

4.2 AIR QUALITY

The environmental setting, regulatory framework, potential impacts, and mitigation measures concerning air quality are discussed in 2016 PEIR Section 4.2.1 and hereby incorporated by reference. The additions/changes to those analyses necessary to make the 2016 PEIR applicable to the revised Project are presented below.

This Section addresses the Project’s potential air quality impacts associated with air emissions generated during both short-term construction and long-term operations of buildout allowed by the Housing Element Update (HEU).

4.2.1 EXISTING ENVIRONMENTAL SETTING

2016 PEIR

The existing environmental setting concerning air quality is discussed in 2016 PEIR Section 4.2.1 (page 4.2-1) and the additions/changes necessary to make the 2016 PEIR applicable to the revised Project are presented below.

ADDITIONS/CHANGES SINCE 2016 PEIR

2016 PEIR Table 4.2-2 provided a summary of measurements collected at the three air quality monitoring stations located nearest the City (i.e., Del Mar–Mira Costa College, Escondido—East Valley Parkway, and Camp Pendleton) from 2010 to 2014. Table 4.2-1, *Summary of Air Quality Measurements (2015 & 2016)*, provides a summary of measurements collected at these monitoring stations since the 2016 PEIR (i.e., during 2015 and 2016).

TABLE 4.2-1: SUMMARY OF AIR QUALITY MEASUREMENTS (2015 & 2016)		
	2015	2016
Del Mar – Mira Costa College		
Ozone		
Days State 1-hour Standard Exceeded (0.09 ppm)	1	0
Days State 8-hour Standard Exceeded (0.07 ppm)	2	1
Days Federal 8-hour Standard Exceeded (0.075 ppm)	1	0
Maximum 1-hour (ppm)	0.098	0.079
Maximum 8-hour (ppm)	0.078	0.071
Escondido – East Valley Parkway		
Ozone		
Days State 1-hour Standard Exceeded (0.09 ppm)	0	n/a
Days State 8-hour Standard Exceeded (0.07 ppm)	3	n/a
Days Federal 8-hour Standard Exceeded (0.075 ppm)	0	n/a
Maximum 1-hour (ppm)	0.079	n/a
Maximum 8-hour (ppm)	0.071	n/a
Nitrogen Dioxide		
Days State 1-hour Standard Exceeded (0.18 ppm)		
Days Federal 1-hour Standard Exceeded (0.100 ppm)		
Max 1-hr (ppm)		
Annual Average (ppm)		

TABLE 4.2-1: SUMMARY OF AIR QUALITY MEASUREMENTS (2015 & 2016)		
	2015	2016
Carbon Monoxide		
Days State 8-hour Standard Exceeded (9 ppm)		
Days Federal 8-hour Standard Exceeded (9 ppm)		
Max. 1-hr (ppm)		
Max. 8-hr (ppm)		
PM₁₀		
Measured Days State 24-hour Standard Exceeded (50 µg/m ³)		
Calculated Days State 24-hour Standard Exceeded (50 µg/m ³)	n/a	n/a
Measured Days Federal 24-hour Standard Exceeded (150 µg/m ³)		
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m ³)		
Max. Daily (µg/m ³)		
State Annual Average (µg/m ³)	n/a	n/a
Federal Annual Average (µg/m ³)	17.5	n/a
PM_{2.5}		
Measured Days Federal 24-hour Standard Exceeded (35 µg/m ³)		
Calculated Days Federal 24-hour Standard Exceeded (35 µg/m ³)	n/a	
Max. Daily (µg/m ³)	29.4	n/a
State Annual Average (µg/m ³)	n/a	n/a
Federal Annual Average (µg/m ³)	n/a	n/a
Camp Pendleton		
Ozone		
Days State 1-hour Standard Exceeded (0.09 ppm)	0	0
Days State 8-hour Standard Exceeded (0.07 ppm)	3	5
Days Federal 8-hour Standard Exceeded (0.075 ppm)	1	0
Maximum 1-hour (ppm)	0.093	0.083
Maximum 8-hour (ppm)	0.077	0.073
Nitrogen Dioxide		
Days State 1-hour Standard Exceeded (0.18 ppm)		
Days Federal 1-hour Standard Exceeded (0.100 ppm)		
Max 1-hr (ppm)		
Annual Average (ppm)		
PM_{2.5}		
Measured Days Federal 24-hour Standard Exceeded (35 µg/m ³)		
Calculated Days Federal 24-hour Standard Exceeded (35 µg/m ³)	n/a	n/a
Max. Daily (µg/m ³)	41.2	28.8
State Annual Average (µg/m ³)	n/a	n/a
Federal Annual Average (µg/m ³)	n/a	n/a
Source: California Air Resources Board Internet Site, California Air Quality Data Statistics. http://www.arb.ca.gov/adam/welcome.html , Accessed April 24, 2018.		

4.2.2 REGULATORY FRAMEWORK

2016 PEIR

The regulatory framework concerning air quality, which is discussed in 2016 PEIR Section 4.2.2 (page 4.2-8), applies to the revised Project and no additions/changes are necessary.

ADDITIONS/CHANGES SINCE 2016 PEIR

No additions/changes are necessary.

4.2.3 SIGNIFICANCE DETERMINATION THRESHOLDS

Consistent with the 2016 PEIR and in substantial conformance with State CEQA Guidelines Appendix G, impacts related to air quality would be significant if the Project would:

- Obstruct the implementation or conflict with the primary goals of the Regional Air Quality Strategy (RAQS). (See Issue 1)
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard (including release emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.

4.2.4 IMPACTS AND MITIGATION MEASURES

4.2.4 - Issue 1: Regional Air Quality Strategy Consistency

Would the Project conflict with the primary goals of the Regional Air Quality Strategy Consistency?

IMPACTS:

2016 PEIR

The potential impacts concerning air quality/plan consistency are discussed in 2016 PEIR Section 4.2.5 (Issue 1, page 4.2-13). California Air Resources Board (CARB) mobile source emission projections and San Diego Association of Governments (SANDAG) growth projections are based on population and vehicle trends, and land use plans developed by cities. As such, projects that propose development consistent with the growth anticipated by the general plan (or less dense) would be consistent with the Regional Air Quality Strategy (RAQS). Analysis concluded the County's population and housing are lower than the regional projection, and therefore it is unlikely that the additional HEU dwelling units would interfere with the San Diego Air Pollution Control District's (SDAPCD) goals for improving air quality in the San Diego Air Basin (SDAB). However, analysis concluded that emissions from the worst-case scenario (Housing Strategy 3) would result in greater emissions than the RAQS' buildout assumptions. All housing strategies encourage increased development diversity by increasing commercial and multi-family land uses. However, because the anticipated development would exceed the growth projections accounted for in the adopted General Plan land use plan and result in emissions that would be greater than what is currently accounted for in the RAQS, impacts were concluded to be significant and unavoidable.

REVISED PROJECT

SDAPCD and SANDAG are responsible for developing and implementing the clean air plans for attainment and maintenance of the SDAB ambient air quality standards; specifically, the State Implementation Plan (SIP) and RAQS. The Federal O₃ maintenance plan is part of the SIP, which includes a demonstration that current strategies and tactics will maintain acceptable air quality in the SDAB based on the national ambient air quality standards (NAAQS). The RAQS outlines SDAPCD's plans and control measures designed to attain the State air quality standards for O₃. The SIP and RAQS rely on CARB and SANDAG information, including mobile and area source emissions, as well as information regarding projected growth in San Diego County and the County's cities, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends, and land use plans developed by San Diego County and the County's cities, as part of the development of their general plans.

The revised Project would have a significant impact if it would conflict with or obstruct implementation of the RAQS, applicable portions of the SIP, and/or any local air quality plans. The RAQS relies on CARB and SANDAG information, including projected growth in the County, and mobile, area source, and all other source emissions, to project future emissions and determine from the projections the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the County and the County's cities. As such, projects that propose development that is consistent with the growth anticipated by city and county general plans would be consistent with the RAQS. However, if a project involves development that is greater than that anticipated in the local plan and SANDAG's growth projections, the project could conflict with the SIP and RAQS, and could contribute to a potentially significant cumulative impact on air quality.

The HEU does not propose residential or other development; rather, it provides capacity for future development consistent with State law. The Project proposes to retain the underlying General Plan land use designation for each candidate site, but add a R-30 Overlay that would increase the maximum density to 30 DU/AC. When compared to the adopted General Plan maximum realistic yield (MRY), the Project's MRY could result in a net increase of as many as 2,303 DU (no change in non-residential land uses would occur). As the revised Project would contribute to local population and employment growth, and associated vehicle miles travelled (VMT) beyond the adopted General Plan, the Project is not accounted for in the SIP and RAQS; therefore, the Project would conflict with the RAQS' primary goals, resulting in a significant unavoidable impact. The impact would be eliminated once the SDAPCD completes a future update to the RAQS, which would be based on updated SANDAG regional population and growth projections, which would consider the proposed HEU. Compliance with EGP policies outlined below would reduce Project VMT by supporting integrated transportation programs, and help plan for multi-modal transportation. Additional policies would implement emissions reduction strategies and encourage alternate energy systems. Additionally, Mitigation Measure AQ-1 is recommended to ensure Project-related population growth and VMT are provided to SANDAG for incorporation into the future RAQS update. This update would likely occur following Project approval. Further, State law requires that the City accommodate their RHNA "fair share" of the region's housing needs, which cannot be met without the Project's proposed rezoning and the future development it would accommodate. However, the Project would result in a long-term impact on the region's ability to meet State and Federal air quality standards. Further, the Project would conflict with the RAQS goals and policies. Implementation of the recommended mitigation measures and compliance with SDAPCD rules would reduce conflicts and obstruction of the

RAQS; however, the candidate sites' combined emissions (Project buildout) would exceed the SDAPCD significance thresholds for criteria pollutants; see Issue 2 below. Exceeding these thresholds has the potential to hinder the region's compliance with each RAQS. Therefore, this impact is considered significant and unavoidable after implementation of mitigation.

GENERAL PLAN POLICIES AND MITIGATION MEASURES:

GENERAL PLAN POLICIES:

Refer to Appendix E, *Relevant General Plan Policies*, for the full text of these policies.

- CE Policy 1.15
- CE Policy 3.4
- RME Policy 5.1
- RME Policy 13.1
- RME Policy 15.1

MITIGATION MEASURES:

The mitigation measures concerning air quality/plan consistency identified in 2016 PEIR Section 4.2.5 are presented below, inclusive of the additions/changes necessary for the revised Project (indicated by "~~deleted text~~" / "underlined text").

AQ-1: Prior to the next update to the Regional Housing Needs Assessment and within six months within six months of the certification of the final EIR, the City shall provide a revised housing forecast to SANDAG to ensure that any revisions to the population and employment projections used by SDAPCD in updating the RAQS and the SIP will accurately reflect anticipated growth due to the HEU.

LEVEL OF SIGNIFICANCE: Significant Unavoidable Impact

4.2.4 - Issue 2: Criteria Pollutants

Would the Project 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 (including release emissions which exceed quantitative thresholds for ozone precursors)?

IMPACTS:

2016 PEIR

The potential impacts concerning criteria pollutants are discussed in 2016 PEIR Section 4.2.6 (Issue 2, page 4.2-16).

Short-Term Construction Emissions

Construction emissions were modeled for 11 candidate sites with varying MRY, both greatest and smallest, using CalEEMod; see 2016 PEIR Table 4.2-5. For the site with the largest area (approximately 21 acres) and greatest MRY (416 DU and 450,900 square feet of non-residential uses), analysis concluded construction ROG emissions would exceed the significance threshold due to the VOC content of architectural coatings. VOC emissions would be reduced through compliance with SDAPCD Rule 67. ROG emissions would be reduced through compliance with Mitigation Measure AQ-2. However, due to the uncertainty at the plan level concerning construction schedules, phasing, and duration, the VOC content

of the coatings, ROG emissions were determined to be significant and unavoidable. Construction emissions for all other criteria pollutants were below thresholds and determined to be less than significant.

Long-Term Operational Emissions

Operational emissions were modeled for 11 candidate sites with varying MRY, both greatest and smallest, using CalEEMod; see 2016 PEIR Table 4.2-6. Modeling included the site with the greatest MRY (416 DU and 450,900 square feet of non-residential uses) and average daily traffic (ADT). Total operational emissions for all modeled housing sites, including the site with the greatest MRY, were below thresholds and determined to be less than significant. Thus, the 2016 PEIR concluded that total operational emissions for sites with less MRY would be below thresholds and less than significant.

The additions/changes necessary to make the 2016 PEIR applicable to the revised Project are presented below.

REVISED PROJECT

Short-Term Construction Emissions

Short-term air quality impacts are predicted to occur during grading and construction operations associated with future development. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and construction crew motor vehicles.

Construction activities would generally consist of grading, demolition, excavation, cut-and-fill, paving, building construction, and application of architectural coatings. Construction activities would also include construction-worker vehicle trips, building material deliveries, soil hauling, etc. Construction-related emissions are typically site-specific and depend upon multiple variables.

To provide a reference of typical construction emissions associated with individual sites, construction emissions were modeled for the four candidate sites (Candidate Sites #9, #10, #3, and #2) with the largest areas, and greatest demolition volumes and MRY; see Table 4.2-2, *Typical Construction Emissions*. The construction emission estimates conservatively assume a one-year construction duration, and the default construction equipment usage included in CalEEMod. It is noted that these emissions are provided for reference and actual Project emissions may differ depending on Project-specific variables such as construction schedule/duration. As shown in Table 4.2-2, only construction ROG emissions for Candidate Sites #9 and #10 would exceed the significance threshold due to the VOC content of architectural coatings. Compliance with SDAPCD Rule 67 would reduce VOC emissions, and compliance with Mitigation Measure AQ-2, which requires that construction emissions for specific development projects to be analyzed and mitigated, would reduce ROG emissions. Additionally, compliance with SDAPCD Rule 55, which requires preparation of a Fugitive Dust Plan, would minimize PM₁₀ emissions. Construction emissions for Candidate Sites #3 and #2, as well as for all other candidate sites having smaller areas, and less demolition and MRY, would be below significance thresholds.

TABLE 4.2-2: TYPICAL CONSTRUCTION EMISSIONS						
Candidate Site ^{1, 2}	Pollutants (Pounds per Day) ^{3, 4, 5}					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
#9 (21.5 AC & 296 DU) ⁶	80.20 ⁷	63.72	34.30	0.11	23.77	12.17
<i>SDAPCD Significance Threshold</i>	75	250	550	250	100	55
<i>Is Threshold Exceeded?</i>	Yes	No	No	No	No	No
#10 (16.9 AC & 296 DU)	76.77	54.58	34.30	0.09	10.25	6.48
<i>SDAPCD Significance Threshold</i>	75	250	550	250	100	55
<i>Is Threshold Exceeded?</i>	Yes	No	No	No	No	No
#3 (7.6 AC & 228 DU)	55.84	54.58	33.96	0.07	20.61	12.17
<i>SDAPCD Significance Threshold</i>	75	250	550	250	100	55
<i>Is Threshold Exceeded?</i>	No	No	No	No	No	No
#2 (6.9 AC & 208 DU)	51.17	54.58	33.96	0.07	20.61	12.17
<i>SDAPCD Significance Threshold</i>	75	250	550	250	100	55
<i>Is Threshold Exceeded?</i>	No	No	No	No	No	No

NOTES:

1. Refer to Appendix B, *Candidate Sites Table*, for a complete listing of candidate sites along with their descriptions.
2. Presented in order of greatest to least maximum realistic yield (MRY).
3. ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter 10 microns in diameter or less; PM_{2.5} = particulate matter 2.5 microns in diameter or less.
4. Based on CalEEMod modeling results. Worst-case seasonal emissions for area and mobile emissions have been modeled.
5. See Appendix D, *Air Quality and Greenhouse Gas Emissions Data*, for assumptions used in this analysis.
6. AC = Acre; and DU = Dwelling Unit.
7. **“Bold text”** denotes threshold is exceeded.

The SDAPCD has established methodology protocols for preparing air quality assessments. Also, for each Basin pollutant of concern (see Table 4.2-2), SDAPCD has adopted thresholds of significance specifying the approximate level of construction emissions that would result in a potentially significant impact (i.e., violation of an ambient air quality standard). These significance thresholds would serve as the basis for determining a future project’s construction-related impacts. Additionally, Basin emissions modeling input parameters would be according to SDAPCD requirements for evaluating potential construction-related air quality impacts. Mitigation Measure AQ-2 requires that project-level assessments of construction-related air quality impacts be conducted on a case-by-case basis, as individual future development projects accommodated through the revised Project are proposed. Future development would be required to mitigate construction emissions to below SDAPCD thresholds of significance. A future development with daily construction emissions below SDAPCD thresholds is considered to have a less than significant impact.

It is anticipated that site-specific mitigation determined on a project-by-project basis, existing City practices, and SDAPCD rules would reduce an individual project’s emissions to less than significant construction emissions. However, it is unknown whether candidate site construction activities would occur concurrently, thus, resulting in a cumulatively significant impact concerning construction emissions. Further, project-level variability and uncertainties concerning locations, detailed site plans, construction schedules/duration, equipment requirements, etc., among other factors, are presently unknown, making evaluation of an individual future development’s precise construction air emissions too speculative (which

CEQA discourages). Thus, because neither the degree of concurrent construction nor an individual future development's precise construction emissions are known, it cannot be concluded with certainty that the construction emissions would be adequately controlled or reduced to below regulatory thresholds. Without such information, it is not possible to conclude that construction emissions from an individual candidate site would be less than significant. Moreover, mitigation requiring that the Project reduce its MRY to levels that would result in construction emissions below the significance thresholds is infeasible, given State law requires that the City accommodate their RHNA fair share of the region's housing needs, which cannot be achieved without the proposed rezoning and the future development. To reduce short-term construction emissions to below SDAPCD significance thresholds, future development would be subject to compliance with SDAPCD rules and regulations, and Mitigation Measure AQ-2. Following compliance with the established regulatory framework and recommended mitigation measures, impacts at the Project level would be less than significant. However, depending on project-specific circumstances, it may not be possible to mitigate impacts to a less than significant level. Because neither the degree of concurrent construction nor project-specific details are known, it cannot be determined with certainty that construction emissions would be reduced to below regulatory thresholds. Therefore, the Project would result in a significant unavoidable impact concerning short-term construction air emissions at the plan level.

Long-Term Operational Emissions

Specific data for the types and amounts of future development was entered in CalEEMod to determine the pollutant emissions anticipated for the candidate site with the greatest MRY (i.e., Candidate Site #9) and at full Project buildout (i.e., 2,494 DU assuming development of all candidate sites). This data also includes ADT, vehicle miles traveled, and average trip lengths. Where project-specific data was not available, CalEEMod defaults were used. Mobile and stationary source operational emissions would result from normal daily activities at each respective development site after occupancy (i.e., increased concentrations of O_3 , PM_{10} , and CO). Mobile source emissions would be generated by the motor vehicles traveling to and from their respective sites. Stationary area source emissions would be generated by natural gas consumption for space and water heating devices, landscape maintenance equipment operations, and use of consumer products. Stationary energy emissions would result from energy consumption associated with the future development. The estimated operational emissions associated with each of these sources are presented in Table 4.2-3, *Long-Term Operational Air Emissions*, and discussed below. As indicated in Table 4.2-3, operational emissions for the candidate site with the greatest MRY (i.e., Candidate Site #9) would be below significance thresholds. Since all other candidate sites would involve less MRY, their operational emissions would similarly be below significance thresholds. A future development with operational emissions below SDAPCD thresholds is considered to have a less than significant impact.

Individual project's operational emissions would be below significance thresholds and future development would occur in incremental phases over time (depending upon numerous factors such as market demand, and economic and planning considerations). Following compliance with the established regulatory framework, impacts at the Project level would be less than significant. Following compliance with the established regulatory framework, impacts at the Project level would be less than significant. However, since under buildout conditions all future development projects would operate concurrently, the overall Project must be evaluated for significance consideration. As indicated in Table 4.2-3, Project buildout operational emissions would exceed significance thresholds for most criteria pollutants. Compliance with EGP policies outlined below would reduce Project VMT by supporting integrated transportation programs, and help plan for multi-modal transportation. Additional policies would



implement emissions reduction strategies and encourage alternate energy systems. Mitigation requiring that the Project reduce its MRY to levels that would result in operational emissions below the significance thresholds is infeasible, given State law requires that the City accommodate their RHNA fair share of the region’s housing needs, which cannot be achieved without the proposed rezoning and the future development. As indicated in Table 4.2-3, on an individual basis (i.e., at the Project level), impacts would be less than significant and no mitigation would be required. However, at the plan level, because development on all 17 candidate sites would operate concurrently, the Project would result in a significant unavoidable impact concerning long-term operational air emissions.

TABLE 4.2-3: LONG-TERM OPERATIONAL EMISSIONS

Candidate Site ¹	Pollutants (Pounds per Day) ^{2,3,4}					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
#9 (296 DU)⁵						
Area	10.32	4.70	26.47	0.03	0.49	0.49
Energy	0.10	0.84	0.36	0.01	0.07	0.07
Mobil	3.94	17.19	46.77	0.15	12.98	3.57
<i>Total Candidate Site #9 Emissions</i>	<i>14.36</i>	<i>22.73</i>	<i>73.59</i>	<i>0.18</i>	<i>13.54</i>	<i>4.13</i>
<i>SDAPCD Significance Threshold</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<i>Is Threshold Exceeded?</i>	No	No	No	No	No	No
All Sites (Project Buildout, 2,494 DU)						
Area	86.95	39.63	222.99	0.25	4.15	4.15
Energy	0.83	7.07	3.01	0.05	0.57	0.57
Mobil	33.18	144.85	394.03	1.26	109.41	30.10
<i>Total Buildout Emissions</i>	120.96	191.55	620.03	1.55	114.12	34.82
<i>SDAPCD Significance Threshold</i>	<i>75</i>	<i>250</i>	<i>550</i>	<i>250</i>	<i>100</i>	<i>55</i>
<i>Is Threshold Exceeded? (Significant Project Impact?)</i>	Yes	No	Yes	No	Yes	No
NOTES:						
1. Refer to Appendix B, <i>Candidate Sites Table</i> , for a complete listing of candidate sites along with their descriptions.						
2. ROG = reactive organic gases; NO _x = nitrogen oxides; CO = carbon monoxide; SO _x = sulfur oxides; PM ₁₀ = particulate matter 10 microns in diameter or less; PM _{2.5} = particulate matter 2.5 microns in diameter or less.						
3. Based on CalEEMod modeling results. Worst-case seasonal emissions for area and mobile emissions have been modeled.						
4. See Appendix D, <i>Air Quality and Greenhouse Gas Emissions Data</i> , for assumptions used in this analysis.						
5. Candidate site with the greatest maximum realistic yield (MRY).						
6. DU = Dwelling Unit.						

GENERAL PLAN POLICIES AND MITIGATION MEASURES:

GENERAL PLAN POLICIES:

Refer to Appendix E, *Relevant General Plan Policies*, for the full text of these policies.

- CE Policy 1.15
- CE Policy 3.4
- RME Policy 5.1
- RME Policy 13.1
- RME Policy 15.1



MITIGATION MEASURES:

The mitigation measures concerning air quality/criteria pollutants identified in 2016 PEIR Section 4.2.6 are presented below, inclusive of the additions/changes necessary for the revised Project (indicated by “~~deleted text~~” / “underlined text”).

AQ-2: ~~For future development of housing sites consistent with the new zone program, wherein the City has determined a potential for ROG emissions impacts could occur, the Planning and Building Department shall require that the construction contractor be limited to the use of architectural coating (paint and primer) products that have a low to no-VOC rating.~~ Construction Emissions. Prior to demolition, grading, or building permit approval, and in accordance with SDAPCD’s promulgated methodology protocols, an Air Quality Assessment for Construction-Related Emissions shall be prepared for projects that would exceed the following SDAPCD significance thresholds for construction-related emissions (or those in place at the time of the development application). Future development shall mitigate construction emissions to below SDAPCD’s thresholds of significance.

Pollutants (pounds per day) ^{1,2}					
ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
<u>75</u>	<u>250</u>	<u>550</u>	<u>250</u>	<u>100</u>	<u>55</u>
<p><u>NOTE:</u></p> <p>1. <u>ROG = reactive organic gases; NO_x = nitrogen oxides; CO = carbon monoxide; SO_x = sulfur oxides; PM₁₀ = particulate matter 10 microns in diameter or less; PM_{2.5} = particulate matter 2.5 microns in diameter or less.</u></p> <p>2. <u>Source: San Diego County, Guidelines for Determining Significance and Report Format and Content Requirements for Air Quality, February 9, 2007.</u></p>					

LEVEL OF SIGNIFICANCE: Significant Unavoidable Impact

4.2.4 - Issue 3: Sensitive Receptors
Would the Project expose sensitive receptors to substantial pollutant concentrations?

IMPACTS:

2016 PEIR

The potential impacts concerning sensitive receptors are discussed in 2016 PEIR Section 4.2.7 (Issue 3, page 4.2-23).

Diesel Particulate Matter

The 2016 PEIR used a 500-foot buffer distance from Interstate 5 (I-5) to determine which housing sites would require a site-specific analysis and project design measures that would reduce risk of diesel particulate matter. Sensitive receptors placed within 500 feet of I-5 would be exposed to potentially significant amounts of diesel particulate matter. The 2016 PEIR concluded that housing sites within 500 feet from I-5 would be exposed to significant amounts of diesel particulate matter. Analysis concluded compliance with Mitigation Measure AQ-3 would reduce impacts to less than significant.

Carbon Monoxide Hot Spots

The 2016 PEIR's Traffic Study, which concluded that six (6) signalized intersections in the City would operate at LOS E or worse under the worst-case scenario (i.e., the MMUP Housing Strategy- the strategy with the greatest MRY),¹ was used to conduct a CO hot spot analysis; see 2016 PEIR Table 4.2-7. Analysis concluded CO concentrations based on the MMUP strategy were below both the Federal and State 1-hour and 8-hour standards. Thus, impacts associated with CO hot spots were concluded to be less than significant for all housing sites.

The additions/changes necessary to make the 2016 PEIR applicable to the revised Project are presented below.

REVISED PROJECT

Diesel Particulate Matter

Project construction would result in diesel particulate matter (DPM) emissions from heavy-duty construction equipment, engine-generators, and trucks operating on the project sites. CARB characterizes DPM as a Toxic Air Contaminant (TAC). The CARB Air Quality and Land Use Handbook (April 2005), recommends avoiding siting new sensitive land uses within 500 feet of a freeway or urban road with 100,000 vehicles per day. Development of the following candidate sites would locate new sensitive land uses (i.e., residential uses) within 500 feet of I-5 (see Figure 2-3, *Candidate Sites Map - Overview*):

- Candidate Site #2: Located 195 feet east of I-5; and
- Candidate Site #AD9: Located immediately east and adjacent to I-5.

Therefore, Project implementation could expose sensitive receptors to substantial pollutant concentrations associated with the I-5, which could result in health effects. The range of exposure from diesel trucks varies greatly, based on specific travel patterns, size and number of diesel trucks, types of trucks, on-site diesel equipment, and use of auxiliary diesel-powered equipment. Candidate Sites #2 and #AD9 would require a more detailed site-specific analysis of TAC impacts, as required by Mitigation Measure AQ-3. With implementation of Mitigation Measure AQ-3, the Project would not expose sensitive receptors to substantial pollutant concentrations concerning DPM and a less than significant impact would occur in this regard.

Carbon Monoxide Hot Spots

Any source that burns fuels such as combustion engines, cars, trucks, construction, farming equipment, and residential heaters and stoves is a source of CO. Because CO is a temporary atmospheric pollutant, screening level ranges for risk and hazard impacts are best studied where there are expected concentrations. The greatest potential risk or concern for CO violations are from vehicles that are idling at congested intersections. Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions.

As previously noted, the 2016 PEIR assessed CO hot spots based on Housing Strategy 3 (MMUP), because it involved the greatest MRY and would generate the greatest traffic volumes. Table 4.2-4, *Maximum*

¹ The Modified Mixed-Use Places (MMUP) Housing Strategy assumed a MRY of 3,261 DU and 1,610,066 SF of non-residential land uses; see 2016 PEIR Tables 3-5 and 3-7.



Realistic Yield & Trip Generation Comparison, compares the revised Project’s MRY and trip generation to the MMUP strategy’s MRY and trip generation. As compared to the MMUP strategy’s MRY, the Project’s MRY represents a net decrease of 767 DU (-24% DU) and a net decrease of 1,610,066 SF of non-residential uses (-100% SF). As shown in Table 4.2-4, as compared to the MMUP strategy’s trip generation, the revised Project would result in a 50.4 percent trip reduction. Since the 2016 PEIR concluded that maximum CO concentrations based on the MMUP strategy were below both the Federal and State standards, and the revised Project’s MRY and trip generation are significantly less than the MMUP strategy, it can be deduced that the revised Project’s maximum CO concentrations would be below both Federal and State standards. Therefore, the Project would not expose sensitive receptors to substantial pollutant concentrations concerning CO hotspots and a less than significant impact would occur in this regard.

Description	MRY Residential (DU) ¹	MRY Non-Residential (SF) ¹	Average Daily Trips
Revised Project (HEU)	2,494	0	14,964 ²
Housing Strategy 3 (MMUP)	3,261	1,610,066	30,149 ³
<i>Proposed HEU: MMUP Change</i>	<i>-767</i>	<i>-1,610,066</i>	<i>-15,185</i>
<i>Proposed HEU: MMUP % Change</i>	<i>-24%</i>	<i>-100%</i>	<i>-50.4%</i>
Notes:			
1. Refer to Appendix B, Candidate Sites Table, for a complete listing of candidate sites along with their MRY.			
2. Kimley-Horn and Associates, Traffic Impact Study for the City of Encinitas 2013 - 2021 Housing Element Update, 2018.			
3. 2016 PEIR Table 4.9-13.			

GENERAL PLAN POLICIES AND MITIGATION MEASURES:

GENERAL PLAN POLICIES:

Refer to Appendix E, *Relevant General Plan Policies*, for the full text of these policies.

- CE Policy 1.15
- CE Policy 3.4
- RME Policy 5.1
- RME Policy 13.1
- RME Policy 15.1

MITIGATION MEASURES:

The mitigation measures concerning air quality/sensitive receptors identified in 2016 PEIR Section 4.2.7 are presented below, inclusive of the additions/changes necessary for the revised Project (indicated by “~~deleted text~~” / “underlined text”).

AQ-3: Diesel Particulate Matter. In order to reduce impacts associated with exposure to diesel particulate matter, the following mitigation is recommended.

- Future development under the new zone program shall be designed to minimize exposure to roadway-related pollutants and exposure shall be mitigated to the maximum extent feasible. Design features may include but are not be limited to: maximizing the distance between the roadway and sensitive receptors; locating air intake at the non-roadway facing sides of buildings, and ensuring that windows nearest to the roadway do not open.

The orientation and placement of outdoor facilities designed for moderate physical activity shall be placed as far from the emission source as possible. Mitigation may also include installing mechanical ventilation systems with fresh air filtration and constructing a physical barrier between the roadway source and receptors of pollutants (e.g., sound wall or vegetative planting).

- New parks with athletic fields, courts, and other outdoor facilities designed for moderate to vigorous activity under the new zone program should be sited at least 500 feet from the freeway. Exceptions to this recommended practice should be made only upon a written finding from a decision-making body that the benefits of such development outweigh the public health risks or that a site-specific analysis demonstrates a less than significant risk.
- Ventilation Systems: Ventilation systems that are rated at Minimum Efficiency Reporting Value of “MERV13” or better for enhanced particulate removal efficiency shall be provided on all residential units within the new zone, located within 500 feet of I-5.
- City staff shall ensure that the aforementioned requirements are included on plans associated with any permit for future development consistent with the new zone program and submitted for approval. The City shall verify compliance on-site prior to occupancy clearance. Staff shall also review the future Covenants, Conditions and Restrictions for inclusion of guidelines pertaining to the proper maintenance/ replacement of filters.

LEVEL OF SIGNIFICANCE: Less Than Significant with Mitigation Incorporated

4.2.5 SIGNIFICANT UNAVOIDABLE IMPACTS

Despite compliance with the established regulatory framework and recommended mitigation measures, the Project would result in significant unavoidable air quality impacts concerning the following:

- Regional Air Quality Strategy Consistency: The candidate sites’ combined emissions (Project buildout) would exceed the SDAPCD significance thresholds for criteria pollutants at the plan level. Exceeding these thresholds at the plan level has the potential to hinder the region’s compliance with each RAQS.
- Criteria Pollutants:
 - Short-Term Construction Emissions: Neither the degree of concurrent construction nor project-specific details are known, and it cannot be determined with certainty that construction emissions would be reduced to below regulatory thresholds. Therefore, the Project would result in a significant unavoidable impact concerning construction emissions at the plan level. Following compliance with the established regulatory framework and recommended mitigation measures, impacts at the Project level would be less than significant.
 - Long-Term Operational Emissions: All future development projects would operate concurrently at buildout, and buildout operational emissions would exceed significance thresholds for all criteria pollutants. Therefore, at the plan level the Project would result in a significant unavoidable impact. Following compliance with the established regulatory framework, impacts at the Project level would be less than significant.

4.2.6 SOURCES CITED

California Air Resources Board Internet Site, *California Air Quality Data Statistics*.
<http://www.arb.ca.gov/adam/welcome.html>, Accessed April 24, 2018.

Kimley-Horn and Associates, *Traffic Impact Study for the City of Encinitas 2013 - 2021 Housing Element Update*, 2018.