WDRs
 - Cannot be delegated to the EO

SWRCB Concerns

- Minimize Infiltration of Water to Waste
 - Cover Competency
 - Ponding
- Seismic and Slope Stability
 - Potential Cover Damage
- Threat to Water Quality!!

Local Enforcement Agency (LEA) Process

- Designated by city or county and certified by the CIWMB
- Focused on public health, safety and environment
- Knowledgeable about local interest, needs and politics
- Help facilitate coordinated regulatory response
- Coordinate frequent meetings with developer, consultants and regulators
- Work closely with local planning departments
- Ask for CIWMB engineering assistance

LEA Process

- Review and approve postclosure land uses and postclosure maintenance plans
- Approve work plans for landfill gas monitoring and control systems
- Approve design plans pertaining to control of gas migration into the buildings and effects of differential settlement
- Approve work plans for waste removal or re-consolidation of waste on site
- Comment on CEQA documents or other planning documents as necessary

LEA Concerns

- Inadequate CEQA analysis and appropriate mitigation measures
- The consultants for the development are not experienced in solid waste landfill issues and regulations
- Incorporating installation of environmental systems within the development plans
- Long term responsibility for environmental systems after development is completed

Lessons Learned

- Disposal sites are best left as a single parcel with single ownership
- Consolidation can reduce the waste footprint to free-up more land for development and reduce postclosure maintenance costs
- Lawsuits have caused cities and counties to settle on investigation and remediation and purchase back properties
- **Don't place capital intensive structures over disposal areas—Spend the money to move the waste.**

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Questions