



County of Los Alamos

1000 Central Avenue
Los Alamos, NM 87544

Agenda - Final Environmental Sustainability Board

John Bliss, Chair; Sarah M. Terrill, Susan Barns, Rebecca Chamberlin, Erik Loechell, James Robinson, and Danny Katzman, Members

Thursday, October 20, 2016

5:30 PM

1000 Central Avenue, Suite 110

1. **CALL TO ORDER - ROLL CALL**

2. **PUBLIC COMMENT**

This section of the agenda is reserved for comments from the public on items that are not otherwise included in this agenda.

3. **APPROVAL OF AGENDA**

4. **APPROVAL OF MINUTES**

[8717-16](#) Approval of the September 15, 2016, Environmental Sustainability Board Minutes

Attachments: [A - Draft ESB Minutes September 15, 2016](#)

5. **BOARD BUSINESS**

[8719-16](#) Bear Awareness Presentation

Presenters: Angelica Gurule

[8721-16](#) Review Comprehensive Waste Sort Results

Presenters: John Bliss

Attachments: [B - Comprehensive Waste Sort Results](#)

[8725-16](#) Los Alamos Bond Projects 2017 Overview

Presenters: Philo Shelton

6. **COMMITTEE/SUBCOMMITTEE REPORTS**

[8724-16](#) Los Alamos Public School Subcommittee Update

Presenters: Angelica Gurule

A. Chair's Report**B. Board Member Reports****C. Liaison's Reports**

- 1). Board of Public Utilities - Sue Barnes
- 2). Planning and Zoning Commission - James Robinson
- 3). Transportation Board - Rebecca Chamberlin
- 4). Parks and Recreation Board - Erik Loechell
- 5). County Council Liaison - James Chrobocinski

7. STAFF REPORT

[8722-16](#) September 2016 Residential Sustainability Report

Presenters: Angelica Gurule

Attachments: [C - Residential Sustainability Report - September 2016](#)

[8723-16](#) Case Study of a Closed Landfill with Landfill Gas Issues Caused by Stormwater Infiltration

Presenters: Angelica Gurule

Attachments: [D - Case Study of a Closed Landfill with LFG Issues Caused by Stormwater Infiltration](#)

8. PREVIEW OF UPCOMING AGENDA ITEMS**9. ADJOURNMENT**

If you are an individual with a disability who is in need of a reader, amplifier, qualified sign language interpreter, or any other form of auxiliary aid or service to attend or participate in the hearing or meeting, please contact the County Human Resources Division at 662-8040 at least one week prior to the meeting or as soon as possible. Public documents, including the agenda and minutes can be provided in various accessible formats. Please contact the personnel in the Community Services Administration Office at 662-8163 if a summary or other type of accessible format is needed.



County of Los Alamos

Staff Report

October 20, 2016

Los Alamos, NM 87544
www.losalamosnm.us

Agenda No.:

Index (Council Goals):

Presenters:

Legislative File: 8717-16

Title

Approval of the September 15, 2016, Environmental Sustainability Board Minutes

.Recommended Action Motion

I move that the Environmental Sustainability Board approve the September 15, 2016, minutes as presented.

Or

I move that the Environmental Sustainability Board approve the September 15, 2016, minutes as amended.

Body

Approval of the September 15, 2016, Environmental Sustainability Board Minutes

Attachments

A - Draft ESB Minutes September 15, 2016



County of Los Alamos

1000 Central Avenue
Los Alamos, NM 87544

Minutes

Environmental Sustainability Board

John Bliss, Chair; Sarah M. Terrill, Susan Barns, Rebecca Chamberlin, Erik Loechell, James Robinson, and Danny Katzman, Members

Thursday, September 15, 2016

5:30 PM

1000 Central Avenue, Suite 110

1. CALL TO ORDER - ROLL CALL

John Bliss, ESB Chair, called the meeting to order at 5:37 PM. The

following members were in attendance:

Present: Member Bliss, Member Terrill, Member Robinson, Member Chamberlin, Member Katzman, Member Barns, and Member Loechell.

2. PUBLIC COMMENT

None

3. APPROVAL OF AGENDA

A motion was made by Member Robinson, seconded by Member Terrill, that the September 15, 2016 agenda be approved as presented.

The motion passed unanimously.

4. APPROVAL OF MINUTES

- A. [8598-16](#) Approval of the August 18, 2016, and August 30, 2016, Environmental Sustainability Board Minutes

Attachments: [A - Draft ESB Minutes August 18, 2016](#)
[B - Draft ESB Minutes August 30, 2016 Special Meeting](#)

A motion was made by Member Chamberlin, seconded by Member Robinson, that the August 18, 2016 and August 30, 2016 meeting minutes be approved as amended.

The motion passed unanimously.

5. BOARD BUSINESS

- A. [8600-16](#) Energy Sustainability and Carbon Neutrality of Los Alamos County Buildings - Presentation by Richard Dunn

Attachments: [LA CtyBldg EnergyStar](#)

The board was given a presentation by Richard Dunn regarding Energy Sustainability and Carbon Neutrality of Los Alamos County Buildings.

- B. [8599-16](#) Update Regarding Special Meeting held on August 30, 2016 to Develop Presentation for the Brush and Bulk Item Collection Program Recommendation

The board briefly discussed the August 30, 2016 meeting to develop a recommendation for the Brush and Bulk Item Collection Program.

- C. [8601-16](#) Environmental Sustainability Plan Status Update

Attachments: [D - Sustainability Plan Draft 2016](#)

Angelica Gurule, Staff Liaison, updated the board on the status of the Environmental Sustainability Plan. The ESB requested this item be brought back in January of 2017.

6. REPORTS

A. Los Alamos Public School Subcommittee - Vacant

The board briefly discussed the vacancy of the Los Alamos Public School Subcommittee. Erik Loechell and Sarah Terrill volunteered to serve on this subcommittee.

1. [8607-16](#) Los Alamos Public School Subcommittee Update

Martha Leal, staff member, updated board regarding meetings with school principals to discuss adding recycle roll carts to the schools and upcoming events.

B. Chair's Report - John Bliss

John Bliss, ESB Chair, reported that he is currently working on the presentation for the Brush and Bulk Item Collection Program to be presented to County Council.

Sarah Terrill, ESB Vice Chair, updated board on the B & C Luncheon that she attended.

C. Board of Public Utilities Liaison - Sarah Terrill

Sarah Terrill stepped down as liaison from the Board of Public Utilities, and Sue Barnes volunteered.

D. Planning and Zoning Commission Liaison - James Robinson

No report

E. Transportation Board Liaison - Rebecca Chamberlin

Rebecca Chamberlin, ESB member, reported that the DOE Supplemental Environmental Projects was discussed at the Transportation Board Meeting.

Don Machen, Transportation Board Liaison, reported that the Transportation Board discussed the Run Off Collection System in Los Alamos County.

F. Parks and Recreation Board Liaison - Vacant

John Bliss, ESB Chair, asked for volunteers to fill the vacancy for Parks and Recreation Liaison. Erik Loechell, ESB member, volunteered.

G. County Council Liaison - James Chrobocinski

Not present

7. STAFF REPORT

1. [8606-16](#) August 2016 Residential Sustainability Report

Attachments: [E - Residential Sustainability Report - August 2016](#)

Angelica Gurule, Staff Liaison, presented the Residential Sustainability Report to the ESB.

2. [8608-16](#) Environmental Services Waste Sort

Attachments: [F - Waste Sort Final Report APRIL 2016](#)

Angelica Gurule, Staff Liaison, gave a presentation on the waste sort that took place in March of 2016, and asked for volunteers for the waste sort that will take place on September 30, 2016 at the Eco Station.

8. PREVIEW OF UPCOMING AGENDA ITEMS

Landfill closure and repairs
Energy Audit for residents

9. ADJOURNMENT

A motion was made by Member Chamberlin, seconded by Member Robinson, that the meeting be adjourned.

The meeting adjourned at 7:15 PM.

John Bliss, ESB Chair

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Staff Report

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Agenda No.:

Index (Council Goals):

Presenters: Angelica Gurule

Legislative File: 8719-16

Title

Bear Awareness Presentation

Body

Michelle Rosette will provide a bear “safety” awareness presentation.



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Presenters: John Bliss

Legislative File: 8721-16

Title

Review Comprehensive Waste Sort Results

.Recommended Action Motion

N/A

Body

Environmental Services conducted the second waste sort on September 30, 2016, to better understand the composition of Los Alamos County residential waste. The board will review the comprehensive waste sort results.

Attachments

B - Comprehensive Waste Sort Results

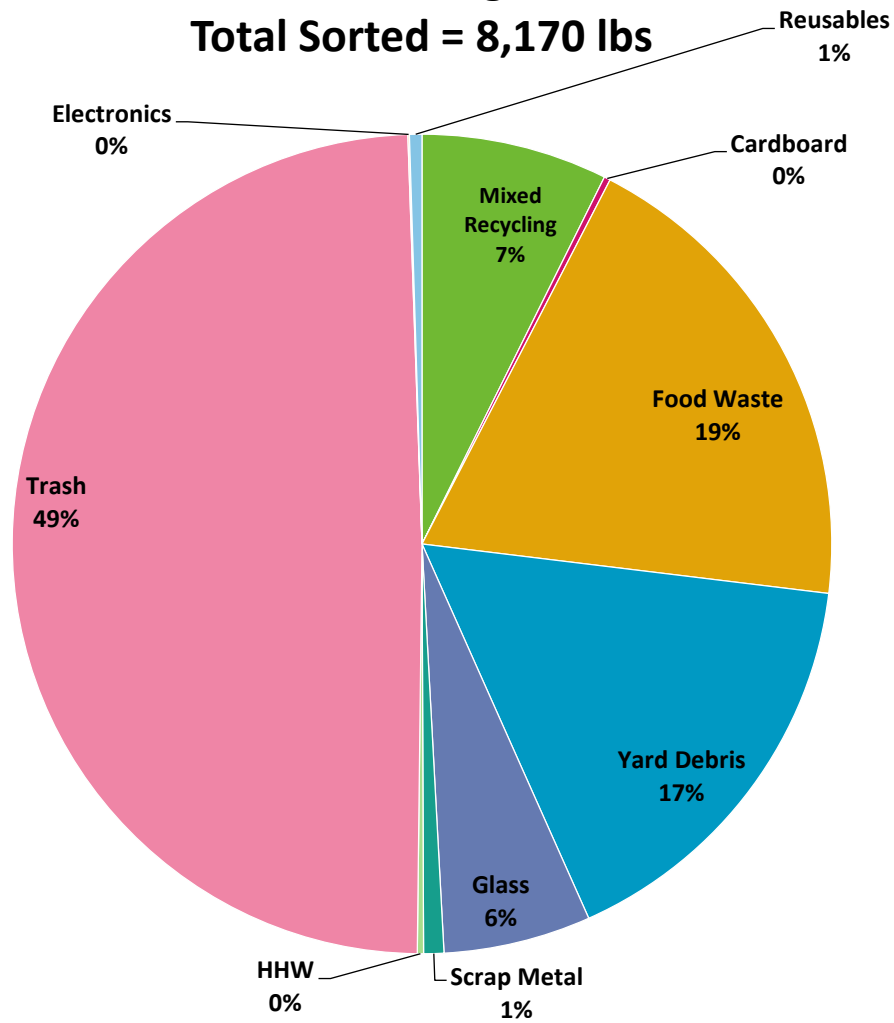
**Los Alamos County
Environmental Services Division
Comprehensive Waste Sort Results**

Waste Sort Results from September 30, 2016

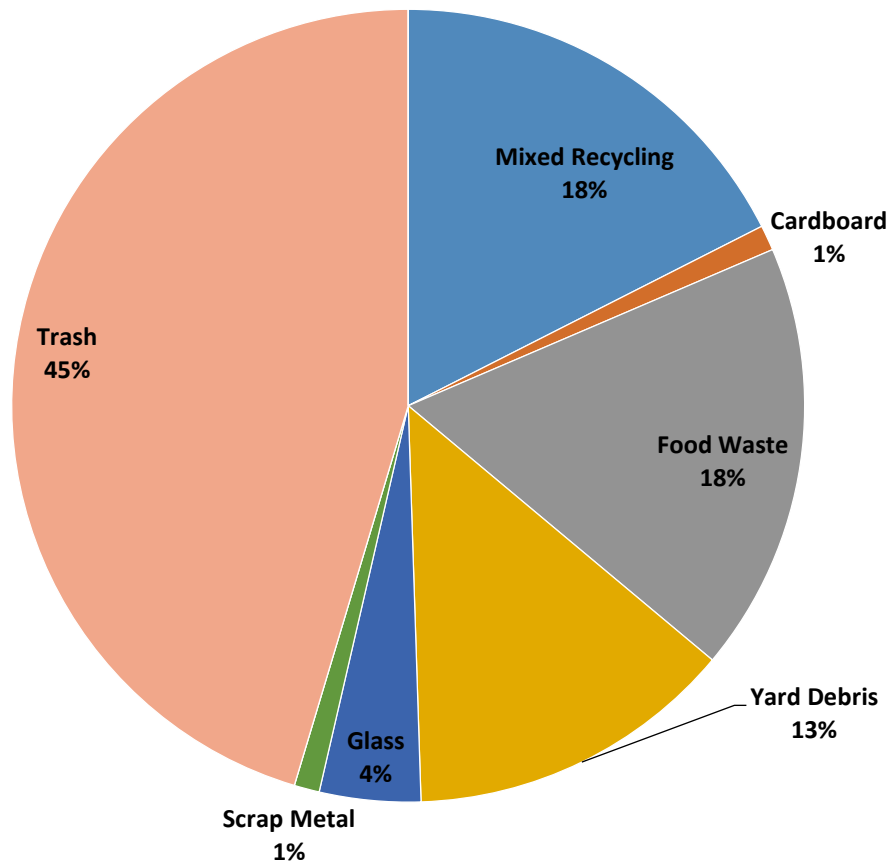
	Material Weight (lbs)	Material Volume (cu.yds.)	Percentage of Total By Weight (lbs)	Percentage of Total By Volume (cu.yds.)
SORTED TOTALS				
Mixed Recycling	600.0	6.0	7%	17%
Cardboard	20.0	0.3	0%	1%
Food Waste	1580.0	6.0	19%	17%
Yard Debris	1340.0	4.5	16%	13%
Glass	475.0	1.5	6%	4%
Scrap Metal	65.0	0.3	1%	1%
HHW	20.0	0.1	0%	0%
Trash	4025.0	15.5	49%	44%
Electronics	5.0	0.5	0%	1%
Reusables	40.0	1.0	0%	3%
Total Waste	8170.0	35.6	100%	100%
ANNUAL TOTALS	(TONS)			
Mixed Recycling	1,762.5		9%	
MSW*	17,568.83		91%	
Total	19,331.3			
*Includes residential waste only.				

Sorted Categories Represented as Percentage of Total Weight

Total Sorted = 8,170 lbs



Sorted Categories Represented as Percentage of Total Volume
Total Sorted = 35.6 cu.yds.

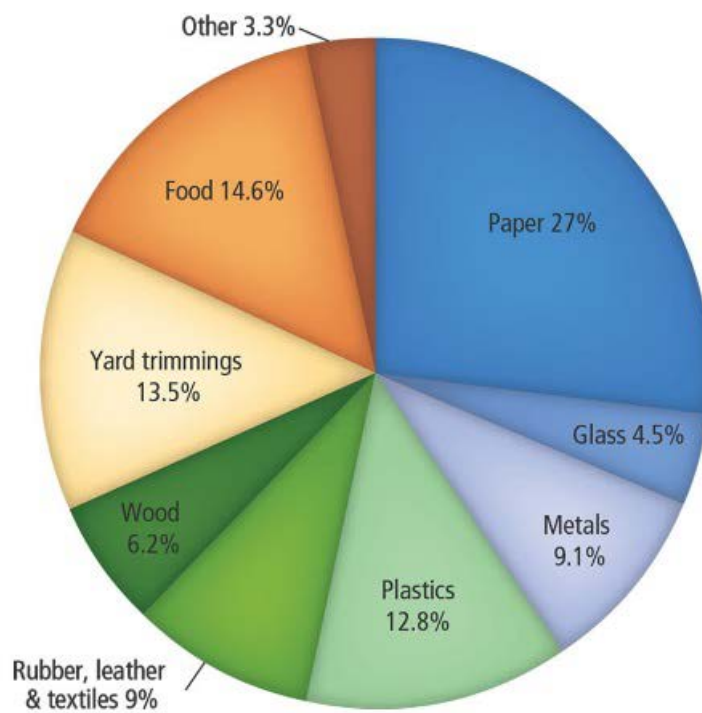


Comprehensive Waste Sort Results

(Pounds)	Mar 25	Sep 29	Total	
Total Sorted Waste	6,280	8,170	14,450	100%
Food	880	1,580	2,460	17%
Yard Trimmings	720	1,340	2,060	14%
Mixed Recycling	400	600	1,000	7%
Glass	400	475	875	6%
Cardboard	180	20	200	1.4%
Trash	3,700	4,025	7,725	53%
Total Diversion Potential				44%

Diversion Potential for Organic Yard Trimming Roll-Cart

- ▶ In 2015 LAC residents generated ~7,268 tons of material (yard trimmings & brush, recycle, bulk & trash).
- ▶ Based on the Waste Sort data, 14% or 1,017 tons of brush could be diverted.
- ▶ In 2015 only 256 tons or 22% of all residential brush was collected using Brush and Bulk Item Collection Program.
- ▶ This data is consistent with national average of 13.5%.



Total MSW Generation (by Material), 2013
254 Million Tons (before recycling)



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Presenters: Philo Shelton

Legislative File: 8725-16

Title

Los Alamos Bond Projects 2017 Overview

.Recommended Action

N/A

Body

The Los Alamos Bond Projects 2017 is a package of 11 proposed projects intended to enhance the quality of life for Los Alamos residents, attract visitors and help retain/attract skilled workers to the area. The projects will be put to the Los Alamos voters in a bond election sometime in 2017.

On March 1, the County Council took action to narrow the list of capital improvement projects (CIP) that will proceed through the initial pre-conceptual design phase. (Phase 1) Dekker Perich Sabatini (DPS) has been contracted by Los Alamos County's Public Works Department to lead these design efforts with the community. They are working with their sub-consultant for public outreach, Griffin & Associates, to involve and educate the community about the 11 projects.

Phase 1 analysis includes potential site selection and feasibility, cost estimates and basic program schematics for the projects. Projects that are considering multiple sites will need to have additional public input as a site is narrowed to a single location.

Projects that have completed Phase 1 or designs from the prior CIP process will be updated based on current Council direction and DPS will develop cost estimates with current costs. For those projects that are largely street and/or utility improvements, County staff will develop the majority of cost estimates; however, DPS is tasked with compiling this information into a common format for all projects and providing limited visual representations of such projects as appropriate. After the concepts for each of the projects are vetted, DPS will estimate annual operations, maintenance, and staffing costs.

This website has been established to assist in public outreach by facilitating conversations with stakeholders and the general public, and will be the primary resource for project progress, public meeting times, dates and locations. For more information visit:

[<https://www.losalamosbondprojects2017.com/leadership/>](https://www.losalamosbondprojects2017.com/leadership/)

..Attachment

N/A



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Agenda No.:

Index (Council Goals):

Presenters: Angelica Gurule

Legislative File: 8724-16

Title

Los Alamos Public School Subcommittee Update

Body

Los Alamos Public School Subcommittee Update



County of Los Alamos

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October 20, 2016

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Agenda No.:

Index (Council Goals):

Presenters: Angelica Gurule

Legislative File: 8722-16

Title

September 2016 Residential Sustainability Report

.Recommended Action Motion

N/A

Body

September 2016 Residential Sustainability Report

Attachments

C - Residential Sustainability Report - September 2016



Residential Sustainability Report

Service Period: September 2016

Recyclables Collected: 96.79 tons

Trash Collected: 469.41 tons

Compostable Materials Collected: 0.00 tons

Total Material collected: 566.20 tons



LOS ALAMOS

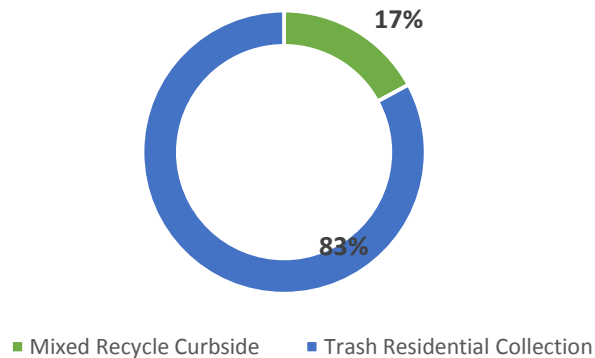
Monthly Collection Report

August Diversion Rate: 29%

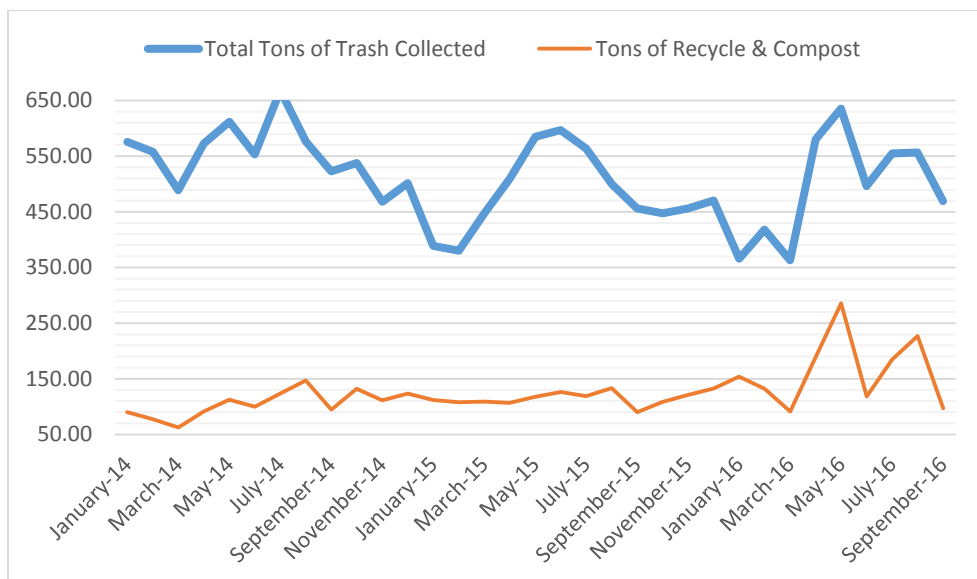
September Diversion Rate: 17%

A 32% Decrease in Diversion

The *diversion rate* is the percent of materials recycled and composted.



Month by Month Recycling Comparison



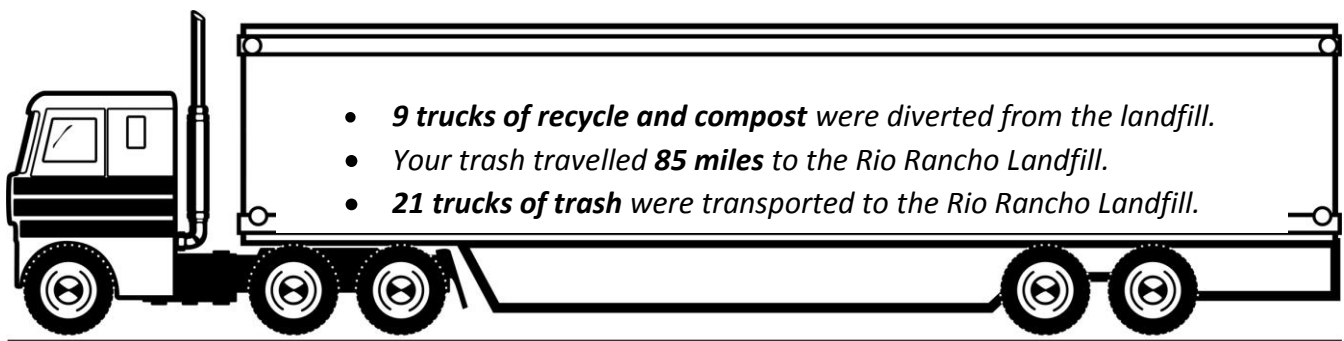
Tips to Recycle More

Recycle all cardboard packages.

Don't forget to recycle empty bathroom products such as shampoo and conditioner bottles, hair spray and hair gel containers, and hand soap bottles.

Take all green yard waste to the Eco Station for composting such as leaves, pine needles, branches and grass clippings.

Recycle Junk Mail and shredded paper.





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Presenters: Angelica Gurule

Legislative File: 8723-16

Title

Case Study of a Closed Landfill with Landfill Gas Issues Caused by Stormwater Infiltration

.Recommended Action

N/A

Body

Case Study of a Closed Landfill with Landfill Gas Issues Caused by Stormwater Infiltration

..Attachment

D - Case Study of a Closed Landfill with Landfill Gas Issues Caused by Stormwater Infiltration

SCS ENGINEERS



Case Study of a Closed Landfill with LFG Issues Caused by Stormwater Infiltration - Assessment and Remediation

Angelica Gurule, Environmental Services Manager, Los
Alamos County

Marcia Pincus, P.E., SCS Engineers

NMRC/SWANA Conference

September 26 - 28, 2016

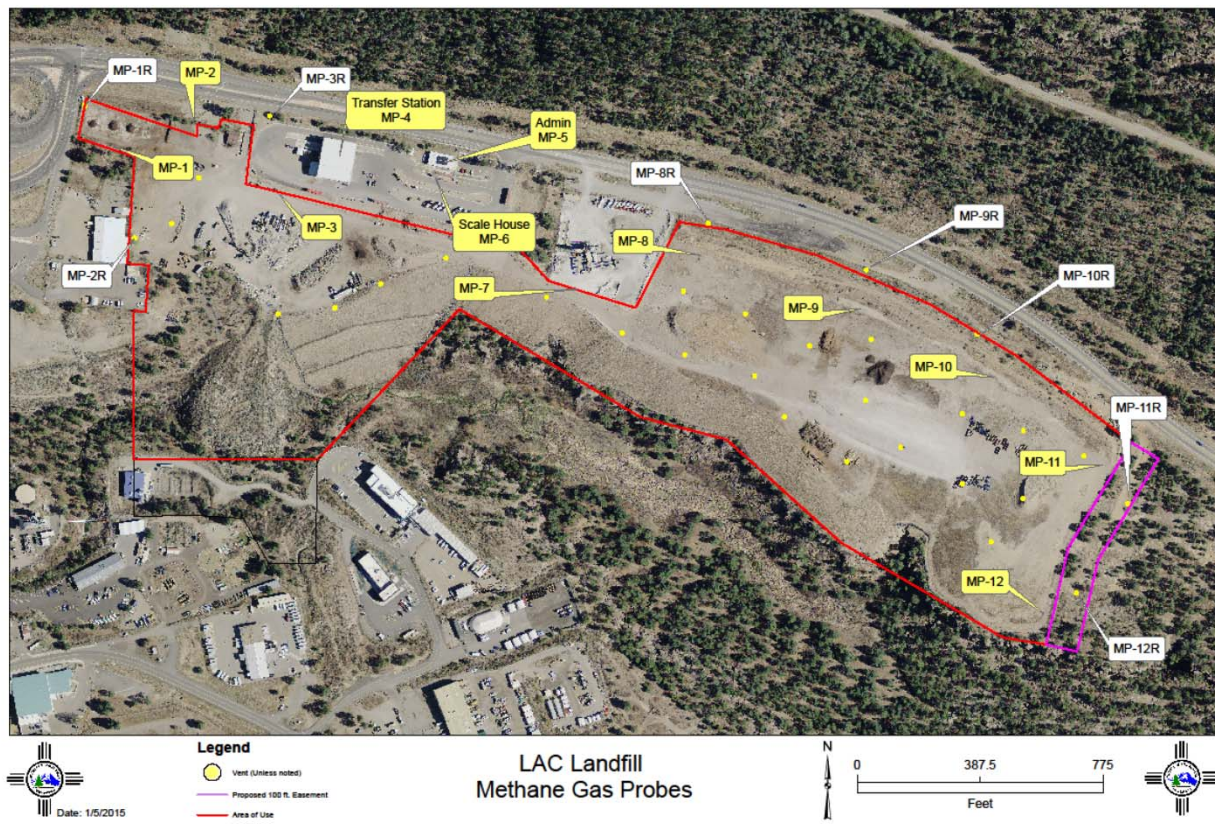
LOS ALAMOS
Environmental Services

Overview

- History of the Landfill
- Site Investigation
- Initial Remediation (Emergency Response to Landfill Gas Concentrations)
- Future Remediation
- Lessons Learned

History of the Landfill

- Los Alamos County Landfill (Closed) and Transfer Station:
 - East Jemez Road to the north
 - Vacant DOE property to east
 - Mobile Home Park to East (within 1000 feet of the landfill beyond the DOE vacant landfill)
 - Sandia Canyon immediately to the south
 - LANL to the west
- Operational Dates: 1974 to 2011
- Size: Approximately 35 acres occupies land owned by DOE but is operated by Los Alamos County
- Trash buried over 100 feet deep in the Bandelier fractured tuff



History of Landfill Continued

- Averaged 119 tons per day when accepting solid waste at landfill PM1
- Composition
 - Municipal Solid Waste – 51%
 - Construction debris (western portion of the landfill) – 49%

Slide 5

PM1

Anelica do you know how many tons a dsy thr lsndfill took? Do you have copies of the annual report for NMED. They should have the tonnage - thanks.

Also do you have a picture of the Transfer station I can include in a slide? Even if just from your smarth\phone.

Pincus, Marcia, 9/14/2016

Transfer Station

- Currently the Transfer Station (Eco Station)
 - Types of materials accepted (86 tons/day):
 - Municipal Solid Waste
 - Construction Debris
 - Concrete
 - Asphalt
 - Clean Dirt
 - Brush
 - Tires
 - Pallets
 - Household Hazardous Waste
 - Single Stream Recycle
 - Oil and Anti-Freeze
 - Electronics
 - White Goods
 - No special waste is accepted



SCS ENGINEERS



SCS ENGINEERS

Features of the Landfill

- Landfill closure features:
 - Geomembrane cover
 - Geosynthetic Clay Liner (GCL) barrier layer covered by 18 inches of protective soil and 6 inches of gravel was used in the solar panel and recycling areas
 - ET cover was used in side slope areas
 - Final cover was completed in 2012
 - LFG vents
 - Total of 27 vents installed 5 feet in the waste
 - 2-3 foot diameter borehole
 - 4 inch HDPE pipe was installed with perforations in waste area portion
 - Used to alleviate LFG buildup under the GCL barrier

Features of the Former Landfill

- Original Gas probes (MP-1 through MP-12):
 - Installed throughout the landfill footprint
 - Gas Probes MP-8 through MP-12 were installed at the toe of the trash
 - Ranged in depth from 8 to 61 feet
 - Contained minimal to no LFG until 2013.



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Site Investigations

- Quarterly methane monitoring for years showed little to no LFG
- Major storm event in Fall of 2013
- Start to see increase in LFG concentrations (above the LEL) at gas probes (MP-9 through MP-12) during the March 2014 quarterly event
- Conducted a field survey outside east boundary fence of landfill using a slide hammer (landfill perimeter)
 - Obtained readings within 5, 25 and 50 feet of fence
 - Had difficulty with Bandelier Tuff – some areas were eroded, some areas contained rock.
 - Some elevated LFG readings were obtained

Site Investigation Continued

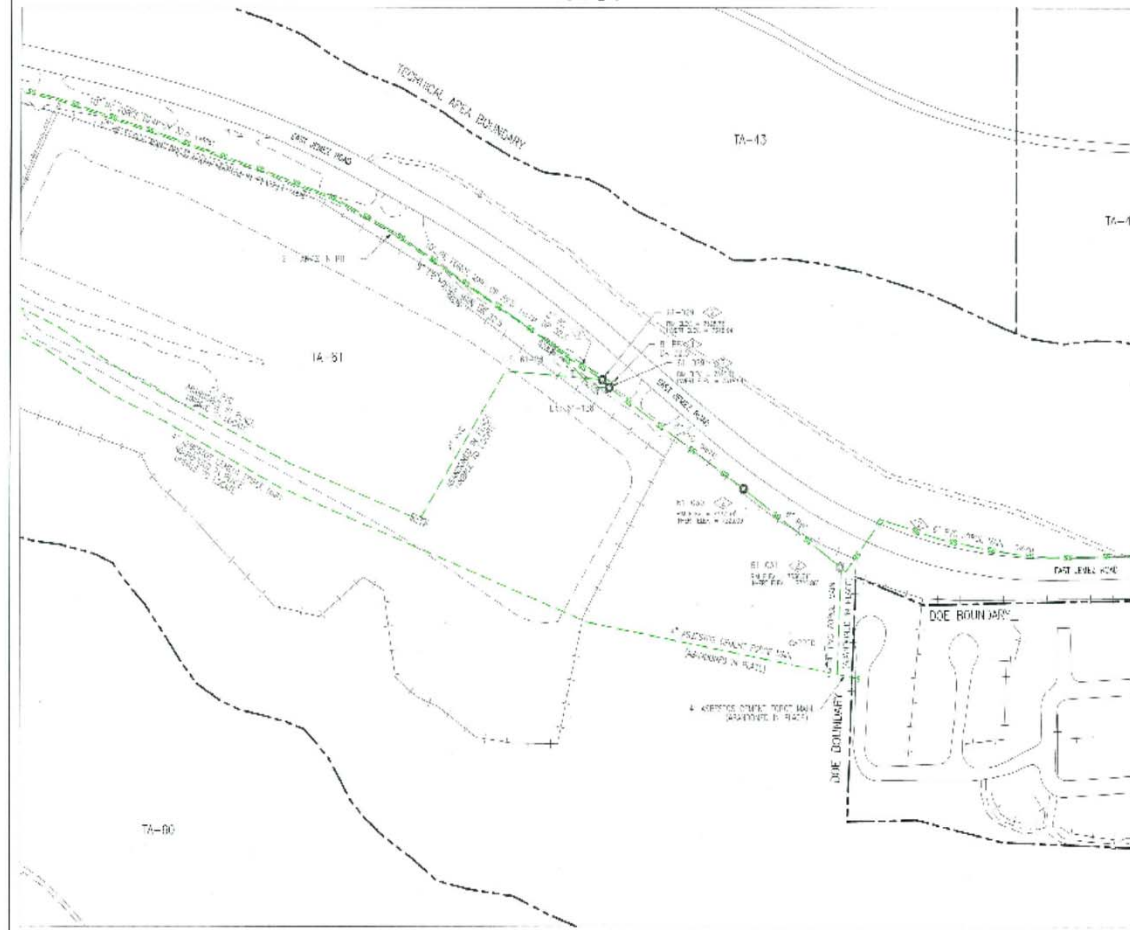
- Hydraulic push hammer used to obtain LFG samples on vacant DOE property to the east
 - Installed tubing to take future readings
- Mobile Home Park (MHP) - check various areas immediately adjacent to west side of vacant DOE property (cracks, utility penetrations, beneath trailer skirts, etc.)
 - LFG readings ranged from 0 to 27 percent of the LEL
- Camera the sewer line from East Jemez Road to MHP
- Excavate sewer lines to see condition of connections
 - One sewer line ran the length of the landfill from west to east
 - One sewer line ran from East Jemez Road north to south and intersected landfill sewer
 - Sewer line went into MHP is connected to the other two lines

SANITARY SEWER ASBUILT TA-61

Prepared For:
Los Alamos National Lab
Prepared by:
Utilities & Infrastructure
Utility Mapping Section

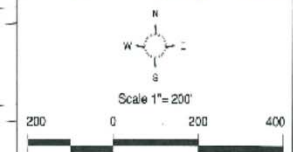
LEGEND

- XXXX Featured Building With Number
- XXXX Building With Number
- Paved Road
- Dirt/Gravel Road
- Security Fence
- Industrial Fence
- TA Boundary Line
- Sewer Line (Active)
- Sewer Line (Abandoned)



Data obtained from: U.S. Utility Mapping and Location Section.
Data was collected using GPS units and located using common and
locating equipment. Data should be field verified prior to using the
information for any design, planning, construction or reference.

Classification: U Reviewer: H. S. Date: 2/29/04



UTILITIES
INSTITUTIONAL
FACILITIES

Revised: 02/29/04

Los Alamos National Laboratory
Utility Mapping Section
Los Alamos, NM 87545

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Site Investigation Continued

- Installation of additional perimeter gas probes at the fence line of landfill
 - Gas probes installed to a depth of 50 to 80 feet below ground surface
 - North side parallel to East Jemez Road
 - East side near adjacent DOE property
 - Determined LFG exceeding 100% of the LEL reached the perimeter boundary of the landfill on the north and east side of the landfill boundary

Initial Remediation (Emergency Response)

- PVC pipe on ground surface and mobile blower unit to extract gases
 - Problems with above ground system of piping
 - » Freezing pipes in winter due to lack of adequate slope
 - » In the way of the drainage swale liner contractor
- Line drainage swales and retention pond
- Weekly gas readings on landfill and DOE property adjacent to mobile home park by County
- Weekly gas readings in mobile park area near DOE property
- Weekly gas readings from slide hammer sampling on DOE property (thru tubing)
- Replace mobile extraction unit with permanent blower system



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SCS ENGINEERS













Future Remediation

- Locate piping below ground with proper slope.
- Connect permanent blower system with below ground piping to protect from freezing.
- Add condensate sumps.
- For air quality/odors may need to flare system or install carbon canisters.
- Add additional wells to address areas still with above 100% LEL.
- May need additional blowers in areas where above 100% LEL and too far from current blower.





SCS ENGINEERS



Lessons Learned

- Make sure your drainage system is working!
- Keep in contact with NMED all phases of work.
- Make sure stack is vented at proper elevation.
- Place closure gas probes at the landfill boundary and NOT by the toe of the waste mass.
- Make sure your LFG monitoring device is working correctly and is calibrated each time used.
- Try not to install an above ground LFG extraction system in areas subject to freezing (except in emergency situations). If installed in winter use mulch or other insulating material.

Lessons Learned Continued

- Best to use HDPE pipe if have time and funds.
- Make sure pipes are sloped properly to allow for drainage of condense.
- Use glued couplings to connect pipe if using PVC.