



MEMORANDUM

DATE: September 25, 2019

TO: John Arnau, OC Waste & Recycling

FROM: Ron Brugger, LSA

SUBJECT: Air Quality, Greenhouse Gas Emissions, and Health Risk Analyses for the Continuation of Operations at the Olinda Alpha Landfill

BACKGROUND

Final Environmental Impact Report (EIR) 588, which was approved by the Orange County Board of Supervisors on April 17, 2007, analyzed the significant environmental impacts and provided mitigation measures for the build out of the Olinda Alpha Landfill development plan, including a 33-acre (ac) expansion area, to a maximum landfill design elevation of 1,415 feet (ft) above mean sea level. Final EIR 588 concluded that the landfill would likely reach capacity in 2021; however, the EIR also indicated this would depend on when the landfill reached the 1,415 ft elevation and thereby completed the landfill development plan.

Since the approval of Final EIR 588, a great recession occurred that has resulted in decreased tonnage along with significant increases in recycling, thereby further diverting solid waste from the Olinda Alpha Landfill. Similarly, OC Waste & Recycling has employed more efficient landfill operating practices, including the use of tarps to cover refuse at the end of the working day, thereby saving additional landfill capacity. As a result, the landfill has considerably more capacity in 2019 than was originally envisioned. As a result, the landfill will operate many additional years past the 2021 closure date projected in Final EIR 588.

Based on the current and continued average daily tonnage of approximately 6,900 to 7,000 tons per day (tpd), the Olinda Alpha Landfill will reach capacity on approximately December 31, 2036. The landfill currently also receives approximately 5,700 tpd of exempt waste (i.e., soil, asphalt, and processed green material). The daily volume of exempt waste tonnage is not anticipated to increase in the future.

PROJECT DESCRIPTION

OC Waste & Recycling proposes to evaluate the potential impacts related to the extension of the life of the Olinda Alpha Landfill. With the anticipated closure in 2036, OC Waste & Recycling would like to determine whether there are any new significant environmental impacts that were not identified in Final EIR 588.

EXISTING ENVIRONMENTAL SETTING

The project site is in Orange County, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). Both the State and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants identified as “criteria” air pollutants because they are regulated by

developing human health–based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. These six pollutants are carbon monoxide (CO), lead, nitrogen oxides (NO_x), ground-level ozone (O₃), particle pollution (often referred to as particulate matter), and sulfur oxides (SO_x). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

SCAQMD, together with the California Air Resources Board (CARB), maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the project site is the La Habra Station, which monitors O₃, CO, and nitrogen dioxide (NO₂). The closest station monitoring particulate matter less than 10 microns in size (PM₁₀) and particulate matter less than 2.5 microns in size (PM_{2.5}) is the Anaheim Station. Lead and sulfur dioxide (SO₂) are not monitored in the area because the ambient levels are so low. The La Habra Station is approximately 6.4 miles (mi) west of the project site, and the Anaheim Station is approximately 9.1 mi southwest of the project site. The air quality trends from these two stations are used to represent the ambient air quality in the project area. Table A lists the ambient air quality data monitored at these stations between 2016 and 2018.

FINAL EIR 588 AIR QUALITY AND HEALTH RISK ANALYSIS

The air quality analysis in Final EIR 588 (Section 5.6—Air Quality) examined potential air quality and health risk impacts under existing (2004) and future (2021) conditions. Future year 2021 represented build out of the surrounding land uses and circulation network.

The project consisted of an increase in the landfill to accommodate an additional 14.2 million tons of municipal solid waste, which extended the life of the landfill from a permitted closure date of 2013 to a new date of 2021. The maximum daily and annual average daily tonnage limits did not change.

The project did not include any change in the existing operating schedule, number of employees, types and maximum numbers of pieces of equipment at the landfill, or on-site landfill gas and flare system. Between the time the expansion occurred (2013) and the anticipated closure date of 2021, the daily number of trips to and from the landfill was anticipated to remain the same. Therefore, the landfill trip generation under both existing and future conditions was 2,447 daily trips.

The Integrated Waste Management Department (IWMD) implemented a dust control program at the Olinda Alpha Landfill to minimize particulate matter from entering the air during existing landfilling operations. Fugitive dust control measures were implemented in compliance with the site-specific SCAQMD Rule 403 compliance plan as described in Final EIR 588 (Section 5.6.5, Mitigation Measures).

Final EIR 588 found that the project would result in significant short-term adverse construction-related impacts. Mitigation measures AQ-1 and AQ-2 were specified to reduce the emissions causing these impacts. Final EIR 588 concluded that implementation of measures AQ-1 and AQ-2 would reduce construction-related emissions, as required by SCAQMD. However, subsequent to the application of mitigation measures, construction of the project would entail PM₁₀ generation that would continue to exceed SCAQMD construction emission thresholds and would constitute a significant and unavoidable short-term adverse impact on regional air quality.

Table A: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2016	2017	2018
Carbon Monoxide (CO)—La Habra Monitoring Station				
Maximum 1-hour concentration (ppm)		3.1	3.8	3.0
Number of days exceeded:	State: >20 ppm	0	0	0
	Federal: >35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.5	1.7	1.4
Number of days exceeded:	State: ≥9.0 ppm	0	0	0
	Federal: ≥9 ppm	0	0	0
Ozone (O₃)—La Habra Monitoring Station				
Maximum 1-hour concentration (ppm)		0.103	0.113	0.111
Number of days exceeded:	State: >0.09 ppm	3	5	3
Maximum 8-hour concentration (ppm)		0.078	0.086	0.077
Number of days exceeded:	State: >0.07 ppm	6	12	4
	Federal: >0.07 ppm	6	12	4
Coarse Particulates (PM₁₀)—Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m ³)		74.0	95.7	94.6
Number of days exceeded:	State: >50 µg/m ³	3	5	2
	Federal: >150 µg/m ³	0	0	0
Annual arithmetic average concentration (µg/m ³)		28.0	26.9	27.7
Exceeded for the year:	State: >20 µg/m ³	Yes	Yes	Yes
Fine Particulates (PM_{2.5})—Anaheim Monitoring Station				
Maximum 24-hour concentration (µg/m ³)		44.4	53.9	63.1
Number of days exceeded:	Federal: >35 µg/m ³	1	7	7
Annual arithmetic average concentration (µg/m ³)		9.4	11.2	11.4
Exceeded for the year:	State: >12 µg/m ³	No	No	No
	Federal: >15 µg/m ³	No	No	No
Nitrogen Dioxide (NO₂)—La Habra Monitoring Station				
Maximum 1-hour concentration (ppm)		0.060	0.076	0.067
Number of days exceeded:	State: >0.18 ppm	0	0	0
	Federal: >0.10 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.014	0.014	0.013
Exceeded for the year:	State: >0.030 ppm	No	No	No
	Federal: >0.053 ppm	No	No	No

Source 1: EPA. Air Data: Air Quality Data Collected at Outdoor Monitors across the US. Website: www.epa.gov/airdata/ad_maps.html (accessed September 2019).

Source 2: CARB. iADAM: Air Quality Data Statistics. Website: www.arb.ca.gov/adam/topfour/topfour1.php (accessed September 2019).

µg/m³ = micrograms per cubic meter

CARB = California Air Resources Board

EPA = United States Environmental Protection Agency

ppm = parts per million

During project operations, Final EIR 588 concluded that the project would result in a continuation of emissions over a longer period of time that would exceed emissions thresholds for the operation of the proposed project. Mitigation measures would not achieve the reductions in emissions necessary to reduce impacts to below the SCAQMD operation phase thresholds. Consequently, Final EIR 588 concluded that the operational phase of the project would result in significant and unavoidable adverse air quality impacts.

FINAL EIR 588 GREENHOUSE GAS EMISSIONS ANALYSIS

In 2004, Final EIR 588 did not include an analysis of greenhouse gas (GHG) emissions. It wasn't until 2007 that the United States Supreme Court ruled that the United States Environmental Protection Agency (EPA) has the authority to regulate carbon dioxide (CO₂) emissions under the Clean Air Act (CAA). In 2009, the EPA issued a finding that six GHGs (CO₂, methane [CH₄], nitrous oxide [N₂O], hydrofluorocarbons [HFCs], perfluorocarbons [PFCs], and sulfur hexafluoride [SF₆]) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change (GCC).

In 2005, California Executive Order (EO) S-3-05 established GHG targets for the State (e.g., returning to year-2000 emission levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050). In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32), which created a comprehensive, multiyear program to reduce GHG emissions in California. In 2008, Senate Bill (SB) 97 required the Governor's Office of Planning and Research to develop GHG emissions criteria for use in determining project impacts under the California Environmental Quality Act (CEQA). These criteria were developed in 2009 and went into effect in 2010.

ANALYSIS OF PROJECT CHANGES

Based on the current project description, the landfill would close in 2036. Final EIR 588 anticipated that the landfill would reach capacity in 2021. Since approval of Final EIR 588, the economic recession has resulted in decreased tpd, and increases in recycling have diverted waste from the landfill. Similarly, OC Waste & Recycling has employed more efficient landfill operating practices that preserve landfill capacity. For these reasons, the landfill has more capacity in 2019 than initially projected. As a result, the landfill may operate many years past the Final EIR 588 closure date.

The project would extend the closure date by approximately 15 years, due to the fact that the landfill processes less tpd, resulting in less traffic than originally analyzed in Final EIR 588. Because the project would not increase the tpd, additional traffic would not be generated to or from the project site, and there would be no change in the operating schedule, number of employees, types and maximum numbers of pieces of equipment at the landfill, or on-site landfill gas and flare system. Therefore, continuation of landfill operations at the Olinda Alpha Landfill would not result in any new significant air quality or health risk impacts. Additionally, since there would be fewer truck haul trips per day than analyzed in Final EIR 588, with a mix of trucks that includes newer trucks with better emissions controls, the air quality impacts would be lower than in Final EIR 588. Furthermore, the required air quality mitigation measures (AQ-1 and AQ-2) identified in Final EIR 588 have been implemented.

Air Quality

The Environmental Checklist questions provided in the County of Orange (County) Local CEQA Procedures Manual (2014) have been answered below to demonstrate that the air quality impacts associated with the extension of the life of the landfill would not be substantially different from what was disclosed in Final EIR 588. Would the project:

a. *Conflict with or obstruct implementation of the applicable air quality plan?*

The project would not include any change in the existing operating schedule, number of employees, or types and maximum numbers of pieces of equipment at the landfill. The continuation of landfill operations would not change or increase the maximum tpd or traffic volumes to and from the project site. As such, the project would not create a new conflict with or obstruction to an applicable air quality plan. Furthermore, both mitigation measures identified in Final EIR 588 (AQ-1 and AQ-2) have already been implemented. Therefore, the proposed extension of landfill operations would not result in a new significant impact or a more severe impact related to an air quality plan implementation.

b. *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

The project would not include any change in the existing operating schedule, number of employees, or types and maximum numbers of pieces of equipment at the landfill. The continuation of landfill operations would not change or increase any emissions of criteria pollutants. Furthermore, both mitigation measures identified in Final EIR 588 have already been implemented. Therefore, the proposed extension of landfill operations would not result in a new cumulatively considerable net increase of any criteria pollutant, and there would not be a new significant impact or a more severe impact related to air quality.

c. *Expose sensitive receptors to substantial pollutant concentrations?*

The continuation of landfill operations would not result in a change in air dispersion patterns. Therefore, the proposed extension of landfill operations would not result in a new significant impact or a more severe impact related to air pollutant concentrations for sensitive receptors.

d. *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

The project would not include any change in the existing operating schedule, number of employees, types and maximum numbers of pieces of equipment, design features, or uses at the landfill. Therefore, the proposed extension of landfill operations would not result in a new significant impact or a more severe impact related to odor.

Greenhouse Gas Emissions

Emissions of GHGs from the project would be from operation of landfill equipment and from worker and vendor vehicles, each of which typically uses fossil-based fuels to operate. GHG emissions due to the landfilling process come from transportation (waste collection and delivery of waste), processing (waste manipulation, including water use), and fugitive sources (CH₄ and N₂O emissions from the decomposing waste).

While Final EIR 588 did not analyze project-related impacts from GHG emissions, as described above, the project would not increase the tpd, additional traffic would not be generated to or from the project site, and there would be no change in the operating schedule, number of employees, types and maximum numbers of pieces of equipment at the landfill, or on-site landfill gas and flare system. The only change would be that the project would be extending the closure date by approximately 15 years.

While the landfill gas generation rate would be unchanged, vehicle emissions of GHGs would most likely be reduced through the replacement of older vehicles with newer, lower-emitting vehicles over time. Thus, the level of GHG emissions would not change or would be reduced by extending the closure date by approximately 15 years. Therefore, continuation of landfill operations at the Olinda Alpha Landfill would not result in any new significant GHG emissions impacts.

The Environmental Checklist questions provided in the County Local CEQA Procedures Manual (2014) have been answered below to demonstrate that the project would not have a significant effect on the environment. Would the project:

- a. *Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

The project would not include any change in the existing operating schedule, number of employees, or types and maximum numbers of pieces of equipment at the landfill. The continuation of landfill operations would not change or increase the maximum tpd or traffic volumes to and from the project site. As such, the project would not result in a change to the existing GHG emissions. Therefore, the proposed extension of landfill operations would not result in a new significant impact or a more severe impact related to GHG emissions.

- b. *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?*

The project would not include any change in the existing operating schedule, number of employees, or types and maximum numbers of pieces of equipment at the landfill. The continuation of landfill operations would not change or increase the maximum tpd or traffic volumes to and from the project site. As such, the project would not create a new conflict with or obstruction to an applicable GHG emissions reduction plan. Therefore, the proposed extension of landfill operations would not result in a new significant impact or a more severe impact related to a GHG emissions reduction plan implementation.

FINDINGS

Based on the previous analysis and information, none of the conditions identified in *State CEQA Guidelines* Section 15162 exist that would trigger the need to prepare a Subsequent EIR, a Supplemental EIR, or other environmental documentation to evaluate project impacts or mitigation measures with regard to transportation and traffic. Specifically, there have not been the following: (1) changes to the project that require major revisions of the previous Final EIR 588 due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects; (2) substantial changes with respect to the circumstances in which the project is undertaken that require major revisions of the previous Final EIR 588 due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified effects; or (3) the availability of new information of substantial importance relating to significant effects or mitigation measures or alternatives that was not known and could not have been known when Final EIR 588 was certified as complete.

Based on the discussion above, no new significant impacts or more severe impacts would occur by extending landfill operations.