

PROJECT DESCRIPTION

CHICAGO GRADE LANDFILL'S

PROPOSED MATERIALS RECOVERY FACILITY

AND

WASTE TRANSFORMATION FACILITY

Facility No. 40-AA-0008

The Chicago Grade Landfill is an existing and fully permitted Class III Solid Waste Management Facility located in the Atascadero-Templeton area of Northern San Luis Obispo County, California. The site is operated by Chicago Grade Landfill, Inc. ("Chicago Grade") under a California Solid Waste Facilities Permit ("SWFP"). The current SWFP was issued in 2007. The facility boundary, the area where landfill and recycling operations can take place, is the entire 188 acre "landfill parcel". The 188-acre landfill parcel is owned by Chicago Grade Landfill & Recycling, LLC. Waste disposal currently occurs in a 38 acre area within a 76.4 acre permitted disposal area on the 188-acre facility. Chicago Grade Landfill currently separates and/or recycles: tires, household hazardous waste, metals, wood, green waste and co-mingled recyclables. Chicago Grade proposes to modify its existing Report of Facility Information permit to allow supplemental recycling operations that include the construction and operation of a materials recovery facility ("MRF"), and a waste transformation facility ("Ethanol Plant" or "Biomass to Energy Plant").

This landfill began operations in 1970. Since that time, the facility has served the general public (self-haul customers), commercial haulers, contractors and transfer trailers. The facility's "wasteshed" has historically been the Central Coast of California

from northern Santa Barbara County to Southern Monterey County and much of San Luis Obispo County. The annual waste tonnage entering the landfill has varied from 75,000 to over 100,000 tons per year. Approximately 33,000 tons of waste per year originates from the Atascadero area, roughly 40% of Chicago Grade's waste stream. Approximately 2 million cubic yards of waste has been placed in this facility since 1970. The waste placed at the landfill between 1970 and 2007 is contained within a 38 acre area. In 2007, expansion plans were approved by the California Integrated Waste Management Board (CIWMB) and San Luis Obispo County that permit the placement of waste on 76.4 acres, allowing the landfill to remain open until at least 2050.

The landfill is permitted to accept up to 500 tons per day for disposal, plus additional tonnage for recyclables. The facility currently processes an average of 277 tons per day of waste products including self-hauled household waste, yard, construction demolition waste, municipal solid waste, roll-off boxes and transfer trailers. Green waste, metals, co-mingled recyclables, construction demolition waste, tires and household hazardous waste are accepted and recycled. Municipal sewage sludge is accepted, blended with native soil and used to promote vegetation on slopes.

The landfill currently recycles approximately 15,000 tons of waste products each year, or about 18% of its total waste stream. Most of the residents in the landfill's service area have curbside recycling available to them, thus most residents utilize the curbside recyclable service provided to them by the franchise hauler. These curbside recyclables (commingled recyclables and green waste) are taken to other facilities, not Chicago Grade. Chicago Grade self-haul customers and contractors with dump trucks or roll off bin service haul waste containing recyclables to Chicago Grade, where some of the loads are sorted at the construction/demolition facility. Recyclables generated at the C & D Facility are hauled to market or used as alternative cover ("ADC") at the landfill. The

landfill currently recycles 4,300 tons of tires, 1,100 tons of metal, 3,900 tons of green waste and 6,000 tons of wood waste each year.

On a typical day, customers at the landfill are funneled over the scale by landscape medians and signage controls. Loads over one (1) ton (net) are weighed; loads that appear to the scale house operator to have a net (tare) weight of less than 1 ton are charged in accordance with posted vehicle rates which are approved by the County. Loads are also evaluated for hazardous waste at the scale house (on a preliminary basis), and then directed to the disposal area or to the recycle area. At the recycle area, also known as the C & D Facility, tires, clean wood, green waste and commingled recyclables are deposited in designated areas. At the disposal area a spotter directs traffic and is responsible for random load checks and segregation of tires, metals and house hold hazardous waste. Compaction of waste deemed uneconomic to recycle generally begins about an hour after the gate opens, and continues throughout the day. Soil or alternative daily cover is transported to the working face on an intermittent basis. Metals, wood, tires, and household hazardous waste pulled from the waste stream at the disposal area are temporarily stockpiled at the working face are hauled to recycle areas to be processed and/or transported offsite.

Roads are watered as required for dust control. Between 11:00 a.m. and 2:00 p.m., employees rotate to lunch. A minimum of one employee (weekends) is left on the working face during lunchtime. The scale house is always staffed during the hours that the facility is open to the public.

At approximately 3:00 p.m. the last public and commercial customers are allowed to enter the facility and the gate is closed. Shortly thereafter final compaction begins, followed by the placement of daily cover. Between 3:00 p.m. and 5:30 p.m. company-

owned transfer trailers may deposit waste concurrent with daily cover and compacting efforts. When the last public customer has left the premises, the scale house operator leaves the site. Company-owned trucks may leave after the scale house closes.

When the daily waste cell is adequately compacted and covered, the landfill crew leaves the working face; usually between 5:00 p.m. and 6:00 p.m. Recycle workers (tires, wood, household hazardous waste, etc.) work irregular schedules between 6:00 am and 6:00 pm, as required.

Concurrent with activities at the working face, waste tires are recycled at the recycling area and wood, metals, concrete and other recyclables are manually sorted in the C & D Recycle area. Sorted wood/green waste is generally shredded or ground onsite. Tire and wood chips may be used onsite for daily cover or hauled offsite to recycle markets. Concurrent with all waste processing activities, company or contract workers may be grading new modules or placing liners on modules already excavated.

None of the above described activities would change if the requested RFI amendment is approved. There are, however, two proposed additions to Chicago Grade's operations. Both of the proposed changes are intended to further the State's recycling goals. The first enhancement will be the augmentation of the existing recyclables sorting operation by the construction of a covered materials recovery facility ("MRF"). The MRF will include an elevated picking line, a baler and recyclables storage. A schematic of the MRF is included with the attached site plans and process diagram. The loads sorted at the MRF will include both C & D and self-hauled waste, collectively known as "the uncompacted waste stream". At present, the Chicago Grade Landfill accepts 50,000 tons per year of uncompacted waste. Approximately 50% to

75% of the uncompacted waste stream would be directed to the MRF; at present, only about 20% of the incoming waste is directed to recycle areas.

It is not envisioned that the compacted waste (i.e. waste hauled by franchised haulers in compactor trucks) will be directed to the proposed MRF since the compacted waste has already been source separated at the customers' residences and businesses. If a Biomass to Energy Plant is constructed, then compacted waste will be hauled directly to the Plant, not to the MRF.

The MRF will occupy the current 2-acre C & D Recycle Area. The proposed MRF structure will house both the sorting and recyclables storage area, and will be approximately 45,000 square feet in size. The MRF will have approximately 10 to 20 employees who will work the same hours as landfill staff (Monday-Friday 6 am to 6 pm/Saturday-Sunday 7 am to 6 pm). Customers drop off of recyclable material (and shipment of recyclables to market) will occur during normal customer's hours (Monday-Saturday 7:30 am to 3:00 pm/Sunday 9 am to 3 pm).

The volume of material processed at the MRF is expected to be 100 to 200 tons per day. While new business may be generated by the MRF, overall traffic and tonnage entering the facility premises is not expected to significantly exceed historic levels.

The recycled products generated at the MRF are expected to include wood, green waste, inert waste, metals, appliances, incidental HHW, cardboard, paper, plastic containers and glass containers.

The second addition to Chicago Grade's current operations will be the construction of a facility that transforms wood, green and other organic waste into either ethanol or electricity. Wood and green waste are currently chipped onsite then used for daily cover or hauled to an out-of-county waste to energy plant. The proposed transformation plant will process organic recyclables composed primarily of wood, green and possibly food waste utilizing concentrated acid-hydrolysis conversion to ethanol or by the biomass to energy process. See attached process diagram for details. There are several companies and technologies that perform this process. See <http://www.bluefireethanol.com>; <http://www.verenium.com> and <http://www.envirepel.com>. An operator for Chicago Grade's transformation plant has not been chosen yet.

It is envisioned that approximately 50,000 to 100,000 tons (200 to 400 tons per day) of organic matter will be processed at the transformation plant, yielding 5 to 10 million gallons of ethanol per year or generating 5.0 to 7.5 kilowatts of power. Transformation plant "feedstock" will be hauled from the onsite MRF utilizing construction trucks that are currently onsite. Other feedstock (i.e. chipped wood waste or municipal solid waste in the case of the biomass to energy plant) would be hauled from offsite sources directly to the transformation plant. If food waste is used as feedstock, it will be hauled directly to the plant. If the ethanol process is chosen, ethanol produced at the plant will be transported to in-county and out-of-county wholesale distribution points utilizing standard fuel trucks – 3 to 6 trucks will leave the site each day (five days per week). If the biomass biomass to energy process is chosen, the electricity will be sold through PG&E.

The transformation plant will have up to 24 employees who will work in three shifts 330 days per year, 24 hours per day. There will be no more than 8 employees onsite at any one time. The ethanol process will utilize approximately 30 gallons per minute of

water, but most water will be recycled. Net water use will be less than 1,000 gallons per day for either the ethanol process or the biomass to electricity process. Water for the plant will be provided from an onsite well. Domestic waste water will be disposed in an onsite septic system. Plant process waste water will be utilized at the landfill for dust control. Electricity will be provided by PG&E in the case of the ethanol plant. Boiler heat will be provided by landfill gas, propane and/or lignin in the case of the ethanol plant. Lignin byproducts of the ethanol process will be used as boiler fuel or as ADC; gypsum byproduct of the ethanol process will be hauled offsite. If a Biomass to Energy plant is constructed, then the feedstock will be obtained from sorted municipal solid waste. Ash will be recycled or disposed of at a Class I Facility. Other input and output parameters specifics are shown on Table 1.

The transformation Plant will utilize the best available technology (BACT) with respect to air emissions. Overall NO_x, SO_x and VOCs are expected to be less than 25 tons per year. Chicago Grade Landfill's gas flare will be shut down and the gas redirected to the transformation plant's boilers thereby helping to offset new emissions at the plant.