

T&E COMMITTEE #2, 3  
October 27, 2016

Update

**MEMORANDUM**

October 25, 2016

TO: Transportation, Infrastructure, Energy and Environment (T&E) Committee  
FROM:  Keith Levchenko, Senior Legislative Analyst  
SUBJECT: **Solid Waste Update:** Gude Landfill Remediation and Mixed Paper Recycling Transition

**The following officials and staff are expected to participate in this briefing:**

- Lisa Feldt, Director, Department of Environmental Protection (DEP)
- Dan Locke, Chief, Division of Solid Waste Services (DSWS), DEP
- Bill Davidson, Section Chief, Northern Operations, Emissions, Strategic Planning (DSWS-DEP)
- Eileen Kao, Chief, Waste Reduction and Recycling Section, DEP
- Rao Malladi, Senior Engineer, DSWS-DEP
- Matthew Schaeffer, Office of Management and Budget

As a follow-up to the T&E Committee's FY17 budget review of the Department of Environmental Protection (DEP) Solid Waste budget, DEP staff will provide updates on its ongoing Gude Landfill remediation planning work and on its transition to a new mixed paper recycling process.

**Gude Landfill Remediation**

A slide presentation is attached (see ©1-18) from a recent DEP community meeting with the Gude Landfill Concerned Citizens on October 19.

**Background**

The Gude Landfill site encompasses 162 acres, of which approximately 140 acres was used for waste disposal. The landfill operated from 1964 to 1982. DEP has been involved for many years with a number of post-closure activities (see ©6). In 2008, the Maryland Department of the Environment (MDE) directed DEP to investigate groundwater contamination. The County and MDE entered into a consent order in May 2013 involving landfill assessment and remediation.

As of this past spring, the County had spent approximately \$1.5 million on this effort since 2009 for work on the Waste Delineation, the Nature and Extent study (2010), the Assessment of Corrective

Measures (ACM) report (2014 and revised in 2016), and continued sampling and other tests. This work has been done in coordination with the MDE. DEP's initial assessment of corrective measures report recommended bioremediation as DEP's preferred approach. The remediation work would address widespread low level Volatile Organic Compound (VOC) contamination in groundwater, gas migration, and leachate seeps into surface water runoff.

In April 2015, MDE provided comments to DEP on the original ACM report. MDE noted some deficiencies in the report, including a need for proposed corrective measures to address limited metals exceedances (in addition to VOC exceedances) and the need to modify groundwater sampling procedures to provide more accurate metals readings. This work pushed any remediation work back to at least FY17.

The additional testing work was done and DEP met with MDE earlier this year. At that meeting, MDE encouraged DEP to further consider a solution of capping the top of the landfill (a toupee cap), which would substantially reduce rainwater infiltration and the generation of leachate and help reduce all types of contamination. DEP reviewed this approach and amended its ACM report<sup>1</sup> and submitted it to MDE this past spring with a recommendation for the toupee cap solution instead of the bioremediation approach previously recommended. MDE approved the ACM report this past July.

### Discussion

1. **Schedule:** The Committee may want to discuss the schedule and timing for DEP's development of the Gude Drive Remediation capital work (whether in the CIP or in the Operating Budget) and when Council action on the effort is likely to be needed.
2. **Future Reuse:** One element that will need to be factored into the design of the remediation solution is the planned future reuse of the Gude Landfill site. The Gude Landfill Concerned Citizens are currently soliciting comments for any future reuse. To date, the group has suggested light uses, including: trails, bike paths, model plane flying areas, children's play areas, dog park areas, and gardening plots (see ©15).

DEP has an interest in possibly moving its yard trim operations from the Transfer Station to the Gude landfill (a project that had been in planning prior to the remediation process). However, according to DEP staff, the Executive has not weighed in on any potential reuse options yet. It would be helpful to understand what limitations there would be on future reuse under the "Toupee" capping and what process the Executive plans to follow to solicit and review ideas prior to Council review and action of the capital work.

3. **Budget Impact:** The FY17 budget still assumes projected costs associated with bioremediation and about \$750,000 in expenditures (similar to FY16 expenditures). However, with the revised ACM report now approved by MDE, DEP will now develop a plan for the landfill capping. This plan may take the form of a capital project or may be done as part of the Operating Budget. The up-front costs plus 20 years of monitoring (\$26.9 million) noted in the ACM report is similar to

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<sup>1</sup> The latest Assessment of Corrective Measures Report, along with many other documents related to the Gude Landfill Remediation effort, is available at: <http://www.montgomerycountymd.gov/sws/facilities/gude/>.

the liability currently assumed in the Disposal Fund Fiscal Plan (\$28.5 million)<sup>2</sup>, but the vast majority of costs (\$26.3 million) will be front-loaded (as compared to the bioremediation work which has lower up-front costs but much higher steady state costs).

## **Mixed Paper Recycling**

### Background

Based on an FY13 waste composition study<sup>3</sup>, mixed paper continues to be the biggest recyclable material category managed by the Division of Solid Waste Services. Mixed paper (especially non-residential paper) also continues to be a major area of opportunity for increasing the recycling rate. *NOTE: The T&E Committee is scheduled to discuss food waste diversion (another major opportunity) as part of its review of Bill 28-16, Solid Waste (Trash) – Strategic Plan to Advance Composting.*

The County's longtime mixed paper contract ended in April 2016. Under that contract, the County paid about \$1.8 million per year for the contractor to truck and process bulk mixed paper. The County is currently selling bulk mixed paper itself now for about \$35 per ton. DEP is in the process of constructing a new facility next to the main Recycling Center building at the Solid Waste Transfer Station site that will include equipment for the County to sort and bale mixed paper and cardboard as separate commodities. These separate commodities can command substantially higher per ton prices (estimated at approximately \$85 per ton).

DEP provided the following update on this effort:

### *Status - New Mixed Paper sorting project*

*DEP has two contracts in place for the development of our fiber line. MES, our Recycling Center operations contractor, has an agreement with CP Manufacturing to supply and install the equipment to sort and bale mixed paper and cardboard. The other contract is through the Northeast Maryland Waste Disposal Authority who has an agreement with Baltimore Contractors to construct a building which will house the fiber sorting equipment as well as store baled mixed paper and cardboard.*

*The sorting equipment has been manufactured and is scheduled to be shipped when the construction of the building is complete.*

*The building is in the process of being constructed; the foundations and slab was poured this week and the balance of the building will be installed between now and mid- November. The building should have been completed this summer but the installation contractor experienced permitting delays as the quality of his submittals, to Department of Permitting Services, were poor and incomplete thus requiring multiple resubmittals. In addition, the fabrication of the electrical distribution panel is the critical path item with an installation date of November 24, 2016. DEP is working to expedite the panel delivery and installation.*

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<sup>2</sup> The Gude Landfill remediation liability was a key reason why the Executive did not recommend a corresponding reduction in Solid Waste charges, even as the Solid Waste Budget for FY17 decreased substantially (thanks to the Resource Recovery Facility (RRF) debt payments ending in April 2016).

<sup>3</sup> An FY17 waste composition study is planned, and expenditures for this study are included in the recommended budget.

*The overall completion date of the sorting line is the end of January.*

*Currently we are selling the loose paper for around\$ \$35 per ton. When the material is sorted and baled the combined material will sell for around \$85/ton generating approximately \$4,250,000 per year in additional revenue (depending on commodity markets).*

#### **Attachments**

KML.f:\levchenko\solid waste\quarterly briefings\t&e discussion - mixed paper and gude landfill remediation.docx

# **Gude Landfill Remediation Update**

## **Community Meeting**

Date: October 19, 2016



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# Introductions

- **Gude Landfill Concerned Citizens (GLCC)**
  - HOA Presidents and Other Interested Residents
- **Montgomery County Department of Environmental Protection (DEP)**
  - Dan Locke, Chief, DEP, Division of Solid Waste Services (DSWS)
  - Rao Malladi, DSWS Senior Engineer
  - Dan Rogers, DSWS Engineer I



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# Introductions

- **DEP engaged EA Engineering, Science, and Technology, Inc., PBC (EA) as a technical resource**
- **EA – founded 1973 in Maryland**
- **Experienced in assessing groundwater contamination, performing risk evaluations, evaluating remediation alternatives at landfills, and landfill capping design and permitting**
  - **Mark Gutberlet, P.E. – Project Manager**



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# Outline

- **Community Engagement**
- **Landfill Background**
- **Proposed Corrective Measure**
- **Land Reuse Process**
- **Next Steps**
- **County Contacts and Additional Information**
- **Questions and Discussions**



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# Community Engagement and Communication

- GLCC/DEP Meetings – 39 meetings since June 2009
- Community Meetings – September 2009, September 2012, April 2016, October 2016
- Derwood Station HOA Newsletters since 2009
- DEP Remediation Webpage since June 2009
- DEP Letters and Fact Sheets

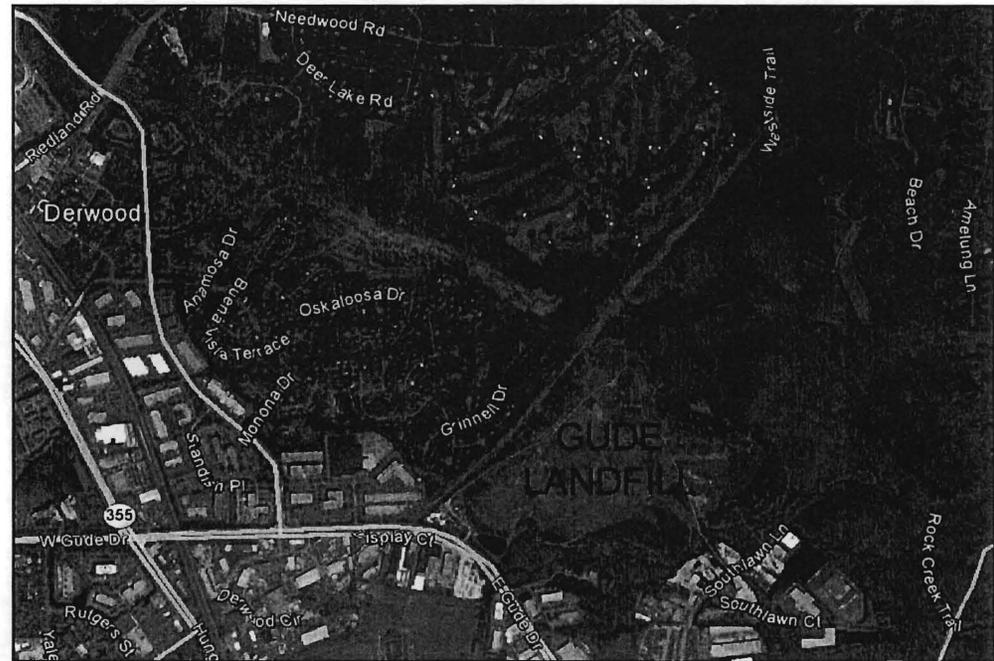


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# Landfill Background

- Landfill Operated: 1964 to 1982
- Post-Closure Care  
Maintenance Activities:
  - DEP monitors groundwater and surface water quality
  - DEP extracts landfill gas and uses it to generate electricity which is sold to the electric grid
  - DEP monitors landfill gas
  - DEP maintains the existing soil cap system



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# Landfill Background

- Maryland Department of the Environment (MDE) directed DEP to initiate comprehensive site investigations to characterize groundwater contamination in 2008
- The County and MDE entered into a consent order in May 2013 to formalize requirements for the landfill assessment and remediation

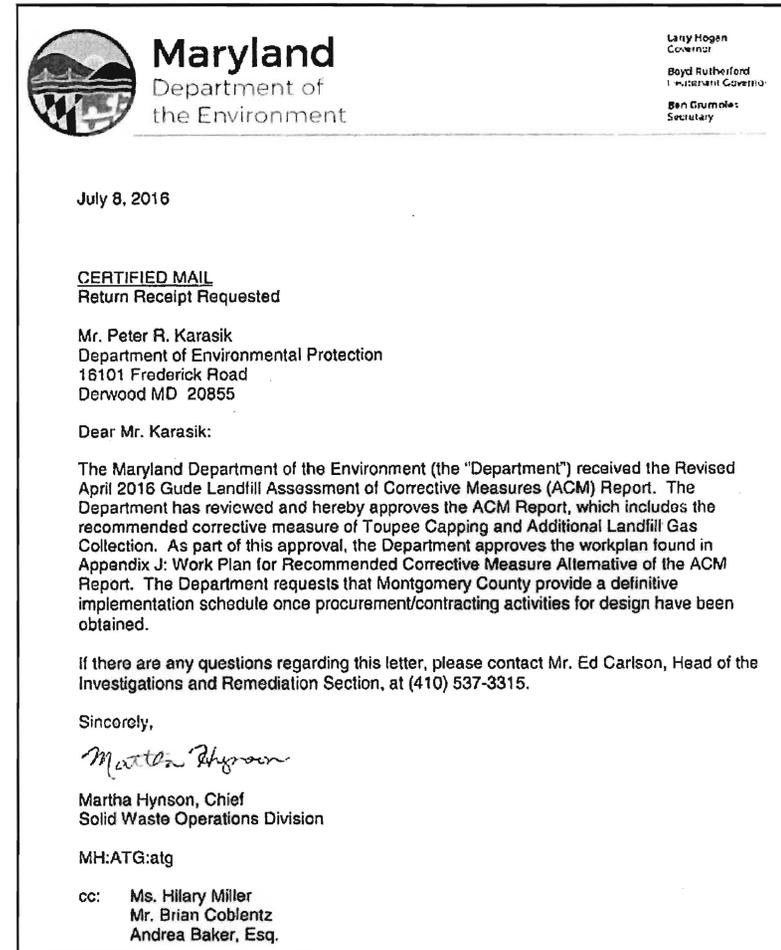


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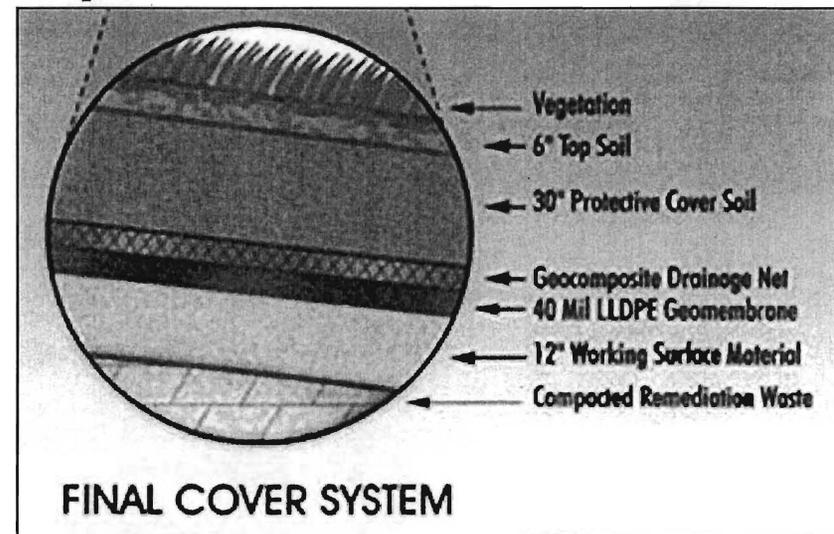
# Landfill Background

- DEP submitted the Initial Assessment of Corrective Measures (ACM) Report to MDE in January 2014 and revised ACM in April 2016
- MDE approved the ACM Report in July 2016 and the recommended corrective measure of “Toupee Capping and Additional Landfill Gas Collection”



# Landfill “Toupee” Capping and Additional Landfill Gas Collection

- Installation of a geomembrane cap over the flatter, grassed area of the landfill to reduce infiltration of rainwater and the potential for groundwater contamination and leachate seeps
- Installation of additional landfill gas extraction wells to reduce landfill gas migration



# Landfill "Toupee" Capping and Additional Landfill Gas Collection



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# Potential Community Impacts and Mitigation Strategies

Work will be phased to limit the size of disturbed area and limit overall impacts

Potential Impact	Mitigation Strategies
Noise	<ul style="list-style-type: none"> <li>• Limit work to daylight hours</li> </ul>
Dust	<ul style="list-style-type: none"> <li>• Moisten exposed soil</li> </ul>
Odor	<ul style="list-style-type: none"> <li>• Minimize amount and duration of exposed waste</li> <li>• Expose waste in winter</li> <li>• Use foam or misters to reduce any odor migration</li> </ul>
Truck Traffic	<ul style="list-style-type: none"> <li>• Minimize truck traffic on west side of landfill</li> </ul>
Restricted Access to Site	<ul style="list-style-type: none"> <li>• Provide re-use opportunities after construction is complete</li> </ul>



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# Example of Final Landfill Condition



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# Land Reuse Process

1. **County agrees to continue holding regular status meetings with local community representatives at mutually agreeable dates and times. Discussion of land use and reuse will continue during the design and implementation of the corrective measure.**
2. **Written recommendations from the community should be sent to Lisa Feldt, Director, Department of Environmental Protection, 255 Rockville Pike, Suite 120, Rockville, MD 20850 by January 1, 2017. Any Community recommendations on post-closure use of the property must consider the integrity of the final cover, any other component of the containment system, or the function of the monitoring systems.**



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## **Land Reuse Process (cont.)**

- 3. Upon receiving the Community recommendations DEP will forward them to the County Executive.**
- 4. The County Executive will make a recommendation to the County Council concerning land reuse via the annual budget process.**
- 5. The County Council controls funding and will vote on whether to formally approve the final project.**
- 6. During the permitting phase of the project, the land re-use plan will go to the County M-NCPPC Planning Board for review under the Mandatory Referral Process.**



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# Land Reuse Community Preference

- **GLCC performed a survey of residents that indicated a preference for passive land reuse activities for the Landfill site, which include:**
  - Running and walking trails
  - Bike paths
  - Model plane flying areas
  - Children's play areas
  - Dog park areas
  - Community gardening plots



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# Anticipated Schedule

- Design and permit capping and potential future land reuse
- Construct landfill cap and land re-use
- Monitor success of corrective measure

Anticipated Implementation Schedule

Project Phase	2016		2017				2018				2019				2020				2021				2031				2041				2051			
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
GLCC Proposal for Landfill Re-use		■																																
Procurement/Contracting Activities for Design	■	■																																
Landfill Cap Design and Permitting			■	■	■	■																												
Procurement/Contracting Activities for Construction										■	■																							
Landfill Cap Construction										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■			
Landfill Cap Maintenance*																						■	■	■	■	■	■	■	■	■				
Evaluations of Cap Effectiveness																						■	■	■	■	■	■	■	■	■				

\*Maintenance of the cap will continue in perpetuity

NO SHADING: NO SITE ACTIVITY

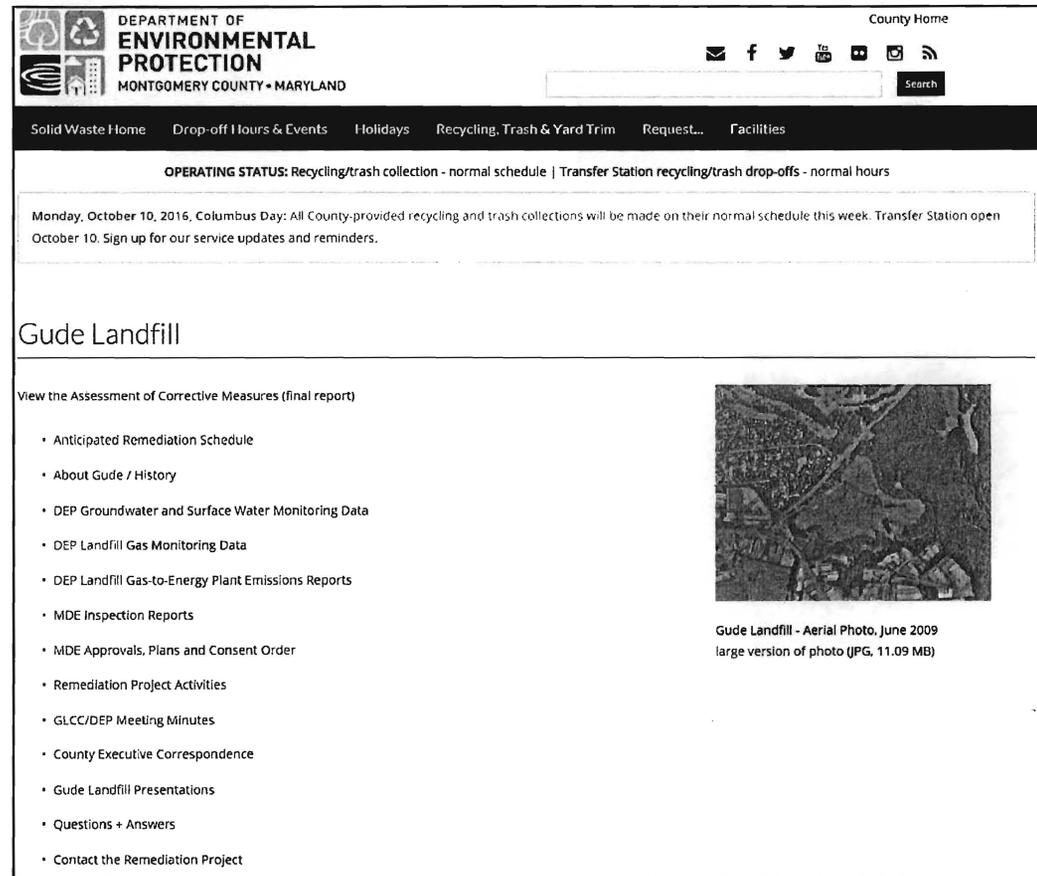
ORANGE SHADING: CONSTRUCTION

GREEN SHADING: CONSTRUCTION COMPLETE/FULL OPERATION

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# Ongoing Community Engagement

- Regular GLCC/DEP Meetings
- DEP will continue to present documents to the community at principal milestones
- DEP will continue to post documents to the remediation webpage



DEPARTMENT OF ENVIRONMENTAL PROTECTION  
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County Home

Solid Waste Home Drop-off Hours & Events Holidays Recycling, Trash & Yard Trim Request... Facilities

OPERATING STATUS: Recycling/trash collection - normal schedule | Transfer Station recycling/trash drop-offs - normal hours

Monday, October 10, 2016, Columbus Day: All County-provided recycling and trash collections will be made on their normal schedule this week. Transfer Station open October 10. Sign up for our service updates and reminders.

## Gude Landfill

View the Assessment of Corrective Measures (final report)

- Anticipated Remediation Schedule
- About Gude / History
- DEP Groundwater and Surface Water Monitoring Data
- DEP Landfill Gas Monitoring Data
- DEP Landfill Gas-to-Energy Plant Emissions Reports
- MDE Inspection Reports
- MDE Approvals, Plans and Consent Order
- Remediation Project Activities
- GLCC/DEP Meeting Minutes
- County Executive Correspondence
- Gude Landfill Presentations
- Questions + Answers
- Contact the Remediation Project



Gude Landfill - Aerial Photo, June 2009  
large version of photo (JPG, 11.09 MB)



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## County Contacts & Additional Info.

- **Rao Malladi**
  - Senior Engineer, DSWS Central Operations
  - 240-777-6574; Rao.Malladi@montgomerycountymd.gov
- **Gude Landfill Remediation Webpage**
  - <http://www.montgomerycountymd.gov/sws/facilities/gude/>
- **GLCC/DEP Meetings**
  - Open to public and typically held the second Thursday of the month
  - Contact Rao Malladi for schedule



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