STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF OCTOBER 19, 2007

ITEM: **DRAFT**

SUBJECT: **PROPOSED REVISED WASTE DISCHARGE REQUIREMENTS FOR THE CITY OF SANTA MARIA, SANTA MARIA REGIONAL CLASS III LANDFILL, SANTA BARBARA COUNTY - ORDER NO. R3-2007-0045**

KEY INFORMATION:

Location:	Approximately 1 mile east of Santa Maria
Type of Waste:	Non-hazardous municipal solid wastes
Disposal:	Cell/Module fill method
Liner System:	Former Active and Inactive areas are unlined; Composite liner beneath Lined Area
Existing Orders:	Waste Discharge Requirements, Order No. 01-041

SUMMARY

Revisions to the Santa Maria Regional Landfill's (landfill) Waste Discharge Requirements (WDR), as provided in proposed WDR Order No. R3-2007-0045 (Attachment 1) and MRP No. R3-2007-0045 (Attachment 2), are necessary to update the status of various components of the landfill. Components of the landfill include:

- Final cover system for the unlined Closed Active Area;
- Nonhazardous Hydrocarbon Impacted Soil Program (NHIS) as part of final cover for the Closed Active Area;
- Operations in Cell No. 1 of the Lined Area; anticipated schedule for optional Cell No. 2;
- Construction of a final cover for the Inactive Area, including development of an irrigated recreation complex;
- Groundwater Corrective Action Program.

The proposed Waste Discharge Requirements Order No. R3-2007-0045 (Hereafter "Order" or "Order No. R3-2007-0045") specifies minimum landfill design and operation modifications to protect water quality.

The updates to the proposed Order include:

a. Updated groundwater corrective action information and provision for evaluating inorganic impacts.
b. Updated information on the status of the NHIS program and rolling closure in the Closed Active Area.
c. A provision for final closure and post-closure maintenance plans for the Inactive and Closed Active Areas, including real calendar dates for providing final cover systems for these areas.

d. Proposed facility changes, including addition of a concrete/asphalt grinding operation, agricultural plastic bailing and recycling, greenwaste diversion, biosolids use as cover soil amendment and alternative daily cover, increase peak waste tonnage, expansion of the Household Hazardous Waste Collection Facility, and acceptance of treated wood waste.

The proposed Order updates and replaces Waste Discharge Requirements Order No. 01-041, adopted by the Regional Board in May 2001. The proposed Order covers the current landfill operations and provides guidance and requirements for planned changes at the landfill. For the lined portion of the facility, design and construction specifications within the proposed Order meet or exceed requirements in both the California Code of Regulations (CCR) Title 27, and 40 Code of Federal Regulations, Parts 257 and 258, both of which pertain to design of solid waste management facilities.

DISCUSSION

Landfill Description

The landfill is located approximately 1 mile east of the City of Santa Maria, in the northern portion of Santa Barbara County (Figures 1 and 2, Attachment 1). The facility sits on the south bank of the Santa Maria River, immediately behind the Corps of Engineer's 500-year flood control levee. The 290-acre facility is currently owned and operated by the City of Santa Maria (Discharger), as a Class III municipal solid waste landfill.

The landfill is divided into three areas, the Inactive Area, Closed Active Area, and Lined Area, as shown in Figure 3 of the proposed Order (Attachment 1) and discussed in greater detail below:

Inactive Area

A 68-acre unlined landfill area; this area received waste in the 1950s and 1960s and currently has an interim cover. Landfilling in the Inactive Area (including the former DeBernardi waste area) consisted of placing and burning waste at grade and covering with soil along a narrow strip of land directly adjacent to the Santa Maria River levee. Currently, waste in the Inactive Area is covered by between 3 and 12 feet of native soils, with the upper 2 feet amended with nutrients to support vegetative growth for the purpose of minimizing erosion and percolation of rainwater.

Closed Active Area

The Closed Active Area consists of 118 acres of inactive, unlined landfill. The Discharger has installed a final cover system over a portion of this area as part of "rolling closure" and the nonhazardous hydrocarbon impacted soils program (NHIS-see below). The unlined Closed Active Area was initially landfilled using the trench and fill method, with waste disposed between 15 feet and 25 feet below grade in the north end and south end, respectively, of the area. In 2000, the Discharger provided a final cover for 24 acres of the northwest end of the Closed Active Area. The area has historically been the source of groundwater contamination downgradient and off site, as detailed below. As such, Order No. 01-041 required that the Discharger cease landfilling of municipal solid waste (MSW) on or before November 30, 2002, in this former area. The Discharger met this requirement by transferring operations to the newly constructed lined Cell No. 1 on the prescribed date. However, 94 acres of the Closed Active Area required final grade elevations and a final cover. Significant volumes of soil were needed to build sufficient slopes for proper drainage to limit ponding and infiltration of rainwater into underlying MSW. The Discharger implemented the NHIS program that provides a foundation layer and fills the remaining air space. The Executive Officer approved the Discharger's Hydrocarbon Soils Management and Disposal Plan (Disposal Plan) in January 2002.

Lined Area

This area consists of two double-lined cells for a total of 61-acres. Cell No. 1 is active; Cell No. 2 is projected for construction in 2014 if an alternative facility has not been established. Cell No. 1 incorporates a double-lined landfill cell, which includes a subdrain, leak detection layer, and leachate collection and drainage system. While the liner design requirements in the existing and proposed order are very stringent, they reflect the challenging siting conditions found at the landfill. The double-lined cell is required because of a periodic shallow groundwater condition (groundwater higher than the bottom of waste), high permeabilities of sediments beneath the site, and the fact that the site is a primary groundwater recharge area for the Santa Maria Basin. The landfill liner design described above exceeds the minimum requirements stated in Title 27 (Sections 20310-20340), however, the minimum design assumes a minimum of a 5-foot vertical groundwater separation from the bottom of the waste.

Ancillary facilities at the landfill include a state of the art hazardous waste receiving and recycling program, concrete and asphalt recycling, agricultural plastics recycling, and landfill gas collection and treatment. A portion or all of the landfill gas is exported to an off-site facility for electrical generation.

Hydrocarbon Soils: Large quantities of hydrocarbon-contaminated soils (hydrocarbon soils) exist throughout the Santa Maria basin as remnants from oil field production over the last 100 years. The NHIS program allows for hydrocarbon soils that meet NHIS acceptance criteria to be disposed at both the Closed Active Area and the Lined Area of the landfill. Hydrocarbon soils in the Closed Active Area are restricted to very low concentrations at or near the detectable solubility concentration for the soil. Placement of hydrocarbon soils beneath the low-permeability cover in Closed Active Area far exceeds the water quality protection presently afforded these exposed hydrocarbon soils throughout the Santa Maria basin. Use of hydrocarbon soils as a foundation layer for the final cover reduces long-term maintenance via improvement of drainage slopes and decrease of overall settlement, as these soils will not decompose like MSW. These soils are placed in the uppermost portion of remaining landfill capacity, and separated from underlying MSW by a linear low density polyethylene plastic liner (LLDPE), well above the level of groundwater. This greatly reduces the possibility of the intermixing of landfill leachate with groundwater near the base of waste in the landfill. The thickness of the NHIS used to crown the landfill ranges between 5 and 40 feet.

For disposal at the landfill, the NHIS soil must be nonhazardous per Title 22 regulations, and meet groundwater protection standards based on soil concentration, leachability, and mobility of hydrocarbon constituents in the soil. The Disposal Plan includes the “Soil Acceptance Criteria” that is a set of quantitative standards for acceptance of NHIS, as determined by EPA Method SW-846 or Santa Barbara County sampling methodologies. The Discharger also has a load checking program to ensure that the generator’s waste does not deviate from their submitted profile. The Discharger has periodically modified the Soil Acceptance Criteria after demonstrating to the Executive Officer that the new standards remain protective of groundwater and are below hazardous concentrations. Changes include slightly increasing the total petroleum hydrocarbon- diesel range acceptable level to allow acceptance of oilfield soils from the Guadalupe site (Chevron [formerly Unocal] property). This was done after careful evaluation of the leachable fraction of hydrocarbons from the soil.

The NHIS program started in late 2002 with the first delivery of hydrocarbon soil. As of December 2006, the Discharger has accepted and disposed of approximately 1.5 million tons of NHIS in the Closed Active Area, resulting in the Discharger providing a final cover for an additional 36 acres in the Closed Active Area. Fifty-eight acres of the Closed Active Area still require a final cover. However, the Discharger has voluntarily covered all but 15 of the 58 remaining acres with the LLDPE liner (bottom liner for future NHIS placement), and plans to cover the remaining 15 acres by the end of 2007. In addition to oil sump wastes, NHIS sources include soil from various petroleum

underground storage tank sites and landfarmed oilfield wastes from both inside and outside of the region.

Land Use
Land use within one mile of the landfill is primarily agricultural, both crops and a small dairy farm are located along the south boundary of the Inactive Area and the west boundary of the Closed Active Area. A residential development is located adjacent to the northwest end of the Inactive Area. Portions of the area within one mile of the landfill are designated as open space. East Main Street marks the southern boundary of the Closed Active Area. The area immediately south of the Closed Active and Lined Area is in row crops.

COMPLIANCE HISTORY

The Discharger has largely been compliant with the Order requirements since its adoption in May 2001. However, the Discharger has received the following violations over the period of the Order:

- On February 27, 2004, after the landfill received approximately two inches of rainfall over a two-day period, staff observed significant ponding over the Closed Active Area, erosion of cover surfaces, and accumulation of sediment in drainage ditches. This is a violation of WDRs.
- The landfill has had several violations for low-level concentrations of VOCs in detection monitoring wells. The VOCs are part of a plume that is under corrective action monitoring. To address this fact, the draft MRP includes a transfer of associated detection monitoring wells into the correction action monitoring program.

GEOLOGY

The landfill is located on the southern margin of the Santa Maria River, behind the Corps of Engineer's 500-year flood protection levee. The entire facility is underlain by highly permeable, course-grained sands and gravels deposited by the adjacent river. These sediments are Holocene in age. Borrow material, used for daily cover and the final cover vegetative layers, is mined from the Santa Maria River and has extremely high permeability and erosion potential.

Orcutt Sand underlies the Holocene fluvial deposits. The Pleistocene age Orcutt Sand is comprised of interbedded sands and gravels. The coarse-grained Holocene sediments and Orcutt Sand are approximately 150 feet thick. The Pleistocene age Paso Robles Formation underlies the Orcutt Sand. The Paso Robles Formation is composed of sand, silt, and claystone with some gravelly conglomerate.

Title 27 (Section 20260) requires that where site characteristics alone do not ensure protection of water quality, Class III landfills shall install a composite bottom liner containment system. The course-grained alluvial river sediments immediately beneath the site do not provide any groundwater quality protection from the overlying waste. Consequently, the Discharger installed a double liner system for the newly constructed Lined Area.

Seismic Design
According to the 2000 Joint Technical Document (JTD), the closest known active or potentially active faults to the landfill are the Santa Maria River Fault and the Point San Luis Fault. The Santa Maria River Fault is located approximately two miles west of the site and considered potentially active with a maximum probable earthquake of magnitude 4.5 and a corresponding ground acceleration of 0.111 g. The Point San Luis Fault is estimated to be approximately three miles west of the site, although there is no known surface expression of this fault. The 2000 JTD estimated that the Point San Luis Fault has a maximum probable earthquake (MPE) of magnitude 6.5 and corresponding

ground acceleration of 0.445 g's at the Santa Maria Landfill. In contrast, the 2006 JTD reports that the MPE event is controlled by an 8.0 magnitude event occurring on the Carrizo Plain segment of the San Andreas Fault, with a corresponding ground motion of 0.12 g. This was used as the design MPE for Cell No. 1 at the landfill.

Title 27 (Section 20370) requires Class III landfills be designed to withstand the maximum probable earthquake without damage to the landfill foundation or containment structures.

HYDROGEOLOGY AND GROUNDWATER

Two primary hydrogeologic units exist beneath the site. The shallow zone is located in the alluvial sediments and Orcutt Sand, and extends from ground surface to a depth of approximately 150 feet below ground surface. This zone is comprised of course-grained sand and gravel with subordinate discontinuous clay layers. The deep zone is within the Paso Robles Formation, at a depth of greater than approximately 150 feet below ground surface. The upper portion of the Paso Robles Formation consists of claystone that locally functions as an aquitard.

The Santa Maria River serves as a principle recharge area for the basin, through the shallow alluvial zone. The general groundwater gradient throughout the Santa Maria basin trends toward the west-southwest. Groundwater levels in the vicinity of the site have historically fluctuated by approximately 70-80 feet in response to variations in groundwater recharge and pumping. Groundwater levels were at near historic high levels in 2001, and subsequently gradually declined by approximately 70-80 feet until fall of 2004, when a period of recovery began. By December 2006, levels had nearly recovered to historic high levels.

Vadose Zone

On a periodic basis, the vadose zone thins because of fluctuations in the water table beneath the landfill. Along the southeast landfill boundary, adjacent to the Santa Maria River levee, groundwater periodically contacts the waste during high stands of groundwater. A 1995 vadose zone characterization at the landfill determined that the sandy alluvium does not provide enough moisture retention capacity for vadose zone sampling. Instead, a total of 50 landfill gas monitoring probes surround the landfill (Figure A-1 of Attachment 2) as an alternative to traditional vadose zone monitoring and to meet Title 27 perimeter landfill gas monitoring requirements. Recent monitoring results indicate that perimeter probe gas methane levels are well below 5 percent, and VOCs concentrations are trace to nondetect in air samples collected from these perimeter probes.

Groundwater Monitoring

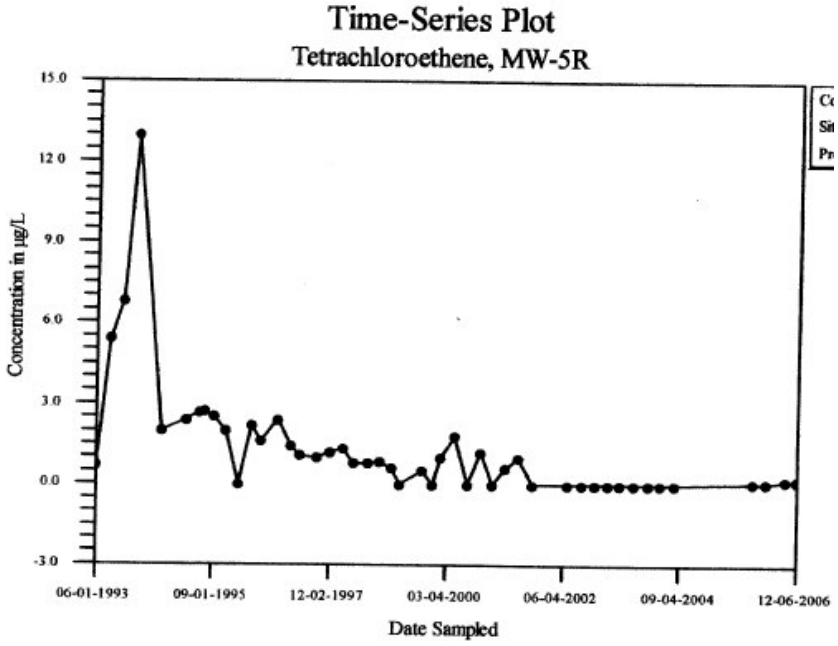
The landfill's groundwater monitoring system is comprised of 27 wells, two of which are upgradient from the site, and 13 of which are corrective action monitoring wells. In 1992, analytical results from perimeter wells MW-4R and MW-5R (Figure A-1 of Attachment 2) indicated offsite migration of waste constituents from the Closed Active Area. Installed in 1994, Well MW-11R also indicated a release from the Closed Active Area. As a result, in 1995/96, the Discharger installed seven offsite wells downgradient of the Closed Active Area to determine the extent of contaminant migration. All monitoring wells are sampled quarterly for detection monitoring parameters, and monitored monthly for water levels.

Groundwater Degradation

Historically, low-concentrations of volatile organic compounds (VOCs) have been detected in three landfill perimeter and eight offsite (MWO 13 through MWO-18d) groundwater monitoring wells located adjacent to the Closed Active Area. The VOC plume distribution coupled with groundwater gradient information, indicates that the source of the VOCs is primarily the unlined Closed Active Area. Historically, VOC compounds including tetracloroethene (PCE), 1,1-dichloroethane (DCA), trichloroethene (TCE), cis-1,2-dichloroethene, methylene chloride, and vinyl chloride were routinely

detected at concentrations ranging from 0.1 µg/L to 6.9 µg/L at the downgradient landfill perimeter wells and 0.1 µg/L to 2.3 µg/L in downgradient offsite wells. PCE was the most consistently detected compound in the downgradient monitoring wells. For reference, the primary maximum contaminant level (MCL) for PCE is 5 µg/L.

Monitoring data collected since 2001 indicate that the frequency and concentrations of detected VOC compounds have declined since commencement of corrective action (discussed below). According to late 2006 monitoring data, only 1,1-DCA and PCE are commonly detected, and PCE concentrations have declined to below detection levels in wells near the landfill, and declined to concentrations of between 0.5 and 1 µg/L at the toe of the plume. The figure below illustrates the decline in PCE concentrations in MW-5R, located immediately downgradient of the Closed Active Area:



1,1-DCA is detected sporadically at less than 1 µg/L in monitoring wells near the Closed Active Area landfill boundary (the MCL for 1,1-DCA is 5.0 ug/L). The following table illustrates recent PCE concentrations compared to historic values.

PCE (µg/L) in Groundwater
Closed Active Area and Off Site

Well	MCL	3Q/99	1Q/00	2Q/00	3Q/00	3Q06	4Q06
MW-4R	5	ND	0.18	0.23	ND	<0.1	<0.1
MW-5R	5	0.5	1.0	1.8	0.92	<0.1	<0.1
MW-11	5	0.61	0.12	0.46	0.81	<0.1	<0.1
MW-12-1	5	0.71	0.20	0.93	1.8	<0.18	<0.18
MW-12-2	5	ND	1.2	0.12	0.15	<0.18	<0.18
MWO-13	5	0.85	1.6	1.3	2.3	<0.18	0.39 J
MWO-14	5	0.80	0.59	0.81	0.66	<0.18	0.39 J
MWO-15	5	ND	0.42	0.43	0.20	0.67	0.36 J
MWO-16	5	ND	0.24	0.12	ND	<0.18	<0.18
MWO-17	5	0.69	0.85	0.93	0.77	0.41 J	0.38 J
MWO-18s	5	2.2	2.1	2.5	2.3	0.80	0.63
MWO-18d	5	1.6	1.5	1.4	0.54	0.68	0.63

Q- Quarter
J – Estimated value

Some inorganic constituents (manganese, iron, chloride, and nitrate) are detected above statistically calculated background levels (based on monitoring results from upgradient background wells MWO-9 and -10). In addition, manganese is routinely detected above the secondary maximum contaminant level of 0.05 mg/L. The inorganic quality of the groundwater has also improved since commencement of corrective action (i.e., rolling closure and landfill gas recovery), although contaminant time-trend plots indicate that pulses of elevated inorganic constituents have occurred since corrective action in some monitoring wells.

Supply Wells

No domestic drinking water wells exist within the area defined by the offsite monitoring wells, however one agricultural supply well (PW-1 on Figure A-1 of Attachment 2) is within this area. At the time of writing this staff report, the discharger has not indicated the locations of the nearest drinking water wells. Historically, the Discharger has voluntarily tested three drinking water and six agricultural supply wells downgradient of the landfill. None of the drinking water wells have ever had a VOC detection. VOCs were detected at three of the six agricultural supply wells (including PW-1) during a 2000 sampling event. VOC concentrations in each of these three wells were below 1 µg/L. According to records, the Discharger has not sampled these wells since 2000.

Downgradient property owners have been notified by the Discharger of the offsite VOCs impacts.

Groundwater Corrective Action

The Regional Board issued Cleanup or Abatement Order No. 96-027 (CAO) in July 1996. The CAO required the Discharger to define the downgradient edge of the contaminant plume and to implement corrective action. The CAO requirement to define the plume has been satisfied as the perimeter of the plume, defined by VOCs less than 1 µg/L, has been delineated. Both infiltration of water through waste and groundwater contacting the bottom of waste are contaminant source mechanisms for VOCs and inorganics. Landfill gas migration is also a likely source for VOC impacts in groundwater. The Discharger has also reported the inorganic impacts are caused by leaching of sediments in the vadose zone by acidic landfill gases. Closure of the former Active Area (including the installation of a low-permeability cover) limits the infiltration of moisture to waste, and decreases the generation of landfill gas and corresponding impacts to groundwater. Therefore, the Water Board accepted the

Discharger's preferred groundwater corrective action alternative of cessation of landfilling MSW, enhanced landfill gas recovery, and final cover installation as the most effective means to improve downgradient water quality. The Water Board rescinded CAO Order No. 96-027 in 2001.

The corrective action measures outlined above are ongoing and have been effective in reducing VOC groundwater impacts. However, as evident from current rising groundwater levels, the issue of groundwater intersection with MSW waste remains unresolved. Impacts from inorganic constituents have also improved since the startup of the corrective action, however, the mechanism causing "pulses" of inorganic impacts remains unresolved. Clean closure or dewatering of large areas of the river sediments beneath the waste are prohibitively expensive measures and unrealistic solutions, given the volume of waste and the high groundwater flow rates through the underlying alluvial sediments. The Discharger is currently evaluating the geochemical signature of the groundwater and surface water in order to better understand the source of the inorganic constituents. If groundwater quality impacts remain unresolved, additional remedial alternatives will be considered, as appropriate.

SURFACE WATER

Currently, surface water is sampled at two outfall locations prior to discharge into the Santa Maria River channel. These samples are monitored for total suspended solids and the same constituents as groundwater samples per Part I of the Monitoring Report (Attachment 2). Both of the two monitored drainages include a portion of agricultural return flows. The proposed WDR includes a third outfall sample location. Currently, storm water from the Lined Area is routed to ditches that drain to the north. When landfilling creates sufficient elevations in the Lined Area, storm water drainage will be routed to a sediment retention basin, located southeast of Cell 1. This basin is quite large such that it will drain internally most of the time, but in the event that it drains to the Santa Maria River, a fourth storm water sampling location will be added to the program.

Storm water discharges at the landfill are monitored in compliance with, and covered under the State's general industrial storm water permit.

Flood Plain

The landfill is located behind the Corps of Engineer's 500-year flood levee, and thus out of the 100-year flood plain as required in Title 27 (20260).

PROPOSED LANDFILL FACILITY AND OPERATIONAL CHANGES

The following are the proposed operational changes for the Inactive Area, Closed Active Area, and Lined Areas of the landfill.

Inactive Area

The Inactive Area currently has an interim cover consisting of 3 to 12 feet of native soil, with soil amendments in the upper two feet to promote vegetative growth. Given the nature of the waste (burned refuse), the age of the waste (30+ years) and the lack of significant groundwater impacts directly downgradient of the Inactive Area, the Executive Officer concurred with the Discharger, in a letter dated May 14, 2002, that a prescriptive cover system for the Inactive Area is not necessary because the threat to underlying groundwater is much lower than that of a more recent landfill. The approved conceptual final cover system incorporates an irrigated sports complex over most of the area. The Discharger has not yet provided the Executive Officer design details of the cover system for the area beneath the sports complex, but it needs to be more restrictive than Title 27 prescriptive cover because of the irrigation component. The proposed cover over the remainder of the area consists of an evapotranspirative cover, having the following characteristics: 1) native soil between 4 and 12 feet in thickness over the waste, with the top two feet having a compost mixture to enhance

vegetative growth, 2) compost mixture may partially consist of biosolids or other nutrients applied at agronomic rates (i.e., nitrogen loading not to exceed what plant material can uptake), and 3) Low-water-use vegetation may be used as the vegetative layer; however, the Discharger must ensure that adequate and timely vegetation (i.e., grasses) is established on the cover prior to the rainy season.

The Discharger is awaiting final land use plans and details for the irrigated sport complex from the City of Santa Maria's Department of Parks and Recreation before commencement of closure construction. As of May, 2007 construction of the sports complex is approximately 4 years behind original schedule. This delay in final cover construction has not impacted groundwater quality beneath the Inactive Area as evidenced by the monitoring results from the downgradient wells.

Closed Active Area and NHIS Program

As of spring 2007, the Discharger has provided a final cover for 60 of the 118 acres of the Closed Active Area. Specifications for the cover provided in the proposed Order meet or exceed Title 27 requirements. In addition, the Discharger has installed an LLDPE liner over the MSW for all but 15 acres of the Closed Active Area, in preparation for NHIS/foundation layer material. The remaining 15 acres are scheduled to receive a LLDPE liner in late 2007. Completion of the LLDPE liner will significantly reduce infiltration of rain water through the remainder of the Closed Active Area and will help improve groundwater quality; however, VOC detections might increase initially due to the confinement of landfill gas beneath the cover system. The Discharger plans to further expand gas extraction in the north-central portion of the Closed Active Area and in the Lined Area in 2007. This will provide additional benefits to groundwater quality.

Completion of the final cover for the Closed Active Area is contingent on the rate at which acceptable NHIS soils become available for use at the landfill. The original schedule for closure completion was set for June 2008, as stipulated in an Executive Officer letter to the Discharger dated May 14, 2002. At the time of writing this staff report, the Discharger has not proposed a new date for closure completion. The Discharger indicates that the rate of available NHIS material is less than originally projected and that they cannot control the rate, and therefore, the date of final closure. Water Board staff has reviewed the NHIS/rolling closure program and concluded that it may continue beyond the original required date for closure, provided that it continues to be protective of groundwater quality. If at any time Water Board staff finds that the NHIS program is not protective of groundwater quality, including any indication that soils are not managed properly, not adequately characterized, soil profiles not clearly documented and easily reviewed, or there is the possibility of hazardous soil sources, the Executive Officer will terminate the NHIS program.

Lined Area

Proposed changes to the Lined Area include an allowance for the acceptance of treated wood waste, a greenwaste diversion program for use as alternative daily cover, operation of a construction debris grinding for use as alternative daily cover, and use of Class B biosolids as alternative daily cover in the lined area of the landfill. Water Board staff concurs with the proposed changes, however, biosolids the Discharger must not apply biosolids at rates that exceeding agronomic uptake to ensure that nitrate is not introduced to surface water or groundwater.

Cell No. 1 of the Lined Area receives about 127,000 tons of waste per year. Assuming that waste diversion measures equal growth, Cell No. 1's estimated life capacity lasts until 2014. Construction and completion of Cell No. 2 will provide additional capacity for the landfill until 2018. However, the Discharger anticipates that Cell No. 2 will not be necessary because they plan to open a new regional landfill by 2014, located south of Santa Maria.

Local governments within Santa Barbara County are presently trying to site a future landfill site, but estimates suggest that this Las Flores facility is still 5-10 years away from accepting waste.

Groundwater Corrective Action

The Discharger has not proposed any changes for the groundwater corrective action. This seems warranted for the VOC-related groundwater impacts given the successful reduction in VOC concentrations. Inorganic concentrations have also shown improvement over the past five years. However, Water Board staff has concerns regarding periodic pulses of elevated concentrations of iron, manganese, nitrate and chloride. The source and transport mechanism for these constituents is unclear. Water Board staff has requested (Provision E.11 of draft WDR) that the Discharger perform a study regarding the geochemical signature and mechanisms responsible for the inorganic constituents.

PROPOSED ORDER CONTENTS: The proposed Order consists of:

1. **General Information:** The section includes discussions of the site's geology and hydrogeology, water quality, the landfill operations, beneficial uses of the water, and surrounding land use.

2. **Compliance with other Regulations, orders and Standard Provisions:** These compliance specifications direct the Discharger to comply with CCR Title 27, and 40 CFR 257 & 258.

3. **Prohibitions:** These discharge prohibitions are applicable to Class III waste disposals.

4. **Specifications:** These are specifications that the Discharger must meet and/or implement to comply with site specific aspects of CCR Title 27 and 40 CFR 258 pertaining to solid waste disposal practices. These specifications are categorized into two groups a) General Specifications and, b) Design Criteria.

5. **Water Quality Protection Standards:** These standards include constituents of concern, monitoring parameters, concentration limits, monitoring points, point of compliance, and compliance period.

6. **Provisions:** In general, the Discharger is responsible for submitting and updating reports as required.

MONITORING AND REPORTING PROGRAM (MRP) CONTENT: The proposed MRP consists of:

Part I: Monitoring and Observation Schedule: This section contains requirements for periodic routine inspections of the landfill and the leachate collection, leak detection, and groundwater subdrain systems, waste intake monitoring, and detailed analytical monitoring of various medium (e.g., groundwater, leachate, landfill gas).

Table 1 Monitoring Parameters in the tentative MRP has been amended from the prior MRP No. 01-041's Table 1 by including the following additional parameters: total alkalinity and perchlorate. Lead and selenium have been removed from the detection monitoring parameter list because historic monitoring data indicate that their concentrations are below action levels. However, lead and selenium remain on the concentration of concern list (monitored every five years).

Three detection monitoring wells, MW-4R, -5R, -11, have been transferred to the corrective action monitoring program because they routinely have detected VOCs associated with the VOC plume at the landfill, currently in corrective action.

If the Discharger elects to construct the new Cell No. 2, in the Expansion Area, well No. MW-20 will be added to the monitoring program on the downgradient perimeter of the new cell.

Part II: Sample Collection and Analysis: This section establishes criteria for sample collection and analysis, methods to determine concentration limits, and specifies how these records shall be maintained.

Part III: Statistical and Non-statistical Analysis of Data: This section establishes acceptable statistical and non-statistical methods the Discharger must use to perform data analysis.

Part IV: Reporting: This section establishes formats and requirements that the Discharger must follow when submitting analytical data, annual reports, corrective action summaries, etc., to the Regional Board.

Part V: Definition of Terms: This section defines various terms used in the MRP.

ENVIRONMENTAL SUMMARY

In October 1993, the Discharger issued an Environmental Impact Report (EIR) for the landfill. This EIR covered the Expansion Area. On May 1, 2000, the Santa Maria City Council certified an addendum to the EIR and adopted the California Environmental Quality Act findings in accordance with Public Resources Code, Section 21000, et seq. and the California Code of Regulations. This addendum covered minor design and operational changes proposed in the Joint Technical Document, submitted to the Water Board in August 2000. Disposal of NHIS is included in the EIR addendum. A second supplemental EIR was prepared by the Discharger in May 2004 to address the potential environmental impacts resulting from proposed changes to the landfill. The supplemental EIR was certified by the Santa Maria City Council in July 2004.

The remaining portions of the tentative WDR, not covered in the paragraph above, are for an existing facility and are therefore exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et.seq.) in accordance with Section 15301, Chapter 3, Title 14 of the CCR.

POTENTIAL PROBLEMS

As discussed above, groundwater comes in contact with the waste during high stages of groundwater in the southeast portion of the unlined Closed Active Area. Groundwater downgradient of this area is currently under corrective action, however, prolonged periods of high groundwater might cause additional groundwater impairment in the area.

COMMENTS TO DRAFT ORDER AND MRP NO. R3-2007-0045

The draft Order and MRP No. R3-2007-0045 were distributed on August 2, 2007 to a list of interested parties and agencies that have been historically involved with the landfill. Comments received on the draft Order and MRP are included in Attachment C. All submitted comments were considered and nearly all were either included upon receipt or had previously been included in the original draft versions. The key issues referenced in comment letters are as follows:

(TBD)

RECOMMENDATION

Adopt proposed Waste Discharge Requirements Order No. R3-2007-0045.

ATTACHMENTS

1. Proposed Waste Discharge Requirements Order No. R3-2007-0045
2. Proposed Monitoring and Reporting Program No. R3-2007-0045
3. Comment Letters on Draft WDR and MRP No. R3-2007-0045

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ATTACHMENT 1

Draft WDR R3-2007-0045

ATTACHMENT 2

Draft MRP R3-2007-0045

ATTACHMENT 3

Comments on WDR and MRP (TBD)