Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

Statement of Basis
for
MAJOR FACILITY REVIEW PERMIT
MINOR REVISION

for

Redwood Landfill, Inc.
Facility #A1179

Facility Address:
8950 Redwood Highway
Novato, CA 94948

Mailing Address:
P. O. Box 793
Novato, CA 94948

Application Engineer: Carol Allen
Site Engineer: Carol Allen

Applications: 12966 and 13026

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STATEMENT of BASIS

Redwood Landfill, Inc.; SITE # A1179

APPLICATIONS # 12966 and 13026

A. BACKGROUND

As discussed in previous Statements of Basis for the Major Facility Review (MFR) Permit for the Redwood Landfill, Inc. (Site # A1179), this facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act, Part 70 of Volume 40 of the Code of Federal Regulations (CFR), and BAAQMD Regulation 2, Rule 6, Major Facility Review because it is a major facility as defined by BAAQMD Regulation 2-6-212. This facility has the "potential to emit," as defined by Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant, specifically more than 100 tons per year of carbon monoxide. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-301.

This facility is also subject to the Title V operating permit requirements and Regulation 2, Rule 6, MFR permit requirements, because it is a designated facility as defined by Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to Subpart WWW and that has a design capacity of greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) to obtain an operating permit pursuant to Part 70. The landfill at this facility is subject to 40 CFR, Part 60, Subpart WWW and has design capacities of 14.6 million m^3 and 15.5 million Mg. Therefore, this facility is a designated facility and is required to have an MFR permit pursuant to 2-6-304.

The initial MFR Permit for this facility was issued on November 10, 2003. This MFR Permit was revised on November 10 2004, July 27, 2005, and December 29, 2005.

The main purposes of this current action are to revise permit conditions for VOC laden soil operations, to modify the landfill gas collection system, to correct the minimum flare temperature for the new A-51 Flare, to update equipment and throughput rates for the yard and green waste shredding operations. These proposed revisions are minor, because the revisions do not include any of the criteria that would require a significant revision. The District is also proposing an administrative amendment to correct the contact person on the title page of the permit.

This document will discuss the minor revisions proposed pursuant to Applications # 12966 and 13026. The engineering evaluations for the associated new source review (NSR) applications (Applications # 12967, # 13027, and # 13811) and the permit to operate report for Application # 11757 are attached. These reports contain detailed discussions of the proposed permit condition revisions and equipment modifications. The attached proposed MFR permit shows all changes to the existing permit in strikeout/underline format. The permit will be formally re-issued after EPA's 45-day review period is complete.

Facility Description:

Redwood Landfill, Inc. operates the Redwood Landfill Facility in Novato, CA. This facility includes the active landfill (S-5 with about 12 million tons of refuse in place), a 120 MM BTU/hour enclosed landfill gas flare (A-50), a 90 MM BTU/hour enclosed landfill gas flare (A-51), a 5 MM BTU/hour leachate evaporator (S-50), sludge handling and composting operations (S-2, S-25, S-28, S-34, S-35, S-37, S-38, and S-39), yard and green waste shredding operations

(S-41), soil stockpiles (S-42), a non-retail gasoline dispensing facility (S-55), and six diesel engines providing portable or standby power (S-40, S-45, S-46, S-47, S-48, and S-49).

Applications # 12966 and # 12967:

When the initial Title V permit was issued for this site, the District imposed Condition # 19867 Part 14 on activities that result in the aeration of VOC-laden materials as a method for demonstrating compliance with BAAQMD Regulation 8, Rule 2. BAAQMD Regulation 8-2-301 limits total carbon emissions from any miscellaneous operation to either 15 pounds per day OR to a concentration of 300 ppm or less, dry basis. The surface emissions screening test described in Part 14 demonstrates compliance with the 300 ppm total carbon concentration limit.

Redwood has requested to use an alternative compliance demonstration method to the surface emissions screening test described in Part 14. The proposed record keeping procedures would demonstrate compliance with the 15 pound/day total carbon emission limit rather than the 300 ppm concentration limit. Redwood has requested to have the discretion to choose either compliance demonstration method (surface emissions testing or record keeping) for each lot of VOC-laden soil received, because one method may be more suitable for a particular lot of soil than the other method depending on the characteristics and lot size of the VOC-laden soil.

The District evaluated and approved the requested permit condition revisions pursuant to NSR Application # 12967. Application # 12966 was submitted to incorporate these permit condition changes into the Title V permit and to revise Tables VII-B and Table VIII for consistency with the new permit conditions.

Applications # 13026 and # 13027:

Redwood Landfill requested an Authority to Construct and Permit to Operate for landfill gas collection system modifications that are necessary to ensure that the active landfill (S-5) continues to comply with Regulation 8, Rule 34. In particular, Redwood requested to (a) decommission up 20 existing vertical wells, (b) install up to 30 new vertical wells, (c) decommission up to 5 horizontal collectors, and (d) install up to 10 horizontal collectors. Redwood Landfill also requested to replace up to 15 existing vertical wells that are damaged or not functioning properly with 15 new vertical wells located in either the same locations as the old wells or in new optimal locations. The District evaluated and approved these collection system modifications and related permit condition revisions pursuant to NSR Application # 13027.

Application # 13026 was submitted to incorporate the collection system changes discussed above into the Title V permit. On October 26, 2006, Redwood Landfill notified the District that two vertical wells and one horizontal collector had been decommissioned. These recent collection system changes will also be incorporated into Table II-A and Condition # 19867 Part 17a of the permit.

Application # 13811:

The S-41 Yard and Green Waste Shredding Operations include a portable tub grinder (which is powered by the S-40 Diesel Engine) and waste material loading and unloading operations at temporary stockpiles. Water sprays at the tub grinder (A-41) control particulate emissions from

the tub grinder, while water sprays from water trucks (A-18) control particulate emissions from the loading and unloading operations at the stockpiles.

Redwood Landfill has permanently shut down the Diamond Z portable tub grinder (part of S-41), the associated water sprays (A-41), and the diesel engine (S-40) that provided power to this tub grinder. Redwood requested that this equipment be removed from the District and Title V permits.

Redwood plans to continue to have temporary stockpiles for yard and green waste shredding operations at this facility. However, the facility plans to use either a temporary portable tub grinder or off-site tub grinders to perform the shredding operation. These types of tub grinders would typically be powered by portable diesel engines. CARB has issued a portable equipment registration permits for an 80 ton per hour Peterson Pacific tub grinder and the associated portable diesel engine. While this new portable tub grinder and portable diesel engine are initially expected to be exempt from District permit requirements pursuant to Regulation 2-1-105.3.8, continued use of this equipment (for more than 12 consecutive months at this site) would invalidate this permit exemption. Since CARB's maximum permitted emission rates for the portable Peterson Pacific tub grinder exceed 2 tons/year of PM_{10}, the portable tub grinder constitutes a significant source, as defined in Regulation 2-6-239. Therefore, this equipment must be included in the Title V permit for this facility. The District has requested that Redwood Landfill submit a Title V permit application for this new portable tub grinder and portable diesel engine.

Meanwhile, Redwood Landfill has requested that S-41 be modified to include only the temporary stockpiles for the yard and green waste shredding operations. Redwood requested that the temporary stockpiles be permitted with throughput limits equivalent to the CARB registration permit limits for the portable Peterson Pacific tub grinder discussed above. The District evaluated this request under Application # 13811 and determined that this request would not result in any emission increases above the current maximum permitted emission levels for S-41. The District revised Condition # 19865 to reflect the requested equipment modifications and to revise the throughput limits for S-41. In addition, the District clarified that the A-18 Water Sprays from water trucks should continue to be used to prevent visible particulate emissions from the stockpile loading and unloading operations.

In order to delete the Diamond Z tub grinder and associated equipment, the District is proposing to: modify S-41 in Table II-A, remove S-40 from Table II-A, remove A-41 from Table II-B, delete Tables IV-E and VII-E for S-40, revise the subsequent table numbers, delete Part 3 from Condition # 19865 and from the revised Table IV-E (formerly Table IV-F). The District is proposing to increase the throughput limits for S-41 in Condition # 19865 Part 1 and in Table VII-E. The District will clarify the applicable requirements for using water sprays from water trucks (A-18) to control particulate emissions by adding S-41 to the list of sources abated by A-18 (in Table II-B) and by including A-18 in applicable table title and permit conditions throughout the permit.

Application # 11757:

In accordance with Authority to Construct # 11757, Redwood Landfill began operating the A-51 Landfill Gas Flare on June 21, 2005. The initial compliance demonstration test was conducted on June 28, 2005. This source test demonstrated compliance with all NO_x, CO, and NMHC limits,

while the flare was operating at an average combustion zone temperature of 1472 °F. In accordance with Condition # 19867 Part 22, the minimum temperature for A-51 should be: (1472-50) = 1422 °F. The District is proposing to modify Part 22, Table II-B, and Table VII-B to include this specific minimum combustion zone temperature limit for A-51.

B. EMISSIONS

As discussed in the engineering evaluations for Applications # 12967, # 13027, and # 13811, the permit condition revisions associated with VOC laden soil operations, landfill gas collection system components, and temporary yard and green waste stockpiles will not result in any emission increases, because the District is not revising any maximum permitted emission rates. Revising the minimum temperature for the A-51 Flare - in accordance with the criteria described in the existing conditions - will not result in any emission increases either.

C. PERMIT CONTENT

Since Statements of Basis were prepared for the initial MFR Permit and the subsequent revisions of this permit that fully describe and explain the legal and factual basis for the current MFR Permit, this report will only address the proposed revisions to the current MFR Permit.

The definition of significant revision is discussed below to determine if this current application constitutes a significant MFR revision.

- Regulation 2-6-226.1 and 226.2: This action does not involve the incorporation of a change considered to be a major modification, or a modification under NSPS, NESHAPs, or Section 112 of the CAA.
- Regulation 2-6-226.3: This action does not involve the relaxation of any monitoring, record keeping or reporting requirements.
- Regulation 2-6-226.4: This action does not involve limits imposed to avoid an applicable requirement.
- Regulation 2-6-226.5 and 226.6: This action does not involve the establishment of or change to any case-by-case emission limits or standards or any facility-specific determinations.
- Regulation 2-6-226.7: This action does not involve the incorporation of any requirements promulgated by the EPA.

Since this action does not involve any of the above actions, it does not require a significant revision. This action will involve MFR permit revisions other than those allowed under the definition of administrative amendment in Regulation 2-6-201. Therefore, this revision will be handled as a minor revision of the MFR Permit.

Changes to the permit sections are described below in the order that they are presented in the permit.

Minor Revision: Revise VOC Laden Soil Conditions, Modify Gas Collection System, Correct Flare Temperature, Remove Tub Grinder, Water Sprays, and Diesel Engine, Update Temporary Stockpile Limits, and Clarify Water Spray Applicability

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Title Page:

The District is proposing to correct the contact person for this facility based on information submitted by Redwood Landfill. The proposed changes to the Title Page are as follows:

Responsible Official	**Facility Contact**
Ramin Khany, Landfill Manager	~~Whitney King~~ Beth Shiverdecker, Environmental ~~Programs~~ Compliance Specialist
415-892-2851	415-892-2851

Section I:

No changes are proposed for this section.

Section II:

This section of the permit lists all permitted or significant sources and all abatement or control devices for these sources. This minor revision will modify the Table II-A descriptions of the landfill gas collection system (S-5) and the yard and green was shredding operations (S-41). This revision will delete S-40 from Table II-A and will delete A-41 from Table II-B. Also in Table II-B, this revision will update the list of equipment abated by the A-18 Water Sprays and will modify the minimum operating temperature for the A-51 Landfill Gas Flare. The proposed revisions to Tables II-A and II-B are shown below.

Table II – A
Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
...				
S-5	Redwood Landfill, Active Solid Waste Disposal Site Landfill Gas Collection System, Active	Types of waste accepted include municipal, commercial, industrial, construction, designated, and special wastes.		Max. Design Capacity = 19.1 E6 yd^3 (14.6 E6 m^3) Max. Cumulative Waste In Place = 17.1 MM tons in place Max. Waste Acceptance Rate = 2,300 tons/day ~~97~~ 86 vertical wells and ~~11~~ 8 horizontal collectors
...				
~~S-40~~	~~Diesel Engine (Powering Tub Grinder at S-41)~~	~~Caterpillar~~	~~3408 DITA~~	~~505 bhp, 1050 in^3, 27.3 gallons/hour diesel oil, 3.74 MM BTU/hour~~

Minor Revision: Revise VOC Laden Soil Conditions, Modify Gas Collection System, Correct Flare Temperature, Remove Tub Grinder, Water Sprays, and Diesel Engine, Update Temporary Stockpile Limits, and Clarify Water Spray Applicability

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Table II – A
Permitted Sources

Each of the following sources has been issued a permit to operate pursuant to the requirements of BAAQMD Regulation 2, Permits. The capacities in this table are the maximum allowable capacities for each source, pursuant to Standard Condition I.J and Regulation 2-1-301.

S-#	Description	Make or Type	Model	Capacity
S-41	Temporary Stockpiles for Yard and Green Waste Shredding Operation	~~Tub Grinder, Diamond Z and~~ Temporary Stockpiles from CARB registered portable tub grinder	~~PWG 1260~~	~~50~~ 80 tons/hour, 820 tons/day, and 200,000 tons/year
...				

Table II – B
Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
A-18	Water Sprays	S-5, S-25, S-34, S-35, S-37, S-39, S-41, and S-42	BAAQMD Regulation 6-301	None	Ringelmann No. 1
~~A-41~~	~~Water Sprays~~	~~S-41~~	~~BAAQMD Regulation 6-301~~	~~None~~	~~Ringelmann No. 1~~
A-50	Landfill Gas Flare, Power Strategies, EV-4000 120 MM BTU/hour	S-5	BAAQMD 8-34-301.3, see also Table IV-B	Minimum combustion zone temperature of 1475 °F, see also Table VII-B	98% destruction of NMOC or < 30 ppmv of NMOC, as CH_4, at 3% O_2, dry
A-51	Landfill Gas Flare, Perennial Energy, Inc., FL-144-38-E, 90 MM BTU/hour	S-5	BAAQMD 8-34-301.3, see also Table IV-B	Minimum combustion zone temperature of ~~1400~~ 1422 °F, see also Table VII-B	98% destruction of NMOC or < 30 ppmv of NMOC, as CH_4, at 3% O_2, dry

Section III:

No changes are proposed for this section.

Section IV:

This section of the permit lists all the applicable requirements that apply to permitted or significant sources. The text of the requirements is found in the regulations, which are readily available on the District's or EPA's websites, or in the permit conditions, which are found in Section VI of the permit. All monitoring requirements are cited in Section IV. Section VII is a cross-reference between the limits and monitoring requirements. A discussion of monitoring is included in Section C.VII of this statement of basis. Permit condition revisions are discussed in Section C.VI of this statement of basis.

For this revision, the District is proposing to include A-18 in the titles of several tables where it is missing. The District is also proposing to delete Table IV-E for S-40, because this equipment has been shutdown. All subsequent tables will be renumbered. The tub grinder associated with S-40 (part of S-41) has also been shut down, and the applicable requirements for this tub grinder will be removed from the revised Table IV-E. Changes to the Section IV tables are identified below.

Table IV – C
Source-Specific Applicable Requirements
S-25 YARD AND GREEN WASTE STOCKPILES; AND A-18 WATER SPRAYS

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~~**Table IV – E**~~
~~**Source-Specific Applicable Requirements**~~
~~S-40 DIESEL ENGINE (POWERING TUB GRINDER AT S-41)~~

~~**Applicable Requirement**~~	~~**Regulation Title or Description of Requirement**~~	~~**Federally Enforceable (Y/N)**~~	~~**Future Effective Date**~~
~~**BAAQMD Regulation 6**~~	~~**Particulate Matter and Visible Emissions (12/19/90)**~~		
~~6-303~~	~~Ringelmann No. 2 Limitation~~	~~Y~~	
~~6-303.1~~	~~Internal combustion engines below 1500 cubic inches displacement or standby engines~~	~~Y~~	
~~6-305~~	~~Visible Particles~~	~~Y~~	
~~6-310~~	~~Particle Weight Limitation~~	~~Y~~	
~~6-401~~	~~Appearance of Emissions~~	~~Y~~	
~~**BAAQMD Regulation 9, Rule 1**~~	~~**Inorganic Gaseous Pollutants – Sulfur Dioxide (3/15/95)**~~		
~~9-1-301~~	~~Limitations on Ground Level Concentrations~~	~~Y~~	
~~9-1-304~~	~~Liquid and Solid Fuels~~	~~Y~~	
~~**BAAQMD Condition # 19864**~~			
~~Part 1~~	~~Fuel Usage Limits (Offsets and Cumulative Increase)~~	~~Y~~	

Minor Revision: Revise VOC Laden Soil Conditions, Modify Gas Collection System, Correct Flare Temperature, Remove Tub Grinder, Water Sprays, and Diesel Engine, Update Temporary Stockpile Limits, and Clarify Water Spray Applicability

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~~**Table IV – E**~~
~~**Source-Specific Applicable Requirements**~~
~~S-40 DIESEL ENGINE (POWERING TUB GRINDER AT S-41)~~

~~Applicable Requirement~~	~~Regulation Title or Description of Requirement~~	~~Federally Enforceable (Y/N)~~	~~Future Effective Date~~
~~Part 2~~	~~Fuel Sulfur Content Limit (Cumulative Increase)~~	~~Y~~	
~~Part 3~~	~~Record Keeping Requirements (Offsets, Cumulative Increase, and Regulation 9-1-304)~~	~~Y~~	

Table IV – ~~F~~E
Source-Specific Applicable Requirements
S-41 TEMPORARY STOCKPILES FOR YARD AND GREEN WASTE SHREDDING OPERATIONS; AND ~~A-41~~ A-18 WATER SPRAYS

Applicable Requirement	Regulation Title or Description of Requirement	Federally Enforceable (Y/N)	Future Effective Date
BAAQMD Regulation 6	**Particulate Matter and Visible Emissions (12/19/90)**		
6-301	Ringelmann No. 1 Limitation	Y	
6-305	Visible Particles	Y	
6-311	Process Weight Limitation	Y	
6-401	Appearance of Emissions	Y	
BAAQMD Condition # 19865			
Part 1	Waste Material Throughput Limits (Cumulative Increase)	Y	
Part 2	Record Keeping Requirements (Cumulative Increase)	Y	
~~Part 3~~	~~Abatement Requirement for Tub Grinder (Cumulative Increase)~~	~~Y~~	
Part ~~4~~3	Particulate Emission Limit and Abatement Requirement for Material Handling Operations (Regulations 6-301 and 6-305)	Y	
Part ~~5~~4	Monitoring Requirements for ~~Tub Grinder and~~ Material Handling Operations (Regulations 2-1-403, 6-301, and 6-305)	Y	

Table IV – ~~G~~F
Source-Specific Applicable Requirements
S-42 SOIL AND COVER MATERIAL STOCKPILES; AND A-18 WATER SPRAYS

...			

Table IV – ~~H~~G
Source-Specific Applicable Requirements
S-45 PUMPMASTER ENGINE

...			

Table IV – ~~I~~H
Source-Specific Applicable Requirements
S-46 TIPPER ENGINE

...			

Table IV – ~~J~~I
Source-Specific Applicable Requirements
S-47 PACO WATER PUMP ENGINE

...			

Table IV – ~~K~~J
Source-Specific Applicable Requirements
S-48 RETEC POWER SCREENS ENGINE

...			

Table IV – ~~L~~K
Source-Specific Applicable Requirements
S-49 DIESEL ENGINE FOR BACK-UP GENERATOR

...			

Table IV – ~~M~~L
Source-Specific Applicable Requirements
S-50 LEACHATE VAPORATOR

...			

Table IV – ~~N~~M
Source-Specific Applicable Requirements
S-55 NON-RETAIL GASOLINE DISPENSING FACILITY # 8573

...			

Section V:

No changes are proposed for this section.

Section VI:

For this minor revision, the District is proposing to add A-18 Water Sprays to the list of applicable equipment in Condition # 16066 and Condition # 19866. The District is proposing to delete Condition # 19864 and to revise Condition # 19865 to reflect the removal of the S-40 Diesel Engine and the tub grinder from S-41. In addition, the District is proposing to modify several parts of Condition # 19867 that concern VOC-laden soil handling operations, the landfill gas collection system, and the A-51 Flare. The reasons for each proposed modification are presented below followed by the proposed changes to the permit conditions in strikeout/underline format.

Condition # 16066 for S-25 and A-18

The S-25 Yard and Green Waste Stockpiles provide feedstock to the compost operations and are abated by the A-18 Water Sprays that are applied by water trucks. A-18 is being added to the list of applicable equipment for this condition number. These water sprays are already identified correctly in Part 4.

Condition # 19864 for S-40

This diesel engine provided power for the tub grinder that was part of S-41. This condition is being deleted because S-40 has been permanently shut down.

Condition # 19865 for S-41 and A-18

Part 1: The throughput limits for the temporary stockpiles were increases pursuant to Application # 13811. The revised throughput limits are listed in this part.

Part 3: The tub grinder and the associated water sprays (A-41) have been shut down. Therefore, this requirement to abate the tub grinder is obsolete and is being deleted.

Part 4: This part has been renumbered and is now Part 3. This part requires abatement with water sprays for various material loading and unloading operations. The appropriate abatement device number (A-18) for the water sprays is being added to this part. Abatement of tub grinder loading is being deleted because this tub grinder is no longer part of S-41.

Part 5: This part has been renumbered and is now Part 4. Part number references will be corrected. The requirement to observe tub grinder operations is being removed because this tub grinder is no longer part of S-41.

Condition # 19866 for S-42 and A-18

Part 3: This part requires abatement with water sprays for the loading and unloading operations at the S-42 Soil and Cover Material Stockpiles. Table II-B identifies that the A-18 Water Sprays from water trucks are the appropriate abatement device number for these water sprays. This device number is being added to the list of applicable equipment and Part 3 for clarity.

Condition # 19867 for S-5, A-18, A-50, and A-51

Part 14: The existing Part 14 will be deleted and replaced with Part 14a-c. The existing emission limits, monitoring procedures, calculation equations, and record keeping requirements will be retained and restated in subparts a, b, or c. The new Part 14 will clarify that the permit holder may demonstrate compliance with Regulation 8-2-301 by following the procedures specified in either subpart a or subpart b. The new procedures allow daily record keeping and calculations instead of daily surface screening of VOC laden soil lots. Since monitoring will continue to be conducted on a daily basis, this change will not reduce the monitoring frequency. Monthly calculations and records will continue to be used to demonstrate compliance with the Part 14 annual emission limit. Changes to Part 14 are discussed in more detail in the Engineering Evaluation for Application # 12967.

Part 17: The revised well and collector counts for the landfill gas collection system will be included in Part 17a. The well and collector revisions authorized pursuant to Application # 13027 will be added to Part 17b. Text was added to clarify the number of authorized wells and collectors during the time between well installation/decommission and the time that this change is finalized in the Title V permit. In addition to the requirement to maintain records of the initial start-up date for each well or collect, the District is adding a requirement to maintain records of the decommissioning date in order to improve the tracking of collection system modifications. Changes to Part 17 are discussed in more detail in the Engineering Evaluation for Application # 13027.

Part 22: The minimum combustion zone temperature (CT_{min}) for the A-51 flare is being revised based on the June 28, 2005 initial compliance demonstration test. During this test, the average combustion zone temperature was 1472 °F. From Part 22, the "minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F." Therefore, CT_{min} = 1472 – 50 = 1422 °F. Changes to Part 22 are discussed in more detail in the Permit to Operate Report for Application # 11757.

Condition # 16066
FOR: S-25 YARD AND GREEN WASTE STOCKPILES; AND A-18 WATER SPRAYS

~~**Condition # 19864**~~
~~**FOR: S-40, DIESEL ENGINE (POWERING TUB GRINDER AT S-41)**~~

~~1. The total amount of fuel used at the S-40 Diesel Engine shall not exceed 218 gallons per day and shall not exceed 16,000 gallons per year. (Basis: Offsets and Cumulative Increase)~~

~~2. Only low sulfur fuel containing no more than 0.05% sulfur by weight shall be burned in S-40. (Basis: Cumulative Increase)~~

~~3. In order to demonstrate compliance with Parts 1 and 2, the Permit Holder shall maintain the following records in an APCO approved log book.~~
~~a. Maintain daily records of fuel usage at S-40.~~
~~b. Summarize daily fuel usage records on a monthly basis and an annual basis.~~
~~c. Maintain records of the vendor certified sulfur content in the diesel oil for each fuel shipment.~~
~~These records shall be retained on site for a minimum of five years from the date of entry and shall be made available to District staff upon request. (Basis: Offsets, Cumulative Increase, and Regulation 9-1-304)~~

Condition # 19865
FOR: S-41 TEMPORARY STOCKPILES FOR YARD AND GREEN WASTE SHREDDING OPERATIONS; AND ~~A-41~~ A-18 WATER SPRAYS

1. The total amount of waste material processed at the S-41 Temporary Stockpiles for Yard and Green Waste Shredding Operations shall not exceed ~~400~~ 820 tons per day and shall not exceed ~~80,000~~ 200,000 tons per year. (Basis: Cumulative Increase)

2. In order to demonstrate compliance with Part 1, the Permit Holder shall maintain daily records, summarized on a monthly and annual basis, of the total amount of waste material processed at S-41. All records shall be maintained in an APCO approved log book, retained on site for a minimum of five years from the date of entry, and made available to District staff upon request. (Basis: Cumulative Increase)

~~3. Particulate emissions from the tub grinder shall be abated by the A-41 Water Spray System, during all periods of operation. (Basis: Cumulative Increase)~~

~~4~~3. Particulate emissions from the waste material unloading operations, ~~tub grinder loading operations,~~ waste material stockpiles, and shredded material stockpiles shall be abated by water sprays from water trucks (A-18) as necessary to prevent visible emissions and to prevent exceedance of the Regulation 6-301 Ringelmann 1.0 limit. (Basis: Regulations 6-301 and 6-305)

~~5~~4. In order to demonstrate compliance with Part ~~4~~3 and Regulations 6-301 and 6-305, the Permit Holder ~~shall observe the tub grinder during all periods of operation and~~ shall observe all material loading or unloading operations. If visible emissions are detected that persist for longer than 3 minutes in an hour, the operator of this source shall take the necessary corrective action to stop the emissions. (Basis: Regulations 2-1-403, 6-301, and 6-305)

Condition # 19866

FOR: S-42 SOIL AND COVER MATERIAL STOCKPILES; AND A-18 WATER SPRAYS

1. The total amount material received at the S-42 Soil and Cover Material Stockpiles shall not exceed 1160 tons per day and shall not exceed 105,500 tons per year. (Basis: Cumulative Increase)

2. In order to demonstrate compliance with Part 1, the Permit Holder shall maintain daily records, summarized on a monthly and annual basis, of the total amount of material received at S-42. All records shall be maintained in an APCO approved log book, retained on site for a minimum of five years from the date of entry, and made available to District staff upon request. (Basis: Cumulative Increase)

3. Particulate emissions from the stockpiles and the material loading and unloading operations shall be abated by water sprays (A-18), as necessary, to prevent visible emissions and to prevent exceedance of the Regulation 6-301 Ringelmann 1.0 limit. (Basis: Regulations 6-301 and 6-305)

4. In order to demonstrate compliance with Part 3 and Regulations 6-301 and 6-305, the Permit Holder shall observe all material loading or unloading operations. If visible emissions are detected that persist for longer than 3 minutes in an hour, the operator of this source shall take the necessary corrective action to stop the emissions. (Basis: Regulations 2-1-403, 6-301, and 6-305)

Condition # 19867

FOR: S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS; A-50 LANDFILL GAS FLARE, AND A-51 LANDFILL GAS FLARE

No Changes to Parts 1-13.

~~14. The Permit Holder shall limit the quantity of VOC laden soil handled per year such that annual VOC emissions due to on-site handling, storage, disposal, or reuse of VOC laden soil (calculated in accordance with this part) shall not exceed 10,530 pounds per calendar year. VOC laden soil is any material that contains volatile organic compounds, as defined in Regulation 8-40-213, at a concentration of 50 ppm by weight or less. Soil containing more than 50 ppmw of VOC is considered to be "contaminated soil" and is subject to Part 15 instead of this part. Materials containing only non-volatile hydrocarbons and meeting the requirements of Regulation 8-40-113 are not subject to this part. In addition, the Permit Holder shall demonstrate compliance with Regulation 8-2-301 by randomly screening each lot of VOC laden soil for VOC surface emissions (in such a manner as to be representative of the entire lot and using the testing procedures outlined in Regulation 8-40-604) to show that each lot of VOC laden soil is not contaminated soil and could therefore not result in emissions in excess of 300 ppmv of total carbon. Soil presumed to be VOC laden soil that is found to have a surface VOC concentration greater than 50 ppmv shall be considered contaminated soil and will be subject to the requirements of Part 15 of these conditions.~~

~~In order to demonstrate compliance with this condition, the Permit Holder shall maintain the following records in a District approved log.~~

~~a. Record a lot number for each shipment of VOC laden soil, as described in Part 15m.~~

~~b. Record the soil delivery date, the testing date for the VOC surface emissions screening test, the name and affiliation of the person conducting the screening test, and the results of the screening test for each lot of VOC laden soil accepted at the site.~~

~~c. Maintain certifications that the Regulation 8-40-604 procedures were followed for each screening test.~~

~~d. Record on a monthly basis the amount of VOC laden soil handled at the landfill. This total amount (in units of pounds per day) is Q in the equation in subpart f below.~~

~~e. Record on a monthly basis the VOC content of all soils handled at the landfill. This VOC Content (C in the equation below) should be expressed as parts per million by weight as total carbon (or C1).~~

~~f. Calculate and record on a monthly basis the VOC Emission Rate (E) using the following equation: E = Q * C / 1E6~~

~~g. Summarize emission rates on a calendar year basis.~~

~~All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry. (Basis: Offsets and Regulations 8-2-301, 8-40-205, and 8-40-604)~~

14. This part applies to the acceptance, handling, storage, and on-site reuse of VOC-laden soil. VOC-laden soil is any soil that contains volatile organic compounds, as defined in Regulation 8-40-213, other than contaminated soil. As defined in Regulation 8-40-205, contaminated soil contains more than 50 ppmw of VOC or has a surface concentration greater than 50 ppmv of VOC as C1, and contaminated soil is subject to Part 15 below instead of this part. Materials containing only non-volatile hydrocarbons and materials meeting the requirements of Regulation 8-40-113 are not subject to this part. For each lot of VOC-laden soil accepted at this site, the Permit Holder shall comply with the daily limits identified in either subpart a or subpart b below and shall comply with the annual emissions limit identified in subpart c below. To demonstration compliance with the daily and annual emission limits, the Permit Holder shall comply with the monitoring procedures listed in subpart a(i-v). If the Permit Holder opts to comply with the daily concentration limit in subpart b rather than the daily emission limit in subpart a, then the Permit Holder shall also comply with the soil screening procedures listed in subpart b(i-v).

a. Unless the Permit Holder demonstrates compliance with Regulation 8-2-301 in accordance with subpart b below, the Permit Holder shall limit the quantity of VOC laden soil handled per day such that no more than 15 pounds of total carbon could be emitted to the atmosphere per day. In order to demonstrate compliance with this subpart and the annual emissions limit specified in subpart c, the Permit Holder shall maintain the following records in a District approved log for all VOC-laden soil accepted at the landfill.

i. Record on a daily basis the amount of VOC laden soil accepted for each truckload or each soil lot, as appropriate. This amount (in units of pounds per day) is Q in the equation in subpart a(iii) below.

ii. Record on a daily basis the VOC content for each truckload or each soil lot, as appropriate. This VOC Content (C in the equation below) should be expressed as parts per million by weight as total carbon (or C1).

iii. Calculate and record on a daily basis the VOC Emission Rate (E) using the following equation: $E = Q * C / 1E6$
This equation may be applied to each truckload or to each soil lot received per day depending on the amount of soil that is represented by the VOC Content data. If the equation is applied to multiple loads per day, the VOC Emission Rate shall be totaled for all loads received each day.

iv. Summarize all daily emission rates on a monthly and calendar year basis.

v. All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry.

b. Unless the Permit Holder demonstrates compliance with Regulation 8-2-301 in accordance with subpart a above, the Permit Holder shall screen each lot of VOC laden soil accepted per day for VOC surface emissions to show that each lot of VOC laden soil is not contaminated soil.

i. The Permit Holder shall use the testing procedures outlined in Regulation 8-40-604.

ii. The screening test shall be representative of the entire lot of VOC-laden soil. The soil surface shall be disturbed prior to screening to ensure that the screening is representative of the entire load.

iii. The Permit Holder shall maintain records of all testing conducted to satisfy this subpart and shall record the amount of VOC-laden soil accepted and the highest surface concentration measured pursuant to this subpart. These records shall be maintained for each truckload or each soil lot accepted, as appropriate, provided that the records are made or summarized on at least a daily basis.

iv. Summarize the daily waste acceptance rates and the weighted average of the surface concentration records on a monthly basis and for each calendar year.

v. All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry.

c. The Permit Holder shall limit the quantity of VOC laden soil handled per year such that annual VOC emissions due to on-site handling, storage, disposal, or reuse of VOC laden soil shall not exceed 10,530 pounds per calendar year. The Permit Hold shall comply with the monitoring procedures in subpart a(i-v) above to demonstrate compliance with this annual emissions limit.

(Basis: Offsets and Regulation 8-2-301)

No Changes to Parts 15-16.

17. The landfill gas collection system described in subpart a below shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in subparts a ~~b~~ below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are modifications that are subject to the Authority to Construct requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Authority to Construct requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 17b as evidenced by start-up/shut-down notification letters submitted to the District.

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Application #~~9565~~ 13027.

	Required Components
Total Number of Vertical Wells:	~~97~~ 86
Total Number of Horizontal Collectors:	~~11~~ 8

b. The Permit Holder has been issued an Authority to Construct for the landfill gas collection system components listed below. Specific well and collector locations, depths, and lengths of associated piping are as described in detail in Permit Application #~~9565~~ 13027.

	Minimum	Maximum
Install New Vertical Wells:	0	~~58~~ 30

Decommission Vertical Wells:	0	18
Install New Horizontal Collectors	0 ~~feet~~	~~4000 feet~~10
Decommission Horizontal Collectors	0 ~~feet~~	~~11~~ 4
Replace Vertical Wells *	0	15

* one-for-one well replacement at new optimal locations

Wells installed or shutdown pursuant to subpart b shall be added to or removed from subpart a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the decommissioning date for each well that is shut down and the initial operation date for each new well.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, and 2-6-413)

No Changes to Parts 18-21.

22. The temperature in the combustion zone of each flare shall be maintained at the minimum temperature listed below, averaged over any 3-hour period. In order to demonstrate compliance with this condition, A-50 and A-51 shall each be equipped with a continuous temperature monitor and recorder. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these temperature limits, in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415, based on the following criteria. The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F.
    a. The minimum combustion zone temperature for A-50 is 1475 degrees F, averaged over any 3-hour period.
    b. ~~Upon start-up of A-51, t~~The minimum combustion zone temperature for A-51 is ~~1400~~ 1422 degrees F, averaged over any 3-hour period.

    (Basis: Toxic Risk Management Policy, Regulations 8-34-301.3 and 8-34-501.3, and 40 CFR 60.756(b)(1))

No Changes to Parts 23-32.

Section VII:

This section of the permit is a summary of numerical limits and related monitoring requirements that apply to each source. The summary includes a citation for each monitoring requirement, frequency, and type. The applicable requirements for monitoring are completely contained in Sections IV, Source-Specific Applicable Requirements, and VI, Permit Conditions, of the permit.

Table VII-E for the S-40 Diesel Engine is being deleted because this equipment has been shut down. All subsequent tables will be renumbered.

The A-18 Water Sprays are missing from the title of several tables. A-18 will be added to the title of Tables VII-B, VII-C, VII-E, and VII-F.

The District is proposing revisions in Table VII-B below that will clarify the monitoring procedures for each limit that applies to VOC laden soil aeration operations. The District is not proposing any changes to the monitoring frequency.

The District is proposing to include the revised throughput limits for S-41 in Table VII-E.

Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS;
A-50 LANDFILL GAS FLARE; AND A-51 LANDFILL GAS FLARE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
...							
Total Carbon Emissions	BAAQMD 8-2-301	Y		15 pounds/day or 300 ppm, dry basis (applies to soil containing ≤ 50 ppmw of VOC during aeration or use as cover)	BAAQMD Condition # 19867, Part 14	P/D OR P/E	Records and Emission Calculations OR Soil ~~or~~ Surface Screening ~~VOC Analysis~~ and Records
Volatile Organic Compound (VOC) Emissions	BAAQMD Condition # 19867, Part 14	Y		10,530 pounds per calendar year (applies to soil containing ≤ 50 ppmw of VOC during aeration or use as cover)	BAAQMD Condition # 19867, Part 14	P/E, M	Soil ~~or Surface~~ VOC Analysis, ~~and~~ Records, and Emission Calculations
...							

Table VII – B
Applicable Limits and Compliance Monitoring Requirements
S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS; A-50 LANDFILL GAS FLARE; AND A-51 LANDFILL GAS FLARE

Type of Limit	Citation of Limit	FE Y/N	Future Effective Date	Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type
Temper-ature of Combus-tion Zone (CT)	BAAQMD Condition # 19867, Part 22b	Y		A-51: CT > ~~1400~~ 1422 °F, averaged over any 3-hour period	BAAQMD 8-34-501.3, 8-34-507, and BAAQMD Condition # 19867, Part 22	C	Temperature Sensor and Recorder (continuous)
CT	40 CFR 60.758 (c)(1)(i)	Y		A-50: CT > 1475 °F A-51: CT > ~~1400~~ 1422°F (3-hour average) from (CT ≥ CT_{PF} – 28 °C), where CT_{PF} is the average combustion temperature during the most recent complying performance test ~~(applies to Flares)~~	40 CFR 60.756(b)(1) and 60.758 (b)(2)(i)	C	Temperature Sensor and Recorder (measured every 15 minutes and averaged over 3 hours)
…							

Table VII – C
Applicable Limits and Compliance Monitoring Requirements
S-25 YARD AND GREEN WASTE STOCKPILES; AND A-18 WATER SPRAYS

…							

~~Table VII - E~~
~~Applicable Limits and Compliance Monitoring Requirements~~
~~S-40 DIESEL ENGINE (POWERING TUB GRINDER AT S-41)~~

~~Type of Limit~~	~~Citation of Limit~~	~~FE Y/N~~	~~Future Effective Date~~	~~Limit~~	~~Monitoring Requirement Citation~~	~~Monitoring Frequency (P/C/N)~~	~~Monitoring Type~~
~~Opacity~~	~~BAAQMD 6-303~~	~~Y~~		~~Ringelmann 2.0 for 3 minutes in any hour~~	~~None~~	~~N~~	~~NA~~

Minor Revision: Revise VOC Laden Soil Conditions, Modify Gas Collection System, Correct Flare Temperature, Remove Tub Grinder, Water Sprays, and Diesel Engine, Update Temporary Stockpile Limits, and Clarify Water Spray Applicability

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~~**Table VII–E**~~
~~**Applicable Limits and Compliance Monitoring Requirements**~~
~~S-40 DIESEL ENGINE (POWERING TUB GRINDER AT S-41)~~

~~Type of Limit~~	~~Citation of Limit~~	~~FE Y/N~~	~~Future Effective Date~~	~~Limit~~	~~Monitoring Requirement Citation~~	~~Monitoring Frequency (P/C/N)~~	~~Monitoring Type~~
~~FP~~	~~BAAQMD 6-310~~	~~Y~~		~~≤ 0.15 grains/dscf~~	~~None~~	~~N~~	~~NA~~
~~SO_2~~	~~BAAQMD 9-1-301~~	~~Y~~		~~Property Line Ground Level Limits: ≤ 0.5 ppm for 3 minutes and ≤ 0.25 ppm for 60 min. and ≤0.05 ppm for 24 hours~~	~~None~~	~~N~~	~~NA~~
~~Liquid Fuel Sulfur Content~~	~~BAAQMD 9-1-304~~	~~Y~~		~~0.5% sulfur by weight~~	~~BAAQMD Condition # 19864, Part 3c~~	~~P/E~~	~~Vendor Certification Records~~
~~Liquid Fuel Sulfur Content~~	~~BAAQMD Condition # 19864, Part 2~~	~~Y~~		~~0.05% sulfur by weight~~	~~BAAQMD Condition # 19864, Part 3c~~	~~P/E~~	~~Vendor Certification Records~~
~~Fuel Oil Usage~~	~~BAAQMD Condition # 19864, Part 1~~	~~Y~~		~~218 gallons per day and 16,000 gallons per year~~	~~BAAQMD Condition # 19864, Part 3a-b~~	~~P/D~~	~~Records~~

Table VII – ~~F~~E
Applicable Limits and Compliance Monitoring Requirements
S-41 TEMPORARY STOCKPILES FOR YARD AND GREEN WASTE SHREDDING OPERATIONS; AND ~~A-41~~ A-18 WATER SPRAYS

Opacity	BAAQMD 6-301 and BAAQMD Condition # 19865, Part ~~4~~3	Y		Ringelmann 1.0 for 3 minutes in any hour	BAAQMD Condition # 19865, Part ~~4~~5	P/E	Observation of Source in Operation

Minor Revision: Revise VOC Laden Soil Conditions, Modify Gas Collection System, Correct Flare Temperature, Remove Tub Grinder, Water Sprays, and Diesel Engine, Update Temporary Stockpile Limits, and Clarify Water Spray Applicability

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Table VII – ~~F~~E
Applicable Limits and Compliance Monitoring Requirements
S-41 TEMPORARY STOCKPILES FOR YARD AND GREEN WASTE SHREDDING OPERATIONS; AND ~~A-41~~ A-18 WATER SPRAYS

FP	BAAQMD 6-311	Y		$E = 0.026(P)^{0.67}$ where: E = Allowable Emission Rate (lb/hr); and P = Process Weight Rate (lb/hr) Maximum Allowable Emission Rate = 40 lb/hr For P >57,320 lb/hr	None	N	NA
Through-put	BAAQMD Condition # 19865, Part 1	Y		~~400~~ 820 tons per day and ~~80,000~~ 200,000 tons per year	BAAQMD Condition # 19865, Part 2	P/D	Records

Table VII – ~~G~~F
Applicable Limits and Compliance Monitoring Requirements
S-42 SOIL AND COVER MATERIAL STOCKPILES; AND A-18 WATER SPRAYS

...							

Table VII – ~~H~~G
Applicable Limits and Compliance Monitoring Requirements
S-45 PUMPMASTER ENGINE

...							

Table VII – ~~I~~H
Applicable Limits and Compliance Monitoring Requirements
S-46 TIPPER ENGINE

...							

Table VII – ~~J~~I
Applicable Limits and Compliance Monitoring Requirements
S-47 PACO WATER PUMP ENGINE

...							

Table VII – ~~K~~J
Applicable Limits and Compliance Monitoring Requirements
S-48 RETEC POWER SCREENS ENGINE

...							

Table VII – ~~L~~K
Applicable Limits and Compliance Monitoring Requirements
S-49 DIESEL ENGINE FOR BACK-UP GENERATOR

...							

Table VII – ~~M~~L
Applicable Limits and Compliance Monitoring Requirements
S-50 LEACHATE VAPORATOR

...							

Table VII – ~~N~~M
Applicable Limits and Compliance Monitoring Requirements
S-55 NON-RETAIL GASOLINE DISPENSING FACILITY # 8573

...							

Section VIII:

This section of the permit lists test methods that are associated with standards in District or other rules. It is included only for reference. In most cases, the test methods in the rules are source test methods that can be used to determine compliance but are not required on an ongoing basis. They are not applicable requirements.

The District is proposing to clarify several citations in Table VIII for consistency with the proposed permit condition revisions described in Section VI above.

Table VIII
Test Methods

Applicable Requirement	Description of Requirement	Acceptable Test Methods
...		
BAAQMD 8-2-301	Organic Compound Emission Limitation for Miscellaneous Operations	For Operations Other Than Aeration of VOC Laden Soil at S-5: Manual of Procedures, Volume IV, ST-7, Organic Compounds; or EPA Reference Method 25 or 25A For Aeration of VOC Laden Soil at S-5: BAAQMD Regulation 8-40-604 measurement procedures and EPA Method 21 (or any method determined to be equivalent by the US EPA and approved by the APCO)
...		
BAAQMD Condition # 19867, Part 14a	Daily Total Carbon Emission Limit for VOC Laden Soil	VOC Content as determined by EPA Reference Methods 8015B or 8021B (or any method determined to be equivalent by the US EPA and approved by the APCO), and converted to Total Carbon as defined in BAAQMD Regulation 8-2-202. Total Carbon Emissions determined by APCO approved equation described in BAAQMD Condition #19867, Part 14a.
BAAQMD Condition # 19867, Part 14b	Surface VOC Concentration for VOC Laden Soil	BAAQMD Regulation 8-40-604 measurement procedures and EPA Method 21 (or any method determined to be equivalent by the US EPA and approved by the APCO)
BAAQMD Condition # 19867, Part 14c	Annual Emission Limit for VOC Laden Soil	VOC Content as determined by EPA Reference Methods 8015B or 8021B (or any method determined to be equivalent by the US EPA and approved by the APCO), and emissions determined by APCO approved equation described in BAAQMD Condition #19867, Part 14a.
...		

Section IX:

No changes are proposed for this section.

Section X:

This section summarizes the revisions that have been made to the permit since it was initially issued. The changes associated with this proposed minor revision will be summarized in Section X as indicated below.

...

Minor Revision (Applications 12966 and 13026): [Insert Approval Date]

- Correct the Facility Contact on the title page.
- Delete the S-40 Diesel Engine from Table II-A, and delete the associated requirements, limits, and conditions that were listed in Table IV-E, Table VII-E, and Condition # 19864. Renumber all subsequent tables in Sections IV and VII.
- Remove the Diamond Z Tub Grinder from S-41 in Table II-A, and delete the associated A-41 Water Sprays from Table II-B. Delete the requirements associated with the tub grinder and water sprays from Tables IV-E and VII-E and Condition # 19865 Parts 3-5.
- Increase the throughput limits for the S-41 Temporary Stockpiles in Tables II-A and VII-E and Condition # 19865 Part 1. Clarify the water spray requirements for S-41 in Tables II-B, IV-E, and VII-E and in Condition # 19865 Part 3.
- Add the A-18 Water Sprays to the titles for Tables IV-C, IV-E, IV-F, VII-B, VII-C, VII-E, and VII-F and to the equipment list for Conditions # 16066, # 19865, and # 19866.
- Clarify the monitoring and record keeping procedures for VOC laden soil aeration operations in Condition # 19867 Part 14, Table VII-B, and Table VIII.
- Update the landfill gas collection system description in Condition # 19867 Part 17a and Table II-A and authorize additional collection system modifications in Part 17b.
- Correct the minimum combustion zone temperature limit for A-51 in Condition # 19867 Part 22b, Table II-B, and Table VII-B.

Sections XI-XII:

No changes are proposed for these sections.

D. DIFFERENCES BETWEEN THE APPLICATIONS AND THE PROPOSED PERMIT:

The application materials for the minor MFR revision are contained in Applications # 12966 and 13026. The District is proposing to include landfill gas collection system changes that were identified by the applicant in a letter to the District, but that were not identified in Application #

13026. The District is also proposing several other changes that were not discussed in either Application # 12966 or 13026. First, the District is proposing to modify the A-51 flare combustion zone temperature. This change is necessary pursuant to the minimum temperature limit criteria described in Condition # 19867, Part 22. Second, the District is proposing to modify the source description and throughput limits for S-41. These changes are being made pursuant to the applicant's requests under NSR Application # 13811; however, these changes will not result in any increases in maximum permitted emissions for S-41 due the removal of a tub grinder from S-41. Third, the District is proposing to clarify the A-18 Water Spray requirements throughout the permit by including A-18 in applicable table titles and equipment lists. And finally, the District is proposing to make several administrative amendments that were requested by the applicant including correcting the contact information on the Title Page and deleting equipment and requirements for sources (S-40 Diesel Engine and the associated tub grinder at S-41) and abatement devices (A-41 Water Sprays for the non-operational tub grinder) that have been permanently shut down.

E. SUMMARY OF PROPOSED ACTIONS:

The District recommends approval of a proposed minor revision of the MFR Permit for Site # A1179 that will:

- Correct the Facility Contact information on the title page.
- Remove sources, abatement devices, and the associated requirements from the permit for equipment that has been permanently shut down.
- Update the description and throughput limits for the temporary yard and green waste stockpiles (S-41).
- Clarify applicability for the A-18 Water Sprays throughout the permit.
- Clarify the monitoring and record keeping procedures for VOC laden soil aeration operations.
- Update the landfill gas collection system description and authorize additional collection system modifications for the S-5 Redwood Landfill.
- Correct the minimum combustion zone temperature limit for the A-51 Landfill Gas Flare.

APPENDIX A

ENGINEERING EVALUATION

for

APPLICATION # 12967

ENGINEERING EVALUATION

Redwood Landfill, Inc.; PLANT # 1179

APPLICATION # 12967

A. BACKGROUND

Site Description:

Redwood Landfill, Inc. (Redwood) operates the Redwood Landfill Facility in Novato, CA. This facility includes the active landfill (S-5 with about 12 million tons of refuse in place), a 120 MM BTU/hour landfill gas flare (A-50), a 90 MM BTU/hour landfill gas flare (A-51), a 5 MM BTU/hour leachate evaporator (S-50, currently not operating), sludge handling and composting operations (S-2, S-25, S-28, S-34, S-35, S-37, S-38, S-39, and S-41), soil stockpiles (S-42), a non-retail gasoline dispensing facility (S-55), and five diesel engines providing portable or standby power (S-45, S-46, S-37, S-48, and S-49).

Aeration of Petroleum Contaminated Soils and other VOC-Laden Solid Wastes:

The permit for the S-5 Redwood Landfill has considered emissions arising from the waste decomposition process as well as emissions that occur during on-site transport, handling, reuse, and disposal of wastes and cover materials. For most wastes and cover materials, the on-site transport, handling, reuse, and/or disposal operations result in particulate matter emissions. However, wastes containing volatile organic compounds (VOC) will also emit organic compounds during these activities.

Redwood accepts petroleum contaminated soils and other solid wastes that contain VOC. Any exposure of solid wastes that contain VOCs to the atmosphere will result in VOC emissions and is defined as aeration (even if the aeration happens unintentionally). Aeration may occur from the time the delivery trucks arrive on-site (during hauling of wastes to storage or disposal locations, each time that the material is transferred into or out of a delivery truck or stockpile, whenever stockpiles of these wastes are left exposed to the atmosphere, during spreading of wastes for cover or final disposal) until the wastes are completely covered with other materials. VOC emissions from these aeration points are subject to District regulations and permit conditions.

Soils that contain more than 50 ppmw of VOC are defined as “contaminated” wastes. Emissions due to the aeration of contaminated soil are subject to BAAQMD Regulation 8, Rule 40 and BAAQMD Condition # 19867, Part 15. Emissions due to aerating VOC-laden wastes, which contain some VOC but less than 50 ppmw, are currently subject to BAAQMD Regulation 8, Rule 2 and BAAQMD Condition # 19867, Part 14. This application concerns only VOC-laden wastes and not contaminated soils.

Project Description:

When the initial Title V permit was issued for this site, the District imposed Condition # 19867, Part 14 on activities that result in the aeration of VOC-laden materials as a method for demonstrating compliance with BAAQMD Regulation 8, Rule 2. BAAQMD Regulation 8-2-301 limits total carbon emissions from any miscellaneous operation to either 15 pounds per day OR to a concentration of 300 ppm or less, dry basis. The surface emissions screening test described in Part 14 demonstrates compliance with the 300 ppm total carbon concentration limit.

Redwood has requested to use an alternative compliance demonstration method to the surface emissions screening test described in Part 14. The proposed record keeping procedures would demonstrate compliance with the 15 pound/day total carbon emission limit rather than the 300 ppm concentration limit. Redwood has requested to have the discretion to choose either compliance demonstration method

(surface emissions testing or record keeping) for each lot of VOC-laden soil received, because one method may be more suitable for a particular lot of soil than the other method depending on the characteristics and lot size of the VOC-laden soil.

B. EMISSIONS

Redwood is proposing to use record keeping procedures to demonstrate that emissions from VOC-laden soil operations could not exceed 15 pounds of total carbon per day. The most likely volatile organic compounds that may be in the soil include C5 to C10 alkanes, alkenes, and aromatics. For the expected constituents, the ratio of pounds of compound per pound of total carbon is highest for pentane (1.2014) and lowest for benzene (1.0839). Assuming the VOC in the soil is pentane, the equivalent emission rate is 18.02 pounds/day of pentane. The maximum annual emission rate would be 6,578 pounds/year of pentane.

Currently, Part 14 limits emissions arising from VOC-laden soil operations to 10,530 pounds/year. Since the projected maximum emission rate of 6,578 pounds/year will not exceed the current maximum permitted emission rate of 10,530 pounds/year, the proposal to use record keeping requirements to demonstrate compliance with the 15 pounds/day total carbon emission limit will not result in any emission increases.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public School Notifications)

This permit application is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1, because the application is for the modification of permit conditions for an existing permitted source that does not involve any physical modifications or emission increases. There is no possibility that this project to modify monitoring procedures could have any significant environmental impact. Therefore, no further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (New Source Review) and Rule 5 (NSR of Toxic Air Contaminants)

Since there are no emission increases expected from this project, new source review (NSR) is not required. BACT, Offsets, PSD, TBACT and Project Risk limits do not apply.

Regulation 2, Rule 6

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility, as defined by Regulation 2-6-212. This facility has the "potential to emit," as defined by Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant, specifically more than 100 tons per year of carbon monoxide. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-301.

This facility is also subject to the Title V operating permit requirements and Regulation 2, Rule 6, MFR permit requirements, because it is a designated facility as defined by Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner

or operator of a landfill that is subject to Subpart WWW and that has a design capacity of greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) to obtain an operating permit pursuant to Part 70. The landfill at this facility is subject to 40 CFR, Part 60, Subpart WWW and has design capacities of 14.6 million m^3 and 15.5 million Mg. Therefore, this facility is a designated facility and is required to have an MFR permit pursuant to 2-6-304.

The initial MFR Permit for this facility was issued on November 10, 2003 and was revised on November 10 2004. The permit was revised on November 10, 2004 and July 27, 2005. The District expects to issue a third revision shortly. The MFR permit revision associated with the condition changes described in this application will be evaluated pursuant to Application # 12966.

Regulation 8, Rule 2

As discussed above, BAAQMD Regulation 8-2-301 limits total carbon emissions from any miscellaneous operation to either 15 pounds per day OR to a concentration of 300 ppmv or less, dry basis. Redwood will demonstrate compliance with these limits by either:

(a) Using daily records of the amount of VOC-laden waste accepted and the VOC concentration in each lot of waste and calculations to show that the total amount of VOC in the wastes accepted will not exceed 15 pounds of total carbon per day; or

(b) Using an OVA to measure the VOC concentration above the surface of each lot or truck load of VOC-laden waste accepted at the site to show that this surface VOC concentration will not exceed 50 ppmv (expressed as C_1). The OVA testing will be conducted on representative samples of each soil lot received per day (usually every truckload). It is reasonable to assume that a concentration measurement of 50 ppmv of VOC as C_1 at 3 inches above the soil surface will also result in VOC emissions of less 300 ppmv of total carbon (dry basis).

Redwood is currently using the monitoring procedures described in (b) above and is proposing to add the procedures described in (a) above as an alternative. Both monitoring procedures require monitoring on a daily basis. These procedures have been approved by the APCO for monitoring similar operations at other landfill facilities and are acceptable methods of demonstrating compliance with the Regulation 8-2-301 limits.

Federal Requirements

The on-site handling and reuse of VOC-laden wastes at a landfill are not subject to any federal requirements.

D. PERMIT CONDITIONS

The S-5 Redwood Landfill is subject to Condition # 19867. These conditions will be revised as indicated below to include the new monitoring and record keeping procedures for VOC laden wastes. The proposed conditions are similar to the conditions approved for the Altamont Landfill pursuant to Application # 9527.

Condition # 19867
FOR: S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS; A-50 LANDFILL GAS FLARE, AND A-51 LANDFILL GAS FLARE

No changes to Parts 1-13

~~14. The Permit Holder shall limit the quantity of VOC laden soil handled per year such that annual VOC emissions due to on-site handling, storage, disposal, or reuse of VOC laden soil (calculated in accordance with this part) shall not exceed 10,530 pounds per calendar year. VOC laden soil is any material that contains volatile organic compounds, as defined in Regulation 8-40-213, at a concentration of 50 ppm by weight or less. Soil containing more than 50 ppmw of VOC is considered to be "contaminated soil" and is subject to Part 15 instead of this part. Materials containing only non-volatile hydrocarbons and meeting the requirements of Regulation 8-40-113 are not subject to this part. In addition, the Permit Holder shall demonstrate compliance with Regulation 8-2-301 by randomly screening each lot of VOC laden soil for VOC surface emissions (in such a manner as to be representative of the entire lot and using the testing procedures outlined in Regulation 8-40-604) to show that each lot of VOC laden soil is not contaminated soil and could therefore not result in emissions in excess of 300 ppmv of total carbon. Soil presumed to be VOC laden soil that is found to have a surface VOC concentration greater than 50 ppmv shall be considered contaminated soil and will be subject to the requirements of Part 15 of these conditions. In order to demonstrate compliance with this condition, the Permit Holder shall maintain the following records in a District approved log.~~

- ~~a. Record a lot number for each shipment of VOC laden soil, as described in Part 15m.~~
- ~~b. Record the soil delivery date, the testing date for the VOC surface emissions screening test, the name and affiliation of the person conducting the screening test, and the results of the screening test for each lot of VOC laden soil accepted at the site.~~
- ~~c. Maintain certifications that the Regulation 8-40-604 procedures were followed for each screening test.~~
- ~~d. Record on a monthly basis the amount of VOC laden soil handled at the landfill. This total amount (in units of pounds per day) is Q in the equation in subpart f below.~~
- ~~e. Record on a monthly basis the VOC content of all soils handled at the landfill. This VOC Content (C in the equation below) should be expressed as parts per million by weight as total carbon (or C1).~~
- ~~f. Calculate and record on a monthly basis the VOC Emission Rate (E) using the following equation: E = Q * C / 1E6~~
- ~~g. Summarize emission rates on a calendar year basis.~~

~~All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry.~~
~~(Basis: Offsets and Regulations 8-2-301, 8-40-205, and 8-40-604)~~

14. This part applies to the acceptance, handling, storage, and on-site reuse of VOC-laden soil and other VOC-laden wastes. VOC-laden soil and VOC-laden wastes are materials that contain volatile organic compounds, as defined in Regulation 8-40-213, other than contaminated soil. As defined in Regulation 8-40-205, contaminated soil contains more than 50 ppmw of VOC or has a surface concentration greater than 50 ppmv of VOC as C1, and contaminated soil is subject to Part 15 below instead of this part. Materials containing only non-volatile hydrocarbons and materials meeting the requirements of Regulation 8-40-113 are not subject to this part.

    For each lot of VOC-laden waste accepted at this site, the Permit Holder shall comply with the daily limits identified in either subpart a or subpart b below and shall comply with the annual emissions limit identified in subpart c below. To demonstration compliance with the daily and annual emission limits, the Permit Holder shall comply with the monitoring procedures listed in subpart a(i-v). If the Permit Holder opts to comply with the daily concentration limit in subpart b rather than the daily emission limit in subpart a, then the Permit Holder shall also comply with the soil screening procedures listed in subpart b(i-v).

    a. Unless the Permit Holder demonstrates compliance with Regulation 8-2-301 in accordance with subpart b below, the Permit Holder shall limit the quantity of VOC laden wastes handled per day such that no more than 15 pounds of total carbon could be emitted to the atmosphere per day. In order to demonstrate compliance with this subpart and the annual emissions limit specified in subpart c, the Permit Holder shall maintain the following records in a District approved log for all VOC-laden soil accepted at the landfill.

        i. Record on a daily basis the amount of VOC laden soil accepted for each truckload or each soil lot, as appropriate. This amount (in units of pounds per day) is Q in the equation in subpart a(iii) below.

        ii. Record on a daily basis the VOC content for each truckload or each soil lot, as appropriate. This VOC Content (C in the equation below) should be expressed as parts per million by weight as total carbon (or C1).

        iii. Calculate and record on a daily basis the VOC Emission Rate (E) using the following equation: $E = Q * C / 1E6$

        This equation may be applied to each truckload or to each soil lot received per day depending on the amount of soil that is represented by the VOC Content data. If the equation is applied to multiple loads per day, the VOC Emission Rate shall be totaled for all loads received each day.

        iv. Summarize all daily emission rates on a monthly and calendar year basis.

        v. All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry.

    b. Unless the Permit Holder demonstrates compliance with Regulation 8-2-301 in accordance with subpart a above, the Permit Holder shall screen

each lot of VOC laden waste accepted per day for VOC surface emissions to show that each lot of VOC laden waste is not contaminated soil.

i. The Permit Holder shall use the testing procedures outlined in Regulation 8-40-604.

ii. The screening test shall be representative of the entire lot of VOC-laden waste. The soil surface shall be disturbed prior to screening to ensure that the screening is representative of the entire load.

iii. The Permit Holder shall maintain records of all testing conducted to satisfy this subpart and shall record the amount of VOC-laden waste accepted and the highest surface concentration measured pursuant to this subpart. These records shall be maintained for each truckload or each soil lot accepted, as appropriate, provided that the records are made or summarized on at least a daily basis.

iv. Summarize the daily waste acceptance rates and the weighted average of the surface concentration records on a monthly basis and for each calendar year.

v. All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry.

c. The Permit Holder shall limit the quantity of VOC laden soil handled per year such that annual VOC emissions due to on-site handling, storage, disposal, or reuse of VOC laden soil shall not exceed 10,530 pounds per calendar year. The Permit Hold shall comply with the monitoring procedures in subpart a(i-v) above to demonstrate compliance with this annual emissions limit.

(Basis: Offsets and Regulation 8-2-301)

No changes to Parts 15-32.

E. RECOMMENDATION

Issue a Change of Permit Conditions for the following equipment:

S-5 Redwood Landfill, active landfill with gas collection system

signed by Carol S. Allen — October 13, 2005

By: Carol S. Allen — Date

Senior Air Quality Engineer

APPENDIX B

ENGINEERING EVALUATION

for

APPLICATION # 13027

ENGINEERING EVALUATION

Redwood Landfill, Inc.; PLANT # 1179

APPLICATION # 13027

A. BACKGROUND

Redwood Landfill, Inc. (Redwood) operates the Redwood Landfill Facility in Novato, CA. This facility includes the active landfill (S-5 with about 12 million tons of refuse in place), a 120 MM BTU/hour landfill gas flare (A-50), a 90 MM BTU/hour landfill gas flare (A-51), a 5 MM BTU/hour leachate evaporator (S-50, currently not operating), sludge handling and composting operations (S-2, S-25, S-28, S-34, S-35, S-37, S-38, S-39, and S-41), soil stockpiles (S-42), a non-retail gasoline dispensing facility (S-55), and five diesel engines providing portable or standby power (S-45, S-46, S-37, S-48, and S-49).

Redwood submitted this application to obtain an Authority to Construct and Permit to Operate for landfill gas collection system modifications that are necessary to ensure that the active landfill (S-5) continues to comply with Regulation 8, Rule 34. In particular, Redwood has requested to (a) decommission up 20 existing vertical wells, (b) install up to 30 new vertical wells, (c) decommission up to 5 horizontal collectors, and (d) install up to 10 horizontal collectors. In addition to these requests, Redwood has requested to replace up to 15 existing vertical wells that are damaged or not functioning properly with 15 new vertical wells located in essentially the same locations as the old wells. The one-for-one replacement of gas collection wells in essentially the same location as the existing wells is considered to a replacement of a component of the gas collection system rather than a modification. Since the proposed replacement of up to 15 wells is expected to involve only the one-for-one replacement of wells in essentially the same location, these proposed replacements do not require an Authority to Construct. However, these replacements will be authorized by the District and described in the permit conditions to allow for moving up to 15 wells to optimal locations (if necessary). Redwood must continue to comply with Regulation 8, Rule 34 during the decommissioning, installation, and replacement of any landfill gas collection system components. In particular, the Regulation 8-34-116 and 117 limits on the number of wells that may be shut down and the duration of a well shutdown apply during well decommissioning and replacement.

Redwood has requested to use the accelerated permit application procedures for Application 13027. This application was deemed complete and an accelerated Permit to Operate was issued on September 8, 2005.

B. EMISSIONS

Redwood Landfill currently vents all of their collected landfill gas to the A-50 and A-51 Landfill Gas Flares. The maximum permitted landfill gas throughput rates for these two flares combined are 5,760,000 scf/day (daily average of 4000 scfm) and 1,490,000,000 scf/year (annual average of 2835 scfm). During the July 28 2005 source test at A-51, A-50 was not operated and vacuum to A-51 was maximized. The average flow rate to A-51 during this test was 2398 scfm. Annual average landfill gas collection rate was 960,802,443 scf from October 2004 through September 2005 (1828 scfm).

Redwood is currently operating 88 vertical wells and 9 horizontal collectors. At the maximum flow rate of 2398 scfm, the flow rate per component is 25 scfm. The proposed gas collection system changes will result in a net increase of 10 vertical wells and 5 horizontal collectors. At 25 scfm per component, the proposed collection system modifications are expected to increase the landfill gas collection rate by about 375 scfm. After completion of these proposed modifications, the landfill gas collection rate is expected to be 2773 scfm. A-50 and A-51 have sufficient permitted capacity to handle all of this increased volume of landfill gas with no permit modifications. Therefore, this application will not result in any emission increases.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1 (CEQA and Public School Notifications)

The Engineering Evaluation for this application uses fixed standards and objective measurements and does not involve any element of discretion. In accordance with District Permit Handbook Chapter 8.1 "Landfills", this application is considered ministerial. No further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2 (New Source Review) and Rule 5 (NSR of Toxic Air Contaminants)

Since there are no emission increases expected from this project, new source review (NSR) is not required. BACT, Offsets, PSD, TBACT and Project Risk limits do not apply.

Regulation 2, Rule 6

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility, as defined by Regulation 2-6-212. This facility has the "potential to emit," as defined by Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant, specifically more than 100 tons per year of carbon monoxide. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-301.

This facility is also subject to the Title V operating permit requirements and Regulation 2, Rule 6, MFR permit requirements, because it is a designated facility as defined by Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to Subpart WWW and that has a design capacity of greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) to obtain an operating permit pursuant to Part 70. The landfill at this facility is subject to 40 CFR, Part 60, Subpart WWW and has design capacities of 14.6 million m^3 and 15.5 million Mg. Therefore, this facility is a designated facility and is required to have an MFR permit pursuant to 2-6-304.

The initial MFR Permit for this facility was issued on November 10, 2003 and was revised on November 10 2004. The permit was revised on November 10, 2004 and July 27, 2005. The District expects to issue a third revision shortly. The MFR permit revision associated with the condition changes described in this application will be evaluated pursuant to Application # 13026.

Regulation 8, Rule 34

The Redwood Landfill's Active Landfill with Gas Collection System (S-5) is expected to comply with Regulation 8 Rule 34 Section 301 by:

(a) continuously operating the gas collection system (88 vertical wells and 9 horizontal collectors) and flares,
(b) having no leaks (exceeding 1000 ppmv) from the gas collection system, and
(c) processing all collected gases in flares achieving at least 98% destruction efficiency or emitting no more than 30 ppmv of NMOC (as methane) at 3% O_2.

The S-5 Active Landfill is also subject to 8-34-303, which limits leaks on the surface of the landfill to less than 500 ppmv as methane. The collection system modifications requested in this application are intended to prevent future surface leaks. The current collection system components are identified in Table 1 below.

Table 1. Authorized Landfill Gas Collection System Components as of September 8, 2005

Vertical Wells								
V-1	V-11	V-21	W-2N	W-12N	W-22N	W-32N	W-10S	W-2C
V-2	V-12	V-22	W-3N	W-13N	W-23N	W-33N	W-11S	W-1E
V-3	V-13	V-23	W-4N	W-14N	W-24N	W-1S	W-12S	W-3E
V-4	V-14	V-24	W-5N	W-15N	W-25N	W-2S	W-13S	W-4E
V-5	V-15	V-25	W-6N	W-16N	W-26N	W-3S	W-14S	W-1F
V-6	V-16	V-26	W-7N	W-17N	W-27N	W-4S	W-15S	W-3F
V-7	V-17	V-27	W-8N	W-18N	W-28N	W-5S	W-1A	W-4F
V-8	V-18	V-28	W-9N	W-19N	W-29N	W-6S	W-2A	W-31
V-9	V-19	V-29	W-10N	W-20N	W-30N	W-8S	W-3A	
V-10	V-20	W-1N	W-11N	W-21N	W-31N	W-9S	W-4A	
Horizontal Collectors								
HCW-D1	HCW-D2	HCW-D3	HCW-D4	HCW-D5	HCW-D8	HCW-D10	HCW-2N	HCD-7L

Federal Requirements:

The S-5 Redwood Landfill is subject to the NSPS for MSW Landfills (40 CFR, Part 60, Subpart WWW), because the design capacity for the landfill was modified in 1995. The collection and control standards for this site became effective on December 10, 1998. Recent source testing indicates that the flares are complying with 40 CFR 60.752(b)(2)(iii)(B) by emitting no more than 20 ppmv of NMOC (as hexane) at 3% O_2. The collection system modifications requested in this application are necessary to maintain compliance with the 500 ppmv as methane surface leak limit 40 CFR 60.753(d). Redwood Landfill is complying with the monthly wellhead and cover monitoring requirements (40 CFR 60.756(a) and 40 CFR 60.755(c)(5)) and quarterly surface monitoring requirements (40 CFR 60.755(c)(1-4) and (d)) of this NSPS. This application does not trigger any new NSPS requirements.

The S-5 Redwood Landfill is also subject to the NESHAPs for MSW Landfills (40 CFR, Part 63, Subpart AAAA). In accordance with NESHAP requirements, Redwood Landfill has prepared a Start-up, Shut-down, and Malfunction Plan and is now submitting the Regulation 8, Rule 34 Annual Report on a semi-annual basis.

D. PERMIT CONDITIONS

The S-5 Redwood Landfill is subject to Condition # 19867. These conditions will be revised as indicated below in order to allow the necessary modifications of the landfill gas collection system. These collection system modifications are expected to (a) collect landfill gas in new fill areas, (b) replace aging gas collection components, and (c) optimize landfill gas collection.

Condition # 19867
FOR: S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS; A-50 LANDFILL GAS FLARE, AND A-51 LANDFILL GAS FLARE

No changes to Parts 1-16

17. The landfill gas collection system described in subpart a below shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be shut off, disconnected, or removed from operation without written authorization from the District, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in subparts a ~~b~~ below. Increasing or decreasing the number of wells or collectors, or significantly changing the length of collectors or the locations of wells or collectors are modifications that are subject to the Authority to Construct requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Authority to Construct requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 17b as evidenced by start-up/shut-down notification letters submitted to the District.

a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Application # ~~9565~~ 13027.

	Required Components
Total Number of Vertical Wells:	~~97~~88
Total Number of Horizontal Collectors:	~~11~~9

b. The Permit Holder has been issued an Authority to Construct for the landfill gas collection system components listed below. Specific well and collector locations, depths, and lengths of associated piping are as described in detail in Permit Application # ~~9565~~ 13027.

	Minimum	Maximum
Install New Vertical Wells:	0	~~58~~30
Decommission Vertical Wells	0	20
Install New Horizontal Collectors	0 ~~feet~~	~~4000 feet~~10
Decommission Horizontal Collectors	0 ~~feet~~	~~11~~5
Replace Vertical Wells *	0	15

* one-for-one well replacement at new optimal locations

Wells installed or shutdown pursuant to subpart b shall be added to or removed from subpart a in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415. The Permit Holder shall maintain records of the decommissioning date for each well that is shut down and the initial operation date for each new well.

(Basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305, and 2-6-413)

No changes to Parts 18-32.

E. RECOMMENDATION

Issue an Authority to Construct for the following equipment:

S-5 Active Landfill with Gas Collection System, modify landfill gas collection system by:

- **decommissioning up to 20 existing vertical wells**
- **installing up to 30 new vertical wells**
- **decommissioning up to 5 existing horizontal collectors**
- **installing up to 10 new horizontal collectors**
- **replacing up to 15 vertical wells in new optimal locations**

signed by Carol S. Allen — October 11, 2005

By: Carol S. Allen — Date

Senior Air Quality Engineer

APPENDIX C

ENGINEERING EVALUATION

for

APPLICATION # 13811

ENGINEERING EVALUATION

Redwood Landfill, Inc.; PLANT # 1179

APPLICATION # 13811

A. BACKGROUND

The District initially permitted the Yard and Green Waste Shredding Operations (S-41) pursuant to Application # 17552. This source included a 50 ton/hour Diamond Z tub grinder equipped with water sprays (A-41) and temporary stockpiles for the incoming green waste and the shredded green waste. The Diamond Z tub grinder was powered by a 505 hp Caterpillar diesel engine (S-40).

On October 11, 2005, Redwood Landfill notified the District that the S-40 Diesel Engine was no longer operating and had been locked out to prevent future operation. The associated tub grinder (part of S-41) and water sprays (A-41) were also shut down. These shredding operations will be replaced by a CARB registered portable tub grinder and portable diesel engine. This new equipment will only be brought on site as needed and will not remain at the site for more than 12 consecutive months. CARB registered portable diesel engines and grinders are not required to have District permits pursuant to Regulation 2-1-105.3.8.

The Temporary Stockpiles for Yard and Green Waste Shredding Operations (S-41) will continue at the Redwood Landfill facility. However, S-41 will now have a maximum throughput rate that is equivalent to CARB authorized throughput rates for the Peterson Pacific grinder. From CARB registration permit # 117376 (diesel engine) and # 117378 (grinder), the grinder has maximum throughput rates of 80 ton/hour, 820 tons/day, and 200,000 tons/year. Redwood Landfill submitted this application to modify S-41 to be a temporary stockpile operation only and to increase the throughput rates consistent with the CARB registration permit.

B. EMISSIONS

From Application # 17552, emissions from S-41 included emissions for the tub grinder plus emissions from the stockpiles. The emission factor for the tub grinder was based on an AP-42 emission factor for the shredding operation and the assumed control efficiency of 50% for the water sprays. The emission factor for the stockpiles was based on AP-42 calculation procedures for batch drop operations. Maximum throughout rates were based on a maximum operating rate of 50 tons/hour for the tub grinder and maximum operating times of 8 hours/day and 1600 hours/year. The current maximum permitted emissions for S-41 are summarized in Table 1 below.

Table 1. Current Maximum Permitted Emissions from S-41

	Emission Factors [1,2]			Max. Throughput		Max. Emissions	
	Unabated pounds/ton	Control Efficiency	Abated pounds/ton	Daily tons/day	Annual tons/year	Daily pounds/day	Annual tons/year
Grinding Operation	0.0240	50%	0.01200	400	80,000	4.80	0.480
Drop to Stockpile			0.00013	400	80,000	0.05	0.005
Total from S-41	0.0243	50%	0.01213	400	80,000	4.85	0.485

1. The emission factor for the grinding operation is taken from the fourth edition of AP-42 Chapter 10.3 "Plywood Veneer and Layout Operations". From Table 10.3-1, the emission factor for log debarking is 0.024 pounds/ton.
2. The emission factor for the batch drop to the stockpile is calculated from the fifth edition of AP-42 Chapter 13.2.4 "Aggregate Handling and Storage Pile". Equation 1: E (lbs/ton) = k * 0.0032 * (U/5)^1.3 / (M/2)^1.4 ; where k = 0.35 for PM_{10}, average wind speed U = 6 mph for Redwood Landfill, and from Table 13.2.4-1 moisture content M = 11% for miscellaneous MSW Landfill fill materials.

After incorporating the proposed modifications to S-41, which will now use an exempt portable Peterson Pacific tub grinder for the grinding operation, the emission factor for S-41 will now only be for the drop to the stockpile. However, the maximum permitted throughput rates will increase to 820 tons/day and 200,000 tons/year. Maximum permitted emissions for the modified S-41 are summarized in Table 2.

Table 2. Proposed Maximum Permitted Emissions from S-41

	Emission Factors [3]			Max. Throughput		Max. Emissions	
	Unabated pounds/ton	Control Efficiency	Abated pounds/ton	Daily tons/day	Annual tons/year	Daily pounds/day	Annual tons/year
Drop to Stockpile			0.00013	820	200,000	0.11	0.013

3. The emission factor for the batch drop to the stockpile is calculated from the fifth edition of AP-42 Chapter 13.2.4 "Aggregate Handling and Storage Pile". Equation 1: E (lbs/ton) = k * 0.0032 * (U/5)^1.3 / (M/2)^1.4 ; where k = 0.35 for PM_{10}, average wind speed U = 6 mph for Redwood Landfill, and from Table 13.2.4-1 moisture content M = 11% for miscellaneous MSW Landfill fill materials.

Since the proposed maximum permitted emission rate for S-41 will not exceed the current maximum permitted emission rate for S-41, this application will not result in any emission increases.

While this application will not result in emission increases, the District notes that the proposed exempt tub grinder will have a maximum permitted emission factor of 0.1 pounds PM_{10}/ton pursuant to CARB registration permit # 117378. This grinder will have maximum permitted emissions of 82.0 pounds/day and 10.0 tons/year of PM_{10} pursuant to CARB registration permit # 117378. Since this exempt source has the potential to emit more than 2 tons/year of PM10, it is considered a significant source pursuant to Regulation 2-6-239 and should be included in the Title V permit for this facility. District staff advised the consultant, Beth Shiverdecker, by voice mail, that Redwood Landfill needed to submit a Title V permit application to include this exempt equipment in the Title V permit for this facility.

C. STATEMENT OF COMPLIANCE

Regulation 2, Rule 1:

This application involves a modification of an existing source (S-41) that does not result in any emission increases. This action is categorically exempt from CEQA review pursuant to Regulation 2-1-312.1. Therefore, no further CEQA review is required for this permit condition modification action.

This application also describes operations (a portable diesel engine and a portable tub grinder) that are exempt from District permit requirements pursuant to Regulation 2-1-105.3.8. Since Redwood did not request an exemption letter for this portable equipment or submit data forms for this equipment, the District is not issuing an exemption letter for this portable equipment. In any case, exemption determinations do not require CEQA review because the District is not issuing a permit.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

Regulation 2, Rule 2:

Since the maximum proposed emissions from S-41 will not exceed the current permitted emissions from S-41, this modification does not trigger New Source Review or PSD.

New Source Review for Toxic Air Contaminants:

The S-41 Temporary Stockpiles for Yard and Green Waste Shredding Operations are not permitted to emit any toxic air contaminants.

Regulation 2, Rule 6:

This facility is subject to the Operating Permit requirements of Title V of the federal Clean Air Act (40 CFR, Part 70) and BAAQMD Regulation 2, Rule 6, Major Facility Review (MFR), because it is a major facility, as defined by Regulation 2-6-212. This facility has the "potential to emit," as defined by Regulation 2-6-218, more than 100 tons per year of a regulated air pollutant, specifically more than 100 tons per year of carbon monoxide. Therefore, this facility is required to have an MFR permit pursuant to Regulation 2-6-301.

This facility is also subject to the Title V operating permit requirements and Regulation 2, Rule 6, MFR permit requirements, because it is a designated facility as defined by Regulation 2-6-204. The Standards of Performance for Municipal Solid Waste Landfills (40 CFR Part 60, Subpart WWW) require the owner or operator of a landfill that is subject to Subpart WWW and that has a design capacity of greater than or equal to 2.5 million megagrams (Mg) and 2.5 million cubic meters (m^3) to obtain an operating permit pursuant to Part 70. The landfill at this facility is subject to 40 CFR, Part 60, Subpart WWW and has design capacities of 14.6 million m^3 and 15.5 million Mg. Therefore, this facility is a designated facility and is required to have an MFR permit pursuant to 2-6-304.

The initial MFR Permit for this facility was issued on November 10, 2003 and was revised on November 10 2004, July 27, 2005, and December 29, 2005. The deletion of the S-40 diesel engine and tub grinder (part of S-41), source description change for the remaining temporary stockpiles at S-41, and increase in throughput for S-41 will be reflected in the minor Title V permit revision that is being proposed pursuant to Application # 12966 and 13026. Another Title V permit revision will be required in order to add the new exempt portable tub grinder, which meets the definition of a significant source based on the CARB

authorized emission rates. The District has requested that this facility submit a permit application for the incorporation of this exempt equipment/significant source into the Title V permit.

Regulation 6:

The S-41 Temporary Stockpiles for Yard and Green Waste Shredding Operations will emit 0.0104 pounds/hour of particulate matter and will comply with Regulation 6-311, which limits emissions from S-41 at maximum operation to 40 pounds/hour.

Federal Requirements:

There are no applicable federal requirements for S-41.

D. PERMIT CONDITIONS

The operation of S-41 is currently subject to Condition # 19865. This condition will be modified to reflect the source description change, the removal of the tub grinder and water sprays, and the throughput increase for the remaining temporary stockpiles at S-41. The proposed permit condition revisions are identified below.

Condition # 19865
FOR: S-41, TEMPORARY STOCKPILES FOR YARD AND GREEN WASTE SHREDDING OPERATIONS; AND ~~A-41,~~ A-18 WATER SPRAYS

1. The total amount of waste material processed at the S-41 Temporary Stockpiles for Yard and Green Waste Shredding Operations shall not exceed ~~400~~ 820 tons per day and shall not exceed ~~80,000~~ 200,000 tons per year. (Basis: Cumulative Increase)

2. In order to demonstrate compliance with Part 1, the Permit Holder shall maintain daily records, summarized on a monthly and annual basis, of the total amount of waste material processed at S-41. All records shall be maintained in an APCO approved log book, retained on site for a minimum of five years from the date of entry, and made available to District staff upon request. (Basis: Cumulative Increase)

~~3. Particulate emissions from the tub grinder shall be abated by the A-41 Water Spray System, during all periods of operation. (Basis: Cumulative Increase)~~

~~4~~3. Particulate emissions from the waste material unloading operations, ~~tub grinder loading operations,~~ waste material stockpiles, and shredded material stockpiles shall be abated by water sprays from water trucks (A-18) as necessary to prevent visible emissions and to prevent exceedance of the Regulation 6-301 Ringelmann 1.0 limit. (Basis: Regulations 6-301 and 6-305)

~~5~~4. In order to demonstrate compliance with Part ~~4~~3 and Regulations 6-301 and 6-305, the Permit Holder ~~shall observe the tub grinder during all periods of operation and~~ shall observe all material loading or unloading operations. If

visible emissions are detected that persist for longer than 3 minutes in an hour, the operator of this source shall take the necessary corrective action to stop the emissions. (Basis: Regulations 2-1-403, 6-301, and 6-305)

E. RECOMMENDATION

Modify the source description and issue a Change of Permit Conditions for the following equipment:

S-41 **Temporary Stockpiles for Yard and Green Waste Shredding Operations**, 820 tons/day, 200,000 tons/year.

signed by Carol S. Allen — January 3, 2006

By: Carol S. Allen — Date

Senior Air Quality Engineer

APPENDIX D

PERMIT TO OPERATE REPORT

for

APPLICATION # 11757

Permit to Operate Report for Flare A-51

Redwood Landfill; PLANT # 1179

APPLICATION # 11757

A. BACKGROUND

Redwood Landfill operates the Redwood Landfill Facility in Novato, CA. This facility includes the active landfill (S-5 with about 12 million tons of refuse in place), a 120 MM BTU/hour landfill gas flare (A-50), a 5 MM BTU/hour leachate evaporator (S-50, currently not operating), sludge handling and composting operations (S-2, S-25, S-28, S-34, S-35, S-37, S-38, S-39, and S-41), soil stockpiles (S-42), a non-retail gasoline dispensing facility (S-55), and five diesel engines providing portable or standby power (S-45, S-46, S-37, S-48, and S-49).

On June 2, 2005, the District issued an Authority to Construct for a new enclosed ground flare (A-51) pursuant to Application # 11757. This new flare will provide 90 MM BTU/hour of addition landfill gas control capacity to supplement the poorly performing A-50 Landfill Gas Flare. Redwood Landfill began operating A-51 on June 21, 2005. As required by Condition # 19867, Part 30, Redwood Landfill conducted an initial compliance demonstration test on A-51. This test was conducted on June 28, 2005, and the results are summarized in Table 1. This source test demonstrated compliance with all NOx, CO, and NMHC limits, while the flare was operating at an average combustion zone temperature of 1472 °F.

The District is now proposing to issue a Permit to Operate for the A-51 Landfill Gas Flare and to revised Condition # 19867, Part 22 by inserting the appropriate minimum combustion zone temperature.

B. STATEMENT OF COMPLIANCE

The results of the June 2005 source test are summarized in Table 1 below.

Table 1. Summary of June 2005 Source Test on Flare A-51

	Test Results	Permit Limit
Average Flare Temperature, °F	1472	$\geq$ 1400
NO_x, ppmv at 15% O_2	11.0	15
NO_x, pounds/MM BTU (as NO_2)	0.043	0.06
CO, ppmv at 15% O_2	15.3	123
CO, pounds/MM BTU	0.037	0.30
NMHC, ppmv as C_1 at 3% O_2	<1.0	30 BAAQMD 8-34-301.3
NMHC, ppmv as C_6 at 3% O_2	<0.2	20 40 CFR 60.752(b)(2)(iii)(B)
NMHC, pounds/MM BTU (as C_1)	<0.002	~ 0.015 not a limit
NMHC, destruction efficiency (by weight)	96.1%	98% or comply with above limits

C. PERMIT CONDITION REVISIONS

As stated in Condition # 19867, Part 22, the minimum combustion zone temperature limit for the flare should be 50 °F below the average temperature during the last complying source test or at least 1400 °F, whichever is higher. For A-51, the average temperature during the June 2005 source test was 1472 °F. Therefore, the minimum temperature for A-51 should be (1472-50) = 1422 °F. The District is proposing to modify Part 22 to include this specific minimum combustion zone temperature limit.

Condition # 19867
FOR: S-5 REDWOOD LANDFILL WITH GAS COLLECTION SYSTEM; A-18 WATER SPRAYS; A-50 LANDFILL GAS FLARE, AND A-51 LANDFILL GAS FLARE

No Changes to Parts 1-21.

22. The temperature in the combustion zone of each flare shall be maintained at the minimum temperature listed below, averaged over any 3-hour period. In order to demonstrate compliance with this condition, A-50 and A-51 shall each be equipped with a continuous temperature monitor and recorder. If a source test demonstrates compliance with all applicable requirements at a different temperature, the APCO may revise these temperature limits, in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415, based on the following criteria. The minimum combustion zone temperature for the flare shall be equal to the average combustion zone temperature determined during the most recent complying source test minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F.
    a. The minimum combustion zone temperature for A-50 is 1475 degrees F, averaged over any 3-hour period.
    b. ~~Upon start-up of A-51, t~~The minimum combustion zone temperature for A-51 is ~~1400~~ 1422 degrees F, averaged over any 3-hour period.

    (Basis: Toxic Risk Management Policy, Regulations 8-34-301.3 and 8-34-501.3, and 40 CFR 60.756(b)(1))

No Changes to Parts 23-32.

D. RECOMMENDATION

Issue Permit to Operate with the Change of Conditions noted above for the following abatement equipment:

A-51 Landfill Gas Flare, Perennial Energy, Inc., Model # FL-144-38-E, 90 MM BTU/hour, 3000 cfm of landfill gas; abating S-5 Redwood Landfill.

signed by Carol S. Allen — November 10, 2005

By: Carol S. Allen — Date

Senior Air Quality Engineer