



**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**MCPB**  
**Item #**  
**10/23/08**

October 9, 2008

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Glenn Kreger, Acting Chief *GK*  
Vision Division

Khalid Afzal, Team Leader, East Transit Corridor Team *KA*  
Vision Division

FROM: Frederick Vernon Boyd, Community Planner (301.495.4654)  
East Transit Corridor Team *FVB*  
Vision Division

SUBJECT: Mandatory Referral No. 08607-DEP-1: Gude Landfill Gas-to-Energy Facility, 600  
East Gude Drive, Rockville, R-200 Zone, Upper Rock Creek Area Master Plan

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**STAFF RECOMMENDATION:** Approval, with the following comments:

1. The Division of Solid Waste Services should report regularly to neighboring civic and homeowners associations about ongoing operations at the gas-to-energy facility.
2. The Division should undertake additional noise level measurements and report its findings to neighboring civic and homeowners associations.

**PROJECT SUMMARY**

The Division of Solid Waste Services of the Department of Environmental Protection, working with state agencies and private firms, is proposing to design, build and run a facility at the former Gude Landfill that will convert landfill gas now being generated by decomposing waste into electricity. This facility will replace an existing facility that served the same purpose until 2006.

**PROJECT BACKGROUND**

The former Gude Landfill is located on East Gude Drive, east of its intersection with Crabbs Branch Way, in the Upper Rock Creek Planning Area. The Gude Men's Shelter, the subject of Mandatory Referral reviews in 1999 and 2007, is in the southwest corner of the site, nearest Gude Drive.

The landfill included four parcels, totaling 162 acres and is in the R-200 Zone. Waste disposal activities took place from 1965 until 1982 on approximately 100 acres of the property and the County operated an incinerator on a portion of the site from 1965 until 1975. In 1983, the County leased rights to collect and recover landfill gas being generated by decomposing waste and a private firm constructed a system of wells and pipes, as well as an onsite power plant, which began to operate in 1985. Generation of electricity from this system ceased in 2006.

The site continues to produce more than 800 standard cubic feet per minute of landfill gas, which currently is drawn through vertical extraction wells, travels via above ground gas collection pipes, and is combusted at two enclosed ground flare locations. About 75 extraction wells continue to operate at the site and landfill gas condensate extracted from the area is treated at a pretreatment plant at the former Oaks Landfill. DEP monitors ground and surface water around the site perimeter and maintains perimeter wells, which are monitored for the presence of landfill gas.

## **PROJECT DESCRIPTION**

The Landfill Gas-to-Energy Facility will be designed, built and run by a private firm, SCS Engineers, under a lease with the Division of Solid Waste Services, which is also working with the Northeast Maryland Waste Disposal Authority. SCS will locate the facility in the southwest corner of the property, behind the former power plant building and behind a noise wall now used to separate the enclosed ground flares from other activities. It is also adjacent to the men's shelter. The proposed facility is about 450 feet from the nearest house.

The facility will take landfill gas now combusted by the ground flares and use methane occurring in the gas to run a generator that will produce electricity. The power generation unit will be enclosed in a container to reduce noise. A second unit will maintain adequate pressure, quantity and quality of landfill gas to allow the generator to run at optimal efficiency. The gas collection and recovery system will continue to operate and computerized controllers that manage operation of the ground flares will be integrated into an overall control and data acquisition system that will monitor both the landfill gas combustion and electricity generating systems. The facility will have a transformer that "steps up" generated electricity so that it can be connected into the local PEPCO electric distribution system. The interconnection point is located behind the existing building.

The facility will not require daily staffing. A single operator will be responsible for this facility and for a similar facility at the former Oaks Landfill in Olney, the subject of a separate Mandatory Referral review. Two support technicians will also be available, insuring that response time in emergencies does not exceed four hours. SCS has created an online control and data acquisition system that will allow the Gude facility to be operated remotely from the Oaks facility.

A technician will be available at the site one day a week to monitor and inspect the gas collection and recovery system's equipment.

The Division of Solid Waste Services estimates that landfill gas production is likely to continue for at least 10 years.

## **ANALYSIS**

### **Master Plan**

The 2004 Upper Rock Creek Area Master Plan notes that the former Gude Landfill site has been designated as the proposed Gude Recreational Park and that a schematic development plan for the park included ballfields, picnic and playground areas, an amphitheater and gravel parking. The Plan acknowledges the ongoing production of landfill gas at the site and recommends preparation of an engineering assessment when landfill gas recovery activities end. The likelihood of continuing landfill gas production and recovery, as well as continued settling and instability of the land, make future development of the recreational park “problematic,” in the words of the Plan.

### **Transportation**

The Transportation Planning unit worked with the Division of Solid Waste Services to evaluate trip generation expected to occur when the gas-to-energy facility is operational. The unit agrees that three or fewer peak hour trips will be generated at the facility and that the project need not undergo Local Area Transportation Review or Policy Area Mobility review studies.

### **Environment**

The gas-to-energy facility is exempt from submission requirements of the Forest Conservation Law. Locating the plant behind an existing sound wall and an existing building contributes to noise reduction, as does placement of the generator inside a container. The Division of Solid Waste Services should undertake noise measurements, using equipment similar to that proposed for this facility, and provide the results of those measurements to neighboring civic associations. The Division has indicated that it plans to take such measurements at its proposed gas-to-energy facility at the Oaks Landfill.

The Division of Solid Waste Services has calculated that the facility’s generation of electricity from landfill gas will mean a reduction in carbon dioxide emissions, because the facility can offset electricity production by traditional methods. The Division estimates that carbon emissions will be reduced by more than 4,500 tons each year.

### **Community Outreach**

The Division of Solid Waste Services held a public information meeting on the project in April 2008. The Division also discussed the project with the Derwood Station South Homeowners Association in May 2008, as part of a broader discussion of public uses proposed for the property. Derwood Station South homeowners have expressed significant concerns about the increasing use of the former landfill for public projects some have described as “hard-to-locate.” This concern centers on identification of the landfill as a potential site for relocation of Montgomery County Public Schools’ bus maintenance and storage operations from the Shady Grove area. As noted above, the landfill site is a proposed recreational park. The County has located a men’s shelter on a portion of the landfill, continues to extract and process landfill gas and is considering further public uses for the property.

The Parks Department is aware of these concerns. The Department continues to recommend an engineering evaluation of the land when it no longer produces landfill gas and continued monitoring of environmental conditions on the property.

## **CONCLUSION**

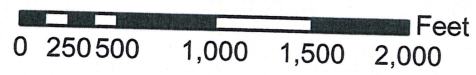
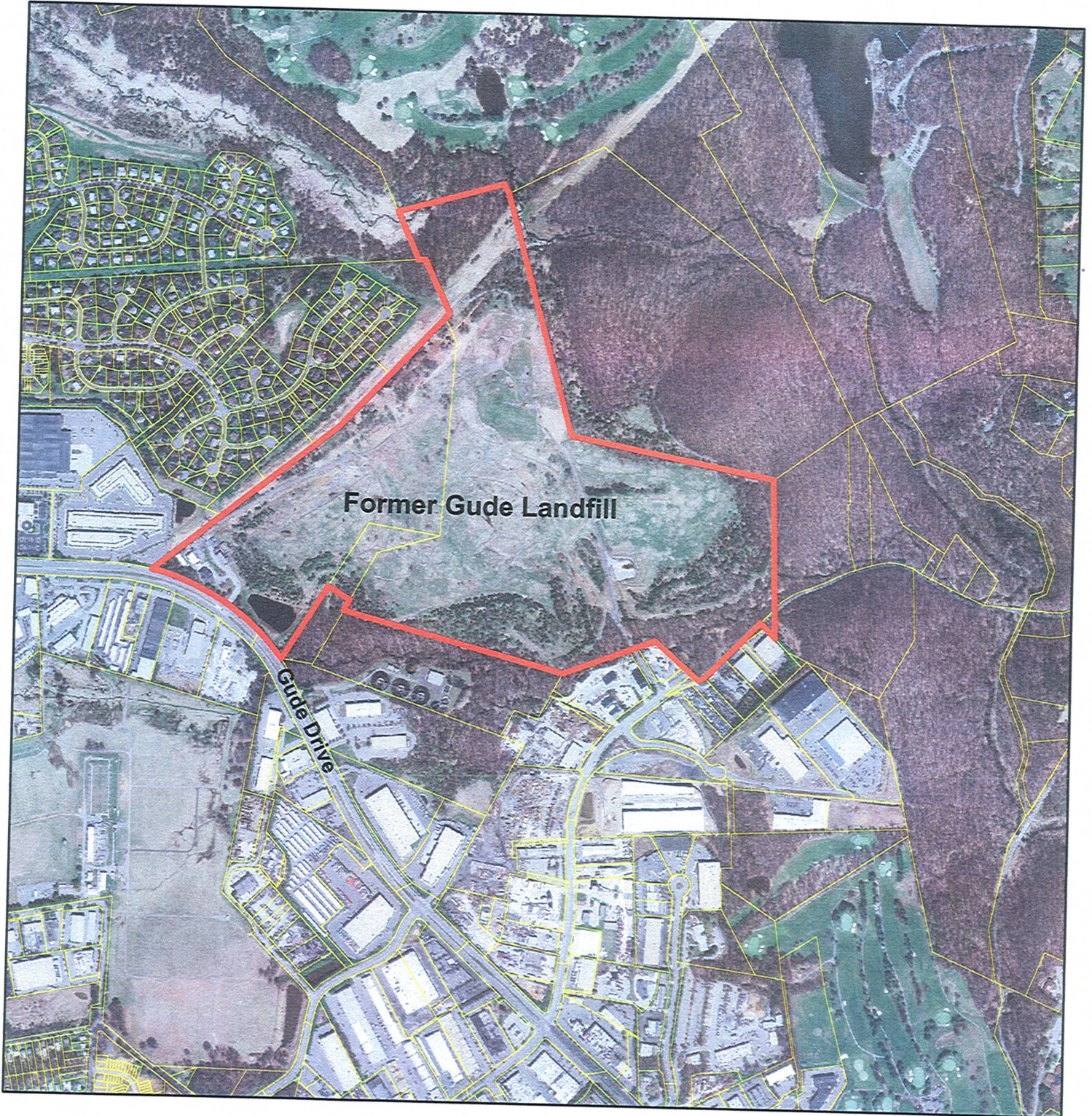
The Planning Department recommends approval of this proposed project. It continues environmentally beneficial conversion of landfill gas to electricity by the County's government. The Department also acknowledges the concerns raised by neighboring residents about increasing public use of land designated for future recreational activities. Staff recommends that the Division of Solid Waste Services report regularly to neighboring civic and homeowners associations about the facility's operations and work to provide estimates of the length of time it expects the facility to operate. The Department also recommends the additional noise measurements outlined earlier in this report.

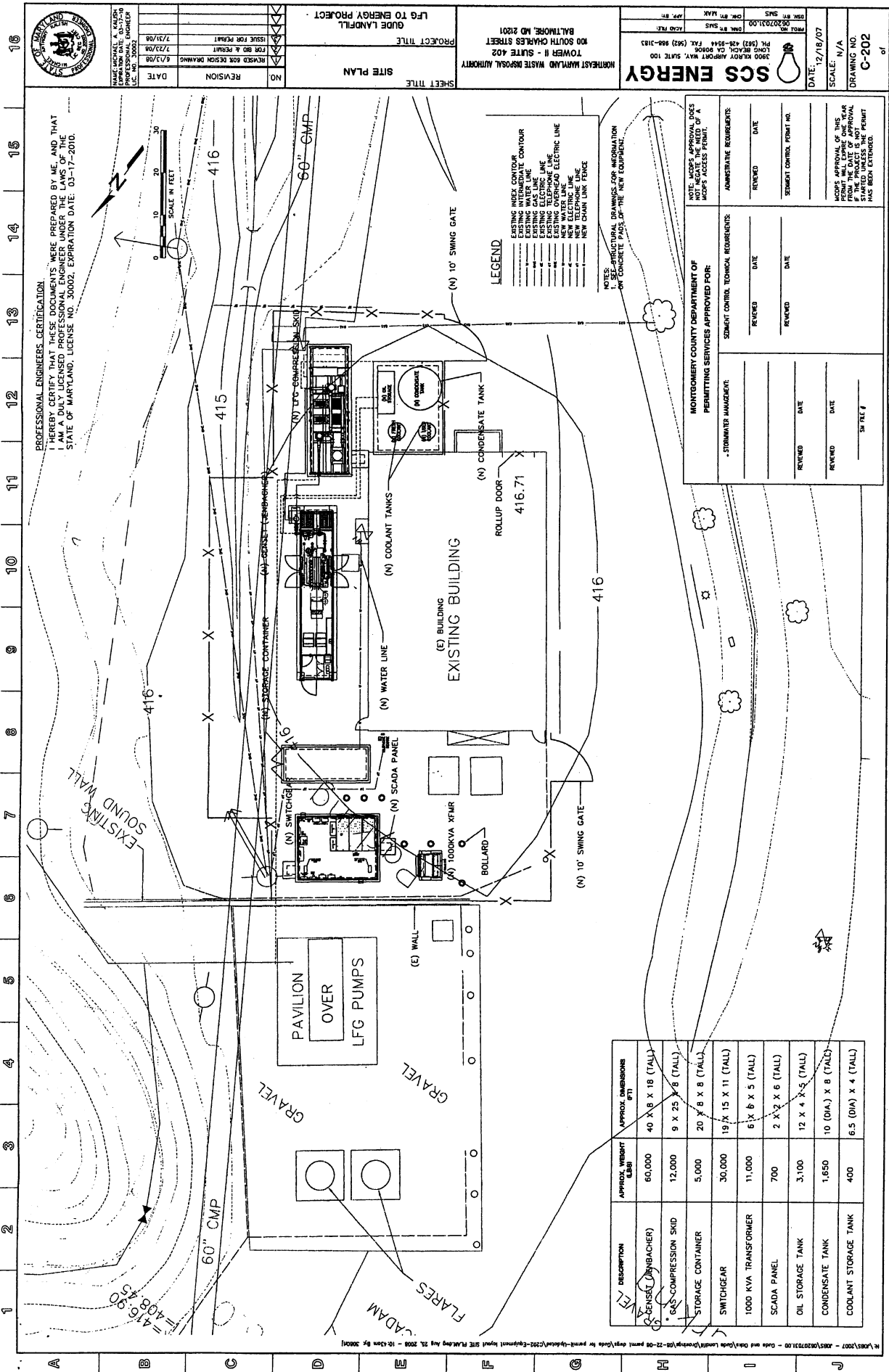
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### **Attachments**

1. Vicinity Map
2. Site Plan
3. Memorandum from the Park Planning and Stewardship Division

# Former Gude Landfill





**PROFESSIONAL ENGINEERS CERTIFICATION:**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME, AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER LAWS OF THE STATE OF MARYLAND, LICENSE NO. 30002, EXPIRATION DATE: 05-17-2010.



- LEGEND**
- EXISTING INDEX CONTOUR
  - EXISTING INTERMEDIATE CONTOUR
  - EXISTING WALL LINE
  - EXISTING ELECTRIC LINE
  - EXISTING OVERHEAD ELECTRIC LINE
  - EXISTING WATER LINE
  - EXISTING GAS LINE
  - NEW WATER LINE
  - NEW GAS LINE
  - NEW TELEPHONE LINE
  - NEW CABLE LINK FENCE

**NOTES:**  
 1. SEE STRUCTURAL DRAWINGS FOR INFORMATION ON CONCRETE PADS OF THE NEW EQUIPMENT.

**SCS ENERGY**  
 1900 KEARNEY AVENUE, SUITE 100  
 LITTLE ROCK, AR 72202  
 PH: (501) 488-9544 FAX: (501) 488-1813  
 PROJECT NO. 06020203100  
 DRAWN BY: SWS  
 CHECKED BY: MJK  
 DATE: 12/18/07

**PROJECT TITLE:**  
 TOWER II - SUITE 402  
 MD SOUTH CHARLES STREET  
 BALTIMORE, MD 21201

**SHEET TITLE:**  
 LFG TO ENERGY PROJECT  
 GUELE LANDFILL

**DATE:** 12/18/07  
**SCALE:** N/A  
**DRAWING NO.:** C-202  
**OF:** 01

**PROFESSIONAL ENGINEER:**  
 NAME: MICHAEL A. KANIS  
 LICENSE NO.: 30002

NO.	REVISION	DATE

**MONTEGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:**

STANDARD MANAGER	REVIEWED	DATE

**ADMINISTRATIVE REQUIREMENTS:**

REVIEWED	DATE

**NOTES:**  
 1. ALL PERMITS MUST BE OBTAINED PRIOR TO CONSTRUCTION.  
 2. ALL PERMITS MUST BE MAINTAINED UP TO DATE.  
 3. ALL PERMITS MUST BE CANCELLED UPON COMPLETION OF THE PROJECT.  
 4. ALL PERMITS MUST BE EXTENDED PRIOR TO EXPIRATION DATE.  
 5. ALL PERMITS MUST BE EXTENDED PRIOR TO EXPIRATION DATE.

DESCRIPTION	APPROX. WEIGHT (LBS)	APPROX. DIMENSIONS (FT)
GENS (UNBACHER)	60,000	40 X 8 X 18 (TALL)
GAS-COMPRESSION SKID	12,000	9 X 25 X 8 (TALL)
STORAGE CONTAINER	5,000	20 X 8 X 8 (TALL)
SWITCHGEAR	30,000	19 X 15 X 11 (TALL)
1000 KVA TRANSFORMER	11,000	6 X 6 X 5 (TALL)
SCADA PANEL	700	2 X 2 X 6 (TALL)
OIL STORAGE TANK	3,100	12 X 4 X 5 (TALL)
CONDENSATE TANK	1,650	10 (DIA.) X 8 (TALL)
COOLANT STORAGE TANK	400	6.5 (DIA.) X 4 (TALL)



# ATTACHMENT 3

## MONTGOMERY COUNTY DEPARTMENT OF PARKS THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

### MEMORANDUM

October 8, 2008

**TO:** Fred Boyd, Community-Based Planning Division

**VIA:** John Hench, Chief, Park Planning and Stewardship Division *John Hench*

**FROM:** Brooke Farquhar, Acting Park and Trail Planning Supervisor *Brooke Farquhar*

**SUBJECT:** **GUDE LANDFILL FACILITY- MANDATORY REFERRAL #08607-DPWT-1**

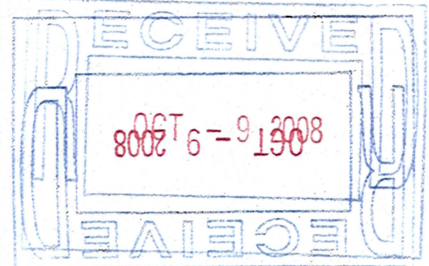
The Park Planning and Stewardship Division has reviewed the Mandatory Referral Project for the Landfill Gas-to-Energy Facility at the Gude Landfill. We support the effort to beneficially use the methane gas produced in the landfill by converting it to generate electricity, and find that this proposal has no adverse impacts on the adjacent Upper Rock Creek Regional Park.

There is an existing natural surface trail that is located on a gas line adjacent to the landfill and goes through a part of the landfill to Rock Creek Regional Park. It is desirable that this section be transferred to MNCPPC as parkland in the future. (See attached map). Currently this trail ends near a private parking lot, and an alternative trailhead on park property should be explored when the park is developed in the future. The trail is part of a future hard surface trail that is on the Countywide Park Trails Plan to connect Gude Drive, through Rock Creek Regional Park to Needwood Road and the ICC bikepath.

The future use of Gude Landfill as a park has been recommended for many years and a rough site plan was developed in 1983. The unstable condition and continual sinking of the landfill as well as the methane recovery pipes have delayed indefinitely any proposal for the park. It is important that the edges of the landfill be sealed as they currently have broken glass, rusted cans, etc. The Upper Rock Creek Area Master Plan indicates that once the methane recovery and subsequent lease has expired, an engineering assessment should be undertaken that will re-evaluate the park concept plan. Also as ground conditions change over time, an updated environmental analysis and inventory would be undertaken to ensure that proposed activities and their locations meet current environmental regulations and guidelines.

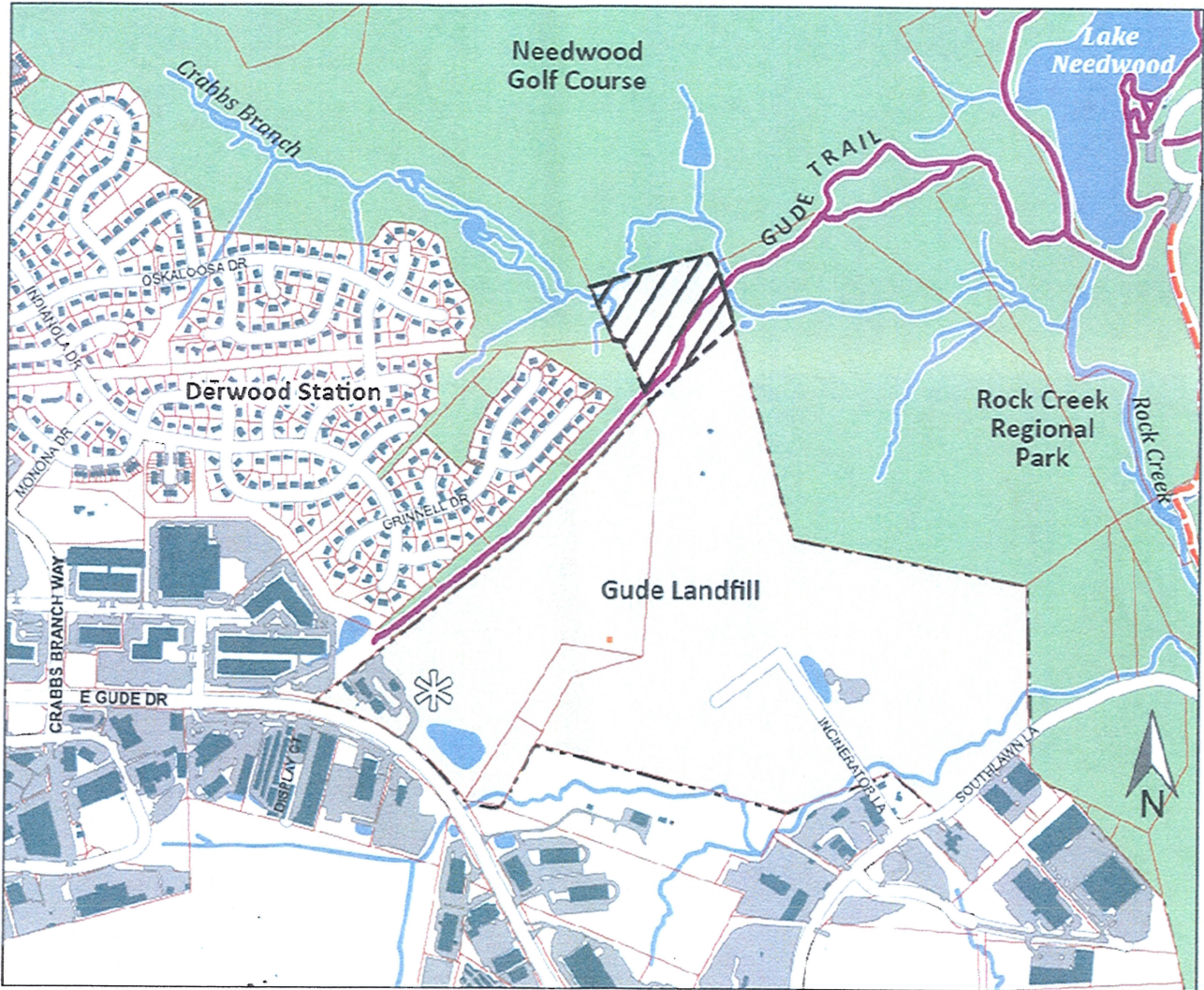
#### Attachments

Cc: Mary Bradford  
Mike Riley  
Gordon Rosenthal  
Jim Humerick  
Mitra Pedoeem  
Bob Turnbull



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# Park and Trail Context for Gude Landfill (Mandatory Referral # 08607-dpwt-1)



<b>Legend</b>		
New Proposed Power Plant	Existing Parks	Buildings
Desired Future Parkland	Gude Landfill	Parking Lots
	Natural Surface Trails	Property Boundaries
	Hard Surface Trails	Roads
		Lakes, Ponds & Streams
Montgomery Parks Park Planning & Stewardship Division Park Planning Section		0                      0.2  Miles