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memorandum

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cc

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subject **Procedure for Evaluating Greenhouse Gas Emissions Under the “Jobs And Economic Improvement Through Environmental Leadership Act” for the 1045 Olive Street Project**

1.0 Introduction

1.1 Purpose

ESA is conducting a comprehensive greenhouse gas (GHG) emissions assessment for the 1045 Olive Street Project (the “Project”), proposed by 1045 Olive, LLC, to demonstrate that the Project meets the GHG requirements of the Jobs and Economic Improvement Through Environmental Leadership Act (“the Act”) (Public Resources Code Section 21178 et seq.). The Office of Planning and Research (OPR) has provided approved guidelines for submitting applications for streamlined environmental review pursuant to the Act. With respect to GHG emissions, a project must demonstrate to the California Air Resources Board (CARB) that it would not result in any net additional GHGs including GHG emissions from employee transportation in accordance with Public Resources Code Section 21183(c). The GHG emissions associated with construction of the Project are also to be considered in the analysis.

This submittal describes the proposed methodology used to estimate the GHG emissions from baseline and Project conditions and describes the proposed methodology used to quantify GHG emission reductions from Project design features and mitigation measures.

1.2 Site Location, Existing Uses, and Project Description

The Project is located at 1045 Olive Street in the South Park community of Downtown Los Angeles (“the Project Site”), approximately 0.6 miles north of the Santa Monica Freeway (I-10) and 0.6 miles east of the Harbor Freeway (I-110). The approximately 0.96-acre Project site is at the northwest corner of the intersection of Olive Street and 11th Street. An alleyway is located on the northwest side of the Project Site.

The Project would remove four existing commercial buildings on the Project Site, and would construct in their place an approximately 751,777 square foot (approximately 1,343,113 square foot gross building floor area inclusive of common space and open space areas) mixed-use high-rise building containing a maximum of 794 residential condominium units and 12,504 square feet of ground- and mezzanine-level neighborhood serving commercial uses along Olive Street and 11th Street. The Project would also include approximately 10,652 square feet of open space. The maximum building height would be 810 feet (approximately 70 stories), and the floor-area ratio (FAR) for the transit area mixed use Project would be 13:1.

Vehicle parking would be provided consistent with the Central City Parking Exception and Downtown Business District parking requirements and is proposed to be located within 5 subterranean levels and 9 levels above grade. Residential units are proposed to wrap the podium along 11th Street and Olive Street on levels 5 through 9. The podium level (10th floor) would contain residential amenities. Residential units are proposed to be located on levels 11 through 51 and 56 through 70. Level 52 would contain mechanical equipment. Levels 53 through 55 would have residential amenity areas, including outdoor space.

Vehicle access (ingress/egress) would be provided from one entrance along Olive Street, near the northern property line and one entrance on the alley, near the north property line. An on-site loading and move-in/out service area would also be accessed from the alley near the middle of the Project Site. The Project would provide up to 891 parking spaces, with 878 spaces dedicated to residential parking and 13 spaces provided for commercial uses. Bicycle parking would also be provided consistent with the requirements of the Los Angeles Municipal Code (LAMC), with approximately 800 long-term spaces provided within the parking garage on ground level, mezzanine and one level below grade. An additional maximum of 85 short-term bicycle parking spaces would be provided consistent with LAMC Section 12.21.A.16.

Construction of the Project would be completed over approximately 3.5 years. The Project would export approximately 80,520 cubic yards of soil and generate approximately 3,400 cubic yards of demolition debris (asphalt, interior and exterior building demolition, and general demolition debris).

2.0 Proposed Procedure for Evaluating GHG Emissions

2.1 Construction

The Project would demolish and remove the existing structures and associated infrastructure from the Project site. The existing uses will be vacated prior to construction and all uses would cease to operate. Construction of the Project would result in one-time GHG emissions during the period of construction activity. Construction of the Project would be completed over approximately 3.5 years and emissions would be estimated for each year of construction. After construction is completed, the Project would become operational. ESA will assume that all new Project facilities will be fully operational on the expected opening day. Therefore, Project construction emissions would not occur contemporaneously with either baseline operational emissions or Project operational emissions.

Consistent with the procedure used for other similar types of certified Environmental Leadership Development Projects (ELDP), such as the Yucca Argyle project, the approach to determine if Project construction would result in net additional GHG emissions would be to consider the Project construction emissions on an annual, calendar year, basis as net new emissions occurring during the Project's construction phase. The Project's construction GHG emissions would be required to be offset in full to meet the requirement of a net zero increase in GHG

emissions. Based on the currently anticipated construction schedule, the final months of construction may occur in the same calendar year as the initial operational year of the Project. The GHG emissions associated with these final months of construction would be added to the Project's initial partial-year operational GHG emissions and the total compared to the baseline annual operational emissions.

Construction emissions will be estimated by assuming a conservative approach to construction activities (i.e., assuming construction occurs at the earliest feasible date) and applying the equipment emissions factors. The emissions will be estimated using the most recent version of the California Emissions Estimator Model (CalEEMod) (Version 2016.3.1) software, an emissions inventory software program developed by the California Air Pollution Control Officers Association (CAPCOA) in conjunction with California air quality management districts and air pollution control districts. The local South Coast Air Quality Management District (SCAQMD) recommends the use of CalEEMod for estimating emissions from land use development projects. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by the California Air Resources Board (CARB) and used to calculate emissions from construction activities, including off- and on-road vehicles. The CalEEMod software will be programmed with Project-specific information such as equipment types expected to be used and the Project construction schedule.

The construction emissions estimates may be supplemented by the EMFAC2014 on-road emissions factor model for on-road trucks. While CalEEMod incorporates the EMFAC2014 model and can provide emissions estimates for on-road trucks, EMFAC2014 may be used directly to provide a more detailed analysis if necessary to account for changes in daily truck trips during the various phases of construction activities. If EMFAC2014 is used, emission factors will be generated using the emissions mode (also referred to as the "burden" mode) to generate South Coast Air Basin-specific vehicle fleet emission factors in units of grams or metric tons per mile, which is the same methodology that CalEEMod uses to generate emission factors.

All construction emissions modeling output files used in the analysis will be incorporated into the GHG Report and submitted to CARB for review.

2.2 Operations

Operation of the existing uses and proposed Project uses results in annual GHG emissions from mobile sources, building energy use, water demand and wastewater treatment, and solid waste generation. The Project's annual, calendar year, operational emissions will be compared to the baseline annual operational GHG emissions to determine the net change in GHG emissions. Emissions will be estimated for a 30-year land use Project lifetime.

Operational emissions will be estimated using the CalEEMod (Version 2016.3.1) software. The emissions estimates may be supplemented by the EMFAC2014 on-road emissions factor model for on-road vehicles. For mobile sources, annual vehicle miles traveled (VMT) from the existing uses and proposed Project uses will be based on trip and VMT data in the traffic report that will be prepared by The Mobility Group. The estimated VMT for the existing uses and proposed Project uses will take into account trip distance reductions from land use characteristics including the existing Project site's infill location and proximity to existing multi-modal public transit services. The estimated reduction in VMT will be supported by evidence from the City of Los Angeles. The City has conducted a comprehensive health study that describes the baseline health conditions in the City and provides a context for understanding the demographic conditions, social and economic factors, physical environment, access to health care, and health behaviors contributing to the health of City residents and workers. The findings are documented in the *Health Atlas for the City of Los Angeles* (Health Atlas), published in June

2013.¹ The Health Atlas is not a plan specifically developed to reduce GHG emissions. Nonetheless, while the primary focus of the Health Atlas is on factors that affect the health behaviors and health status of residents and workers, much of the quantitative data is relevant to a project area's VMT and land use-related GHG emissions as they reflect similar issues regarding land use patterns, urban design, and transportation efficiency. If EMFAC2014 is used, emission factors will be obtained from EMFAC2014, using the same methodology that CalEEMod used to generate emission factors, as described previously under the construction heading. Mobile source emissions are the product of the CalEEMod estimated VMT and the EMFAC2014 emission factors.

Emissions of GHGs from on-site natural gas combustion and off-site electricity generation will be estimated using CalEEMod, which are based on usage data from the CEC's California Commercial End Use Survey (CEUS). Since 1978, the CEC has established building energy efficiency standards, which are updated periodically. CalEEMod applies correction factors to account for compliance with the 2013 version of the Title 24 Building Energy Efficiency Standards. The existing buildings were built prior to the 2008 standards; therefore, electricity and natural gas usage rates will be adjusted to account for compliance with prior Title 24 Building Energy Efficiency Standards. The proposed Project uses would be built to comply with the latest standards; therefore, electricity and natural gas usage rates will be adjusted to account for compliance with the latest 2016 Title 24 Building Energy Efficiency Standards, inclusive of additional energy saving features that would be included in the Project to reduce energy demand. Emission factors for GHGs due to electrical generation to serve the demands of the existing Project Site will be based on the CARB supplied emissions factors in its January 2017 memorandum, *Statewide Emission Factors For Use With AB 900 Projects*. This memorandum provides factors consistent with the "marginal" supply profile for new generation that will be added to the State grid consistent with the year 2020 Renewables Portfolio Standard (RPS). State legislation signed into law in October 2015 further increased the Renewables Portfolio Standard to 50 percent by 2030 and also included interim targets of 40 percent by 2024 and 45 percent by 2027. Future year factors will be reduced proportionately based on these mandated legislative targets.

Emissions of GHGs from solid waste disposal will be calculated using the CalEEMod software based on the solid waste generation rates for the existing uses and the proposed Project uses. The solid waste GHG emissions will take into account the City of Los Angeles municipal solid waste diversion rates.

Emissions of GHGs from water and wastewater are due to the energy required to supply, distribute and treat. Wastewater also results in emissions of GHGs from wastewater treatment systems. Emissions will be calculated using the CalEEMod software based on the water demand rates for the existing uses and the proposed Project uses inclusive of green building features that would be incorporated into the Project to reduce water demand.

Other sources of GHG emissions from existing uses include equipment used to maintain landscaping, such as lawnmowers and trimmers. The CalEEMod software uses landscaping equipment GHG emission factors from the CARB OFFROAD model and the *CARB Technical Memo: Change in Population and Activity Factors for Lawn and Garden Equipment (6/13/2003)*. The CalEEMod software estimates that landscaping equipment operate for 250 days per year in the South Coast Air Basin.

¹ City of Los Angeles, The Health Atlas, (2013), <http://healthyplan.la/the-health-atlas/>. Accessed January 2017.

2.3 Emission Mitigation Measures and Offsets

Annual emissions of GHGs from the Project will incorporate GHG emission mitigation measures, and offsets as necessary to achieve a net zero increase in site GHG emissions for the estimated Project lifetime. Mitigation measures may include rooftop solar projects or other community-based measures. Although not required by regulation, it is understood that it is CARB policy to prioritize offsets in the following order: local, regional, in-state, and lastly out-of-state/out-of-country. The Project will prioritize offsets based on CARB's prioritization order.