Appendix 11

Landfill Gas Mitigation Plan

Prepared for

Mirman School
16180 Mulholland Dr.
Los Angeles, California 90049

Landfill Gas Mitigation Plan

Mirman School Learning Center

Prepared by

Geosyntec consultants

2355 Northside Drive, Suite 250
San Diego, California 92108

Project Number SC0984

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1. INTRODUCTION

Geosyntec Consultants, Inc. (Geosyntec) has prepared this Landfill Gas Mitigation Plan (Mitigation Plan) on behalf of the Mirman School (Mirman) in support of their proposed Learning Center Project (Project) located at 16180 Mulholland Drive, Los Angeles, California 90049 (Site, Figure 1).

The Site is located in the City of Los Angeles (City) within the Santa Monica Mountains where landfill operations historically occurred between the 1960s up to the early 1980s. Eight landfills, designated as Mission Canyon 1 through 8, are located within the Santa Monica Mountains in the regional vicinity of the Site. Mission Canyon 1 landfill (MC1) is located on the south side of Mulholland Drive, approximately one-half mile west of the 405 Freeway and adjacent to the west and south of the Site (Figure 2).

1.1 Background

The Mission Canyon landfills were owned and operated by the Los Angeles County Sanitation District (LACSD), and MC1 was reportedly filled between 1965 and 1968. LACSD currently operates a landfill gas (LFG) collection system at MC1 to capture and properly dispose of LFG generated by the landfill.

1.2 Purpose and Scope

The purpose of this report is to outline measures to mitigate potential MC1-related subsurface LFG hazards to existing and planned future structures at the Site, in accordance with regulatory standards, as applicable, and with the approval of these agencies, if required. This report provides a summary of environmental investigations conducted for the Site to date, a review and evaluation of the existing Site subsurface conditions in relation to applicable methane and volatile organic compound (VOC) mitigation regulatory standards, and an overview of the LFG mitigation strategy planned for the Site. Additionally, this report includes an evaluation of the potential impacts of construction and operation of the proposed mitigation system.

1.3 Report Organization

This document is organized into the following sections:

- Section 2 – "Project Description and Environmental Concerns," describes the proposed Site improvements and physical Site conditions, provides a description of the environmental concerns being investigated at the Site, and overviews the regulatory framework for the proposed LFG mitigation strategy;

- Section 3 – “Environmental Site Investigations,” describes the history of environmental investigations conducted at the Site;
- Section 4 – “Landfill Gas Mitigation Strategy,” describes the planned mitigation strategy for future and existing Site improvements and associated regulatory approvals;
- Section 5 – “Mitigation Plan and Impact Summary,” provides an overview of the planned measures to reduce impacts from subsurface LFG to less than significant; and
- Section 6 – “References,” presents the references consulted in the preparation of this report.

2. PROJECT DESCRIPTION AND ENVIRONMENTAL CONCERNS

This section overviews Site improvements proposed in connection with the Project as well as the associated environmental due diligence activities, provides a description of physical Site conditions and the environmental concerns being investigated at the Site, and overviews applicable regulatory standards and agencies that provide regulatory oversight regarding the identified environmental concerns.

2.1 Description of Proposed Improvements

Mirman is a Kindergarten to 8th grade school for highly gifted students and has a current student population of approximately 330. The school property encompasses 5.5 acres and is comprised of five one- and two-story buildings bounded to the North by Mulholland Drive, to the east by undeveloped land, to the west by Westland School and a surface parking lot owned by Bel Air Presbyterian Church (Church), and to the south by Berkeley Hall School (across a fire road). The proposed improvements include:

- New, two-story classroom building (new building) totaling approximately 16,000 gross square feet (GSF);
- Renovation and expansion of a portion of the Site's existing library building to create additional classroom space;
- A small entrance pavilion at the campus pedestrian gate entrance for security personnel;
- A new playground area at the northeast portion of the Site; and
- New campus electrical service, including an enlarged transformer enclosure, located at the northwest corner of the Site.

2.2 Physical Site Conditions

2.2.1 Geology

The Site lies within the Santa Monica Mountains, which are generally comprised of an eastward-plunging anticline with a core of Jurassic slate and schist overlain by younger Tertiary sedimentary rocks. The surrounding Transverse Ranges Geomorphic Province is typically characterized by east-west trending mountains where the northern and southern boundaries are formed by reverse faulting. The convergent deformational features and resulting topography of the Transverse Ranges are the result of north-south compression due to tectonic plate movement. This has resulted in regional folding and uplift along with a propagation of thrust faulting, including blind thrust faulting. Intervening valleys contain sediments originating from erosion of the bordering mountains [Geosyntec, 2019].

According to mapping by Dibblee and Ehrenspeck (1991) as well as Yerkes, R.F. et. al (2005), tan to light gray semi-friable, bedded sandstone of the lower member Modelo Formation (Tmss) underlies the Site at variable depths. Based on observations during the explorations performed at the Site in addition to the review of historical documents (Byer 2014), onsite subsurface lithologies generally consist of Quaternary fill soils ranging from 7 to 34 feet in thickness overlying the Tertiary Modelo Formation (Geosyntec 2019).

A review of historical aerial imagery and topographic maps indicate that a southwest-northeast trending canyon/drainage previously existed beneath the Site (Geosyntec 2019). Historical topographic maps (Netronline 2019) indicate up to 60 feet of elevation difference along the axis of the previous drainage to existing elevations. Mass grading of the area filled the canyon/drainage prior to 1972, where aerial imagery shows the first structures at the School Site (Netronline 2019).

2.2.2 Groundwater

The San Fernando Valley Groundwater Basin is located to the north of the Site, while the Coastal Plain of Los Angeles – Santa Monica Groundwater Basin is located south of the Site (DWR 2020). Surface water originating in the Site vicinity generally flows away from the overall surrounding area into these basins. Regionally, overall groundwater flow is to the southwest toward the Pacific Ocean.

A geological and hydrogeological assessment historically conducted by the State of California Regional Water Pollution Control Board (RWPCB) for the Mission Canyon landfill sites indicated that the underlying formations are non-water bearing, aside from potential minor accumulations conveyed through joints and fissures (RWPCB 1960). Groundwater has not been encountered in geotechnical borings advanced at the Site to depths up to 60 feet below ground surface (ft bgs) (Geotechnologies, Inc. 2018), and was

not encountered in borings advanced to depths up to 135 ft bgs in geotechnical borings historically advanced at a housing development located within 1 mile south and topographically downgradient of the Site (Leighton and Associates, Inc. 2006). As such, available data supports the conclusion that groundwater is located at significant depth below the Site.

2.3 Historical Landfill Investigations

In connection with the proposed construction of a new school building and large surface parking lot on the Church property adjacent and to the west of the Site, a geotechnical investigation was conducted in 1986. During the investigation, a portion of MC1 was identified under the location of the proposed parking lot (LADCP 1987). Subsequently, as a condition of approval for the proposed project, an LFG recovery system was installed to minimize LFG migration to offsite properties, and an LFG monitoring system was installed to monitor for LFG migration. The LFG monitoring system on the adjoining Church property consists of eight monitoring probes installed to a depth of 20 ft bgs at the property boundary between the Church parking lot and Mirman and Westland Schools. The monitoring probes are nested at 5, 10, and 20 ft bgs.

In 1991, the LFG recovery system installed within the Church property boundaries was incorporated into the existing MC1 LFG collection system operated by the LACSD (Lofy 1998), which continues to operate the system as of the date of this report. LFG probes along the perimeter of the adjoining Church parking lot are monitored by the Church on at least a quarterly basis[1], and the most recent methane gas monitoring report reviewed included 19 December 2018 and 25 March 2019 results (Lofy 1998, 2019). If evidence of active LFG migration from the landfill is observed, LACSD would be required to rectify issues with the LFG collection system immediately in order to discontinue LFG migration across the landfill boundary.

Due to the Site's proximity to MC1, and in connection with the proposed Project, environmental investigations have been conducted at the Site since 2018 to evaluate whether there is evidence that LFG generated by MC1 has or is migrating onto the Site. These investigations are discussed in Section 3.

[1] South Coast Air Quality Management District (SCAQMD) Rule 1150.1 requires monthly perimeter LFG probe monitoring to be conducted at active or inactive municipal solid waste landfills. However, a request to the Los Angeles City Planning Department for a change from monthly monitoring to quarterly monitoring was approved in 1996, with a stipulation that the change would continue in effect "as long as the readings detect no levels of methane gas".

2.4 Environmental Concern: Landfill Gas

LFG is a natural byproduct of the decomposition of organic material in landfills. LFG will migrate vertically and/or horizontally through the subsurface and may accumulate beneath pavement, foundations, or other less permeable barriers. LFG is typically composed of roughly 50 percent methane (the primary component of natural gas), 50 percent carbon dioxide (CO_2) and a small amount of non-methane organic compounds, including VOCs (USEPA 2019). Methane gas, as part of LFG, is considered a hazardous gas due to its explosive property, as described below. Some VOCs are classified as likely carcinogens or as having toxic or other potentially harmful properties. As such, and based on the specific compound, exposure timeframe, and exposure frequency, VOC-impacted gases may represent a risk to human health if inhaled.

2.4.1 Methane

Methane is a colorless, odorless, and extremely flammable gas that may form explosive mixtures with air when present between the lower explosive limit (LEL) and upper explosive limit (UEL) and can act as an asphyxiant at concentrations above the UEL (WDHS 2010 and Yaws 2001), as it displaces oxygen in an enclosed space. The LEL and UEL for methane are 5 and 15 percent by volume (%v), respectively (Matheson, 2013). Methane does not have permissible exposure limits (PELs) or short-term exposure limits (STELs) established by the Occupational Safety and Health Administration (OSHA) or the California Division of Occupational Safety and Health (Cal/OSHA); however, per 29 CFR 1915.12(b)(3), OSHA considers concentrations of flammable gases (such as methane) in enclosed spaces above 10% of the LEL to be a risk for fires or explosions. Similarly, OSHA defines any atmosphere containing less than 19.5% oxygen (such as an area in which air has been significantly displaced by methane or other gases) to be oxygen deficient, representing an environment that is immediately dangerous to life or health (IDLH) in accordance with 29 CFR 1910.134.

2.4.2 VOCs

VOCs are compounds that have a high vapor pressure and low water solubility and easily volatize from liquids or solids to gaseous forms. While some VOCs are naturally occurring, many VOCs are human-made chemicals that are emitted by a wide array of products numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials and furnishings, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials, including glues and adhesives, permanent markers, and photographic solutions (USEPA 2020). These products may be disposed of in landfills, resulting in the generation of VOCs through decomposition. While landfills have controls to contain waste emissions such as liners and gas collection systems, as well as guidelines for what can be disposed of in a given landfill, older landfills (such as MC1) had fewer

regulations in terms of permissible wastes and had fewer controls for containing or otherwise controlling the release of compounds related to the decomposition of impounded wastes, resulting in increased reliance on the LFG collection system and associated LFG monitoring system (along the perimeter) to control LFG migration.

When present in the subsurface, soil vapors containing VOCs can migrate upward through overlying soils and hardscape (such as concrete and asphalt) and potentially into overlying structures, resulting in the presence of these VOCs in ambient air at a fraction of the concentration in which a given analyte is detected in the subsurface. This process is referred to as vapor intrusion. While most VOCs are not known to pose adverse health effects, some VOCs are known to have toxic, carcinogenic, or other hazardous properties and may pose short- and/or long-term risks to human health. OSHA/CalOSHA maintains PELs for various VOCs with potentially adverse health effects, and the United States Environmental Protection Agency (USEPA) and California Department of Toxic Substances Control (DTSC) provide guidance on acceptable levels of various VOCs based on long-term exposure scenarios and compound-specific properties.

2.5 Regulatory Framework

When detected at a property, the constituents of concern (COCs) present in LFG are regulated by specific local/state agencies, which provide guidance and oversight for the proper mitigation of potential risk to human health that these compounds may pose to human receptors. The following is a summary of the regulatory agencies with oversight for the methane and/or VOC gas mitigation aspects of the Project, which include the City and CalEPA, and other applicable regulations, guidance, and requirements.

2.5.1 City of Los Angeles

The City of Los Angeles Department of Public Works (LADPW) has plotted both a Methane Zone and a Methane Buffer Zone across various areas of the City, using information and data provided by the Division of Oil, Gas and Geothermal Resources, Department of Conservation, State of California, City of Los Angeles (City) Department of Environmental Affairs, LADBS, and the Los Angeles Fire Department (LAFD). The zones indicate areas within the City where a potential methane gas hazard exists.

The City regulates development within the designated Methane Zone and Methane Buffer Zone to control methane intrusion into buildings under Division 71 of Article 1, Chapter IX of the LAMC (Methane Code, LAMC 91.7101 et seq.). The City of Los Angeles Minimum Methane Mitigation Requirements are provided in Table 1.

Mitigation requirements for developments within the Methane Zone and Methane Buffer Zone are further refined at the Site Design Level for a given project, which is determined through site testing. Site testing is generally performed in accordance with LADBS's *Site*

Testing Standards for Methane guidance document (LADBS 2014). Measurement, research, and testing are performed to assess the average depth to groundwater, the design methane concentration (defined as the highest concentration of methane gas found during site testing), and the design methane pressure (defined as the highest pressure of methane gas found during site testing). Testing typically involves the installation and measurement of soil gas probes. Sites with lower concentrations and pressures of methane have fewer mitigation requirements than higher concentrations and pressures of methane. A site may be exempt from site testing if the development is designed to meet the requirements of Site Design Level V.

Landfills were not evaluated during the establishment of either the Methane Zone or Methane Buffer Zone; accordingly, the Mission Canyon landfills are not identified as being located within either of these zones. However, the Methane Code permits LADBS and the LAFD to "require methane mitigation to preclude potential fire or explosion related to subsurface methane" outside of the Methane Zone/Methane Buffer Zone upon determination that a methane hazard may exist (LAMC 91.7108).

The Methane Code is enforced by LADBS and LAFD. LADBS reviews the site testing data (overviewed in Section 3); provides plan checking and approval for structural, electrical, and mechanical systems; and issues the building permit for the Methane Mitigation System. LADBS is authorized to withhold building permits until plans include design details for adequate protection against methane (LAMC Building Code Section 91.106.4.1). The Methane Code also requires development of a new Emergency Plan for all buildings with a gas detection system (LAMC Building Code 91.7107).

2.5.2 CalEPA

Upon identification of VOCs in subsurface media (i.e., soil, soil vapor, and/or groundwater) at a property, associated environmental activities are regulated by CalEPA, which encompasses a subset of departments potentially capable of local oversight. Specific CalEPA department oversight depends on site-specific circumstances, including the primary affected media (e.g., soil, water, air, etc.), current/past site usage, and other factors.

The overseeing CalEPA department ultimately oversees, provides guidance, and approves the path forward related to environmental investigations and potential site remediation/mitigation activities, as warranted. The overseeing CalEPA department is also responsible for issuing formal determinations that No Further Action (NFA) is warranted, following its review of environmental investigations and potential remediation/mitigation actions.

The CalEPA department typically involved with school sites where there is a potential risk to site occupants associated with the intrusion of VOC-impacted soil vapors is the DTSC. The DTSC is the foremost agency within CalEPA for evaluating cases in which there is the potential for vapor intrusion of VOCs into buildings, and DTSC's Brownfields Restoration and School Evaluation Branch is responsible for assessing and investigating proposed/existing school sites. The DTSC's specific site requirements for schools apply only to public schools, not privately funded schools such as Mirman. However, the DTSC's oversight may be elicited for assistance on a voluntary basis.

In the event that DTSC's oversight is elicited through the Voluntary Cleanup Program, and the site is a school, DTSC may additionally require a soil evaluation and potential investigation be performed in accordance with the *Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers* (*Phase I Addendum Guidance*; DTSC 2006).

The Office of Environmental Health Hazard Assessment (OEHHA) is a specialized department within the cabinet-level CalEPA with responsibility for evaluating health risks from environmental chemical contaminants.

The applicable CalEPA (DTSC and OEHHA) guidance documents for environmental investigations and human health risk assessments, include, but are not limited to:

- DTSC's *Phase I Addendum Guidance* (DTSC 2006)
- DTSC's *Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air* (DTSC 2011a)
- DTSC's *Vapor Intrusion Mitigation Advisory* (DTSC 2011b)
- DTSC's *Advisory for Active Soil Gas Investigations* (DTSC 2015),
- DTSC's *Human Health Risk Assessment Note 3 – DTSC-Modified Screening Levels* (DTSC 2020)
- OEHHA's *Guidance for School Site Risk Assessment Pursuant to Health and Safety Code Section 901(f): Guidance for Assessing Exposures and Health Risks at Existing and Proposed School Sites* (OEHHA 2004)

2.5.3 Other Regulations

The City of Los Angeles and CalEPA are primarily responsible for regulatory concurrence with the mitigation strategy proposed for future and existing improvements at the Site. However, other regulatory bodies have established potentially applicable

regulations and guidance for aspects of the Project. The following subsections provide a discussion of these regulations and applicability.

2.5.3.1 OSHA

Federal occupational safety and health regulations contain provisions with respect to hazardous materials management. The applicable federal law is the Occupational Safety and Health Act (OSHA) of 1970 as amended (29 U.S.C., Sections 651-678; 29 Code of Federal Regulations [CFR] 1910). Federal OSHA requirements are designed to promote worker safety, worker training, and worker right-to-know. OSHA establishes regulatory requirements primarily by promulgating occupational safety and health standards. These standards establish PELs for several air contaminants (29 CFR sec. 1910.1000). These PELs define the amount of hazardous airborne chemicals to which an employee safely could be exposed over specific periods of time. When administrative or engineering controls cannot achieve compliance with PELs, protective equipment or other protective measures must be used.

OSHA can delegate its authority to administer the act to states that have developed a state plan with provisions at least as stringent as those provided by OSHA. California is a delegated state for federal OSHA purposes. The Cal/OSHA program (codified in the California Code of Regulations [CCR], Title 8, and in the Labor Code Secs. 6300-6711) is administered and enforced by the Division of Occupational Safety and Health, a unit of the California Department of Industrial Relations.

2.5.3.2 SCAQMD

The South Coast Air Quality Management District (SCAQMD) is responsible for improving air quality in the Los Angeles area by regulating emissions from stationary sources of air pollution. SCAQMD Rule 1150.1 controls gaseous emissions from active and inactive municipal solid waste landfills, though the Site is not within the current or former landfill boundary and is not subject to these standards. The passive Site Design Level III mitigation infrastructure planned for installation in the Project's future building is not anticipated to be subject to SCAQMD permit-by-rule requirements; however, SCAQMD will be engaged for assessment and confirmation prior to initiating construction activities.

Active sub-slab depressurization (SSD) systems, such as the ones planned for construction in the existing buildings at the Site, are often subject to SCAQMD permit-by-rule requirements. However, SCAQMD Rule 219(c)(11) specifies an exemption for sub-slab ventilation systems that meet the following requirements:

- The aggregate flow rate influent to each system is less than 200 standard cubic feet per minute (scfm);
- Vacuum suction pits do not penetrate more than 18 inches below the bottom of the slab;
- The inlet total organic compounds concentration does not exceed 15 parts per million by volume (ppmv) measured as hexane; and
- The ventilation system is connected to air pollution control equipment consisting of a carbon adsorber sized to handle at least 200 scfm, or equivalent air pollution control.

It is anticipated that the SSD infrastructure planned for construction at the Site can be installed in accordance with these requirements and will therefore be exempt from SCAQMD permitting.

3. ENVIRONMENTAL SITE INVESTIGATIONS

Environmental investigations have been conducted at the Site since 2018 to evaluate the potential onsite presence of subsurface methane and VOCs associated with LFG generated by the decomposition of wastes impounded in the MC1 landfill. Additionally, a soil investigation was performed at the request of DTSC in general accordance with the *Phase I Addendum Guidance*. The summary of existing conditions presented below is based on five key documents prepared for the Site:

- *Phase I Environmental Site Assessment* (Phase I ESA) prepared for Mirman School by Partner, dated May 2, 2018 and reissued on August 28, 2020 (Partner 2018 and 2020);
- *Methane Survey Report* prepared for Mirman School by Partner, dated January 30, 2019 (Partner 2019);
- *Soil Vapor Investigation Report* prepared for the Mirman School by Geosyntec, dated May 2020 (Geosyntec 2020b);
- *Addendum to the May 2020 Soil Vapor Investigation Report* prepared for the Mirman School by Geosyntec, dated 11 August 2020 (Geosyntec 2020c); and,
- *Supplemental Letter Report* prepared for the Mirman School by Geosyntec, dated 25 March 2021 (Geosyntec 2021).

3.1 Methane Investigations

Partner conducted a Methane Survey at the Site in January 2019 to evaluate the concentrations of methane in soil gas beneath the Site. Testing was performed in general

accordance with LADBS requirements. The scope of the Methane Survey included the advancement of four borings constructed into soil vapor probes (SVPs) for the collection of soil gas samples (Figure 2). Samples were collected and analyzed for methane using a LANDTEC® GEM5000 multi-gas meter, which is an industry-standard field instrument for measuring methane concentrations in SVPs. Methane was detected in each soil vapor probe, at concentrations ranging from 1,000 to 92,000 ppmv (Partner, 2019). However, concentrations were only observed to be significantly elevated in one location (B3), which was located nearest to the south property boundary. In other locations, methane was not detected above 5,000 ppmv.

The methane concentration of 92,000 ppmv, or 9.2 %v, is above the 5 %v (50,000 ppmv) permissible limit for subsurface methane migrating from a landfill, as established in 27 CCR Section 20921. This 5 %v threshold corresponds to the LEL for methane. As such, additional monitoring was recommended to confirm these results and establish trends.[2]

Three LFG monitoring probes (SVP-1, SVP-2, and SVP-3) were installed at the Site in November 2019 to monitor for potential onsite migration of LFG generated by MC1 (Figure 2). In February 2020, five additional dual-nested SVPs (SV1 through SV5) were also installed at the Site along the perimeter of the property between the Site and MC1 for the purpose of evaluating potential onsite migration of VOCs as well as methane associated with LFG encroachment (Figure 2).

Methane testing was conducted in general accordance with LADBS's *Site Testing Standards for Methane* guidance document (LADBS 2014). However, LADBS testing guidelines are intended for developments located in the Methane Zone or Methane Buffer Zone. Instead, the potential source of subsurface methane at the Site is MC1. As such, the methane testing was conducted in a fashion more typical for evaluating LFG migration, rather than from naturally occurring methane seeps in the Methane Zone/Methane Buffer Zone. Accordingly, testing was not conducted in strict adherence with LADBS standards; however, the testing is considered representative of subsurface conditions based on the specific site scenario. The following is a general summary of deviations from LADBS testing standards:

- Probe locations were not selected at one per 20,000 square feet; instead, probes were advanced along the southwest portion of the Site to "intercept" LFG potentially migrating onto the Site; and
- Instead of being constructed as 3-interval gas probes, onsite probes are a combination of standard long-screen LFG probes and dual-interval SVPs, which

[2] As an interim measure, methane detectors were also installed within existing structures throughout the Site, following the detection of elevated methane in the Site subsurface in 2018.

were constructed to be representative of the depths in which LFG would be potentially migrating through the subsurface.

The three LFG monitoring probes were sampled by Geosyntec in November 2019 and January 2020, and the five dual-nested SVPs were sampled by Geosyntec in February 2020 and July 2020 (Geosyntec 2020b and 2020c). Methane concentrations were measured in the field using a LANDTEC® GEM5000 multi-gas meter, as they were during the initial 2018 Methane Survey. During the November 2019 and January 2020 sampling events, samples were also forwarded to an offsite laboratory and analyzed for methane by American Society for Testing and Materials (ASTM) Method D1946. Pressures were measured using digital manometers or analog gauges.

3.1.1 Results

The highest methane concentration detected in the sample collected from SV2-15 on 17 February 2020 was 4,000 ppmv (0.4 %v). A corresponding pressure of 0.702 inches of water column (in. H_2O) was recorded at this probe location. Subsequent testing was non-detect for methane in this probe and corresponding pressures were not observed above 0.764 in. H_2O.

3.1.2 Conclusions and Recommendations

Methane was not detected in the three LFG probes and five dual-nested SVPs at concentrations greater than 4,000 ppmv during these four sampling events (Geosyntec, 2020b and 2020c), indicating that the elevated concentration of methane previously detected during the 2018 Methane Survey was anomalous and does not represent typical Site conditions. It is anticipated that the previous detections of methane at concentrations of up to 92,000 ppmv in one location were the result of transitory Site conditions associated with a temporary failure of the MC1 LFG collection system or similar circumstances. Notwithstanding, Mirman proposes to implement methane mitigation strategies for the Site's new and existing buildings. Specifically, due to the anomalous nature of this prior elevated methane detection, and because methane mitigation infrastructure installed at the Site would serve as a secondary line of defense behind the active collection system at MC1, a methane mitigation design equivalent to Site Design Level III under the City's Methane Code is recommended to be sufficient for existing and future structures at the Site. LADBS's concurrence that Site Design Level III is appropriate for the Site is documented in Appendix A.

3.2 VOC Investigations

The three LFG monitoring probes sampled by Geosyntec in November 2019 for methane were also sampled for VOCs. While minimal methane was detected during sampling in November 2019, trace to low concentrations of VOCs consistent with myriad constituents

commonly detected in LFG were detected in soil gas samples collected from these features. VOCs detected are typical of decomposed consumer waste products commonly found in landfills (i.e., petroleum-related VOCs, halogenated VOCs, freons, and other trace compounds). This prompted an additional LFG probe sampling event for VOCs in July 2020, as well as the subsequent installation and sampling of the five permanent, dual-nested SVPs along the southwest Site perimeter in the direction of MC1 (Geosyntec 2020b). The five dual-nested SVPs were sampled in February 2020 and July 2020 (Geosyntec 2020b and 2020c).

Samples were collected from the LFG monitoring probes and SVPs in accordance with DTSC guidance (DTSC 2015). Following collection, samples were forwarded to an offsite laboratory for analysis of VOCs by USEPA Method TO-15.

3.2.1 Results

Results were compared to School-specific soil vapor screening levels (SVSLs) that were developed for each identified compound in accordance with CalEPA guidance (DTSC 2011a, OEHHA 2004) based on a conservative occupancy scenario for staff and students that accounts for both the standard academic calendar and potential extracurricular activities (Geosyntec 2020b). Concentrations of VOCs were consistently below School-specific SVSLs calculated for the Site during the four sampling events, indicating that there is no unacceptable risk to Site occupants due to soil vapor intrusion of subsurface VOCs into indoor air.

3.2.2 Conclusions and Recommendations

Concentrations of VOCs detected in LFG monitoring probes and dual-nested SVPs were below the School-specific SVSLs developed for the Site, and therefore do not present an unacceptable risk to Site occupants resulting from soil vapor intrusion into overlying structures. While already considered negligible, the risk posed by VOCs generated by MC1 would be further negated by the LFG mitigation systems planned for construction at the Site.

Because the SVPs were constructed along the perimeter of the Site closest to the VOC source area (i.e., MC1), the concentrations detected in samples collected from these features can be considered representative of the overall highest concentrations of VOCs likely to be present in the Site subsurface. While these concentrations may temporarily increase in the event of a LFG migration event, LFG probes along MC1's perimeter are monitored on at least a quarterly basis, and in the event of active LFG migration from the landfill, LACSD would be required to rectify issues with the LFG collection system immediately in order to discontinue LFG migration across the landfill boundary. Therefore, because the human health risk associated with exposure to VOCs is evaluated

based on long-term chronic exposure scenarios, and present-day concentrations of VOCs do not present an unacceptable risk to Site occupants due to soil vapor intrusion under these long-term exposure scenarios, the additional risk associated with a short-term increase in subsurface VOCs due to an LFG migratory event is considered negligible. DTSC's concurrence that the concentrations of VOCs detected in the Site subsurface do not pose a threat to public health or the environment is documented in Appendix B.

3.3 Soil Investigation

The Phase I ESA report identified the potential for lead-based paint (LBP) to be present at the Site due to the age of some of the existing structures, although no actual LBP presence was noted (Partner 2020). Two buildings constructed prior to 1993 are present at the Site. In a 10 February 2021 email to Geosyntec, DTSC identified the potential presence of LBP to be a data gap due to the possibility for LBP to impact surface soils, which could pose unacceptable risk to Site occupants via the direct-contact exposure pathway. As a result, DTSC recommended that a soil investigation be conducted in accordance with the *Phase I Addendum Guidance* (DTSC 2006).

On 17 March 2021, Geosyntec conducted soil sampling at the Site in accordance with this guidance to evaluate whether there is evidence that LBP may be impacting surface soils in the immediate vicinity of these structures. Six soil sampling locations per building were selected (12 locations total). Where planters are present adjoining to these buildings, soil samples were collected from within 2 feet of the building wall (S1, S2, S4, S5, S6, S7, S8, S10, S11, and S12). In areas in which the side of the building is surrounded by asphalt or concrete, a soil sample was collected from the nearest location in which water is likely to collect during rain events (S3 and S9).

Soil samples were collected from 0 to 6 inches bgs using a clean trowel that was decontaminated between sampling locations. Following collection, the soil samples were placed on ice and forwarded under standard chain-of-custody procedures to Eurofins Calscience, a California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) certified laboratory. Samples were analyzed for total lead in accordance with USEPA Method 6010B.

3.3.1 Results

Lead was detected in each sample at concentrations ranging from 5.17 milligrams per kilogram (mg/kg) to 42.7 mg/kg (Geosyntec 2021). Lead was not detected above the DTSC residential screening level (per the *Phase I Addendum Guidance*) of 80 mg/kg. The highest concentration of lead detected was nearly 50 percent less than DTSC's screening level. The potential presence of organochlorine pesticides (OCPs) and potential risk associated with undocumented fill soils at the Site were also evaluated, but the

potential risk was determined to be negligible due to a lack of complete exposure pathways.

3.3.2 Conclusions and Recommendations

Concentrations of lead detected in soil samples were below the DTSC residential screening level of 80 mg/kg. Therefore, soil lead concentrations do not pose a health concern for Site occupants. Based in part on these results, further environmental investigation of the Site is not required by the DTSC (Appendix B).

4. LANDFILL GAS MITIGATION STRATEGY

The Project will implement LFG mitigation systems in existing and future structures to achieve conformance with regulatory requirements and protect Site occupants from hazards associated with potential LFG migration onto the Site.

The LFG mitigation systems will minimize the potential for LFG to accumulate within structures. The system will also further minimize risk associated with the incidental VOCs identified in subsurface soil vapor underlying the Site, which are already below School-specific SVSLs. This standard will be achieved through structure-specific mitigation designed to minimize potential migration of LFG into structures through cut-off features, with associated monitoring.

The existing LFG collection system operating at MC1 represents the first line of defense against the potential migration of LFG from MC1 onto the Site. However, LFG collection systems sometimes malfunction or are briefly shut down for maintenance. As such, implementation of this mitigation strategy represents a conservative secondary line of defense against hazards associated with the potential onsite migration of LFG from MC1 and is considered a very conservative approach for mitigating potential risk to Site occupants.

As noted above, LADBS provides standard designs for methane mitigation infrastructure for installation in new developments. However, LADBS does not currently provide standards and guidance for the construction of methane mitigation infrastructure for existing buildings. Therefore, the mitigation approaches for existing and future Site improvements are addressed separately.

4.1 Future Buildings

Site Design Level III passive LFG mitigation infrastructure (sub-slab systems) will be constructed for future buildings using LADBS's *Methane Hazard Mitigation Standard Plan* (Standard Plan; LADBS 2010) to protect against potential accumulation and intrusion of COCs associated with LFG (i.e., methane and VOCs) into these structures. LADBS has provided written concurrence with the plan for mitigation infrastructure installed in future buildings to be constructed in accordance with Site Design Level III standards (LADBS 2020, see Appendix A), which have a design methane concentration of 1,001 to 5,000 ppmv (Table 1). These systems are anticipated to consist of the following primary components:

- A network of perforated sub-slab horizontal vent pipes to collect encroaching LFG;

- A permeable gravel blanket below an impervious membrane to promote flow of LFG into the perforated horizontal pipe network and prevent potential upward flow of LFG into overlying buildings; and
- Vent risers to safety vent LFG and prevent potential buildup of LFG below the structures.

A dewatering system is not required due to the depth of groundwater at the Site.

The LFG mitigation infrastructure will be constructed in accordance with LADBS's written approval letter (LADBS 2020), Standard Plans, and the Methane Code, as applicable. The LFG mitigation infrastructure design will be submitted for review and approval by LADBS and LAFD prior to construction.

4.2 Existing Buildings

LADBS standard guidance for methane mitigation consists of sub-slab ventilation (SSV) infrastructure, which cannot be cost-effectively installed within existing structures. Instead, SSD mitigation systems are the most effective option for actively mitigating intrusion of subsurface vapors potentially containing harmful gases (such as methane and VOCs) into an existing structure, as described within the DTSC October 2011 Vapor Intrusion Mitigation Advisory (2011 Mitigation Advisory) (DTSC 2011b).

SSD is a very common mitigation approach that consists of applying a continuous vacuum to the shallow subsurface to induce a constant absolute pressure in the sub-slab interval that is less than the absolute pressure within the overlying structure. The system acts to only allow flow in the downward direction across the slab from the higher pressure in the building to the lower pressure beneath the slab, cutting off the vapor intrusion pathway. The vacuum is typically induced through a series of "depressurization pits" or similar features, from which air is constantly extracted using a fan or blower to induce the desired vacuum. Extracted air from the sub-slab interval containing methane, VOCs, and/or other compounds is collected and piped to an ambient air discharge point. A maintained pressure differential of -4 to -10 pascals (~ -0.02 to -0.04 in. H_2O) or less beneath the slab is considered adequate to mitigate the intrusion of subsurface gases from beneath a structure (USEPA 2008 and DTSC 2011b).

4.3 Regulatory Approval

As discussed in Section 2.5, the regulatory agencies responsible for project oversight are the City of Los Angeles for methane, and DTSC for VOCs, lead from LBP, and OCPs from termiticides application. These agencies have been approached for approval and concurrence with the planned mitigation strategy for the Site. The regulatory approach is discussed in detail below.

4.3.1 City of Los Angeles

While the presence of methane at 92,000 ppmv would typically require Site Design Level V methane mitigation requirements according to LAMC Section 91.7108, subsequent monitoring at the Site (as summarized in Section 3) has indicated that this detection was anomalous and is not representative of normal Site conditions. Further, LAMC mitigation requirements are primarily intended for structures located in the Methane Zone and Methane Buffer Zone associated with natural, continuous methane seeps from underlying petroleum fields. Because of the anomalous nature of the prior elevated methane detection at the Site and because methane mitigation infrastructure installed at the Site would be a secondary line of defense along with the active collection system at MC1, concurrence with the proposed Site Design Level III methane mitigation infrastructure for existing and future structures at the site was requested from LADBS.

Specifically, in July 2020, Geosyntec prepared two technical memoranda regarding the proposed SSD mitigation approach: (1) *Methane Testing Results and Sub-Slab Depressurization Design Objectives;* and (2) *Diagnostic Testing Results* (collectively, the Methane Report; Geosyntec 2020a). The Methane Report presents the results of methane monitoring conducted at the Site, describes the proposed methane mitigation engineering controls for the existing structures at the School, provides the results of onsite subsurface testing with a design analysis for the mitigation engineering controls to support the proposed methane mitigation engineering controls, and outlines how the mitigation engineering controls meet the intent of the LADBS standard methane mitigation design. The results of the design analysis also provide conservative equipment performance parameters to meet necessary design criteria for installation in existing buildings. Geosyntec subsequently prepared a complete SSD construction design plan set in accordance with applicable portions of LADBS guidance.

In September 2020, Geosyntec submitted the SSD construction design plan set and the Methane Report (the *Sub-Slab Depressurization System Design* [Geosyntec 2020a]) to LADBS. In a response letter from the City dated 25 November 2020 (LADBS 2020, see Appendix A), LADBS concurred with the mitigation strategy for existing and future Site improvements. Construction design plans for the mitigation systems for existing and future improvements will be submitted to LADBS and LAFD for review and approval.

4.3.2 Department of Toxic Substances Control

On 6 January 2021, Mirman entered into a Standard Voluntary Agreement (SVA) with the DTSC for formal regulatory concurrence with the risk evaluation conducted for the Site, and concurrence with the conclusion that VOCs (and lead from LBP) do not pose an unacceptable risk to Site occupants. Concurrence with LADBS oversight of the LFG mitigation strategy for existing and future Site improvements was also requested. DTSC's

assessment consisted of a review of the investigations conducted at the Site pertaining to methane, VOCs, and LBP, and was based on the following documents:

- *Phase I Environmental Site Assessment* (Phase I ESA) prepared for Mirman School by Partner, dated 2 May 2018 and reissued on August 28, 2020 (Partner 2018 and 2020);
- *Soil Vapor Investigation Report* prepared for the Mirman School by Geosyntec, dated May 2020 (Geosyntec 2020a); and
- *Addendum to the May 2020 Soil Vapor Investigation Report* prepared for the Mirman School by Geosyntec, dated 11 August 2020 (Geosyntec 2020b); and;
- *Supplemental Letter Report* prepared for the Mirman School by Geosyntec, dated 25 March 2021 (Geosyntec 2021).

Based on the above documents' content, collectively, DTSC considered these documents as a Preliminary Environmental Assessment Equivalent (hereinafter referred to collectively as a PEA, or PEA Report). Formal concurrence with the risk evaluation and LADBS oversight of the LFG mitigation strategy was received from DTSC on 14 April 2021. A copy of this PEA approval letter is included as Appendix B. As stated in the letter, "neither a release of hazardous material or substance which would pose a threat to public health or the environment under unrestricted land use was indicated at the Site. Therefore, DTSC concurs with the conclusion of the PEA Report that further environmental investigation of the Site is not required."

5. MITIGATION PLAN AND IMPACT SUMMARY

This section provides a summary of LFG Mitigation Measures (MMs) that will be implemented to mitigate risk associated with LFG at the Site to a less than significant level.

5.1 Mitigation Measure 1 – Future Buildings

MM-1 pertains to the future building to be constructed at the Site and will consist of an engineered passive ventilation system constructed beneath the structure slab to minimize potential migration of LFG into the building, in accordance with LADBS Site Design Level III requirements (Table 1) and as described in Section 4.1.1. MM-1 will reduce the potential impacts associated with LFG during Project operation to a less than significant level. This strategy also provides a pathway for these gases to be safely vented and prevented from building up in the subsurface immediately below future buildings. Construction controls (MM-3) that will be implemented to further mitigate risk associated with LFG during construction activities are discussed in Section 5.3. Proper operation of these mitigation systems will be monitored on a prescribed basis in accordance with the Operation and Maintenance (O&M) Plan (MM-4) discussed in Section 5.4.

5.2 Mitigation Measure 2 – Existing Buildings

MM-2 pertains to existing buildings at the Site and will consist of active depressurization beneath existing buildings to minimize potential migration of LFG into the structures, in accordance with the implementation strategy described in Section 4.1.2 and approved by LADBS (Geosyntec 2020 and LADBS 2020). MM-2 will reduce the potential impacts associated with LFG during Project operation to a less than significant level. This strategy also provides a pathway for these gases to be safely vented and prevented from building up in the subsurface immediately below a building. Construction controls (MM-3) that will be implemented to further mitigate risk associated with LFG during construction activities are discussed in Section 5.3. Proper operation of these mitigation systems will be monitored on a prescribed basis in accordance with the O&M Plan (MM-4) discussed in Section 5.4.

5.3 Mitigation Measure 3 – Construction Controls

During construction at the Project Site, controls will be in place to mitigate the effects of subsurface gases on workers and the public in accordance with OSHA standards, which could otherwise result in potential explosivity hazards, asphyxiation hazards, and/or other hazards. During construction, the following controls will be implemented:

- Gas monitoring devices for measuring LEL, oxygen, and VOCs in ambient workspace air will be present to alert workers to potential elevated explosive gas concentrations, potential asphyxiation hazards, and/or potential hazards associated with elevated VOCs when subsurface soil disturbing work is being performed.
- Procedures will be in place if elevated explosive gas concentrations, oxygen-deficient conditions, or significantly elevated VOCs are detected, such as evacuating the area and/or increasing ventilation within the immediate work area where elevated methane or VOC concentrations are detected, or requiring the use of additional personal protective equipment (PPE), such as respirators, when working in areas with elevated VOC concentrations.
- Development of a Health and Safety Plan (HASP). The HASP will describe the work activities and hazards associated with each work activity. Hazard mitigation will be presented in the HASP to limit construction risks to workers. The HASP will have emergency contact numbers, maps to the nearest hospital, action levels and response actions related to methane, oxygen and specific VOC gas concentrations, allowable worker exposure times, and mandatory PPE requirements. The HASP will be signed by all workers onsite to demonstrate their understanding of the potential construction risks.
- Workers will be trained to identify exposure symptoms and implement response actions when detections exceed levels indicated in the HASP.
- Soil exposed during excavations will be minimized to reduce the surface area that could off-gas, which will be done by staggering exposed excavation areas; and
- Distance between the public and excavation activities will allow for oxidation and dilution of subsurface gas emissions, if any; therefore, exclusion zone fencing will be established to limit public access.

These components will reduce the risk associated with potentially hazardous subsurface gas during Project construction to a less than significant level.

5.4 Mitigation Measure 4 – Operations and Maintenance Plan

An O&M Plan will be developed for each LFG mitigation system. The O&M Plan will incorporate the maintenance and service procedures for the LFG mitigation features implemented for the Project.

Typical elements to be included with the O&M Plan will be regular maintenance and monitoring of the system, including calibration and replacement of sensors, monitoring of SSD/venting system(s) for clogs or damage, repair observations, monitoring of gas

probes, monitoring of standard system parameters (i.e., flow rates, vacuum, methane/VOC concentrations, etc.), and performing other routine maintenance, as-needed. Annual O&M Reports will be prepared, summarizing the previous year's operation(s), maintenance, and monitoring activities and will be submitted to Mirman School.

5.5 Mitigation Measure 5 – Emergency Plan

In accordance with the Methane Code, an Emergency Plan will be developed to address emergency situations resulting from explosive gas detections. The Emergency Plan will identify the responsible individual for interfacing with LAFD in the establishment, describe emergency procedure implementation, and discuss on-going updates to the Emergency Plan. Conspicuous postings of the LAFD phone number and emergency plan procedures in locations designated by LAFD will be outlined in the Emergency Plan. The Emergency Plan will be submitted for review and approval by LAFD.

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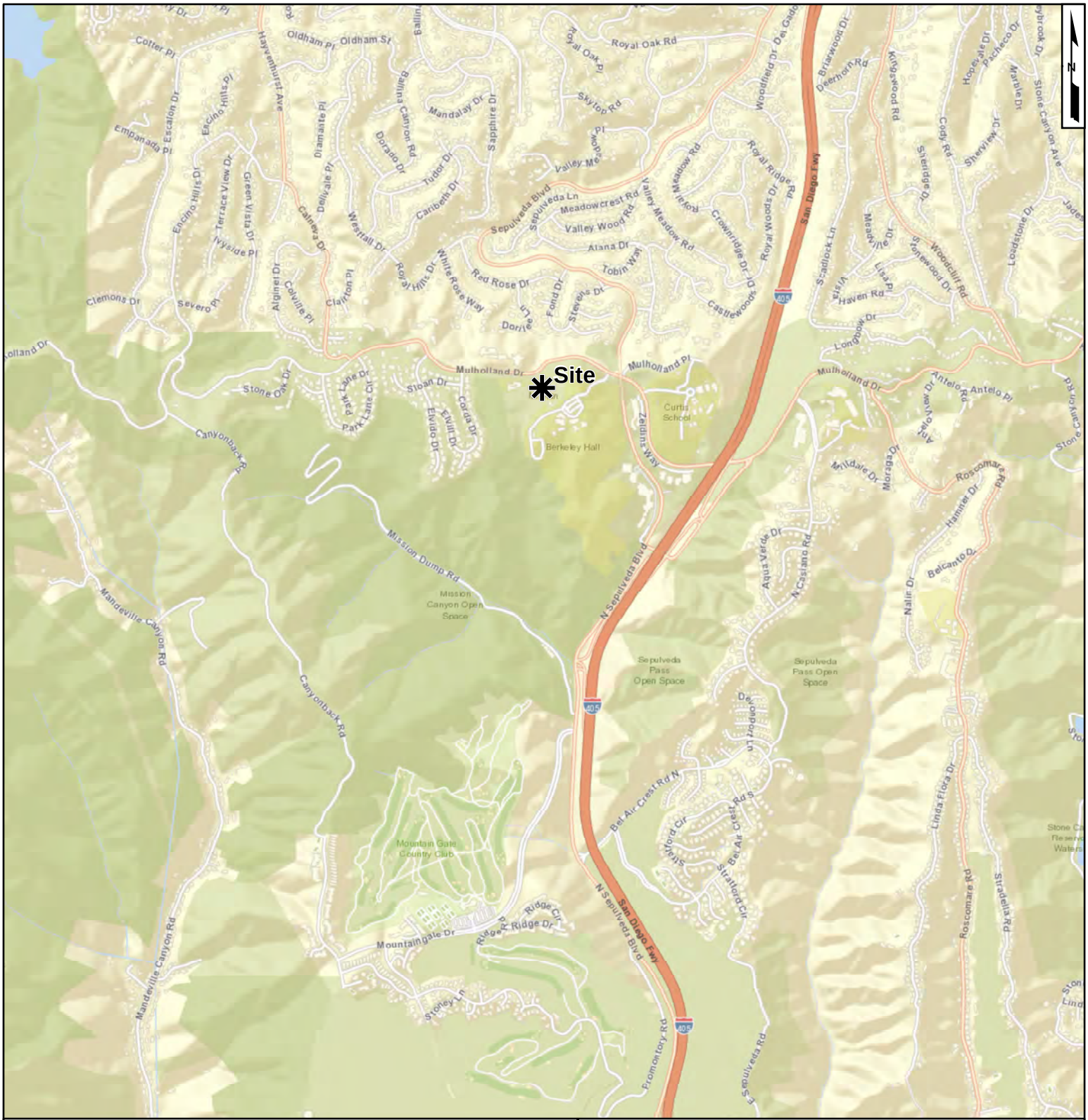
Geosyntec consultants

FIGURES



Site Location

Mirman School
16180 Mulholland Drive, Los Angeles, CA 90049

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SC0984A	May 2021	Figure 1

P:\GIS_SanDiego\01\SC0984A_Mirman\SiteLoc.mxd Name

200 100 0 200 Feet

- Dual-Nested Soil Vapor Probe
- 2018 Methane Sampling Location (Approximate)
- Landfill Gas Monitoring Probe
- Parcel Boundary with Assessor ID
- Landfill boundary inferred from Mission Canyon Park Project Fact Sheet (January, 2018) and Lofy Engineering Methane Gas Monitoring Report (January 11, 2010)
- Mirman School Boundary 2016 LA Assessors Parcels

All locations are approximate.

Site Layout and Proximity to Mission Canyon 1 Landfill

Mirman School
16180 Mulholland Drive, Los Angeles, CA 90049

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SC0984A	May 2021

Figure 2

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TABLE

Table 1

City of Los Angeles Minimum Methane Mitigation Requirements

Site Design Level			Level I		Level II		Level III		Level IV		Level V
Design Methane Concentration (ppmv)			0-100		101-1,000		1,001-5,000		5001-12,500		>12,500
Design Methane Pressure (inches of water pressure)			<2	>2	<2	>2	<2	>2	<2	>2	All Pressures
PASSIVE SYSTEM	Dewatering System[1]		X	X	X	X	X	X	X	X	X
	Sub-Slab Vent System	Perforated Horizontal Pipes	X	X	X	X	X	X	X	X	X
		Gravel Blanket Thickness Under Impervious Membrane	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Gravel Thickness Surrounding Perforated Horizontal Pipes	2"	2"	2"	3"	2"	3"	2"	4"	4"
		Vent Risers	X	X	X	X	X	X	X	X	X
	Impervious Membrane		X	X	X	X	X	X	X	X	X
ACTIVE SYSTEM	Sub-Slab System	Pressure Sensors Below Impervious Membrane								X	X
		Mechanical Extraction System[2]								X	X
	Lowest Occupied Space System	Gas Detection System[3]		X		X	X	X	X	X	X
		Mechanical Ventillation [3,4,5]		X		X	X	X	X	X	X
		Alarm System		X		X	X	X	X	X	X
	Control Panel			X		X	X	X	X	X	X
MISC. SYSTEM	Trench Dam		X	X	X	X	X	X	X	X	X
	Conduit or Cable Seal Fitting		X	X	X	X	X	X	X	X	X
	Additional Vent Risers[6]										X

Notes

Source: Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code

X = Indicates a Required Migitation Component

1. See Section 91.7104.3.7 for exception

2. The Mechanical Extraction System shall be capable of providing an equivalent of a complete change of air every 20 minutes of the total volume of the Gravel Blanket.

3. See Section 91.7104.3.1 for Narrow Buildings.

4. The Mechanical Ventilation systems shall be capable of providing an equivalent of one complete change of the lowest occupied space air every 15 minutes.

5. Vent opening complying with Section 91.7104.3.4 may be used in lieu of mechanical ventilation.

6. The total quantity of installed Vent Risers shall be increased to double the rate for the Passive System.

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APPENDIX A

CITY OF LOS ANGELES
CALIFORNIA

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

OSAMA YOUNAN, P.E.
GENERAL MANAGER
SUPERINTENDENT OF BUILDING

JOHN WEIGHT
EXECUTIVE OFFICER

November 25, 2020

Re: Mirman School, 16180 Mulholland Drive, Los Angeles, CA

The City of Los Angeles, Department of Building and Safety (LADBS) has reviewed the attached *Methane Testing Results* and *Sub-Slab Depressurization Design Objectives and Diagnostic Testing Results* memoranda (collectively, the Methane Report) prepared by Geosyntec Consultants, Inc. (Geosyntec) and dated September 10, 2020 regarding the site located at 16180 Mulholland Drive (Site) in the City of Los Angeles. The Mirman School, the Site owner, is proposing a campus improvement project consisting of the construction of one new academic building, as well as additions and renovations to several other existing academic buildings.
As described in the Methane Report, the Site is located to the east of the former and now closed Mission Canyon 1 (MC1) landfill, which is maintained by the Los Angeles County Sanitation District (LACSD). The landfill generates landfill gas (LFG), which primarily consists of methane and carbon dioxide, as well as trace amounts of volatile organic compounds (VOCs). LACSD operates a LFG collection system for the landfill, which collects and treats the collected LFG. However, at times the LFG system may be shut down for maintenance or repair, and during such times, there is a potential for LFG to migrate from the landfill onto the Site.

As reported to the Department, prior investigation of the Site detected elevated methane levels in soil gas collected from a temporary soil vapor probe located in an open grass field near the southern border of the Site, at concentrations up to 9.2 percent by volume (%v). Methane was not detected above 0.5%v in the two other temporary soil vapor probes constructed in other locations during the investigation. Due to this result, Geosyntec has conducted subsequent methane and soil vapor sampling at the Site on four separate occasions between November 2019 and July 2020. This subsequent sampling did not detect methane at concentrations greater than 0.4%v, indicating that the elevated concentration of methane previously detected was likely anomalous and does not represent typical Site conditions.

The City's methane regulations (Los Angeles Municipal Code, Chapter IX, Article 1, Division 71) pertain to structures located in the Methane Zone and Methane Buffer Zone and are intended to control methane intrusion associated with natural, continuous methane seeps from underlying petroleum fields. Per the City's Zoning Information Map Access System (ZIMAS), the Site is not located within a City-designated Methane Zone or Methane Buffer Zone. Notwithstanding, given

the previously detected presence of methane at the Site, the Site owner proposes to implement methane mitigation strategies for the new and existing buildings.
Specifically, because of the anomalous nature of the elevated methane detection at the Site, and because LACSD's active LFG collection system for MC1 serves as the existing primary defense against methane intrusion to the Site, a Level 3 methane mitigation system is anticipated to provide a sufficient level of protection for the proposed new academic building. Furthermore, as described in the Methane Report, a proposed sub-slab depressurization (SSD) system is anticipated to provide a sufficient level of protection for the Site's existing buildings. This active SSD system, as proposed, would mitigate potential sub-slab gases by providing a pathway for LFG beneath the slab-on-grade to vent, rather than potentially accumulating and migrating into the existing onsite structures.

Collectively, these proposed systems offer additional protection against potential methane intrusion into existing and proposed new structures beyond that which is already being provided by LACSD's active LFG collection system, and would be consistent with the intent of the City's methane regulations to protect against such intrusion, notwithstanding the Site's location outside of a Methane Zone or Methane Buffer Zone.
If you have any questions or concerns, please feel free to email me at victor.cuevas@lacity.org or call me at (213) 482-0447.

Best Regards

Victor Cuevas P.E., Assistant Chief
Permit and Engineering Bureau
City of Los Angeles, Department of Building and Safety (LADBS)

Geosyntec consultants

APPENDIX B

Department of Toxic Substances Control

Meredith Williams, Ph.D., Director
5796 Corporate Avenue
Cypress, California 90630

Jared Blumenfeld
Secretary for
Environmental Protection

Gavin Newsom
Governor

April 14, 2021

SENT VIA ELECTRONIC MAIL

Mr. Gregory T. Corcoran, P.E.
Senior Principal
Geosyntec Consultants
2355 Northside Drive, Suite 250
San Diego, California 92108
GCorcoran@Geosyntec.com

APPROVAL OF PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT, MIRMAN SCHOOL FOR GIFTED CHILDREN, 16180 MULHOLLAND DRIVE, LOS ANGELES (SITE CODE: 401922)

Dear Mr. Corcoran:

The Department of Toxic Substances Control (DTSC) has reviewed the following documents for the Mirman School for the Gifted Children (Site):

- Phase I (Partner Engineering and Science, Inc., August 28, 2020)
- Soil Vapor Investigation Report (Geosyntec, May 2020)
- Memorandum, Addendum to the May 2020 Soil Vapor Investigation Report (Geosyntec, August 28, 2020)
- Supplemental Letter Report (Geosyntec, March 25, 2021)

Based on the documents' content, collectively, DTSC considered these documents as a Preliminary Environmental Assessment Equivalent (hereinafter referred to collectively as a PEA). On January 6, 2021, Mirman School for the Gifted Children entered into a Standard Voluntary Agreement (Docket No. HSA-FY20/21-072) with DTSC to investigate potential release of any hazardous substance at, from or onto the Site. The PEA presents investigation results and conclusions based on a health risk screening evaluation for the Site.

According to the PEA, the Site consists of approximately 5.4-acres and is located at the southern side of Mulholland Drive within a residential area of Los Angeles. The Site is currently developed with one- and two-story classroom buildings, an auditorium, and

related campus structures. The operations at the Site include classroom instructions, food preparation and service and routine facility maintenance. The Site was undeveloped prior to school construction in 1971. The immediate surrounding properties include Bel Air Presbyterian Church to the north, Berkeley High School to the south, undeveloped land to the east and Westland School to the west.

The Site is located approximately 250 to 400 feet east of the Mission Canyon 1 (MC1) landfill. The MC1 landfill reportedly accepted Class II and Class III waste streams during its operational period in the 1960s and was owned and operated by the Los Angeles County Sanitation District, which maintains responsibility for maintenance and monitoring of environmental conditions at the closed landfill.

The PEA reported that lead from lead-based paint, organochlorine pesticides from termiticides application, and methane and volatile organic compounds from MC1 landfill were not detected at concentrations that would pose risk to human health or the environment under an unrestricted residential land use scenario and recommends no further environmental investigation of the Site. However, a methane mitigation system is proposed and will be implemented in accordance with the Los Angeles Municipal Code and under the oversight of the Los Angeles Department of Building Safety.

Based on review of the PEA Report, neither a release of hazardous material or substance which would pose a threat to public health or the environment under unrestricted land use, was indicated at the Site. Therefore, DTSC concurs with the conclusion of the PEA Report that further environmental investigation of the site is not required and hereby approves the PEA Report.. As with any real property, if previously unidentified contamination is discovered at the Site, additional assessment, investigation and/or cleanup may be required.

If you have any questions regarding this project, please contact Mr. Rafat Abbasi, Project Manager, at (714) 484-5380 or at Rafat.Abbasi@dtsc.ca.gov or Mr. Shahir Haddad, Unit Chief at (714) 484-5368 or at Shahir.Haddad@dtsc.ca.gov.

Sincerely,

Javier Hinojosa, Chief
Brownfields Restoration and School Evaluation Branch
Site Mitigation and Restoration Program

mv/ja/sh

cc: See next page

cc: (via e-mail)

Ms. Bella Bakrania, E.I.T.
Senior Engineer
Geosyntec Consultants
BBakrania@Geosyntec.com

Mr. Shahir Haddad, P.E.
Supervising Engineer
DTSC/Brownfields Restoration and School Evaluation Branch
Shahir.Haddad@dtsc.ca.gov

Mr. Rafat Abbasi, P.E.
Project Manager
DTSC/Brownfields Restoration and School Evaluation Branch
Rafat.Abbasi@dtsc.ca.gov

Brownfields Restoration and School Evaluation Branch Reading File - Cypress