Tempo by Hilton Hotel Project

Addendum to the
Initial Study/Mitigated Negative Declaration
Arcadia Hotel and Annex (Hotel Indigo) Project

Prepared for:

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October 2024

CHAPTER 1: PURPOSE AND BACKGROUND

The City of Arcadia (City) has prepared this Addendum to the Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo[1]) Project (Indigo IS/MND) to address the potential site-specific environmental impacts associated with the addition of the proposed Tempo by Hilton Project (Tempo Project). This Addendum is prepared in accordance with the California Environmental Quality Act of 1970 (CEQA) (Cal. Public Resources Code [PRC] Section 21000, et seq., as amended) and its implementing guidelines (California Code of Regulations [CCR], Title 14, Section 15000 et seq., 2016).

In 2020, the City prepared the Indigo IS/MND for a redevelopment project located at 125 West Huntington Drive and 123 West Huntington Drive (Original Project Site). The Indigo IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020. On February 5, 2013, the City previously approved the modification of an existing 60,811-square-foot, three-story office building (Parsons building) and the construction of two new medical office buildings, a new general office building, and a new parking structure on the Original Project Site. Of the four new buildings approved under the 2013 development project, only the parking structure and the two medical office buildings (now occupied by the Keck Medicine of University of Southern California [USC]) were constructed. The 2020 Indigo IS/MND analyzed (1) the redevelopment of the existing Parsons building on the Original Project Site to allow for 76,754 square feet of hotel and appurtenant uses, including 90 hotel rooms, amenities, and employee or guest shared spaces, and (2) the construction a new 61,538-square-foot, five-story hotel annex building containing 75 hotel rooms and additional amenities such as a hotel spa, café, and outdoor patios to the east of the Parson’s building (Approved Project). No changes to the two existing Keck Medicine of USC medical office buildings and parking structure were proposed under the Approved Project. The Indigo IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020 (Resolution No. 2050).

The Tempo Project is requesting a lot line adjustment (LLA) to join together the parcel identified as Assessor’s Parcel Number (APN) 5775-015-011 and the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) to construct a new four-story hotel building on APN 5775-015-011. The Tempo Project would not modify any of the existing medical office buildings, parking structure or the hotel buildings previously approved under the Approved Project. The Revised Project considered under this Addendum consists of the currently proposed Tempo Project and the Approved Project. This Addendum addresses the environmental impacts of the Revised Project when compared to the Approved Project in accordance with the requirements of CEQA and the CEQA Guidelines Section 15162 and Section 15164.

1.1 Applicability and Use of an Addendum

Per CEQA Guidelines Section 15164, an addendum to an adopted Negative Declaration or Mitigated Negative Declaration (MND) may be prepared if none of the following conditions

[1] Note that the original Hotel Indigo brand name was changed to the Hilton brand name after approval of the Indigo IS/MND.

described in CEQA Guidelines Section 15162 calling for the preparation of a subsequent EIR or negative declaration have occurred:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

 (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

 (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

 (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

 (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Pursuant to CEQA Guidelines Section 15164, the City, as the lead agency, has prepared this Addendum to confirm that none of the conditions identified in CEQA Guidelines Section 15162 and Public Resources Code Section 21166(c) have been triggered. This Addendum to the previously adopted Indigo IS/MND demonstrates that the environmental analysis, impacts, and mitigation requirements identified for the Hotel Indigo project remain substantively unchanged despite project additions described herein, and supports the finding that the Proposed Project does not raise any new issues and does not exceed the level of impacts identified in the previous MND.

1.2 Format of this Addendum

The previously adopted Indigo IS/MND serves as the primary environmental compliance document for the Proposed Project, and this Addendum provides minor changes and additions to the adopted Indigo IS/MND. This Addendum should be considered with the full text of the previously adopted Indigo IS/MND. All applicable mitigation measures from the Indigo IS/MND would be applicable to the Proposed Project and, therefore, are incorporated by reference into this Addendum. This Addendum relies on the use of an Environmental Checklist Form (Checklist), as suggested in CEQA Guidelines Section 15063(d)(3). Per the CEQA Guidelines, an addendum does not need to be circulated for public review but can be included in or attached to the Indigo IS/MND prior to making a decision on the Proposed Project.

1.3 Summary of Findings

Based upon the Checklist prepared for the Proposed Project and supporting responses (see Chapter 3), adoption of the Proposed Project would not result in substantial changes requiring major revisions to the previously adopted Indigo IS/MND. Further, the Proposed Project would not result in any new significant environmental impacts that were not discussed in the Indigo IS/MND or a substantial increase in the severity of previously identified significant impacts. No new mitigation measures are required for the Proposed Project. Since only minor changes and additions are required to the Indigo IS/MND, and none of the conditions described in Public Resources Code Section 21166 or CEQA Guidelines Section 15162(a-b) or Section 15164 requiring preparation of a subsequent MND have occurred, the City finds that the preparation of an addendum to the Indigo IS/MND is the appropriate CEQA documentation for the Proposed Project and that the Proposed Project is within the scope of the Indigo IS/MND.

1.4 Lead Agency and Discretionary Approvals

This Addendum and the previously adopted Indigo IS/MND are intended to serve as the environmental documentation for the changes being requested under the Revised Project. The City of Arcadia is the lead agency under CEQA and maintains authority to approve this Addendum for the Revised Project. Discretionary approvals being sought as part of the Revised Project include the following:

- Acknowledgement of this Addendum to the Indigo IS/MND, which demonstrates that no subsequent CEQA document is required;
- Approval of a Conditional Use Permit for the development of a new hotel use in the C-G Zone with a Downtown Overlay; and
- Approval of an LLA to join together APN 5775-015-011 and the adjacent Hotel Indigo site (Original Project Site) in order to comply with the maximum FAR for the Project Site.

CHAPTER 2:
PROJECT DESCRIPTION

2.1 Project Location

The City of Arcadia is located in northeast Los Angeles County, generally north of the Interstate 10 Freeway (I-10), south of the Foothill Freeway (I-210), east of State Route 164, and west of I-605. The City is approximately 12 miles northeast of downtown Los Angeles; refer to **Figure 1, Regional Vicinity**. The City of Arcadia is surrounded by the City of Sierra Madre and the Verdugo Mountains to the north, the City of Azusa to the east, the City of El Monte to the south, and the City of Pasadena to the west.

The Revised Project is located within the northeastern portion of Arcadia at the southeast corner of Colorado Place and San Juan Drive, and is comprised of the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) and one land parcel addressed as 181 Colorado Place (APN 5775-015-011) that is approximately 0.61 acre, or 26,493 square feet;[2] refer to **Figure 2, Revised Project Site**. Regional access to the Revised Project Site is provided via I-210. Local access to the Revised Project Site is provided via Colorado Place, San Juan Drive, and San Rafael Road.

2.2 Existing Conditions

The Revised Project Site, which includes the Original Project Site and APN 5775-015-011, is located in a highly developed and urbanized area of Arcadia. The Original Project Site is occupied by the two Keck Medicine of USC medical office buildings, a parking structure, and the Parsons building. The redevelopment of the Parsons building for hotel uses and the construction of the hotel annex building began in May 2023 and are anticipated to be completed in August 2025. APN 5775-015-011 is vacant lot currently fenced that was previously occupied by the Original Peppers Mexican and Cantina, surface parking, and landscaping. The restaurant building was demolished in 2023 but the surface parking and landscaping remain.

Surrounding uses adjacent to the Revised Project Site include residential, office, and commercial uses. The Revised Project Site is bordered by San Juan Drive, the California Thoroughbred Breeders Association, and single-family homes to the north; San Rafael Road and a small commercial plaza to the east; single-family homes to the east and northeast; Colorado Place, Huntington Drive and Le Meriden hotel to the south; and Colorado Place and the Santa Anita Park (a horseracing track) to the west.

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2 Los Angeles County Assessor, Property Search Tool: APN 5775-015-011, https://assessor.lacounty.gov/homeowners/property-search, accessed June 19, 2024.

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TEMPO BY HILTON

Regional Vicinity

Figure 1

Source: Google Earth Pro, July 2024

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Revised Project Site

Figure 2

2.3 General Plan Designation and Zoning

According to Arcadia General Plan, Chapter 2: Land Use and Community Design Element, the Revised Project Site is designated as Commercial (C). This Commercial designation is intended to encourage a strong pedestrian-oriented environment that provides a variety of retail and service uses, restaurants, and neighborhood-serving commercial uses that complement development in the Downtown Mixed-Use areas.[3] According to the City's Zoning Map, the Revised Project Site is zoned General Commercial (C-G) with a Downtown Overlay.[4] The C-G zone is intended to provide areas for the development of retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The maximum Floor Area Ratio (FAR) permitted under the C-G zone and the Downtown Overlay zone is 1.0 for new development, and the maximum height permitted for new buildings is 48 feet. An additional 10 feet may be allowed for exterior stairways and other access features such as stairwells or elevators for access to the roof, and other rooftop appurtenances.

2.4 Project Characteristics

The Revised Project would consist of the improvements proposed by the Tempo Project, along with the previously Approved Project described in the Indigo IS/MND, which includes the redevelopment of the Parsons building for hotel uses and the construction of a new hotel annex building. The Tempo Project would develop a four-story hotel building with approximately 47,140 square feet of gross floor area on APN 5775-015-011; refer to **Figure 3, Site Plan** and **Figure 4, Conceptual Rendering**. The new hotel building would have a maximum height of 48 feet, excluding rooftop appurtenances, and would consist of a basement level and four above-ground levels containing a total of 93 rooms and ancillary hotel uses. The basement level would primarily contain back-of-house uses for hotel operations, including an electric room, a mechanical room, a laundry room, offices, storage rooms, an employee breakroom, restrooms, and a fitness room for guest use. Level 1 would contain 13 hotel rooms, a kitchen, café, bar, lobby, meeting area, office, restrooms, and an outdoor patio. Levels 2, 3, and 4 would each contain 26 hotel rooms, and the roof level would contain an outdoor paved patio, solar panels, and mechanical areas.

The Tempo Project would utilize the existing parking structure located on the Original Project Site to provide parking for hotel employees, guests, and visitors. As shown in **Figure 3**, the Tempo Project would also reconfigure the existing surface parking lot located to the east of the proposed hotel building on the Original Project Site to provide 18 surface parking spaces, including three electric vehicle charging spaces (reduced by 6 spaces from the existing 24 spaces), a trash enclosure, and a connection to the new surface parking area along the south side of the proposed hotel building. The new surface parking area would provide 6 parking spaces, including 4 accessible parking spaces. In addition, the Tempo Project would develop a drop-off area with

[3] City of Arcadia, Arcadia General Plan, Chapter 2: Land Use and Community Design Element, February 2024.

[4] City of Arcadia, City of Arcadia Zoning Map, Updated February 2024.

access via the existing driveway from Colorado Place. Access to the proposed hotel building would be provided from the two existing driveways along Colorado Place and San Juan Drive.

Source: DesignCell Architecture, June 2024

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Site Plan

Figure 3

Source: DesignCell Architecture, June 2024

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Conceptual Rendering

Figure 4

Landscaping improvements to the Revised Project Site would include the removal of 13 existing trees and the installation of 36 new trees as well as other drought tolerant plants within the Area of Proposed Improvements shown in **Figure 2**. Ancillary improvements to the Revised Project Site would include exterior lighting and accessible routes from the proposed hotel building to the new surface parking area, the existing the surface parking lot to the east, and the existing parking structure.

In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,636 square feet by merging APN 5775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029), which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project.

The Tempo Project would require discretionary approvals from the City for an LLA to create one legal parcel comprised of the Original Project Site and APN 5775-015-011, and to develop the proposed hotel building through a Conditional Use Permit in a C-G zone. The Project would also require a lot line adjustment to merge the Project Site with the adjacent Indigo site (APNs 5775-015-024, 5775-015-025, 5775-015-026, and 5775-015-0270) to comply with the maximum FAR for the Project Site.

2.5 Project Construction

Construction of the Tempo Project is anticipated to take approximately 16.5 months to complete. Construction activities would include excavation, grading, building construction, paving, and architectural coating. The excavation for the subterranean basement level of the proposed hotel building would be anticipated to extend to a depth of 12 to 15 feet below grade. Excavation activities for the Revised Project would require a total of approximately 4,800 cubic yards of exported soil. Construction equipment and materials staging would occur within the Revised Project Site. During construction, vehicular access to the Project Site would be provided via existing access points along Colorado Place, San Juan Drive, and San Rafael Road. Lane closures are not anticipated for the Revised Project.

CHAPTER 3: EVALUATION OF ENVIRONMENTAL IMPACTS

This section includes an assessment, by issue area, of the Revised Project's potential effects on the environment in relation to the analysis provided in the Indigo IS/MND. Determinations are made as to whether the Revised Project would result in new significant impacts or substantially more severe effects, which would trigger the need for a Subsequent or Supplemental EIR.

For each threshold identified below, the following questions are addressed and discussed in the narrative for each issue area:

- What is the impact conclusion of the Revised Project and the Approved Project analyzed in the Indigo IS/MND?

  For each impact identified below, a level of significance of the impact is provided. While the criteria for determining significant impacts are unique to each issue area, the environmental analysis applies a uniform classification of the impacts based on the following definitions consistent with CEQA and its implementing CEQA Guidelines:

  - No Impact (NI) – A designation of no impact is given when no changes in the environment would occur.
  - Less-than-Significant Impact (LTS) – A less-than-significant impact would cause no substantial adverse change in the environment.
  - Less-than-Significant Impact with Mitigation (LTSM) – A less-than-significant impact with mitigation incorporated avoids substantial adverse impacts on the environment with adherence to identified mitigation measures. For those issue areas where the impact of the Revised Project would be less than significant with the incorporation of the same mitigation measure(s) identified in the adopted IS/MND for the Approved Project, the impact is identified as LTSM (AP).
  - Significant and Unavoidable Impact (SU) – A significant unavoidable impact would cause a substantial adverse effect on the environment, and no feasible mitigation measures would be available to reduce the impact to a less than significant level.

- Does the Project involve new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND resulting from a substantial change in the project, a substantial change in circumstances, or new information of substantial importance?

- Is there new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects?

3.1 Aesthetics

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Have a substantial adverse effect on a scenic vista?	LTS	LTS	No	No	No	No	No
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	NI	NI	No	No	No	No	No
c) In non-urbanized area, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	LTS	LTS	No	No	No	No	No
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	LTS	LTS	No	No	No	No	No

3.1.1 Indigo IS/MND Findings

PRC Section 21099 states that “aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.” The Indigo IS/MND concludes that because the Approved Project is located within a Transit Priority Area (TPA), aesthetic-related impacts would not be considered significant.[5]

[5] Note: According to *Southern California Association of Governments’ (SCAG) 2045 Transit Priority Areas (TPAs) - SCAG Region* online mapping tool (https://hub.scag.ca.gov/datasets/c6b4717526c247528d868c2fc046894d/explore), the Original Project Site is mostly but not entirely within a SCAG recognized TPA. The Area of Proposed Improvements, while approximately 0.5 miles from the Los

According to the Indigo IS/MND, there are no officially designated scenic vistas in the City, though views of the San Gabriel Mountains to the north provide aesthetic views for the City. The Indigo IS/MND states views of the San Gabriel Mountains are available from the Approved Project area, including from roadways and Arcadia Community Regional Park, and the height of the Indigo Hotel may obstruct these views. However, existing views are limited due to urban development and views from passing motorists and pedestrians would be temporary. The Indigo IS/MND states the Original Project Site is not located within or adjacent to a scenic highway; the closest eligible state scenic highway is Interstate 210, located 0.5-mile north of the Original Project Site.

The Indigo IS/MND determined the Approved Project would be consistent with the City's General Plan policies, Development Code, and Municipal Code Sections related to the aesthetic character of the City. With approval of a Conditional Use Permit and a Height Variance, the Approved Project would be consistent with the surrounding land uses and the City's land use and zoning designations.

Regarding light and glare, implementation of the Approved Project would result in new sources of light and glare. However, the Approved Project area is urbanized with existing sources of light and glare, and the Approved Project would adhere to Arcadia Municipal Code (AMC) Section 9103.01.120, which establishes the standards for exterior lighting in the City and AMC Section 9103.10.070, which requires that any proposed land use or activity producing glare be shielded so that glare is not perceptible beyond the property line.

3.1.2 Project Analysis

The Tempo Project would develop a four-story hotel building that would be 48 feet tall with adjoining parking areas on a site that currently contains a vacant lot, surface parking, and minor landscaping. Views of the San Gabriel Mountains from the Revised Project Site are available to the north primarily from Colorado Place. The eastern most portion of Santa Anita Park is also directly south of the Area of Proposed Improvements (across Colorado Place) and may provide views; however, views from the parking lot of Santa Anita Park would be obscured by the existing trees and bushes that surround its perimeter.

Implementation of the Tempo Project would potentially obstruct these views of the San Gabriel Mountains to the north from Colorado Place. However, the Revised Project Site is currently occupied by the Keck Medicine of USC medical buildings, which are approximately 43 feet tall.[6] Additionally, the Approved Project buildings would be approximately 63 feet and 45 feet tall upon completion of construction. As such, views of the San Gabriel Mountains are already limited by existing and approved developments, and passing pedestrians and motorists would have fleeting views that would only be temporarily obstructed by the proposed Tempo hotel building. Further, although implementation of the Tempo Project would introduce a new building, it would be similar in height to existing buildings in its vicinity. Consistent with the determination in the Indigo IS/MND,

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Angeles County Metropolitan Transportation Authority (Metro) Gold Line Arcadia Station, is just outside of SCAG's mapped TPA. Thus, for conservative analysis purposes, this Addendum does not take any analytical credit for being within a TPA.

6 Height was derived from ground level view of the building and estimated elevation in Google Earth.

the introduction of a new structure on the Revised Project Site would not have a substantial adverse effect on a scenic vista of the San Gabriel Mountains.

According to the California Department of Transportation, California State Scenic Highway System Map, there are no eligible or designated scenic highways within the City of Arcadia.[7] As such, consistent with the determination in the Indigo IS/MND, the Tempo Project would result in no impact to a scenic highway.

Regarding conflicts with applicable zoning and other regulations governing scenic quality, **Table 3.1-1, Arcadia General Plan and Arcadia Municipal Code Consistency Analysis** Arcadia General Plan and Arcadia Municipal Code Consistency Analysis, shows the consistency of the proposed Tempo Project with the City's General Plan policies and AMC regulations related to the aesthetic character of the City.

Table 3.1-1
Arcadia General Plan and Arcadia Municipal Code Consistency Analysis

Applicable Policy/Regulation	Consistency Analysis
General Plan	
Policy LU-1.1: Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.	**Consistent.** The Tempo Project would be an infill development project, consistent with the designated C-G zone with City approval of a Conditional Use Permit (to allow for hotel uses is a commercial zone). The Revised Project would be under the allowable FAR of 1.0 for the Downtown Overlay C-G zone and would adhere to the minimum setbacks required under AMC Section 9102.03.030. As such, the Revised Project would be consistent with the City's land use and compatible with surrounding existing uses.
Policy LU-1.2: Promote new uses of land that provide diverse economic, social, and cultural opportunities, and that reinforce the characteristics that make Arcadia a desirable place to live.	**Consistent.** Implementation of the Tempo Project would provide hospitality amenities to the public, including a hotel, café, and bar. The Tempo Project would contribute to the economic diversity of the City by providing a commercial amenity that can support visitors to downtown Arcadia, as well as surrounding communities. The Tempo Project would be required to comply with the City's Commercial/Mixed Use Design Guidelines to ensure the proposed hotel building compliments the City's design aesthetics and community character.
Policy LU-1.4. Encourage the gradual redevelopment of incompatible, ineffective, and/or undesirable land uses.	**Consistent.** The Tempo Project would be developed on an existing, vacant parcel, thereby eliminating an ineffective land use in the downtown area, and would provide a desirable use that would support existing uses in the vicinity and throughout the City.
Policy LU-2.1: Ensure that trees planned in the public right-of-way continue to be well maintained where they exist, are planted in areas where they are currently lacking, and encourage replacement of undesirable tree species in public rights-of-way.	**Consistent.** The Tempo Project would remove a total of 13 trees and plant 36 trees as well as other drought tolerant plants. The Tempo Project would remove 13 trees, including one protected sycamore tree located in the proposed trash enclosure area. However, the sycamore tree would be replaced in-kind with a 60-inch box-size sycamore. As such, the removal and replacement of the protected tree would be consistent with the requirements under AMC Section 9110,01, Tree Preservation. The landscaping proposed by the Tempo Project would be subject to City review and approval.

[7] California Department of Transportation, *California State Scenic Highway System Map*, https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa, accessed July 3, 2024.

Applicable Policy/Regulation	Consistency Analysis
Policy LU-2.2. Emphasize the use of public spaces and design that are oriented toward the pedestrian and use of transit throughout the community.	**Consistent.** The proposed hotel building would be located on a vacant parcel with surface parking and that is currently fenced off. Implementation of the Tempo Project would allow pedestrian and vehicular connectivity through the Revised Project Site between Colorado Place and San Juan Drive. The Revised Project Site is also located within 0.25 miles of the bus top located at Huntington Drive and Santa Clara Street and approximately 0.5 miles of Arcadia Train Station.
Policy LU-2.6: Ensure the aesthetic quality and pedestrian orientation of the City's commercial corridors by implementing the recommendations of this Community Design section, as well as the Architectural Design Guidelines for commercial and industrial properties.	**Consistent.** The Tempo Project would be required to comply with the City's Commercial/Mixed Use Design Guidelines. Project plans would be subject to the City's site plan and design review process.
Policy LU-6.1: Encourage all new commercial development, through the use of entitlement incentives and/or requirements, to provide public gathering spaces and pedestrian facilities and connections.	**Consistent.** The Tempo Project is a hotel development that would provide hospitality amenities to the general public, including hotel, café, and bar uses. Implementation of the Tempo Project would allow pedestrian and vehicular connectivity between Colorado Place and San Juan Drive. The Revised Project Site is also located within 0.25 miles of the bus stop located at Huntington Drive and Santa Clara Street and approximately 0.5 miles of Metro Gold Line Arcadia Station.
Policy LU-6.4: Encourage design approaches that create a cohesive, vibrant look and that minimize the appearance of expansive parking lots on major commercial corridors for new or redeveloped uses.	**Consistent.** The Tempo Project would redevelop an existing vacant parcel with a new hotel building, adjoining parking areas, and landscaping. Although the Tempo Project would repave the eastern portion of the Area of Proposed Improvements to provide surface parking with driveway access, the Tempo Project would not increase number of surface parking lots and would not develop any expansive parking lots. Direct views from Colorado Place of the surface parking area would also be minimized by the enhanced drop off area. The Tempo Project would install vibrant landscaping with 36 trees, various shrubs and plants, and granite and decorative rock.
Policy LU-6.6: Develop landscaping that is compatible with the City's water efficient landscape ordinance and facade standards for commercial properties, and require all new development to adhere to them. Encourage the improvement of rundown buildings by offering entitlement incentives.	**Consistent.** The proposed improvements would include vibrant landscaping with 36 trees, various drought-tolerant plants, and granite and decorative rock. The landscaping would primarily surround the perimeter of the Area of Proposed Improvements and the proposed hotel building perimeter. As discussed previously, The Tempo Project would remove a total of 13 trees and plant 36 trees as well as other drought tolerant plants. Although the Tempo Project would remove one protected sycamore tree, it would be replaced with a 60-inch box-size sycamore in accordance with the requirements of the City's Tree Preservation Ordinance. The proposed landscaping would be subject to City review and approval. There are no existing buildings within the Area of Proposed Improvements; as such, the policy regarding rundown buildings would not apply.
Policy LU-6.11: Provide mature street trees, continuous landscaping (that includes drought-tolerant plants), and pedestrian amenities along corridors and within districts to create a more visually pleasing and cohesive streetscape.	**Consistent.** The Tempo Project would remove a total of 13 trees, including one protected sycamore tree that would be replaced in-kind with a 60-inch box-size sycamore in accordance with the City's Tree Preservation Ordinance. A total of 36 new trees (including one 60-inch box size in-kind replacement tree and 35 trees ranging from 24-inch to 36-inch box sizes), various drought-tolerant plants, and granite and decorative rock would provide visually pleasing and cohesive landscaping in accordance with the City's Water Efficient Landscaping Ordinance.

Applicable Policy/Regulation	Consistency Analysis
Policy LU-6.12: Create pedestrian connections along corridors and districts that link surrounding neighborhoods and provide a more pedestrian-friendly atmosphere.	**Consistent.** The proposed hotel building would be developed on a vacant infill parcel with surface parking that is currently fenced off. Implementation of the Tempo Project would allow pedestrian connectivity through the Revised Project Site between Colorado Place and San Juan Drive.
Arcadia Development Code	
Section 9102.03.020, Land Use Regulations and Allowable Uses and Section 9102.03.030, Development Standards	**Consistent.** The Tempo Project would be consistent with the designated C-G zone with City approval of a Conditional Use Permit (to allow for hotel uses is a commercial zone). The Revised Project would be under the allowable FAR of 1.0 for the Downtown Overlay C-G zone and would adhere to the minimum setbacks required under AMC Section 9102.03.030.
Section 9103.01.120, Exterior Lighting	**Consistent.** The Tempo Project would be required to comply with the City's exterior lighting standards to balance safety and security needs for lighting that also avoids light trespass (spill light), light pollution, and glare onto surrounding properties.
Section 9103.11.070, Permanent Signs by Zone - Locations and Allowed Sign Area.	**Consistent.** The Tempo Project would be required to comply with City's regulations for signage within the C-G zone.
Section 9103.09.040.C, Landscape Requirements for Commercial, Mixed Use, and Industrial Zones	**Consistent.** The Tempo Project would include new landscaping, including various trees, plants, and groundcover. The proposed landscaping would be subject to City review and approval.
Section 9107.19, Site Plan and Design Review	**Consistent.** The Tempo Project would be required to comply with the City's Commercial/Mixed Use Design Guidelines to ensure the proposed structure and parking areas compliment the City's design aesthetics and community character. Project plans would be subject to the City's site plan and design review.
Section 9110.01, Tree Preservation	**Consistent.** The Tempo Project would remove 13 trees, including one protected sycamore tree, located in the proposed trash enclosure area. However, the sycamore tree would be replaced in-kind with a 60-inch-box-size sycamore. As such, the removal and replacement of the protected tree would be consistent with the requirements under AMC Section 9110,01, Tree Preservation.. Additionally, the proposed landscaping would be subject to City review and approval.

As demonstrated in **Table 3.1-1**, the Tempo Project would be consistent with the applicable General Plan policies and AMC regulations related to the aesthetic character of the City. Therefore, the Revised Project, which includes the Approved Project and the Tempo Project, would not conflict with applicable zoning or other regulations governing scenic quality.

Regarding light and glare, although implementation of the Tempo Project would construct a four-story hotel building introducing new sources of light and glare compared to existing conditions, the Revised Project area is already heavily developed with similar, existing sources of light and glare. Similar to the Indigo IS/MND, the Tempo Project would adhere to AMC Section 9103.01.120, which establishes the standards for exterior lighting in the City; and AMC Section 9103.10.070, which requires that any proposed land use or activity producing glare be shielded so that glare is not perceptible beyond the property line. Proposed nighttime lighting on-site for the outdoor areas would be limited to security, parking, and accent lighting. Therefore, the Revised Project would not create a new source of substantial light or glare that would adversely affect day or nighttime views.

3.1.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.1.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.2 Agriculture and Forestry Resources

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	NI	NI	No	No	No	No	No
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	NI	NI	No	No	No	No	No

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	NI	NI	No	No	No	No	No
d) Result in the loss of forest land or Conversion of forest land to non-forest use?	NI	NI	No	No	No	No	No
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	NI	NI	No	No	No	No	No

3.2.1 Indigo IS/MND Finding

As stated in the Indigo IS/MND, most of the City is suburbanized and developed. The City does not have any land designated or zoned for agricultural use, forestland, timberland, or timberland production. Additionally, the City does not have any land subject to a Williamson Act contract. Therefore, the Indigo IS/MND concluded that no impact to agricultural and forestry resources would occur.

3.2.2 Project Analysis

The Revised Project Site has a Commercial land use designation and is zoned as C-G. As discussed in the Indigo IS/MND, the City does not contain land designed or zoned for agricultural use, forestland, timberland, or timberland production. The Revised Project Site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.[8] Although Los Angeles County is participating in a Williamson Act contract as of 2023, the City of Arcadia does

8 California Department of Conservation, California Important Farmland Finder, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed June 13, 2024.

not contain land subject to the Williamson Act.[9] Therefore, consistent with the Indigo IS/MND, no impact to agricultural and forestry resources would occur as a result of the Revised Project.

3.2.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, and no new or different mitigation measures are required.

3.2.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.3 Air Quality

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Conflict with or obstruct implementation of the applicable air quality plan?	LTS	LTS	No	No	No	No	No
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	LTS	LTS	No	No	No	No	No
c) Expose sensitive receptors to substantial pollutant concentrations?	LTS	LTS	No	No	No	No	No

[9] California Department of Conservation, California Williamson Act Enrollment Finder, https://maps.conservation.ca.gov/dlrp/WilliamsonAct/App/index.html, accessed July 7, 2024

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	LTS	LTS	No	No	No	No	No

3.3.1 Indigo IS/MND Finding

The Indigo IS/MND concluded that overall impacts related to air quality would be less than significant. The Indigo IS/MND analyzed the Approved Project's consistency with South Coast Air Quality Management District's (SCAQMD) 2016 Air Quality Management Plan (AQMP), which was the latest AQMP when the Indigo IS/MND was prepared. The Indigo IS/MND determined that that construction and operation of the Approved Project would not generate criteria air pollutant emissions that exceed the SCAQMD's thresholds. Further, the Indigo IS/MND determined that the proposed uses for the Approved Project Site would be consistent with the existing land use designation for the Approved Project Site, and no amendments to the General Plan would be required. Therefore, the Indigo IS/MND concluded the Approved Project would be consistent with the 2016 AQMP.

The Indigo IS/MND analyzed the daily emissions of criteria pollutants resulting from the Approved Project during construction and operation for the following pollutants: carbon monoxide (CO), sulfur oxides (SO_X), coarse particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), lead, volatile organic compounds (VOC), and oxides of nitrogen (NOx). Construction activities would result in pollutant emissions from on-site sources (e.g., off-road construction equipment, soil disturbance, VOC off-gassing from architectural coatings and asphalt pavement application) and off-site sources (e.g., vendor trucks, haul trucks, and worker vehicle trips). Operation of the Approved Project would produce pollutant emissions associated with vehicular traffic, area sources (e.g., consumer products, architectural coatings, landscaping equipment), energy sources (e.g., natural gas, appliances, and space and water heating), and stationary sources (e.g., emergency generator). The Indigo IS/MND concluded the net increase in all criteria pollutants would be below SCAQMD thresholds. Further, the Approved Project would be subject to SCAQMD Rule 403 for Fugitive Dust and Rule 1113 for Architectural Coatings.

Regarding sensitive receptors, the Indigo IS/MND performed a localized significance threshold (LST) analysis to evaluate impacts to nearest sensitive receptor (i.e., single family residential home adjacent to the north) for daily emissions of NO_x, CO, PM_{10}, and $PM_{2.5}$. The Indigo IS/MND also included analysis for potential CO hotspots, toxic air contaminants (TAC), and potential health effects of criteria air pollutant emissions. The Indigo IS/MND concluded the Indigo Project would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants, and thus, would not result in a significant contribution to the adverse health effects associated with those pollutants.

According to the Indigo IS/MND, although construction activities may produce odors, they would disperse rapidly and would not be substantial in magnitude. The Approved Project would involve hotel uses and would not include agricultural uses, wastewater treatment plants, food-processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Impacts related to odors would be less than significant.

3.3.2 Project Analysis

The following section evaluates potential short- and long-term air quality impacts that would result from the construction and operation of the Revised Project. The analysis is primarily based upon **Attachment A, Air Quality Assessment**, which analyzed air quality impacts for a 91-room hotel. After completion of the air quality assessment, the total number of proposed rooms increased to 93. As such, **Attachment A.1, Revised Air Quality, Greenhouse Gas, Energy, and Noise Impact Analyses**, was prepared to evaluate the potential impacts of the additional two rooms, which concluded that the original impact determinations for the 91-room hotel would not change with the increase to 93 rooms.

CONSISTENCY WITH APPLICABLE AIR QUALITY PLAN

On December 2, 2022, the SCAQMD Governing Board adopted the 2022 AQMP. The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2022 AQMP utilized information and data from the South Coast Association of Governments (SCAG) and its 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). While SCAG has recently adopted Connect SoCal 2024 (i.e., the 2024-2050 RTP/SCS), SCAQMD has not released an updated AQMP based off the 2024-2050 RTP/SCS growth projections. As such, this consistency analysis is based off the 2016 AQMP that was analyzed in the Indigo IS/MND and the most recent 2022 AQMP.

According to the SCAQMD's CEQA Air Quality Handbook, projects must be analyzed for consistency with two main criteria, as discussed below.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

   Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations associated with the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards

(NAAQS) is used as the basis for evaluating project consistency. As detailed below under the Criteria Air Pollutants subsection, localized concentrations of CO, NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant during Tempo Project and Approved Project construction and operations. Therefore, the Revised Project would not result in an increase in the frequency or severity of existing air quality violations.

b) *Would the project cause or contribute to new air quality violations?*

As discussed below under the Criteria Air Pollutants subsection, the Tempo Project in combination with the Approved Project would result in emissions that are below the SCAQMD thresholds. Therefore, the Revised Project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The Revised Project would result in less than significant impacts regarding localized concentrations during Tempo Project and Approved Project construction and operations; refer to the Localized Pollutants and Sensitive Receptors subsection below. As such, the Revised Project would not delay the timely attainment of air quality standards or 2022 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the South Coast Air Basin (Basin) focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether the Revised Project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP and the 2022 AQMP. Determining whether a project exceeds the assumptions reflected in the AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the AQMP, in part, if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. Three sources of data form the basis for the projections of air pollutant emissions: general plans, SCAG's regional growth forecast, and SCAG's RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth. As previously discussed, the 2016 AQMP was based on the 2016-2040 RTP/SCS, which considered growth between 2012 and 2040, and the 2022 AQMP is based on the 2020-2045 RTP/SCS, which considered growth between 2016 and 2045.

The Revised Project Site, which is comprised of the Original Project Site and APN 5775-015-011, is designated Commercial and zoned C-G. The Commercial designation allows a broad array of commercial enterprises, including restaurants, durable goods sales, food stores, lodging, professional offices, specialty shops, indoor and outdoor recreational facilities, and entertainment uses. The C-G zone is intended to provide areas for retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The Tempo Project proposes the construction of a hotel, which is consistent with the land use and zoning designations for the Revised Project Site.

Furthermore, the Tempo Project is anticipated to generate approximately 32 new employees and the Approved Project would generate approximately 111 new employees, resulting in a total of 143 new employees for the Revised Project.[10] According to SCAG's 2016-2040 RTP/SCS, the City's employment would increase by 5,500 employees between 2012 and 2040. The Revised Project's employment increase of 150 new employees would constitute only 2.6 percent of the City's employment increase between 2012 and 2040. In addition, according to SCAG's 2020-2045 RTP/SCS, the City's employment would increase from 32,600 in 2016 to 36,100 in 2045, representing an increase of 3,500 employees between 2016 and 2045. The Revised Project's employment increase of 143 new employees would only constitute only 4.1 percent of the City's employment increase between 2016 and 2045. As such, the Revised Project is considered consistent with SCAG's forecast in its 2016-2040 RTP/SCS and 2020-2045 RTP/SCS, and is consistent with the types, intensity, and patterns of land use previously envisioned for the Original Project Site. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. As the SCAQMD has incorporated these same projections into the 2016 AQMP and 2022 AQMP, it can be concluded that the proposed Project would be consistent with both the 2016 AQMP and the 2022 AQMP.

b) *Would the project implement all feasible air quality mitigation measures?*

The Tempo Project in combination with the Approved Project would result in less than significant air quality impacts. The Revised Project would comply with the applicable emission reduction measures identified by the SCAQMD, including Rule 403 that requires control of excessive fugitive dust emissions by regular watering or other dust prevention measures, and Rule 1113 that regulates the reactive organic gas (ROG) content of paint. As such, the Revised Project meets this AQMP consistency criterion.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

Land use planning strategies to develop infill sites, reduce vehicle miles traveled (VMT) and greenhouse gas emissions, and promote sustainable design set forth in the 2016 AQMP and 2022 AQMP are primarily based on the 2016-2040 RTP/SCS and the 2020-2045 RTP/SCS, respectively. Overall, it is anticipated that the Tempo Project would be consistent with SCAG's 2016-2040 RTP/SCS and 2020-2045 RTP/SCS in that it would be located on an infill site in a highly developed and urbanized area of Arcadia with multiple

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[10] The number of employees for the Tempo Project was calculated using the same employee generation factor of 1,500 square feet/employee provided in the Indigo IS/MND.

bus stops within 0.5-mile and would provide and would provide electric vehicle charging stations, both of which would incentivize employees and visitors to take alternative modes of travel, thereby reducing criteria pollutant emissions.. Therefore, the Tempo Project would be consistent with the land use planning strategies and would be consistent with this criterion.

Impact Summary

In conclusion, the determination of the AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The Tempo Project would not result in a long-term impact on the region’s ability to meet state and federal air quality standards. Further, the Tempo Project’s long-term influence on air quality in the Basin would also be consistent with the SCAQMD and SCAG’s goals and policies and is considered consistent with both the 2016 AQMP and the 2022 AQMP. As such, impacts resulting from the Tempo Project would be less than significant and consistent with the impacts disclosed in the Indigo IS/MND, which were determined to be less than significant. In addition, as both the Tempo Project and Approved Project are consistent with the AQMP, the Revised Project would also be less than significant. As such, no new project-specific mitigation measures are required.

CRITERIA AIR POLLUTANTS

Construction Impacts

The Tempo Project proposes to construct a new 47,140-square-foot hotel building and associated improvements described above in **Chapter 2**: **Project Description**. Construction would result in fugitive dust emissions, exhaust emissions from construction equipment and worker vehicles, emissions from the application of coatings (i.e., ROG emissions). Construction activities would comply with SCAQMD Rule 402, which prohibits fugitive dust from creating a nuisance off-site, Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures, and Rule 1113, which provides specifications on painting practices as well as regulates the ROG content of paint. As proposed, this analysis assumes that construction of the Approved Project would be completed prior to the start of construction for the Tempo Project. Therefore, construction activities for the Approved Project and the Tempo Project would not overlap.

The analysis of construction criteria pollutant emissions has been prepared utilizing the California Emissions Estimator Model (CalEEMod) version 2022.1. **Table 3.3-1, Construction Criteria Pollutant Emissions**, summarizes the estimated maximum daily emissions of VOC (ROG), NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ for the Tempo Project. As shown in **Table 3.3-1**, the daily total construction emissions would not exceed established SCAQMD thresholds. In addition, construction of the Tempo Project would generate less maximum daily emissions than construction of the Approved Project for all criteria pollutants. Therefore, the Tempo Project would result in less impact than the Approved Project, and the construction impacts of the Tempo Project would be less than significant.

Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986. Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the Department of Conservation Division of Mines and Geology, serpentinite and ultramafic rocks are not known to occur within the vicinity of the Revised Project Site. Thus, there would be no impact associated with asbestos during construction.

Table 3.3-1 Construction Criteria Pollutant Emissions

Construction Year	Pollutant (pounds/day)[1,2]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Temp Project Emissions						
Year 1 Maximum Daily Emissions (2024)	1.23	11.9	11.5	0.02	2.09	1.20
Year 2 Maximum Daily Emissions (2025)	13.7	10.9	16.8	0.02	1.13	0.57
Maximum Daily Emissions[3]	**13.7**	**11.9**	**16.8**	**0.02**	**2.09**	**1.20**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Approved Project Maximum Daily Emissions[3]	**70.42**	**22.99**	**17.44**	**0.04**	**3.52**	**2.11**
Tempo Project Emissions Exceed Approved Project?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:

1. Emissions were calculated using CalEEMod version 2022.1. Higher emissions between summer and winter are presented as a conservative analysis.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. As proposed, this analysis assumes that the construction of the Approved Project will be completed prior to the start of construction for the Tempo Project. Therefore, construction of the Tempo Project would not overlap with the construction of the Approved Project.

Source: Michael Baker International, Tempo by Hilton Project – Air Quality Assessment Memorandum, July 22, 2024.

Cumulative Construction Impacts

With respect to the Tempo Project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2022 AQMP. The Tempo Project would comply with SCAQMD Rule 403 requirements and implement all feasible SCAQMD rules to reduce construction air emissions to the extent feasible. In addition, the Tempo Project would comply with adopted 2022 AQMP emissions control measures. Pursuant to SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

The Tempo Project's construction emissions would be below the established thresholds and would result in less than significant air quality impacts. Thus, it can be reasonably inferred that the Tempo Project's construction emissions would not contribute to a cumulatively considerable air quality impact for nonattainment criteria pollutants in the Basin, and impacts would be less than significant.

Operational Impacts

Long-term air quality impacts typically consist of mobile source emissions generated from traffic associated with on-site uses (i.e., motor vehicle use by employees and guests), and emissions from area and energy sources. Operational emissions associated with the Tempo Project were estimated in CalEEMod. Based on the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum*[11] *(*Parking Analysis), implementation of the Tempo Project would generate 1,113 trips per day.

Area source emissions would be generated from consumer products, architectural coatings, and landscaping. Regarding energy emissions, the primary use of electricity and natural gas by the Project would be for space heating and cooling, water heating, ventilation, lighting, appliances, landscaping equipment, and electronics. Criteria air pollutant emissions from electricity use were not quantified since criteria pollutants emissions occur at the site of the power plant, which is off-site. Emissions associated with each of these sources were calculated and are shown in **Table 3.3-2, Operational Criteria Pollutant Emissions**. As shown in **Table 3.3-2**, the daily total operational emissions of the Tempo Project would not exceed established SCAQMD thresholds. In addition, total emissions of the Tempo Project and the Approved Project combined would not exceed SCAQMD thresholds. Therefore, impacts related to the total operational emissions of the Revised Project would be less than significant.

As discussed, the Tempo Project would not result in long-term operational air quality impacts. Further, the total emissions of the Tempo Project and the Approved Project combined would not exceed SCAQMD thresholds; thus, the Revised Project also would not result in long-term operational air quality impacts. Adherence to SCAQMD rules and regulations would alleviate

[11] Linscott, Law and Greenspan Engineers, Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum, March 12, 2024.

potential impacts related to cumulative conditions on a project-by-project basis. Moreover, emission reduction technology, strategies, and plans are constantly being developed. As a result, the Revised Project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, no cumulative operational impacts associated with implementation of the Revised Project would result.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, ozone (O_3) precursors, VOCs and NO_x, affect air quality on a regional scale. Health effects related to $O_3$are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the Project's less than significant increases in regional air pollution from criteria air pollutants during construction would have negligible impacts on human health.

Table 3.3-2
Operational Criteria Pollutant Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Tempo Project Emissions						
Mobile	3.69	3.10	32.9	0.08	7.29	1.88
Area	1.72	0.02	2.51	<0.01	<0.01	<0.01
Energy	0.02	0.45	0.38	<0.01	0.03	0.03
Total Tempo Project Emissions[2]	***5.44***	***3.55***	***35.8***	***0.08***	***7.32***	***1.92***
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Approved Project Total Net Change Emissions	**9.73**	**20.30**	**50.31**	**0.15**	**11.55**	**3.24**
Total Tempo Project and Approved Project Emissions	**15.17**	**23.85**	**86.11**	**0.23**	**18.87**	**5.16**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions calculated using CalEEMod Version 2022.1.
2. Totals may not add precisely due to rounding.

Source: Michael Baker International, Tempo by Hilton Project – Air Quality Assessment Memorandum, July 22, 2024.

As noted in the Brief of Amicus Curiae by the SCAQMD in *Sierra Club v. County of Fresno* (2015) 6 Cal. 5th 502, the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form.[12] Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.

The SCAQMD acknowledges that health effects quantification from O_3, as an example, is correlated with the increases in ambient level of O_3 in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause a modeled increase in ambient O_3 levels over the entire region. The SCAQMD further states that based on their own modeling in the *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_X and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O_3 levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the Revised Project would not exceed SCAQMD thresholds for construction and operational air emissions, the Revised Project would have a less than significant impact for air quality health impacts.

Impact Summary

In conclusion, construction and operational impacts resulting from the Revised Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment. The impacts of the Tempo Project would be less than significant and consistent with the impacts disclosed in the Indigo IS/MND. In addition, construction impacts resulting from the Tempo Project would be less than the Approved Project, as the maximum daily emissions of all criteria pollutants would be lower. Operational impacts resulting from the Tempo Project and the Approved Project combined would be less than significant.

LOCALIZED POLLUTANTS AND SENSITIVE RECEPTORS

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. The California Air Resources Board (CARB) has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptor to the Tempo Project is the single-family residence located adjacent to the east of the Area of Proposed Improvements.

[12] South Coast Air Quality Management District, Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. *Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, April 3, 2015.

Localized Significance Thresholds

Localized air quality impacts would occur if pollutant concentrations at sensitive receptors exceeded applicable NAAQS or CAAQS. The SCAQMD developed the LST methodology to assist lead agencies in analyzing localized air quality impacts and the SCAQMD provides the LST screening lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. If a project's on-site emissions do not exceed the screening levels for any pollutant, it can be concluded that the project would not cause or contribute to an adverse localized air quality impact. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The Project is located within Source Receptor Area (SRA) 9, East San Gabriel Valley.

Construction

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day. SCAQMD provides LST screening thresholds for one-, two, and five-acre site disturbance areas; SCAQMD does not provide LST screening thresholds for projects over five acres. The Tempo Project would actively disturb approximately one acre per day during the grading phase of construction. Therefore, the construction LST screening threshold for one acre was utilized. As discussed, the nearest sensitive receptor to the Tempo Project is the single-family residence located adjacent to the east of the Area of Proposed Improvements, which may be potentially affected by air pollutant emissions generated during on-site construction activities, and the lowest available LST screening values for 25 meters (82 feet) were conservatively used in this analysis.

Table 3.3-3, Localized Significance of Construction Emissions, shows the localized construction- related emissions for NO_x, CO, PM_{10}, and $PM_{2.5}$ compared to the LST screening thresholds for SRA 9. It is noted that the localized emissions presented in **Table 3.3-3** are less than those in **Table 3.3-2** because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities), per SCAQMD guidance. As shown in **Table 3.3-3**, localized construction emissions would not exceed the LST screening thresholds for SRA 9. Therefore, localized significance impacts from construction would be less than significant.

In addition, construction of the Tempo Project would generate less maximum on-site daily emissions of all four pollutants than construction of the Approved Project. It should be noted that construction of the Approved Project will be completed prior to the start of construction for the Tempo Project; therefore, construction of the Tempo Project and Approved Project would not overlap. As such, consistent with the determination of the Indigo IS/MND, impacts of the Revised Project would be less than significant.

Table 3.3-3
Localized Significance of Construction Emissions

Emissions Source	Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Tempo Project Emissions				
Maximum Daily Construction Emissions[1, 2]	11.39	13.39	1.91	1.16
LST Mass Rate Screening Criteria[3]	*89*	*623*	*5*	*3*
Criteria Exceeded?	***No***	***No***	***No***	***No***
Approved Project Maximum Daily On-Site Emissions[4]	**20.95**	**14.66**	**6.62**	**3.71**
Tempo Project Emissions Exceed Approved Project?	***No***	***No***	***No***	***No***

Notes:

1. The building construction, paving, and architectural coating phases would overlap during Year 2; maximum daily construction emissions from these three phases are combined to be presented as the worst-case scenario for CO emissions. The maximum NO_X, PM_{10}, and $PM_{2.5}$ emissions would occur during the grading phase during Year 1.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately one acre; therefore, the one-acre thresholds were used) and SRA 9, East San Gabriel Valley.

Source: Michael Baker International, Tempo by Hilton Project – Air Quality Assessment Memorandum, July 22, 2024.

Operations

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (e.g., warehouse or transfer facilities). The Tempo Project would not include such uses. Thus, due to the lack of such emissions, no long-term LST analysis is needed for the Tempo Project, and operational LST impacts would be less than significant. In addition, the Approved Project also does not include stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site. Therefore, the combined impacts of the Tempo Project and the Approved Project would be less than significant. As such, the impacts of the Revised Project would be less than significant and consistent with the determination of the Indigo IS/MND.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). To identify CO hotspots, the SCAQMD requires a CO microscale hotspot analysis when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service (LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations.

The Basin is designated as an attainment area for state and federal CO standards. There has been a decline in CO emissions even though VMT on U.S. urban and rural roads have increased. On-road mobile source CO emissions have declined 24 percent between 1989 and 1998, despite a 23 percent rise in motor VMT over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997, while VMT increased 18 percent in the 1990s. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Of these locations, the Wilshire Boulevard/Veteran Avenue intersection experienced the highest CO concentration (4.6 ppm), which is well below the 35-ppm 1-hr CO federal standard. The Wilshire Boulevard/Veteran Avenue intersection, adjacent to the University of California, Los Angeles campus, is one of the most congested intersections in southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection (100,000 ADT), it can be reasonably inferred that CO hotspots would not be experienced at any locations near the Revised Project Site as the Tempo Project would only result in up to 1,113 daily trips and the Approved Project would only result in a net of 2,442 daily trips on the weekdays and 3,012 daily trips on Saturdays, for a combined maximum of 4,125 daily trips for the Revised Project, or about four percent of the volume of a heavily congested intersection in the air basin that still did not yield a significant CO hotspot. Therefore, impacts related to CO hotspots would be less than significant.

Impact Summary

In conclusion, both construction and operational localized air quality impacts resulting from the Revised Project would be less than significant, consistent with the impacts disclosed in the Indigo IS/MND. In addition, construction impacts resulting from the Tempo Project would be less than the Approved Project, as the maximum localized daily emissions would be lower. As with the Approved Project, the Tempo Project would not include stationary sources that would cause localized impacts, or generate significant traffic, and therefore, combined localized operational impacts resulting from the Tempo Project and the Approved Project would be less than significant.

OBJECTIONABLE ODORS

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Tempo Project proposes to develop hotel uses and would not involve any of the uses identified by SCAQMD as being associated with odor; therefore, operation of the Tempo Project would not result in objectionable odors. However, construction activities associated with the Tempo Project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. These construction-related odors would be short-term in nature and cease upon project completion. In addition, the Tempo Project would be required to comply with the CCR, Title 13, Section 2449(d)(3) and Section 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The Tempo Project would also comply with the SCAQMD Rule 1113, which would minimize odor impacts from ROG emissions during architectural coating. Any impacts to existing adjacent land uses would be short-term.

In conclusion, construction and operational impacts of the Revised Project pertaining to other air emissions (such as those leading to odors) would be less than significant, consistent with the significance and type of impact disclosed in the Indigo IS/MND.

3.3.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.3.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.4 Biological Resources

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	NI	NI	No	No	No	No	No
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	LTS	LTS	No	No	No	No	No
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	NI	NI	No	No	No	No	No
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	LTSM (AP)	LTSM	No	No	No	No	No

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	LTS	LTS	No	No	No	No	No
f) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	NI	NI	No	No	No	No	No

3.4.1 Indigo IS/MND Finding

According to the Indigo IS/MND, the Original Project Site is primarily paved with ornamental landscaping and surrounded by developed urban uses. The Original Project Site does not support any naturally vegetated areas or connectivity to any habitats for candidate, sensitive, or special status species, and does not contain wetlands. The City is not located within a Natural Community Conservation Plan/Habitat Conservation Plan area. As such, the Indigo IS/MND concluded there would be no impacts related to candidate, sensitive, or special status species; wetlands; or an adopted habitat conservation plan.

The Indigo IS/MND states no riparian habitat communities or other sensitive natural communities exist within the Original Project Site. However, the Arcadia Wash runs in the Approved Project vicinity and is considered an intermittent riverine system, although it is not classified as a riparian habitat or other sensitive natural community. With implementation of best management practices (BMP) to prevent soil erosion and water pollutants, the Approved Project would not adversely impact the Arcadia Wash and impacts would be less than significant.

According to the Indigo IS/MND, wildlife movement is greatly restricted within the City due to existing urban development and is confined to the San Gabriel Mountains, located 2.6 miles north of the Original Project Site, and the Santa Anita Wash, located 0.8 mile west of the Original Project Site. As such, wildlife movement is not expected to occur at the Original Project Site. However, the Approved Project would remove a total of 34 existing trees that may be utilized by migratory bird species for nesting during the breeding season. As such, the Approved Project would implement Indigo IS/MND mitigation measure **MM BIO-1**, which would avoid bird nesting season as feasible for construction activities or would otherwise require a bird nesting survey by a qualified biologist. With implementation of Indigo IS/MND mitigation measure **MM BIO-1**, impacts related to migratory wildlife would be reduced to a less than significant level. Further, the Approved Project would remove 34 existing trees, four of which are public City trees. These public City trees would be protected in place in accordance with the City's tree preservation ordinance. The Indigo IS/MND concluded impacts related to local biological resource policies or ordinances would be less than significant.

3.4.2 Project Analysis

The following section evaluates potential impacts related to biological resources that would result from the construction and operation of the Revised Project. The analysis is based, in part, on the Protected Tree Report: Tree Survey, Encroachment, Protection and Mitigation (Protected Tree Report) prepared for the Tempo Project. The Protected Tree Report is provided as **Attachment B, Protected Tree Report**.

The Tempo Project would construct a hotel building and associated improvements on a vacant parcel (APN 5775-015-011) with surface parking and ornamental landscaping that is surrounded by commercial, institutional, and residential uses. The vacant parcel does not contain any critical habitat for threatened and endangered species as delineated by the U.S. Fish and Wildlife Service.[13] Similar to the Original Project Site, the Revised Project Site, which includes the Original Project Site and the vacant parcel, does not support any naturally vegetated areas; connectivity to any habitats for candidate, sensitive, or special status species; or wetlands. The limited ornamental landscaping within the vacant parcel would not be expected to be capable of supporting special status or sensitive plant species. Therefore, consistent with the Indigo IS/MND, the Revised Project would not result in any impacts related to candidate, sensitive, or special status species; wetlands; or an adopted habitat conservation plan.

The Arcadia Wash, which is identified as a riverine system by the National Wetlands Inventory, runs north-south approximately 130 feet west of the Area of Proposed Improvements.[14] In the Revised Project vicinity, Arcadia Wash is an underground engineered channel that does not support any riparian vegetation. As analyzed in **Section 4.10, Hydrology and Water Quality**, the Tempo Project would implement BMPs to prevent substantial erosion and runoff of sediments and pollutants into this waterway. With implementation of BMPs, the Revised Project would result in less than significant impacts related to riparian habitat communities or other sensitive natural communities, consistent with the impact determination the Indigo IS/MND.

A total of 13 trees would be removed to construct the Tempo Project. Although wildlife movement is not expected to occur within the Area of Proposed Improvements due to the intervening distance to the San Gabriel Mountains and Santa Anita Wash, tree removal may impact nesting habitat used by migratory birds. Therefore, the Tempo Project would implement Indigo IS/MND mitigation measure **MM BIO-1** to reduce potential impacts related to migratory birds to a less than significant level. Accordingly, the Revised Project's impacts related to migratory wildlife species

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13 U.S. Fish and Wildlife Service. *Critical Habitat for Threatened and Endangered Species Online Mapper*, https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77, accessed April 25, 2024.

14 U.S. Fish and Wildlife Service. *National Wetlands Inventory Wetlands Mapper.* https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/, accessed April 25, 2024.

would be less than significant with mitigation, consistent with the determination in the Indigo IS/MND. Further, the Tempo Project would remove 13 trees, including one protected sycamore tree located in the proposed trash enclosure area. However, the sycamore tree would be replaced in-kind with a 60-inch box-size sycamore. As such, the removal and replacement of the protected tree would be consistent with the requirements of the City's tree preservation ordinance codified in *AMC Article IX, Chapter 1, Division 10: Tree Preservation*. The Tempo Project would also comply with the requirements of *AMC Article IX, Chapter 8 – Comprehensive Tree Management Program*, which provides regulations for maintenance and removal of City trees, for the removal of all trees within the City's ROW. As such, the Revised Project would not conflict with the City's tree ordinances and impacts would be less than significant, consistent with the determination in the Indigo IS/MND.

3.4.3 Conclusion

Based on the above, with implementation of Indigo IS/MND mitigation measure **MM BIO-1**, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.4.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

MM BIO-1 Commencement of construction activities shall avoid the February 1 through August 31 bird nesting season to the greatest extent feasible. If construction activities begin within this nesting season, a survey for nesting birds shall be conducted by a qualified biologist within 7 days of the commencement of construction activities, but not prior to this 7-day window. The area surveyed shall include all clearing/construction areas, as well as areas within 100 feet of the boundaries of these areas, or as otherwise determined by the biologist. If no active bird nests are identified on, or within 100 feet of the limits of the proposed disturbance area, no further action is necessary and construction activities could commence. For any off-site areas that are inaccessible, the qualified biologists may survey the off-site area with binoculars to capture the full 100-foot survey area. If active nests are found during pre-construction surveys or at any time throughout the course of construction activities during the nesting bird season, all clearing/construction activities within a minimum of 100 feet of the nest shall be postponed until a wildlife biologist has identified the nesting species. If the bird species is not protected under the MBTA and/or the California Fish and Game Code, no further action is required and construction activities may proceed. If the avian species is protected under the MBTA and/or the California Fish and Game Code, a minimum buffer zone shall be established by the qualified biologist based on the type of bird/raptor species identified and the construction buffer shall be established on site through the erection of cones/flagging/fencing to clearly delineate the protection zone.

All construction activities shall avoid this protection zone until a qualified biologist has confirmed that the nest(s) is no longer active and the nest is vacated, and there is no evidence of second nesting attempts. Upon completion of any site survey for nesting birds conducted by a qualified biologist, documentation of the survey activity, findings, and any resulting actions taken shall be prepared and submitted to the City.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.5 Cultural Resources

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?	NI	NI	No	No	No	No	No
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?	LTSM (AP)	LTSM	No	No	No	No	No
c) Disturb any human remains, including those interred outside of formal cemeteries?	LTS	LTS	No	No	No	No	No

3.5.1 Indigo IS/MND Finding

The Indigo IS/MND states a cultural resources study was prepared for the Approved Project, which included a search of the California Historical Resources Information System (CHRIS) at the South Central Coastal Information Center, located at the California State University Fullerton. This search included the Original Project Site with a one-mile buffer. The records search found 25 previous cultural resources technical investigations, of which two studies overlap a portion of the Original Project Site. The studies did not identify cultural resources within the Original Project Site. The records search also identified 167 cultural resources previously recorded within one mile of the Original Project Site; none of these resources were found to intersect or be adjacent to the Original Project Site. Therefore, the Indigo IS/MND concluded impacts related to historical resources would be less than significant due to the absence of historical resources within the Original Site.

The Indigo IS/MND states the Sacred Lands File search of the Original Project Site conducted by the Native American Heritage Commission (NAHC) was positive and the NAHC recommended that the City contacted the following six tribes to request information on the resources in or near the Original Project Site:

- Gabrieleno Band of Mission Indians – Kizh Nation;
- Gabrieleno/Tongva San Gabriel Band of Mission Indians;
- Gabrieleno/Tongva Nation;
- Gabrieleno Tongva Indians of California Tribal Council; and
- Gabrieleno-Tongva Tribe
- San Fernando Band of Mission Indians.

According to the Indigo IS/MND, the records search did not identify any previously recorded archaeological resources within the Original Project Site. Although no archaeological resources were identified, the Indigo IS/MND concluded that there would be potential for the inadvertent discovery during ground disturbance that may result in potentially significant impacts to archaeological resources. Therefore, the Approved Project would be required to implement Indigo IS/MND mitigation measure **MM CUL-1** to ensure that potential impacts to archaeological resources would be less than significant.

As stated in the Indigo IS/MND, there is no indication that human remains are present within the Original Project Site. However, in the unlikely event of inadvertent discovery of human remains during ground disturbing activities, the Approved Project would adhere to the procedures in California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 regarding the potential discovery of human remains. The Indigo IS/MND concluded compliance with state laws would ensure that impacts to human remains would be less than significant.

3.5.2 Project Analysis

As there are no structures or manmade features greater than 50 years old onsite, the Revised Project Site does not contain any historical resources as defined by CEQA Guidelines Section 15064.5(a) Therefore, implementation of the Revised Project would not cause a substantial adverse change in the significance of a historical resource. Impacts to historical resources would not occur, consistent with the determination of the Indigo IS/MND.

There are no known cultural resources within the Area of Proposed Improvements. However, based on the results of the CHRIS records search conducted for the Indigo IS/MND, cultural resources have been discovered in the surrounding area. Thus, the Tempo Project would involve construction activities including excavation and grading that may potentially uncover archaeological resources. Specifically, the basement level of the proposed hotel building is anticipated to require excavation to depths of 12 to 15 feet below grade. Therefore, the Tempo Project would be required to implement Indigo IS/MND mitigation measure **MM CUL-1** to reduce impacts related to archaeological resources to less-than-significant levels in the event of discovery. As such, the Revised Project would not result in a substantial adverse change in the significance of an archaeological resource and impacts would be less than significant with mitigation, consistent with the determination of the Indigo IS/MND.

The Revised Project Site is located in an urbanized area and most of the site has been previously graded and developed, and as such, the potential for uncovering human remains within the Area of Proposed Improvements is low. Therefore, consistent with the determination of the Indigo IS/MND, compliance with California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98 would ensure that impacts to human remains would be less than significant under the Revised Project.

3.5.3 Conclusion

Based on the above, with implementation of Indigo IS/MND mitigation measure **MM CUL-1,** no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.5.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

MM CUL-1 In the event that archaeological resources are unearthed during ground-disturbing activities, the construction contractor shall immediately cease all earth-disturbing activities within 100 feet of the discovery and shall retain a qualified archaeologist that meets the Secretary of the Interior's Professional Qualification Standards. Construction activities may continue in other areas outside of the designated protection zone, which shall be delineated with cones, flagging, or fencing. The archaeologist shall evaluate the significance of the find and determine whether the resource uncovered is a "Tribal Cultural Resources" pursuant to Section 21074 of the California Public Resources Code, or a "unique archaeological resource" pursuant to Section 21083.2(g) of the California Public Resources Code or a "historical resource" pursuant to Section 15064.5(a) of the State CEQA Guidelines.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.6 Energy

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?	LTS	LTS	No	No	No	No	No
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	LTS	LTS	No	No	No	No	No

3.6.1 Indigo IS/MND Finding

The Indigo IS/MND states construction and operation of the Approved Project would consume energy resources in the form of electricity, natural gas, and petroleum. Petroleum use during operation would increase as a result of hotel, retail, and restaurant uses; however, the use would be a fraction of the state- and countywide use and, due to efficiency increases, petroleum use would diminish over time. Further, operation of the Approved Project would require implementation of energy efficient measures, including Part 6 of the Title 24 Standards, which establishes energy efficiency standards for residential and non-residential buildings, and Part 11 of the Title 24 Standards (CALGreen), which institutes mandatory minimum environmental performance standards for certain types of new construction. Overall, the Indigo IS/MND concluded the energy use required by the Approved Project would not be considered inefficient or wasteful and would result in a less-than-significant impact.

The applicable energy plan to the Approved Project is the Arcadia General Plan, Chapter 6: Resource and Sustainability Element, which contains goals and policies related to energy conservation, building design, and LEED certification. The Approved Project would follow applicable energy standards and regulations during construction and would be built and operated in accordance with all existing, applicable regulations at the time of construction. As such, the Indigo IS/MND concluded the Approved Project would not conflict with applicable energy regulations, and impacts would be less than significant.

3.6.2 Project Analysis

The following section evaluates potential impacts on energy that would result from the construction and operation of the Revised Project. The analysis is primarily based upon

Attachment C, Energy Assessment, which analyzed energy impacts for a 91-room hotel. After completion of the energy assessment, the total number of proposed rooms increased to 93. As such, **Attachment A.1, Revised Air Quality, Greenhouse Gas, Energy, and Noise Impact Analyses**, was prepared to evaluate the potential impacts of the additional two rooms, which concluded that the original impact determinations for the 91-room hotel would not change with the increase to 93 rooms.

ENERGY CONSUMPTION

Construction of the Tempo Project would require temporary energy consumption primarily using fuel for construction equipment, construction worker vehicle trips to and from the Revised Project Site, and the import and export of earth materials to and from the Revised Project Site by heavy trucks. As discussed in **Section 4.2, Air Quality**, it should be noted that the construction of the Approved Project will be completed prior to the start of construction for the Tempo Project and construction activities would not overlap. As such, the construction analysis only includes the Tempo Project's energy consumption.

For operation, the Tempo Project would require energy use in the form of electricity, natural gas, and fuel consumption. For the purposes of this analysis, the energy consumption for the Tempo Project is also added to the energy consumption for the Approved Project to determine the total combined impact on energy resources. The combined annual electricity and natural gas consumption from both the Tempo Project and Approved Project is then compared to the total consumption in Los Angeles County in 2022, the latest year consumption data is available.

Based on the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum*[15] *(*Parking Analysis), the Tempo Project would result in an operational trip generation of 1,113 average daily trips (ADT). The analysis also considers the Approved Project's operational fuel consumption. The combined fuel consumption for operational trips from the Approved Project and the Tempo Project are compared to the projected fuel consumption in Los Angeles County in 2026, the operational year of the Tempo Project. **Table 3.6-1, Tempo Project and Approved Project Energy Consumption**, illustrates this combined fuel consumption.

Table 3.6-2, Combined Energy Consumption compares the combined annual energy consumption percentage increase of the Tempo Project and Approved Project over the County's energy consumption. As shown in **Table 3.6-2**, the combined operational electricity usage of the Tempo Project and the Approved Project would constitute an approximate 0.0032 increase over the County's typical annual electricity consumption. Additionally, the combined operational natural gas usage would constitute an approximately 0.0023 percent increase over the County's typical annual natural gas consumption. The Tempo Project's off-road construction equipment diesel fuel consumption and on-road construction fuel consumption would increase Los Angeles County's consumption by 0.0549 percent and 0.0005 percent, respectively.

[15] Linscott, Law and Greenspan Engineers, Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum, March 12, 2024.

Table 3.6-1
Tempo Project and Approved Project Energy Consumption

Energy Type	Tempo Project Annual Energy Consumption[1]	Approved Project Annual Energy Consumption[2]	Combined Annual Energy Consumption
Electricity Consumption	817 MWh	1,369 MWh	2,187 MWh
Natural Gas Consumption	16,685 therms	49,474 therms	66,159 therms
Fuel Consumption			
Construction Off-Road Fuel Consumption[3]	17,590 gallons	-	17,590 gallons
Construction On-Road Fuel Consumption[3]	20,733 gallons	-	20,733 gallons
Operational Fuel Consumption	195,888 gallons	303,077 gallons	498,953 gallons

Notes:
1. Tempo Project electricity and natural gas consumptions as modeled in California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model. Tempo Project fuel consumption calculated based on CalEEMod results. Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.
2. Approved Project electricity and natural gas consumption based on the Indigo IS/MND. Refer to Table 13 of the IS/MND for operational fuel consumption for the Approved Project.
3. Construction of the Approved Project will be completed prior to the start of construction for the Tempo Project. As such, the analysis does not analyze the combined construction energy impact from both projects.

Source: Michael Baker International, Tempo by Hilton Project – Energy Consumption Assessment Memorandum, July 22, 2024.

Table 3.6-2
Combined Energy Consumption

Energy Type	Combined Annual Energy Consumption[1]	Los Angeles County Annual Energy Consumption[2]	Percentage Increase Countywide
Electricity Consumption[3]	2,187 MWh	68,484,956 MWh	0.0032%
Natural Gas Consumption[4]	66,159 therms	2,821,285,935 therms	0.0023%
Fuel Consumption			
Construction Off-Road Fuel Consumption	17,590 gallons	32,013,161 gallons	0.0549%
Construction On-Road Fuel Consumption	20,733 gallons	4,160,462,341 gallons	0.0005%
Operational Fuel Consumption	498,953 gallons	3,981,438,709 gallons	0.0125%

Notes:
1. Combined annual energy consumption refers to the combined consumption from the Tempo Project and Approved Project. Refer to **Table 3.6-1**.
2. The combined annual increase in electricity and natural gas consumption is compared to the total consumption in Los Angeles County in 2022, the latest year with data available. The Tempo Project's increases in construction off-road and on-road fuel consumption are compared with the projected Los Angeles Countywide off-road fuel consumption and Los Angeles Countywide on-road fuel consumption in 2024, the first year of construction. The combined annual consumption of operational automotive fuel is compared with the projected Countywide on-road fuel consumption in 2026, the Tempo Project's operational year.
3. Los Angeles County electricity consumption data source: California Energy Commission, Electricity Consumption by County, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, accessed June 12, 2024.
4. Los Angeles County gas consumption data source: California Energy Commission, Gas Consumption by County, https://ecdms.energy.ca.gov/gasbycounty.aspx, accessed June 12, 2024.

Source: Michael Baker International, Tempo by Hilton Project – Energy Consumption Assessment Memorandum, July 22, 2024.

Based on the Parking Analysis, the Tempo Project operations would generate approximately 1,113 ADT, which was utilized to estimate the proposed Project's fuel consumption. According to the Indigo IS/MND, the Approved Project would consume approximately 303,077 gallons of fuel per year. As such, the combined operational fuel consumption from the total Revised Project would be approximately 498,953 gallons of fuel per year, constituting an approximately 0.0125 percent increase over the County's projected annual fuel consumption in 2026. Therefore, the combined operational fuel consumption of the Revised Project would not substantially increase Los Angeles County's annual fuel consumption and the Revised Project's operational energy consumption would be nominal compared to the County's consumption. Further, the Revised Project comprises an infill development to meet local demand in an area already served by energy infrastructure, and according to current energy efficiency standards in Title 24. As such, the Revised Project's energy consumption would not be wasteful, inefficient, or unnecessary and impacts would be less than significant.

<u>Construction</u>

During construction, the Tempo Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels for construction vehicles and other energy-consuming equipment would be used during grading, building construction, paving, and architectural coating. As shown in **Table 3.6-2**, the Tempo Project's off-road fuel consumption and on-road fuel consumption from construction would be approximately 17.590 gallons and 20,733 gallons, respectively. Consequently, the Tempo Project's off-road construction equipment diesel fuel consumption and on-road construction fuel consumption would increase Los Angeles County's consumption by 0.0549 percent and 0.0005 percent, respectively (when compared to the total consumption in 2022).

During construction, the Tempo Project would construct a temporary staging ground with mobile office trailers and equipment that may consume electricity. However, the electricity consumption during construction would be nominal and temporary. Additionally, natural gas would not be consumed during construction. As such, construction of the Tempo Project would have a minimal effect on the local and regional energy supplies (fuel and electricity) and would not require additional capacity.

Additionally, some incidental energy conservation would occur during construction through compliance with state requirements. State requirements include Title 13, California Code of Regulations Section 2485, which states that equipment not in use for more than five minutes be turned off, and Section 2449, which minimizes the idling of construction equipment. Construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency (USEPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Moreover, due to increasing transportation costs and fuel prices, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

Although it is beyond the scope of the CEQA analysis, further reductions in energy inputs for construction materials can be achieved by selecting green building materials composed of recycled materials that require less energy to produce than non-recycled materials. The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) for the Revised Project would not substantially increase demand for energy compared to overall local and regional demand for construction materials. Further, it is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment, or building materials, or methods that would be less energy efficient than at comparable construction sites in the region or State. Therefore, fuel energy and construction materials consumed during construction would not represent a significant demand on energy resources. Overall, consistent with the Indigo IS/MND, construction of the Revised Project would result in a less than significant impact related to wasteful, inefficient, and unnecessary consumption of energy.

<u>Operation</u>

Transportation Energy Demand

As discussed, based on the Parking Analysis, the Tempo Project operations would generate approximately up to 1,113 ADT, which would consume approximately 195,888 gallons of fuel per year. Additionally, according to the Indigo IS/MND, the Approved Project would consume approximately 303,077 gallons of fuel per year. As indicated in **Table 3.6-2**, the Tempo Project and Approved Project would result in a combined annual fuel consumption rate of approximately 498,953 gallons, which constitutes a 0.0125 percent increase over the County's projected on-road fuel consumption in 2026. Therefore, the Revised Project would not substantially increase the County's operational fuel consumption. Furthermore, the Revised Project does not propose any unusual features that would result in excessive long-term operational fuel consumption.

The key drivers of transportation-related fuel consumption for the Revised Project would come from individuals traveling to the Revised Project Site for short-term visits. The Revised Project would also consume fuel in the form of employees driving to and from the Revised Project Site. Employee commuting factors are outside of the scope of the design of the Revised Project. Notwithstanding, the Tempo Project would include three electric vehicle (EV) parking spaces with electrical charging stations installed and the Approved Project included EV charging stations in compliance with the CALGreen Code. This requirement would encourage and support alternative modes of travel and thus reduce the petroleum fuel consumption. Additionally, the Revised Project is also located on an infill development site, in an area already served by utilities, and within 0.25 miles of the bus stop located at Huntington Drive and Santa Clara Street and approximately 0.5 miles of Los Angeles County Metropolitan Transportation Authority (Metro) Gold Line Arcadia Station. The Revised Project Site's proximity to public transit would help reduce overall VMT as public transportation could transport employees or visitors in one vehicle, reducing solo car trips. Therefore, fuel consumption associated with vehicle trips generated by the Revised Project, as well as associated infrastructure, would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Overall, fuel and other energy consumption associated with vehicle trips generated by the Revised Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. Consistent with the Indigo IS/MND, impacts would be less than significant.

Building Energy Demand

The proposed buildings would be powered by electricity and natural gas. As shown in **Table 3.6-2**, the combined operational energy (electricity) consumption from the Tempo Project and the Approved Project would represent an approximately 0.0032 percent increase over the 2022 countywide electricity consumption and approximately 0.0023 percent increase over the 2022 countywide natural gas consumption, which would be significantly below California Energy Commission's (CEC) forecasts. Therefore, the Revised Project would be consistent with the CEC's energy consumption forecasts. Additionally, the Revised Project would consume energy during the same time periods as other commercial developments and would consume energy evenly throughout the day. Thus, the Revised Project would not result in unique or more intensive peak or base period electricity demand.

The Revised Project would comply the most current Title 24 Standards (i.e., 2022 Title 24), specifically by installing low flow water fixtures and water efficient irrigation. The Title 24 Building Energy Efficiency Standards are updated every 3 years and become more stringent between each update. As such, complying with the most current Title 24 standards would make the Revised Project more energy efficient than the existing buildings built under the earlier versions of the Title 24 standards.

The electricity provider for the City, Southern California Edison (SCE), is subject to California's Renewable Portfolio Standards (RPS), reflected in SB 100. The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 44 percent by the end of 2024, 52 percent by the end of 2027, 60 percent of total procurement by 2030, and 100 percent of total procurement by 2045. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures that new development projects will not result in the waste of the finite energy resources. As a result, the Revised Project would ensure that non-renewable energy consumption would be kept to a minimum through high efficiency lighting, energy efficient appliances, and on-site renewable energy production (i.e., solar-ready roofs).

Impact Summary

Based on the above, the Tempo Project would consume energy resources (i.e., electricity, natural gas, construction on-road/off-road, and operational fuel consumption) that would only represent a nominal increase in the existing and forecasted countywide consumption even after considering the Approved Project's energy consumption. As such, the Tempo Project's impact on energy resources would be less than significant and would be similar to the impacts disclosed in the 2020 IS/MND, which were determined to be less than significant. In addition, the combined impact from both the Tempo Project and the Approved Project would not result in a significant increase in energy consumption in the County, would be constructed according to more recent and stringent energy efficiency standards. Therefore, consistent with the Indigo IS/MND, the Revised Project would not cause wasteful, inefficient, and unnecessary consumption of building energy during operation, or preempt future energy development or conservation, and impacts would be less than significant.

CONSISTENCY WITH APPLICABLE ENERGY PLANS

State and regional plans for renewable energy and energy efficiency include the CEC's Integrated Energy Policy Report (IEPR), Title 24 Standards and CALGreen Code, and the California's RPS. As discussed above, the combined operational energy (electricity and natural gas) consumption of the Tempo Project and Approved Project would represent a nominal increase over the current countywide consumption. The combined electricity consumption would represent an approximately 0.0032 percent increase, which would be significantly below the CEC's forecasted baseline electricity consumption, which grows at a rate of about 1.7 percent annually through 2040. The combined natural gas consumption would represent an approximately 0.0023 percent increase, which would be significantly below the CEC's forecasted baseline, which grows at a rate of about 0.2 percent annually through 2035. Therefore, the Revised Project would be consistent with the California Energy Commission's 2023 IEPR.

Further, the Revised Project would comply with the most current Title 24 Standards (2022 Title 24), adhering to the minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. The Revised Project would also comply with the CALGreen Code which requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, HVAC, and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicle charging infrastructure. Implementation of the most current Title 24 standards would substantially reduce energy usage. Additionally, per the RPS, the Revised Project would utilize electricity that would achieve 60 percent of total procurement by 2030, and 100 percent renewable energy by 2045. As such, the Revised Project would comply with state energy plans including the 2023 IEPR, the most current Title 24 Standards, the CALGreen Code, and California's RPS.

Additionally, the Revised Project would comply with the applicable goals and policies pertaining to energy and energy efficiency in the City's General Plan. **Table 3.6-3, Consistency with the Arcadia General Plan**, discusses the Revised Project's consistency with the General Plan's applicable goals and policies. As shown in **Table 3.6-3**, the Revised Project would be consistent with the applicable goals and policies of the City's General Plan. Therefore, consistent with the Indigo IS/MND, the Revised Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

3.6.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

Table 3.6-3
Consistency with the Arcadia General Plan

Applicable Goal/Policy	Consistency Analysis
Goal RS-5: Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation.	
Policy RS-5.3: Require that all new developments meet or exceed the state and local energy conservation requirements.	**Consistent.** The Revised Project would comply the 2022 Title 24 Standards and the CALGreen Code. The 2022 Title 24 Standards provide minimum energy efficiency standards for new developments. The Revised Project would be consistent with this policy.
Policy RS-5.5: Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.	**Consistent.** The Revised Project would be supplied with electricity by SCE, which would comply with the RPS that requires the electricity providers to achieve 60 percent of total procurement by 2030, and 100 percent renewable energy by 2045. As such, the Revised Project would utilize electricity from SCE that would be required to meet these renewable energy procurement goals. Additionally, the Tempo Project would include a solar ready roof which would allow for the future installation of solar panels for on-site energy production. The Revised Project would utilize alternative energy sources and would be consistent with this policy.
Policy RS-5.9: Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.	**Consistent**. The Tempo Project would provide three EV charging stations and the Approved Project included 15 EV charging stations that would help promote the use of EVs, which typically achieve better fuel economy compared to traditional gasoline and diesel vehicles and thus, would reduce help reduce operational vehicle fuel consumption. Additionally, the proposed Project is approximately 0.5 miles from the Metro Gold Line Arcadia Station. Bus stops currently serviced by Foothill Transit are also located approximately 0.2 miles to the southeast along Huntington Drive. As such, the Revised Project would incorporate features that encourage alternative modes of transportation and is located near existing public transportation. The Revised Project would be consistent with this policy.
Source: Michael Baker International, Tempo by Hilton Project – Energy Consumption Assessment Memorandum, July 22, 2024.	

3.6.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.7 Geology and Soils

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:							
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	LTS	LTS	No	No	No	No	No
ii. Strong seismic ground shaking?	LTS	LTS	No	No	No	No	No
iii. Seismic-related ground failure, including liquefaction?	LTS	LTS	No	No	No	No	No
iv. Landslides?	LTS	LTS	No	No	No	No	No
b) Result in substantial soil erosion or the loss of topsoil?	LTS	LTS	No	No	No	No	No
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	LTS	LTS	No	No	No	No	No
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	LTS	LTS	No	No	No	No	No

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	NI	NI	No	No	No	No	No
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	LTSM (AP)	LTSM	No	No	No	No	No

3.7.1 Indigo IS/MND Finding

The Indigo IS/MND states that the Original Project Site is not located within an Alquist-Priolo Zone, in a liquefaction zone, or in a region susceptible to landslides. In addition, the groundwater levels within the City are approximately 100 feet below ground surface and the underlying soils would not be prone to liquefaction and associated lateral spreading. Furthermore, the City is not in an area of groundwater subsidence due to groundwater withdrawal. Although there are no known faults beneath the Original Project Site, the City is located in a seismically active area and the Approved Project would be required to comply with the California Building Code to ensure maximum protection of buildings and occupants during seismic events. Therefore, the Indigo IS/MND concluded that the Approved Project’s impacts related to a known earthquake fault, seismic ground shaking, liquefaction, lateral spreading and landslides would be less than significant.

According to the Indigo IS/MND, the Original Project Site is fully developed and paved. Thus, there are minimal areas of exposed soil on the Original Project Site. During construction, the Approved Project would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion control BMPs to reduce construction-related soil erosion. As such, the Indigo IS/MND concluded that impacts related to soil erosion and loss of topsoil would be less than significant. Additionally, the soils underlying the Original Project Site contain very little clay material and are not usually subject to expansion. Therefore, the Approved Project’s impacts related to expansive soils were also determined to be less than significant in the Indigo IS/MND.

The Approved Project would be served by existing sewer infrastructure and would not use septic tanks; there would be no impact related to alternative wastewater disposal systems.

According to the Indigo IS/MND, there are no fossils recorded within the Approved Project area, although they are documented nearby from similar sedimentary deposits as those underlying the Original Project Site. Therefore, the Approved Project area is considered to be potentially sensitive for paleontological resources and ground-disturbing activities associated with the construction of the Approved Project would have the potential to uncover paleontological resources. As such, the Approved Project would be required implement Indigo IS/MND mitigation measure **MM GEO-1** to ensure that potential impacts to paleontological resources would be reduced to less-than-significant levels.

3.7.2 Project Analysis

The following section evaluates potential impacts to geology and soils that would result from the construction and operation of the Revised Project. The analysis is primarily based upon the *Geotechnical Engineering Investigation, Proposed Hotel Development – Tempo Hotel by Hilton* (Geotechnical Report) prepared for the Tempo Project, which evaluated the geologic conditions of the Area of Proposed Improvements. The Geotechnical Report is included as **Attachment D, Geotechnical Engineering Investigation**.

The Revised Project Site is located in a seismically active area, as is most of southern California. However, the Revised Project Site is not located within a state-designated Alquist-Priolo Fault Hazard Zone and no active faults are known to cross the Revised Project Site. The closest fault is the Raymond Fault, located approximately 1,200 feet to the northwest of the Area of Proposed Improvements. According to the Indigo IS/MND and the Geotechnical Report, the potential for surface ground rupture at the Revised Project Site is considered low.

The Revised Project Site is not mapped as an area prone to liquefaction, and this is supported by the low groundwater levels present within the Area of Proposed Improvements. Groundwater was not encountered during soil borings that were excavated from the Area of Proposed Improvements to a depth of 60 feet below grade. In addition, the underlying soils of the Area of Proposed Improvements are characterized as medium dense to very dense. Based on these conditions, the potential for liquefaction occurring at the Revised Project Site is low. Liquefaction-related effects include lateral spreading. Thus, the potential for lateral spreading at the Revised Project Site is also low. In addition, according to the Geotechnical Report, the probability of landslides occurring in the Area of Proposed Improvements is considered to be low and the underlying soils have a very low expansion range.

The Tempo Project would implement the construction and design recommendations in the Geotechnical Report and would comply with the requirements of the California Building Code. With implementation of the recommendations in the Geotechnical Report and adherence to the California Building Code, the Revised Project's impacts related to rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure (including liquefaction), landslides, lateral spreading, subsidence, and collapse would be less than significant, consistent with the Indigo IS/MND.

Construction of the Tempo Project would involve ground-disturbing activities that could result in soil erosion. As further discussed in **Section 4.10, Hydrology and Water Quality**, the Tempo Project would implement BMPs and low impact development (LID) features during construction and operation, which would reduce the potential for erosion to occur. Compliance with existing regulations would ensure the Revised Project would not result in a significant impact related to soil erosion.

In addition, as with the Approved Project, the Tempo Project would connect to the City's sewer system. As such, consistent with the Indigo IS/MND, the Revised Project would have no impact related to the use of septic tanks or alternative wastewater disposal systems.

Regarding paleontological resources, the Revised Project area is considered to be potentially sensitive for paleontological resources. The Tempo Project would involve excavation to depths of 12 to 15 feet below grade for the construction of the subterranean level. As such, the Tempo Project would be required to implement Indigo IS/MND mitigation measure **MM GEO-1**. Consistent with the determination in the Indigo IS/MND, the Revised Project would result in less than significant impacts related to paleontological resources with the implementation of Indigo IS/MND mitigation measure **MM GEO-1**.

3.7.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.7.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

MM GEO-1 Prior to commencement of any grading activity on-site, the Applicant shall retain a qualified paleontologist per the Society of Vertebrate Paleontology (SVP) (2010) guidelines. The paleontologist shall prepare a Paleontological Resources Impact Mitigation Program (PRIMP) for the project. The PRIMP shall be consistent with the SVP (2010) guidelines and should outline requirements for preconstruction meeting attendance and worker environmental awareness training, where monitoring is required within the project area based on construction plans and/or geotechnical reports, procedures for adequate paleontological monitoring and discoveries treatment, and paleontological methods (including sediment sampling for microvertebrate fossils), reporting, and collections management. The qualified paleontologist shall attend the preconstruction meeting and a paleontological monitor shall be on-site during all rough grading and other significant ground-disturbing activities in previously undisturbed, fine-grained older Quaternary alluvial fan deposits. These deposits may be encountered at depths as shallow as

5-10 feet below ground surface. In the event that paleontological resources (e.g., fossils) are unearthed during grading, the paleontological monitor will temporarily halt and/or divert grading activity to allow recovery of paleontological resources. The area of discovery will be roped off with a 50-foot radius buffer. Once documentation and collection of the find is completed, the monitor will remove the rope and allow grading to recommence in the area of the find.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.8 Greenhouse Gas Emissions

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	LTS	LTS	No	No	No	No	No
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	LTS	LTS	No	No	No	No	No

3.8.1 Indigo IS/MND Finding

According to the Indigo IS/MND, the Original Project Site is located within the jurisdictional boundaries of SCAQMD. As such, the Indigo IS/MND's impact analysis compared estimated operational emissions plus amortized construction emissions to the proposed SCAQMD screening threshold of 3,000 metric tons of CO_2 equivalent (MT CO_2e) per year. The Indigo IS/MND determined that the Approved Project's estimated annual generated operational emissions in 2022 (2,517 MT CO_2e per year) plus amortized construction emissions (23 MT CO2e per year) would be approximately 2,540 MT CO_2e per year, which would not exceed the recommended SCAQMD threshold. Therefore, the Indigo IS/MND concluded the Approved Project's impact would be less than significant related to GHG emissions.

Regarding conflicts with an applicable GHG plan, policy, or regulation, the Indigo IS/MND states the City of Arcadia does not have a comprehensive Climate Action Plan. As such, the Approved Project performed a consistency analysis with the City's applicable General Plan policies, SCAG 2016 RTP/SCS, CARB's Scoping Plan, and statewide GHG reduction goals for 2030 or 2050 identified in Executive Order S-3-05 and SB 32. Overall, the Indigo IS/MND concluded the Approved Project would be consistent with these applicable plans and regulations.

3.8.2 Project Analysis

The following section evaluates the potential GHG impacts that would result from implementation of the Revised Project. This analysis is primarily based upon **Attachment E, Greenhouse Gas Emissions Assessment**, which analyzed GHG impacts for a 91-room hotel. After the completion of the GHG assessment, the total number of proposed rooms increased to 93. As such, **Attachment A.1, Revised Air Quality, Greenhouse Gas, Energy, and Noise Impact Analyses**, was prepared to evaluate the potential impacts of the additional two rooms, which concluded that the original impact determinations for the 91-room hotel would not change with the increase to 93 rooms.

SIGNIFICANCE CRITERIA AND METHODOLOGY

The City of Arcadia has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the SCAQMD, the Governor's Office of Planning and Research, CARB, California Air Pollution Control Officers Association, or any other state or applicable regional agency has yet to adopt a numerical significance threshold for assessing GHG emissions that is applicable to the Revised Project. Although the Indigo IS/MND discussed the SCAQMD's adopted 10,000 $MTCO_2e$ per year threshold for permitted stationary sources/industrial projects and acknowledged that the SCAQMD did not adopt a significance threshold for residential and general land use development projects, it nevertheless used the SCAQMD's 3,000 $MTCO_2e$ per year screening threshold for all land use types for any projects that are not exempt from CEQA or where there are no qualifying GHG reduction plans are applicable. As such, the Indigo IS/MND compared the Approved Project's GHG emissions to the screening threshold of 3,000 $MTCO_2e$ per year. However, the proposed threshold was not adopted and was based on the State's GHG emissions reduction goal identified in AB 32 for the year 2020, which is outdated.

Moreover, impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources, and therefore, a numerical significance threshold for individual development projects is speculative. Throughout the State, air districts are moving from numerical significance thresholds to qualitative significance thresholds that focus on project features to reduce GHG emissions or consistency with GHG reduction plans. For example, the GHG thresholds of significance for the Bay Area Air Quality Management District (BAAQMD) are either whether land use projects include certain project design elements related to buildings and transportation or whether the project is consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). This is a major update to BAAQMD's 2017 CEQA Guidelines, where a numerical significance threshold was required. To reduce the impact of GHG emissions, it is more effective for development projects to include project features that directly or indirectly reduce GHG emissions, rather than relying on a numerical significance threshold, which is highly dependent on the type and size of the development.

Therefore, the significance of the Revised Project's potential impacts regarding GHG emissions and climate change is assessed solely on its consistency with plans and policies adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change and the Revised Project's ability to incorporate sustainable features and strategies from such plans and policies in its design to reduce GHG emissions. The analysis has also quantified the Tempo Project's GHG emissions and calculated the Revised Project's GHG emissions by adding the GHG emissions from the Tempo Project to the GHG emission generated by the Approved Project for informational purposes.

It should be noted that individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. According to CEQA Guidelines Section 15064(h)(1), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem in the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Therefore, a lead agency can make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

PROJECT-RELATED GHG EMISSIONS

As discussed above, the Revised Project's GHG emissions are quantified for informational purposes only as neither the City, nor any other public agency, has an applicable numeric significance threshold for GHG emissions. Direct project-related GHG emissions include emissions from construction activities, area sources, mobile sources, and refrigerants, while indirect sources include emissions from energy consumption, water demand, and solid waste generation. CalEEMod was used to model the GHG emissions, including direct and indirect GHG emissions. Construction of the Tempo Project is anticipated to take approximately 16.5 months to complete. The construction activities would include grading, building construction, paving, and architectural coating. **Table 3.8-1, Estimated Greenhouse Gas Emissions**, presents the estimated GHG emissions associated with the Revised Project.

Direct sources of GHGs include construction emissions, mobile source emissions, area source emissions, and refrigerants. The Tempo Project would result in a total of 335.4 $MTCO_2e$ of emissions during construction. Construction GHG emissions are amortized over 30 years (i.e., total construction emissions divided by the lifetime of the Tempo Project, assumed to be 30 years), then added to the operational emissions, as recommended by SCAQMD. The amortization takes into consideration the temporary nature of construction activities. It should be noted that construction of the Approved Project will be completed prior to the start of the construction for the Tempo Project; therefore, construction of the Tempo Project and Approved Project would not overlap. As shown in **Table 3.8-1**, construction of the Tempo Project would generate approximately 11.18 $MTCO_2e$ of emissions per year when amortized over 30 years. **Table 3.8-1** also shows that the Tempo Project would result in a total of 1,275 $MTCO_2e$ per year of GHG emissions from mobile sources; a total of 1.18 $MTCO_2e$ per year of GHG emissions from area sources emissions generated due to an increased demand for consumer products, architectural coating, and landscaping associated with the development of the Tempo Project; and 15.00 $MTCO_2e$ per year of GHG emissions from refrigerants.

Table 3.8-1
Estimated Greenhouse Gas Emissions

Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
	Metric Tons/year1				
Direct Emissions					
Construction (amortized over 30 years) [2]	11.08	<0.01	<0.01	<0.01	11.18
Mobile Source[3]	1,255	0.06	0.05	1.89	1,275
Area Source	1.17	<0.01	<0.01	-	1.18
Refrigerants	-	-	-	15.0	15.0
Total Direct Emissions	*1,267.25*	*0.06*	*0.05*	*16.89*	*1,302*
Indirect Emissions					
Energy	286	0.02	<0.01	-	287
Water	4.09	0.07	<0.01	-	6.22
Solid Waste	4.45	0.44	0.00	-	15.6
Total Indirect Emissions	*294.54*	*0.53*	*<0.01*	-	*308.82*
Total Tempo Project Emissions	***1,610.82***				
Approved Project Emissions	***2,539.59***				
Total Tempo Project and Approved Project Emissions	***4,150.41***				

Notes:
1. Emissions calculated using CalEEMod Version 2022.1; totals may be slightly off due to rounding.
2. Total Tempo Project construction GHG emissions equate to 335.4 MTCO2e. Value shown is amortized over the lifetime of the Tempo Project (assumed to be 30 years).
3. Based on the Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum prepared by Linscott, Law and Greenspan Engineers (dated March 12, 2024).

Source: Michael Baker International, Tempo by Hilton Project – Greenhouse Gas Emissions Assessment Memorandum, July 22, 2024.

Indirect sources of GHGs include emissions from energy consumption, emissions from water use, and emissions from solid waste. As shown in **Table 3.8-1**, the Tempo Project would result in 287.0 $MTCO_2e$ per year of GHG emissions due to energy consumption, 6.22 $MTCO_2e$ per year of GHG emissions from water use; and approximately 15.6 $MTCO_2e$ of emissions per year related to solid waste generation .

As shown in **Table 3.8-1**, the total amount of Tempo Project-related GHG emissions from direct and indirect sources would total approximately 1,610.82 $MTCO_2e$ per year. Total emissions of the Revised Project (Tempo Project and the Approved Project combined) would be approximately

4,150.41 $MTCO_2e$ per year, which exceeds the SCAQMD 3,000 $MTCO_2e$ per year screening threshold utilized in the Indigo IS/MND. However, as stated above, the 3,000 $MTCO_2e$ threshold was never adopted by SCAQMD and is based on the State's outdated GHG emissions reduction goal for 2020. As such, the discussion of this unadopted threshold in this analysis is provided for informational purposes. Moreover, as discussed above, the significance of the Approved Project's and Revised Project's potential impacts regarding GHG emissions and climate change is not determined by the SCAQMD bright-line screening thresholds, but by consistency with applicable plans, which is discussed in more detail below.

CONSISTENCY WITH APPLICABLE PLANS

The Indigo IS/MND's consistency analysis is based on the 2017 Scoping Plan and SCAG 2016-2040 RTP/SCS. However, these documents have since been updated, with the most recent approved iterations being the 2022 Scoping Plan and the 2020-2045 RTP/SCS. The updated documents include more stringent goals and policies to ensure that existing and future developments are on track to meet statewide GHG reduction goals. As such, the most recent and approved iterations are more stringent compared to the 2017 Scoping Plan and 2016-2040 RTP/SCS. Thus, the Revised Project's consistency analysis is based on consistency with the 2022 Scoping Plan, SCAG 2020-2045 RTP/SCS, and applicable goals and policies from the City's General Plan.

The 2022 Scoping Plan describes the approach the State will take to achieve carbon neutrality by 2045. The SCAG 2020-2045 RTP/SCS includes strategies for the region to reach the regional target of reducing GHG from transportation sector. The City's General Plan contains goals and policies that would help implement energy efficient measures and would subsequently reduce GHG emissions within the City.

<u>Consistency with the 2022 Scoping Plan</u>

The 2022 Scoping Plan identifies reduction measures necessary to achieve the goal of carbon neutrality by 2045 or earlier. Actions that reduce GHG emissions are identified for each AB 32 inventory sector. Provided in **Table 3.8-2, Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors**, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the Revised Project would be consistent with or exceed reduction actions/strategies outlined in the 2022 Scoping Plan. As shown therein, the Revised Project would be consistent with the applicable GHG emission reduction strategies contained in the 2022 Scoping Plan.

<u>Consistency with the 2020-2045 RTP/SCS</u>

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020-2045 RTP/SCS. The 2020-2045 RTP/SCS includes performance goals that were adopted to help focus future investments on the best-performing projects, as well as different strategies to preserve, maintain, and optimize the performance of the existing transportation system. The 2020-2045 RTP/SCS is forecast to help California reach its GHG reduction goals by reducing GHG emissions from passenger cars by 8 percent below 2005 levels by 2020 and 19 percent by 2035 in accordance with the most recent CARB targets adopted in March 2018. Five key SCS strategies are included in the 2020-2045 RTP/SCS to help the region meet its regional VMT and GHG reduction goals, as required by the State.

Table 3.8-2
Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors

Actions and Strategies	Project Consistency Analysis
Smart Growth / Vehicles Miles Traveled (VMT)	
Reduce VMT per capita to 25% below 2019 levels by 2030, and 30% below 2019 levels by 2045	**Consistent**. The Revised Project is also located within 0.25 miles of the bus top located at Huntington Drive and Santa Clara Street and approximately 0.5 miles of the Metro Gold Line Arcadia Station. The Tempo Project would also include three EV charging stations and the Approved Project included 15 EV charging stations in accordance with Title 24 Standards. Thus, the Revised Project would include features that encourage alternative modes of transportation that would reduce VMT. In addition, as discussed in Section 3.17.2 below, the Tempo Project is a hotel intended to serve the local population of the City, and as such, is considered a “non-destination” hotel. Therefore, the proposed Tempo Project screens out of VMT analysis and the Tempo Project’s VMT impact is presumed to be less than significant.
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed statewide by 2030	**Not Applicable.** The City of Arcadia has not adopted an ordinance or program requiring all electric appliances. The Revised Project is anticipated to be operational before such an ordinance or program is adopted as the Revised Project would start operation before 2029. Regardless, if adopted, the Revised Project would be required to comply with the regulation.
Construction Equipment	
Achieve 25% of energy demand electrified by 2030 and 75% electrified by 2045	**Not Applicable.** The City of Arcadia has not adopted an ordinance or program requiring electricity-powered construction equipment. The Revised Project construction is anticipated to be completed before such an ordinance or program is adopted as construction of the Revised Project would be completed before 2030. Regardless, if adopted, the Revised Project would be required to comply with the regulation.
Non-combustion Methane Emissions	
Divert 75% of organic waste from landfills by 2025	**Consistent**. SB 1383 establishes targets to achieve a 50 percent reduction in the level of statewide organic waste disposal from 2014 levels by 2020 and a 75 percent reduction by 2025. The law establishes an additional target that at least 20 percent or more of currently disposed edible food is recovered for human consumption by 2025. SB 1383 provides specific requirements for businesses, such as participating in their jurisdiction’s organics curbside collection service or self-hauling organic waste to a composting facility/program, properly sorting organic materials, and providing education to employees and customers regarding material sorting. The Revised Project would comply with local and regional regulations and recycle or compost 75 percent of waste by 2025 pursuant to SB 1383.
Source: Michael Baker International, Tempo by Hilton Project – Greenhouse Gas Emissions Assessment Memorandum, July 22, 2024.	

Table 3.8-3, Consistency with the 2020-2045 RTP/SCS, provides a consistency analysis of the Revised Project with these five 2020-2045 RTP/SCS strategies. As shown therein, the Revised Project would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS. As mentioned above, the latest 2024-2050 RTP/SCS was adopted by the SCAG Board on April 4, 2024. However, CARB concluded that the technical methodology SCAG used to quantify the GHG emission reductions for the 2024-2050 RTP/SCS does not operate accurately. SCAG is currently working on updating the technical methodology and resubmitting for CARB’s review. Until CARB approves the methodology, the 2024-2050 RTP/SCS is not a fully

adopted document, especially from the GHG reduction perspective of the proposed strategies. As such, the consistency analysis relies upon the 2020-2045 RTP/SCS.

Table 3.8-3
Consistency with the 2020-2045 RTP/SCS

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Focus Growth Near Destinations and Mobility Options		
• Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** Transit Priority Areas (TPA) are defined as the 0.5-mile radius around an existing or planned major transit stop or an existing stop along a High Quality Transit Area (HQTA). A HQTA is defined as a corridor with fixed route bus service frequency of 15 minutes (or less) during peak commute hours. As discussed in the 2020 IS/MND, the Approved Project Site is located in a TPA, Thus, the Revised Project Site is also located in a TPA. The Revised Project is located within 0.25 mile of the bus stop located at Huntington Drive and Santa Clara Street and approximately 0.5 miles from the Metro Gold Line Arcadia Station. The Revised Project Site is also an infill site and the Tempo Project would construct a new hotel on a parcel of land that has been underutilized and is currently vacant. Further, the Revised Project Site is located within an urbanized area and within walking and biking distance to existing commercial and neighborhood-serving retail uses, as well as attractions such as the Santa Anita Park. The Revised Project would also provide EV parking spaces in accordance with CALGreen Code. Therefore, the Revised Project would redevelop an infill site by constructing a hotel near commercial and retail uses and in an area with mobility options that would reduce trips.
Promote Diverse Housing Choices		
• Preserve and rehabilitate affordable housing and prevent displacement • Identify funding opportunities for new workforce and affordable housing development • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions	**PGA, Job Centers, HQTAs, NMA, TPAs, Livable Corridors, Green Region, Urban Greening.**	**Not Applicable.** The Revised Project is not a housing development and therefore would not affect housing supplies.

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Leverage Technology Innovations		
• Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology—such as telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation	**HQTA, TPAs, NMA, Livable Corridors.**	**Consistent.** The Revised Project would be required to comply with all applicable Title 24 Standards and CALGreen building codes at the time of construction. These building codes would require electric vehicle charging stations and designated parking, as well as bike parking. As detailed above, the Approved Project included 15 EV charging stations and the Tempo Project would include 3 EV charging stations and a solar-ready roof. Therefore, the Revised Project would leverage technology innovations and promote alternative modes of transportation to help the City, County, and State meet their GHG reduction goals.
Support Implementation of Sustainability Policies		
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations • Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space • Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region • Continue to support long range planning efforts by local jurisdictions • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** As previously discussed, the Revised Project is located within a TPA and is near existing bus stops and approximately 0.5 miles of the existing Metro Gold Line Arcadia Station. The Revised Project would support sustainable development implementation that would reduce GHGs by installing electric vehicle charging stations and providing bicycle parking spaces to promote alternative modes of transportation. Further, the Revised Project would comply with sustainable practices included in the most current and applicable Title 24 Standards and CALGreen, including the installation of high efficiency lighting, water efficient landscaping, low-flow water fixtures, among others. Thus, the Revised Project would be consistent with this reduction strategy.

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Promote a Green Region		
• Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land • Identify ways to improve access to public park space	**Green Region, Urban Greening, Greenbelts and Community Separators.**	**Consistent.** The Revised Project is located in an urbanized area and would not interfere with regional wildlife connectivity or convert agricultural land. Additionally, the Tempo Project would include a solar-ready roof for the future installation of photovoltaic solar panels. Thus, the Revised Project would support resource efficient development that reduces energy consumption and GHG emissions.
Source: Michael Baker International, Tempo by Hilton Project – Greenhouse Gas Emissions Assessment Memorandum, July 22, 2024.		

Consistency with the City of Arcadia General Plan

The applicable goals of the Arcadia General Plan, Chapter 6: Resource Sustainability Element, are as follows:

- Goal RS-2: Reducing Arcadia's carbon footprint in compliance with SB 375 and AB 32
- Goal RS-3: Promoting and utilizing clean forms of transportation to reduce Arcadia's carbon footprint
- Goal RS-5: Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation

The City's General Plan Goals RS-2 and RS-3 and related policies are mainly focused on City's municipal operations in achieving the statewide GHG reduction goals and policies. Regardless, as discussed, the Revised Project would provide on-site electric vehicle charging stations and would be located near several public transit options. Therefore, the Revised Project would support the City's goal of promoting and utilizing clean forms of transportation to reduce the City's carbon footprint. In addition, Tempo Project would have a solar ready roof and the Revised Project would comply with the CALGreen Code which requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, HVAC, and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicle charging infrastructure. Therefore, the Revised Project would also be consistent with the General Plan Goal RS-5. Overall, the Revised Project would be consistent with the City's General Plan goals.

SUMMARY OF IMPACTS

As shown in **Table 3.8-1**, the total emissions of the Revised Project would be approximately 4,150.41 $MTCO_2e$ per year, which would exceed the SCAQMD 3,000 $MTCO_2e$ per year screening threshold utilized in the Indigo IS/MND. However, the 3,000 $MTCO_2e$ threshold was never adopted by SCAQMD and is based on an outdated GHG emission reduction goal. As such, the significance determination for GHG emissions is based on consistency with applicable statewide, regional, and local climate change mandates, plans, policies, and regulations. As discussed above, the characteristics of the Revised Project render it consistent with statewide, regional, and local climate change mandates, plans, policies, and regulations. More specifically, the GHG plan consistency analysis provided above demonstrates that the Revised Project would comply with the regulations and GHG reduction goals, policies, actions, measures, and strategies outlined in the 2022 Scoping Plan, 2020-2045 RTP/SCS, and the City's General Plan. Consistency with these plans would reduce the impact of the Revised Project's incremental contribution to GHG emissions. Accordingly, the Revised Project would not conflict with any applicable plan, policy, regulation, or recommendation adopted for the purpose of reducing GHG emissions. As the Revised Project is consistent with statewide, regional, and local GHG reduction plans, the Revised Project would also be consistent with the State's long-term goal to achieve statewide carbon neutrality (zero-net emissions). Therefore, implementation of the Revised Project would not generate significant GHG emissions that would have a significant impact on the environment or conflict with an applicable GHG reduction plan, policy or regulation and impacts would be less than significant.

3.8.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.8.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.9 Hazards and Hazardous Materials

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	LTS	LTS	No	No	No	No	No
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	LTS	LTS	No	No	No	No	No
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	LTS	LTS	No	No	No	No	No
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	NI	NI	No	No	No	No	No
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard excessive noise for people residing or working in the project area?	NI	NI	No	No	No	No	No

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	NI	NI	No	No	No	No	No
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	NI	NI	No	No	No	No	No

3.9.1 Indigo IS/MND Finding

According to the Indigo IS/MND, construction and operation of the Approved Project would involve the use, handling, and storage of potentially hazardous materials commonly associated with hotel and restaurant uses. Further, the existing general office building to be redeveloped would potentially contain asbestos-containing materials, lead-based paint, and universal wastes. The Indigo IS/MND states there are three schools within 0.25-mile of the Indigo Project site, including Barnhart School, Excelsior School, and First Avenue Middle School. However, the Approved Project would comply with applicable federal, state, and local regulations, including the Toxic Substances Control Act, SCAQMD's Rule 1403, and the California Code of Regulations, Title 22 (Division 4.5, Environmental Health Standards for the Management of Hazardous Waste) during construction and operation of the Approved Project. As such, with adherence to applicable regulations, the Indigo IS/MND determined impacts related to the routine use, storage, transport, and disposal of hazardous materials; accidental release of hazardous materials; and hazardous emissions near schools would be less than significant.

The Original Project Site was not identified in the databases for hazardous materials sites and cleanup sites compiled pursuant to Government Code 65962.5; however, there are several such sites within 0.5 mile of the Original Project Site. The Indigo IS/MND determined that the Original Project Site would not be impacted by the nearby hazardous sites. The Original Project Site is not located within two miles of an airport or within or near a Very High Fire Hazard Severity Zone (VHFHSZ). According to the Indigo IS/MND, construction of the Approved Project would not require public road closures, and the Approved Project would undergo review and permit approval by the City of Arcadia Fire Department. Therefore, the Indigo ID/MND concluded no impact would occur related to the location of a site on a hazardous materials site; airport land use plans; emergency response or evacuation plans; and wildland fires.

3.9.2 Project Analysis

Construction of the Tempo Project would involve excavation, grading, and construction of new buildings. Construction activities would use limited amounts of hazardous materials in the form of paints, solvents, glues, and other common construction materials for the proposed building. Construction activities may include the use of machinery and other equipment that require fueling or maintenance/servicing. These types of materials are not acutely hazardous, and all storage, handling, use, transport, and disposal of these would be required to conform to existing laws and regulations, which would ensure that all potentially hazardous materials are used and handled in an appropriate manner and would minimize the potential for safety impacts to occur. Additionally, the storage, handling, use, transport, and disposal of hazardous materials would cease once construction is complete. During operation, there is potential for the use of commercially available hazardous materials related to hotel cleaning, maintenance, and landscaping activities. However, any future hazardous materials use, storage, transport, or disposal would also be required to comply with applicable regulations. Therefore, construction and operation of the Tempo Project would result in less than significant impacts related to the use, storage, transport, and disposal of hazardous wastes. As such, the Revised Project, which includes the Approved Project and the Tempo Project, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and impacts would be less than significant, consistent with the determination in the Indigo IS/MND.

Since APN 5775-015-011 is currently vacant and demolition is not required for the Tempo Project, hazards conditions related to asbestos-containing materials or lead-based paint in older buildings would not occur. Further, as discussed in **Section 4.3, Air Quality**, although asbestos may naturally occur in rocks, this is not a concern in the vicinity of the Revised Project Site. The Revised Project Site is not listed in the State Water Resources Control Board GeoTracker system which includes leaking underground fuel tank sites and spills, leaks, investigations, and cleanups sites; the Department of Toxic Substances Control EnviroStor Data Management System; or the US Environmental Protection Agency's database of regulated facilities. Further, no such sites exist within 1,000 feet of the Revised Project Site.[16, 17] Based on the above, the Revised Project would not create a significant hazard due to accidental release of hazardous materials during construction or operation and impacts would be less than significant.

As discussed above, there are several schools in the surrounding vicinity; the nearest being Barnhart School, located approximately 0.18-mile north of the Area of Proposed Improvements. Construction and operation of the Tempo Project would involve limited amounts of hazardous materials commonly used in construction sites and for the hotel operations. All storage, handling, use, transport, and disposal of these hazardous materials would be required to conform to existing laws and regulations. In addition, the Revised Project Site is not identified in the databases of hazardous materials sites and cleanup sites and there are no hazardous sites within 1,000 feet of the Revised Project Site. As such, Revised Project impacts related to hazardous emissions or

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16 California State Water Resources Control Board, GeoTracker, https://geotracker.waterboards.ca.gov/map/, accessed June 29, 2024.

17 California Department of Toxic Substances Control, Envirostor, https://www.envirostor.dtsc.ca.gov/public/, accessed June 29, 2024.

the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of a school would be less than significant, consistent with the determination in the Indigo IS/MND.

The Revised Project Site is not listed in the State Water Resources Control Board GeoTracker system; the Department of Toxic Substances Control EnviroStor Data Management System; or the US Environmental Protection Agency's database of regulated facilities. Therefore, the Revised Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would not create a significant hazard to the public or environment. As such, no impacts would occur as a result of the Revised Project, consistent with the determination in the Indigo IS/MND.

The Revised Project Site is not located within two miles of an airport; the closest airport is the San Gabriel Valley Airport, located approximately 3.5 miles south of the Project Site. Further, the Revised Project Site is not located within or near a VHFHSZ; the closest zone is within the mountain range of Angeles National Forest, approximately 2.3 miles north of the Revised Project Site.[18] As such, the Revised Project would not result in a safety hazard or excessive noise for people residing and working in the Project area, or expose people or structures to significant wildfire hazards. No impact would occur, consistent with the determination in the Indigo IS/MND.

During construction of the Tempo Project, vehicular access would be provided via existing access points along Colorado Place and San Juan Drive; full road closures of adjacent roadways would not be required. Upon completion of the Tempo Project, access to the Revised Project Site would be provided via driveways along Colorado Place, San Juan Drive, and San Rafael Road. The Tempo Project would change the existing circulation within the western portion of the Revised Project Site to provide access to the existing parking structure and the new surface parking area. All driveway and internal circulation improvements proposed by the Tempo Project would be reviewed by the City's Engineering Division to ensure that they meet City standards and by the Arcadia Fire Department to ensure that adequate space for emergency vehicle access is provided. Thus, emergency access to the Revised Project Site and within the surrounding area would be maintained during construction and operation of the Revised Project. Based on the above, the Revised Project would not impair implementation of or interfere with an emergency response plan or emergency evacuation plan, and no impacts would occur, consistent with the determination of the Indigo IS/MND.

3.9.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce

[18] California Department of Forestry and Fire Protection, Fire Hazard Severity Zones Mapper, https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008, accessed June 29, 2024.

significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.9.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.10 Hydrology and Water Quality

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	LTS	LTS	No	No	No	No	No
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	LTS	LTS	No	No	No	No	No
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would:	LTS	LTS	No	No	No	No	No
i. Result in substantial erosion or siltation on- or off-site?	LTS	LTS	No	No	No	No	No
ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	LTS	LTS	No	No	No	No	No

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	LTS	LTS	No	No	No	No	No
iv. Impede or redirect flood flows?	NI	NI	No	No	No	No	No
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	LTS	LTS	No	No	No	No	No
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	LTS	LTS	No	No	No	No	No

3.10.1 Indigo IS/MND Finding

The Indigo IS/MND concluded that compliance with local, state, and federal regulations would reduce impacts related to water quality, erosion, and runoff. Construction of the Approved Project would require coverage under the Construction General Permit (CGP) for the National Pollutant Discharge Elimination System General Permit for Storm Water Associated with Construction Activities (Order No 2009-009-DWQ as amended by 2010-0014-DWQ and 2012-0006-DWQ, NPDES No. CAS000002). As the Approved Project would disturb greater than one acre, the CGP would require preparation of a SWPPP and BMPs. The Approved Project would be required to comply with the AMC, Chapter 8, Part 2, Sections 7827 and 7828, which require that each operator of any construction activity submit evidence to the City that all applicable permits have been obtained, including but not limited to the State Water Resources Control Board's CGP and a LID plan.

According to the Indigo IS/MND, operation of the Approved Project would also require adherence to AMC Chapter 8 (Section 7800 et seq.), related to eliminating non-stormwater discharges, controlling the discharge from spills, and reducing pollutants in stormwater discharges. Further, to manage stormwater pollutants in the long term, the Approved Project would incorporate LID features, as all development and redevelopment projects within the County must comply with the latest County of Los Angeles Department of Public Works LID Standards Manual. The LID Standards Manual complies with the requirements of the NPDES Municipal Separate Storm

Sewer System (MS4) Permit for stormwater and non-stormwater discharges from the MS4, within the coastal watersheds of Los Angeles County (CAS004001, Order No. R4-2012-0175).

Regarding groundwater, the Indigo IS/MND states the Approved Project would be consistent with the City's growth projections, including the City's 2015 Urban Water Management Plan (UWMP), which was the latest UWMP when the Indigo IS/MND was prepared. The 2015 UWMP projects having adequate water supply through the planning year 2040. According to the Indigo IS/MND, the San Gabriel Valley Basin underlies the City of Arcadia. The San Gabriel Valley Basin was determined by the Department of Water Resources to be "Very Low" priority, and as such, is not subject to the requirements of a Groundwater Sustainability Agency or a Groundwater Sustainability Plan. The applicable water quality control plan for the City is the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. The Indigo IS/MND states that, since the Original Project Site is currently fully developed with impervious paving and only negligible areas of pervious surfaces for ornamental landscaping, the addition of the new development would have a nominal impact on groundwater recharge; if anything, the Approved Project would result in a slight increase in groundwater recharge due to the anticipated 10 percent increase in pervious area. The Indigo IS/MND concluded impacts related to groundwater would be less than significant with compliance with the City's Stormwater Management requirements, CGP, and implementation of BMPs.

The Indigo IS/MND states there are no drainages, creeks, or streams on the Original Project Site. As such, no flows would be diverted, impeded, or redirected, and no impact would occur. According to the Indigo IS/MND, the City does not contain designated 100-year flood zones. The Original Project Site is also not located near a body of water or the coast. The Original Project Site is located within the Santa Anita Dam flood inundation zone, as is approximately half of the City. However, dam failure potential is low with the dam's adherence to the California Division of Safety of Dams seismic safety requirements. The Indigo IS/MND concluded that impacts related to flood hazards, tsunami, or seiche zones would be less than significant.

3.10.2 Project Analysis

The Tempo Project would construct a hotel building and adjoining parking areas in a portion of the Revised Project Site that currently contains an existing vacant parcel (former restaurant building pad on APN 5775-015-011), surface parking, and minor landscaping. Construction activities have the potential to degrade water quality through the exposure of surface runoff to exposed soils, dust, and other debris at the Revised Project Site as well as increase erosion and/or siltation. The proposed Tempo Project would be required to comply with various applicable regulatory requirements governing water quality, including the requirements to incorporate project-specific source control and treatment BMPs and the requirements to incorporate LID/site design. For construction, the Tempo Project would comply with the latest CGP (Order No. 2022-057-DWQ) and AMC, Chapter 8, Part 2, Sections 7827 and 7828 to ensure proper permitting.

As the Area of Proposed Improvements is currently impervious with the exception of minor areas of landscaping, implementation of the Tempo Project would not substantially increase impervious surfaces at the Revised Project Site. During operation, the Tempo Project would be required to comply with AMC Chapter 8 (Stormwater Management and Discharge Control) and the County of Los Angeles Department of Public Works LID Standards Manual to control stormwater discharges and minimize the discharge of any stormwater pollutants. According to the Geotechnical Report for the Tempo Project, two types of shallow stormwater infiltration systems that were determined to be feasible for the Area of Proposed Improvements and would be implemented by the Tempo Project. The stormwater infiltration systems would consist of permeable paving and an infiltration trench gallery system, which would manage stormwater runoff, pollutants, erosion, and overall water quality. Implementation of these LID features would capture and retain stormwater flows onsite, thereby maintaining or reducing the volume of stormwater discharge from the site. Therefore, consistent with the Indigo IS/MND, compliance with local, state, and federal regulations, including implementation of BMPs and LID features, would ensure impacts related to water quality, erosion, and runoff would be less than significant.

Similar to the Original Project Site, the Revised Project Site does not contain drainages, creeks, or streams. As such, consistent with the Indigo IS/MND determination, the proposed Project would result in no impact related to the impedance or redirection of flood flows.

The City of Arcadia's latest update to the UWMP is the 2020 UWMP, which was finalized in June 2021. According to the 2020 UWMP, the City's sources of water supply consist of groundwater from the Main San Gabriel Basin and Raymond Basins, and treated imported water purchased from the Metropolitan Water District. The 2020 UWMP states the City is anticipated to be able to continue providing sufficient water supply and meet projected water demand, including during long-term droughts. In addition, the City would be able to continue relying on its groundwater supply, based on historical and on-going management practices.[19] Similar to the Approved Project, as the proposed Tempo Project is consistent with the City's General Plan land use designations and zoning ordinance, it would be consistent with the City's growth projections. Further, as discussed above, the San Gabriel Valley Basin is not subject to the requirements of a Groundwater Sustainability Agency or a Groundwater Sustainability Plan. The applicable water quality control plan for the City is the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. Finally, similar to the Approved Project, the Tempo Project would not change the amount of impervious surface in the Area of Potential Improvements in a way that would result in a measurable reduction of groundwater recharge. Consistent with the determination of the Indigo IS/MND, with adherence to applicable regulations and implementation of the proposed LID features and BMPs, impacts related to groundwater would be less than significant.

As discussed above, the City does not contain designated 100-year flood zones and the Revised Project Site is within Zone X (Area of Minimal Flood Hazard).[20] As such, the Revised Project Site would not be susceptible to flood hazards. The Revised Project Site is located too far inland to be at risk of a tsunami and is not located near a body of water that could cause a seiche. The Revised Project Site is located at the western edge of the Santa Anita Dam flood inundation zone, and as such, would not be anticipated to experience substantial flooding in an unexpected breach of the Santa Anita Dam. Nonetheless, with ongoing compliance with dam safety regulations, management by the California Division of Safety of Dams, and ongoing seismic upgrades, the

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[19] City of Arcadia, Final Urban Water Management Plan, June 2021.

[20] Federal Emergency Management Agency, Flood Map Service Center: Search By Address, https://msc.fema.gov/portal/search, accessed July 5, 2024.

potential of dam failure would be low. Specifically, the Los Angeles County Department of Public Works is conducting the Santa Anita Stormwater Flood Management and Seismic Strengthening Project, which would improve public safety by addressing seismic safety and other structural issues, as well as by preventing flood damage to downstream communities.[21] Therefore, implementation of the Revised Project would result in less than significant impacts related to flood hazards, tsunami, and seiche zones, consistent with the determination of the Indigo IS/MND.

3.10.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.10.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.11 Land Use and Planning

<table>
<tr><th rowspan="3">ENVIRONMENTAL ISSUE</th><th colspan="2" rowspan="2">IMPACT CONCLUSION</th><th colspan="3">ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:</th><th colspan="2">FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:</th></tr>
<tr><th rowspan="2">SUBSTANTIAL CHANGE IN THE PROJECT?</th><th rowspan="2">SUBSTANTIAL CHANGE IN CIRCUMSTANCE?</th><th rowspan="2">NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?</th><th rowspan="2">EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?</th><th rowspan="2">NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?</th></tr>
<tr><th>REVISED PROJECT</th><th>ADOPTED IS/MND</th></tr>
<tr><td colspan="8">Would the project:</td></tr>
<tr><td>a) Physically divide an established community?</td><td>NI</td><td>NI</td><td>No</td><td>No</td><td>No</td><td>No</td><td>No</td></tr>
</table>

[21] California Department of Water Resources, Division of Safety of Dams, https://fmds.water.ca.gov/maps/damim/, accessed July 5, 2024.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	LTS	LTS	No	No	No	No	No

3.11.1 Indigo IS/MND Finding

The Indigo IS/MND states the Approved Project would redevelop a portion of an existing commercial site for hotel uses and would provide hospitality amenities to the City. The Approved Project would not include the construction of any buildings, roads, or other infrastructure that would physically divide an established community. Therefore, no impact would occur.

The applicable land use plan and policies for the Approved Project is the *Arcadia General Plan, Chapter 2: Land Use and Community Design Element* and the City's zoning ordinance. The Original Project Site has a Commercial land use designation and is zoned C-G with a Downtown Overlay. The Approved Project required approval of a height variance for the newly constructed hotel building and a Conditional Use Permit to develop hotel land uses in the C-G zone. The Indigo IS/MND concluded that with approval of the height variance, the Approval Project would be compatible with the land use and zoning designations for the Original Project Site and impacts related to conflicts with any land use plan, policy or regulation adopted for the purpose of mitigating an environmental effect would be less than significant.

3.11.2 Project Analysis

As described above, the Revised Project Site is comprised of the Original Project Site and APN 5775-015-011, a vacant parcel immediately adjacent to the Original Project Site. Similar to the Original Project Site, the Revised Project Site has a Commercial land use designation and is zoned C-G with a Downtown Overlay, which permits development of service uses such as the proposed hotel. The maximum FAR and building height allowed in the C-G zone and Downtown Overlay is 1.0 and 48 feet, respectively. The Tempo Project would construct a four-story hotel building and associated improvements on APN 5775-015-011. Implementation of the Revised Project, which consists of the Approved Project and the Tempo Project would not physically divide an established community. Rather, the Revised Project would create a campus of medical office and hotel uses with shared parking. Therefore, no impacts related to the division of an established community would occur as a result of the Revised Project, consistent with the determination of the Indigo IS/MND.

As with the Approved Project, the applicable land use plan and policies for the Revised Project is the *Arcadia General Plan, Chapter 2: Land Use and Community Design Element* and the City's zoning ordinance. Refer to **Table 3.1-1, Arcadia General Plan and Arcadia Municipal Code Consistency Analysis**, for the Tempo Project's consistency analysis with the Arcadia General Plan. As discussed therein, the Tempo Project would be consistent with the applicable Land Use and Community Design Element's policies, including policies for commercial development, design approaches, landscaping, trees, and pedestrian connections. In addition, the proposed hotel use under the Tempo Project would be compatible with the permitted uses under the C-G Zone. In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,636 square feet by merging APN 5775-015-011 with the Original Project Site, which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project. Additionally, the maximum height for the proposed hotel building would not exceed 48 feet. Similar to the Approved Project, the Tempo Project would require a Conditional Use Permit to allow hotel land uses within the C-G zone. With approval of the Conditional Use Permit for the Tempo Project, the Revised Project would comply with the land use and zoning designation for the Revised Project Site. As such, consistent with the determination of the Indigo IS/MND, impacts related to conflicts with any land use plan, policy or regulation adopted for the purpose of mitigating an environmental effect would be less than significant under the Revised Project.

3.11.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.11.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.12 Mineral Resources

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	NI	NI	No	No	No	No	No
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	NI	NI	No	No	No	No	No

3.12.1 Indigo IS/MND Finding

The Indigo IS/MND states that according to the City's General Plan EIR, the City has historically mined aggregate mineral resources and is located within the San Gabriel Valley Production-Consumption region. However, no mining operations are currently ongoing in the City. The Original Project Site is classified as Mineral Resource Zone- (MRZ) 4, defined as areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources. The Original Project Site does not support mineral or oil or natural gas extraction activities. Further, the Indigo IS/MND states that according to the City's General Plan Resource Sustainability Element, no properties in the City would be subject to mining activities in the future. The City's focus is on the continued reclamation of prior quarries and the protection of properties in Arcadia from mining operations in adjacent communities. Thus, the Indigo IS/MND concluded no impact would occur related to mineral resources.

3.12.2 Project Analysis

As discussed above, the City does not have any current mining operations and does not plan for mining activities in the future. According to the Arcadia General Plan, the Revised Project Site is classified as MRZ-4 (no known mineral occurrence).[22] The Revised Project Site is not currently used for mineral extraction and the Tempo Project would not include any mineral extraction. Further, no known mineral resources have been documented on the Revised Project Site. Therefore, implementation of the Revised Project would not result in the loss of availability of a

[22] City of Arcadia, Arcadia General Plan, Chapter 6: Resource Sustainability Element, Figure RS-1, November 2010.

known mineral resource that would be of value to the region and the residents of the State or the loss of availability of a locally important mineral resource recovery site delineated on a local General Plan, specific plan, or other land use plan. Therefore, implementation of the Revised Project would not result in any impacts to mineral resources, consistent with the impacts identified in the Indigo IS/MND.

3.12.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.12.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.13 Noise

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project result in:							
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	LTSM (AP)	LTSM	No	No	No	No	No
b) Generation of excessive groundborne vibration or groundborne noise levels?	LTSM (AP)	LTSM	No	No	No	No	No

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	NI	NI	No	No	No	No	No

3.13.1 Indigo IS/MND Finding

The Indigo IS/MND concluded that construction of the Approved Project would comply with applicable noise regulations and construction noise impacts would be less than significant. However, as construction noise levels would be higher than existing ambient daytime noise levels, which could cause temporary annoyance at nearby residential land uses, the Approved Project would implement MM-NOI-1, which includes a Construction Noise Control Plan (CNCP) and associated BMPs to reduce the potential for annoyance from construction activities. The Indigo IS/MND also analyzed long-term operational noise generated by the proposed hotel uses and associated traffic and concluded that operation of the Approved Project would have the potential to exceed the City's noise standards. Therefore, the Approved Project would be required to implement MM-NOI-2 to reduce noise impacts from HVAC equipment and the emergency generator to a less than significant level. The Indigo IS/MND also concluded operational traffic noise impacts would not result in an exceedance of the City's 65 dBA CNEL[23] noise threshold and traffic-related noise impacts would be less than significant. Overall, the Indigo IS/MND determined potentially significant impacts related to the generation of a substantial increase in ambient noise levels would be reduced to less-than-significant-levels with implementation of Mitigation Measures MM-NOI-1 and MM-NOI-2.

The Indigo IS/MND determined that construction activity would generate varying degrees of ground vibration that may affect nearby residents. The Approved Project would use heavier pieces of construction equipment such as excavators, graders, dump trucks, and vendor trucks; however, pile driving, blasting, or other special construction techniques would not be used for construction. The Indigo IS/MND concluded that vibration from the construction of the Approved Project would not result in building damage and implementation of MM-NOI-1, requiring a CNCP and associated BMPs, would ensure that potential vibration during construction would not result in human annoyance. With implementation of mitigation measure MM-NOI-1, construction vibration impacts would be less than significant. Ground-borne vibration would not be associated with the Approved Project during operation and no impacts would occur.

[23] dBA = decibel (dB) level as measured with a sound meter using the A weighting network CNEL = Community Noise Level Equivalent

The Indigo IS/MND determined that as the Approved Project site is not located within the vicinity of a private airstrip or two miles of a public airport, no impacts related to the exposure of people to excessive noise levels of airports would occur.

3.13.2 Project Analysis

The following section evaluates potential impacts related to noise and vibration that would result from the construction and operation of the Revised Project. The analysis is primarily based upon **Attachment F, Noise and Vibration Assessment**, which analyzed noise and vibration impacts for a 91-room hotel. After completion of the noise and vibration assessment, the total number of proposed rooms increased to 93. As such, **Attachment A.1, Revised Air Quality, Greenhouse Gas, Energy, and Noise Impact Analyses**, was prepared to evaluate the potential impacts of the additional two rooms, which concluded that the original impact determinations for the 91-room hotel would not change with the increase to 93 rooms.

EXISTING CONDITIONS

The Revised Project Site is surrounded by existing commercial, residential, office, and recreational uses. The primary sources of stationary noise in the Revised Project vicinity are from urban-related activities (i.e., mechanical equipment and crowds). Commercial operations in the Project vicinity can also generate varying degrees of ground vibration, depending on the operational procedures and equipment, which can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. Such equipment-generated vibrations spread through the ground and diminish with distance from the source.

The existing noise in the Revised Project vicinity is generated predominately by traffic along surrounding roadways including Colorado Place. These roadways also have the potential to generate vibrations. However, according to the Federal Transit Administration (FTA), it is unusual for vibration from sources, such as buses and trucks, to be perceptible, even in locations close to major roads.[24]

Noise Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The nearest sensitive receptor to the Tempo Project is a single-family residence located adjacent to the east of the Area of Proposed Improvements.

[24] Federal Transit Administration, Noise and Vibration Impact Assessment Manual, Section 5.2, Sources of Transit Ground-borne Vibration and Noise, September 2018.

Existing Ambient Noise Levels

Three short-term noise measurements were taken in the vicinity of the Area of Proposed Improvements on May 15, 2024 to quantify existing ambient noise levels in the Revised Project area. The noise measurement locations are described in **Table 3.13-1, Noise Measurements** and are representative of typical existing noise exposure at the nearest sensitive receptors.

Table 3.13-1
Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)	Time
1	Near a multi-family building at northeast corner of Santa Rosa Road and San Juan Road intersection	54.2	73.4	42.3	10:58 a.m.
2	In front of a single-family residence at 143 Santa Cruz Road	62.0	84.1	40.5	11:10 a.m.
3	In front of a multi-family building at 225 Santa Rosa Road	51.3	68.3	41.0	11:24 a.m.

Notes:
dBA = A-weighted decibels, L_{eq} = Equivalent Sound Level; L_{min} = Minimum Sound Level; L_{max} = Maximum Sound Level, Peak = Highest Instantaneous Sound Level
Source: Michael Baker International, Tempo by Hilton Project – Noise and Vibration Assessment Memorandum, July 22, 2024.

SIGNIFICANCE CRITERIA AND METHODOLOGY

Construction and Operational Noise Standards

The City of Arcadia does not have a quantitative threshold that applies to noise levels at active construction sites. To evaluate whether the Tempo Project would generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold was utilized from the Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH).[25] For the purposes of this analysis, the lowest, most conservative construction noise level threshold of 85 dBA L_{eq} was used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential project-related construction noise level impacts at the nearby sensitive receiver locations.

A project would result in a significant impact if project-related operational noise levels generated by stationary sources exceed the daytime exterior 55 dBA L_{eq} and nighttime exterior 50 dBA L_{eq} noise level standard at nearby sensitive receiver locations based on the exterior noise level standards in AMC Section 4610.3.

[25] NIOSH, as part of the Centers for Disease Control and Prevention, is the federal institute responsible for making recommendations for the prevention of work-related injury and illness. NIOSH established a recommended exposure limit of 85 dBA averaged over an eight-hour workday. Workers who are exposed to noise at or above this limit are at risk of developing significant hearing loss over their working lifetime.

Construction and Operational Vibration Standards

Table 3.13-2, Structural Vibration Damage Criteria provides the criteria for acceptable levels of groundborne vibration for various types of buildings. As the nearest sensitive receptor structures to Area of Proposed Improvements are residential uses, the architectural damage criterion for continuous vibrations of 0.3 inch-per-second PPV for engineered concrete and masonry is applied for the Tempo Project.

Table 3.13-2
Structural Vibration Damage Criteria

Building Category	Peak Particle Velocity for Continuous Sources (PPV) (inches/second [in/sec])
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineering concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
Source: FTA, Transit Noise and Vibration Impact Assessment Manual, 2018.	

Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. The vibration level at which human annoyance is perceived is 0.2 inch per second peak particle velocity (PPV).[26]

Mobile Noise Threshold

An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as discernible, while changes less than 1 dB would not be discernible to local residents. A 5-dB change is generally recognized as a clearly discernable difference. Thus, the Revised Project would result in a significant noise impact if a permanent increase in ambient traffic noise levels of 3.0 dB occurs upon project implementation and the resulting noise level at the receiving sensitive receptor exceeds the applicable exterior standard at a noise sensitive use.

PROJECT-GENERATED NOISE IMPACTS

Short-Term Construction Impacts

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. The Tempo Project involves construction activities associated with grading, building construction, paving, and architectural coating applications. The Project would be constructed over a duration of approximately 16.5 months. Groundborne noise and other types of construction-related noise impacts typically occur during the initial grading phase, which has the potential to create the highest levels of noise. Construction equipment produces maximum noise levels when equipment is operating under full power conditions (i.e.,

[26] California Department of Transportation, *Transportation Related Earthborne Vibrations*, 2002.

the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, at partial power.

Table 3.13-3, Noise Levels Generated During Construction Phases displays the estimated construction noise levels at the nearest sensitive receptor. To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all heavy construction equipment were assumed to operate simultaneously. The noise modeling also assumes a clear line-of-sight and no other machinery or equipment noise that would mask project-related construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions would help further reduce noise levels below what is shown in **Table 3.13-3**. Although, construction activities would occur across the entire Area of Proposed Improvements, according to FTA's noise assessment methodology, noise can be considered as concentrated at the center of the site. Therefore, the estimated noise levels were calculated from the geographic center of the Area of Proposed Improvements, which is approximately 140 feet from the closest sensitive receptor, a residential use to the east.

As shown in **Table 3.13-3**, the nearest sensitive receptor to the Area of Proposed Improvements could be exposed to temporary and intermittent construction noise levels ranging from approximately 64.7 to 74.2 dBA L_{eq} at the nearest residential use to the east. As such, construction noise would not have the potential to exceed the NIOSH significance threshold level of 85 dBA L_{eq}. In addition, according to AMC Section 4261, construction activities are restricted to the daytime hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday; construction activities are prohibited on Sunday and the following federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Table 3.13-3
Noise Levels Generated During Construction Phases

Phase	Estimated Exterior Construction Noise Level at 140 feet (Center of Area of Proposed Improvements) (dBA L_{eq})[1]
Grading	74.2
Building Construction	69.8
Paving	73.9
Architectural Coating	64.7

Notes:
1. These noise levels conservatively assume the simultaneous operation of all heavy construction equipment at the same precise location. Modeled heavy construction equipment includes a grader, dozers, and backhoes during the grading phase; forklifts, crane, and backhoes during the building construction phase; a paver, cement mixers, roller, and backhoe during the paving phase; and an air compressor during the architectural coating phase.

Source: Michael Baker International, Tempo by Hilton Project – Noise and Vibration Assessment Memorandum, July 22, 2024.

Compliance with the noise regulations in the AMC would reduce impacts from construction noise, as construction noise would be limited to the permitted times. In addition, as the Area of Proposed Improvements is adjacent to residential uses, the Tempo Project would be required to implement Indigo IS/MND mitigation measure **MM NOI-1**, which requires a CNCP ad BMPs that would reduce the potential for annoyance from the temporary construction activities. As stated above, construction of the Approved Project will be completed prior to the start of construction for the Tempo Project; therefore, no overlap of construction activities would occur. As such, the Revised Project, which includes the Approved Project and the Tempo Project, would result in the similar and no greater impacts than those disclosed in the Indigo IS/MND, which were determined to be less than significant with mitigation incorporated.

Long-term Operational Impacts

Mobile Noise

Operation of the Revised Project would generate vehicle trips on adjacent roadways, thereby potentially increasing vehicular noise in the vicinity of existing and proposed land uses. The most prominent source of mobile traffic noise in the Revised Project vicinity is along Colorado Place. According to the California Department of Transportation, a doubling of traffic (100 percent increase) on a roadway would result in a perceptible increase of 3 dBA in traffic noise levels. As discussed above, the Tempo Project would generate approximately 1,113 daily trips. The existing traffic volume along Colorado Place near the Revised Project Site is 13,559 trips per day. As the traffic volumes generated by the Tempo Project would not double the existing traffic volumes and traffic noise impacts from the Tempo Project would be less than significant. In addition, the Approved Project, which would generate 2,442 trips per day, and the Tempo Project would generate a total of up to 3,555 trips per day, which would not double the existing traffic volumes along Colorado Place. As such, the traffic noise impacts from the Revised Project, which is the Tempo Project and the Approved Project combined, would remain less than significant.

Stationary Noise

Operation of the Tempo Project would be typical of a hotel facility. Stationary noise sources associated with the Tempo Project would include noise generated from mechanical equipment and the outdoor patio. Although the nearest noise sensitive use is the residential use adjacent to the east of the Area of Proposed Improvements when measured from the property line, the distances to the nearest sensitive receptor would be greater when measured from the proposed on-site stationary sources.

The Tempo Project would install rooftop HVAC units on top of the proposed hotel building. Typically, mechanical equipment, such as HVAC units, generate noise levels of 60 dBA at 20 feet from the source. The closest HVAC units on the proposed building would be located approximately 95 feet away from the nearest sensitive receptor (i.e., residential use to the east) Noise levels generated by the HVAC units would be approximately 46.5 dBA at 95 feet. Therefore, noise from operation of the HVAC units would not exceed the City’s daytime exterior standard of 55 dBA or nighttime exterior standard of 50 dBA at this sensitive receptor. In addition, as shown in **Table 3.13-1**, the existing ambient noise level near the residential use is approximately 62.0 dBA L_{eq}, which is higher than the projected noise levels from HVAC units at this sensitive receptor. As such, noise impacts from mechanical equipment for the Tempo Project would be less than significant.

Crowd noise is approximately 62 dBA at one meter (i.e., 3.28 feet) from the source and is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. The Tempo Project proposes an outdoor patio area to the west of the proposed hotel building. The nearest sensitive use (i.e., residential use) is located approximately 240 feet from the proposed outdoor patio. At this distance, crowd noise would be approximately 24 dBA. In addition, the proposed building would block the line-of-sight between the nearest sensitive receptor and the outdoor patio area. Therefore, noise from the outdoor patio would not exceed the City's daytime exterior standard of 55 dBA or nighttime exterior standard of 50 dBA at this sensitive receptor. As stated above, the existing ambient noise level near the residential use is approximately 62.0 dBA L_{eq}, which is higher than the projected noise levels from the outdoor patio area. As such, noise impacts from the outdoor patio area for the Tempo Project would be less than significant.

Therefore, based on the above, operational impacts resulting from the Tempo Project would be less than significant. However, as the Approved Project would potentially result in significant impacts related to operational noise, the Tempo Project combined with the Approved Project would potentially result in a significant impact. Therefore, the Revised Project would implement Indigo IS/MND mitigation measure **MM NOI-2**, which would reduce noise impacts from mechanical equipment to a less-than-significant level. Implementation of Indigo IS/MND mitigation measure **MM NOI-2** would reduce potential operational noise-related impacts for the Revised Project to less-than-significant levels.

<u>Summary of Project-Generated Noise Impacts</u>

Based on the above, the Revised Project's construction and operational noise impacts would be less than significant with implementation of Indigo IS/MND mitigation measures **MM NOI-1** and **MM NOI-2**, consistent with the determinations of the Indigo IS/MND, which concluded that the Approved Project's construction and operational noise impacts would be less than significant with mitigation incorporated. Therefore, the Revised Project would not result in a new significant impact or a substantially more severe impact than identified in the Indigo IS/MND with respect to noise.

PROJECT-GENERATED VIBRATION IMPACTS

<u>Short-Term Construction Vibration Impacts</u>

Project construction activities have the potential to generate ground-borne vibration and result in construction vibration impacts that include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. The vibration level at which human annoyance is perceived is 0.2 inch per second PPV. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 25 feet from most construction vibration sources. This distance can vary substantially depending on the soil composition and underground geological layer between the vibration source and the receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. The FTA architectural damage criterion for continuous vibrations of 0.3 in/sec PPV for engineered concrete and masonry (refer to **Table 3.13-2**) is used because the closest structures to the Area of Proposed Improvements is a modern residential building. The nearest sensitive receptor building is located approximately 50 feet to the east of the Tempo Project construction activities. As such, vibration impacts are analyzed at 50 feet to evaluate the architectural building damage criterion. Groundborne vibration decreases rapidly with distance. As a result, vibration velocities from the construction equipment would be barely perceptible at this distance. Typical vibration produced by construction equipment is illustrated in **Table 3.13-4, Typical Vibration Levels for Construction Equipment**.

Table 3.13-4
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inch/sec)	Approximate peak particle velocity at 225 feet (inch/sec)[1]
Large bulldozer	0.089	0.0033
Loaded trucks	0.076	0.0028
Small bulldozer	0.003	0.0001
Vibratory roller	0.210	0.0742

Notes:
1. Calculated using the following formula:
$PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$
where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines*
D = the distance from the equipment to the receiver

Source: Michael Baker International, Tempo by Hilton Project – Noise and Vibration Assessment Memorandum, July 22, 2024.

As shown in **Table 3.13-4**, vibration velocities from typical heavy construction equipment operation would range from 0.003 to 0.210 inch/second PPV at 25 feet from the source of activity. The nearest structure to the Tempo Project Site is the existing residential building located approximately 50 feet to the east of the Area of Proposed Improvements. **Table 3.13-4** shows that the vibration level during the operation of construction equipment would be approximately 0.0011 to 0.0742 inch/second PPV at 50 feet. As a result, construction groundborne vibration would not exceed the 0.2 inch per second PPV significance threshold for human annoyance or 0.3 inch/second PPV significance threshold for building damage at the nearest structure. Therefore, vibration impacts would be less than significant during construction of the Tempo Project.

<u>Long-Term Operational Vibration Impacts</u>

The proposed hotel use for the Tempo Project would not generate groundborne vibration that could be felt by the nearest sensitive receptors. The Tempo Project would also not involve heavy-duty truck trips. As such, it can be reasonably inferred that operation of the Tempo Project would not create perceptible vibration impacts to the nearest sensitive receptor. Therefore, vibration impacts related to human annoyance and building damage during operation of the Tempo Project would be less than significant.

<u>Summary of Project-Generated Vibration Impacts</u>

Based on the above, the Tempo Project's construction and operational vibration impacts would be less than significant. As discussed above, the construction of the Approved Project will be completed prior to the start of construction for the Tempo Project and no overlap of construction activities would occur. However, as the Approved Project is required to implement Indigo IS/MND mitigation measure **MM NOI-1** to ensure that the potential vibration during Approved Project construction would not result in human annoyance, the Revised Project, which includes the Approved Project, would also be required to implement Indigo IS/MND mitigation measure **MM NOI-1** to ensure that construction vibration impacts would remain less than significant. Due to the lack of operational vibration sources for the Approved Project and Tempo Project, the Revised Project would not result in operational vibration impacts, consistent with the determination of the Indigo IS/MND.

EXCESSIVE NOISE NEAR AIRPORTS

The nearest airport to the Revised Project Site is the El Monte Airport located approximately 3.5 miles to the south. The Revised Project Site is not located within two miles of the airport. Additionally, the Revised Project Site is not located within the vicinity of a private airstrip or related facilities. Therefore, implementation of the Revised Project would not expose people residing or working in the Revised Project area to excessive noise levels associated with aircraft. As such, the Revised Project would not result in any impacts related to airport noise, consistent with the determination of the Indigo IS/MND.

3.13.3 Conclusion

Based on the above, with implementation if Indigo IS/MND mitigation measures **MM NOI-1** and **MM NOI-2**, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.13.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

MM-NOI-1: Prior to the issuance of a grading permit, the Project Applicant shall provide a Construction Noise Control Plan (CNCP) to the City for review and approval. The CNCP shall include best management practices to reduce short-term construction noise. Enforcement of the CNCP shall be accomplished by field inspections during construction activities and/or documentation of compliance, to the satisfaction of the City's Development Services Department. Recommended best management practices may include, but not be limited to, the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers consistent with the manufacturers' specifications and standards.
- Construction noise reduction methods such as shutting off idling equipment, maximizing the distance between construction equipment staging areas and

adjacent residences, and use of electric air compressors and similar power tools, rather than diesel equipment, should be used where feasible.

- Stationary equipment should be placed as far away from the adjacent residential property boundary as feasible and positioned such that emitted noise is directed away from or shielded from sensitive receptors. Acoustically attenuating shields, shrouds, or enclosures may be placed over stationary equipment.

- During all Project site construction, the construction contractor shall limit all construction-related activities, including maintenance of construction equipment and the staging of haul trucks, to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday.

- Construction hours, allowable workdays, and the phone number of the job superintendent should be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent, if necessary. In the event the City receives a complaint, appropriate corrective actions should be implemented and a report of the action provided to the reporting party, the City's Development Services Department.

MM-NOI-2: The Project Applicant shall retain an acoustical specialist to review the Project's construction-level plans to ensure that the equipment specifications and plans for HVAC and emergency backup generator incorporate features to ensure that operational noise will not exceed relevant noise standards at nearby noise-sensitive land uses (e.g., residential). Such features could include, but not be limited to, the specification of quieter equipment, relocation of facilities to be of further distance from residential homes, and/or the provision of acoustical enclosures. The acoustical specialist shall certify in writing to the City that the equipment specifications and plans will achieve the City's relevant noise limits.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.14 Population and Housing

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	LTS	LTS	No	No	No	No	No
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	NI	NI	No	No	No	No	No

3.14.1 Indigo IS/MND Finding

The Indigo IS/MND concluded that as the Approved Project would not include the construction of housing or roads or other infrastructure, it would not result in unplanned population growth. Regarding employment, the Indigo IS/MND found that the Approved Project would reduce the overall number of employees at the Original Project Site when compared to the potential full occupancy of the existing Building C. This reduced employment would not be expected to substantially alter the SCAG projected 2040 population growth estimates for the City, as the new employees required for the Approved Project would likely be primarily filled by existing residents within the Los Angeles region. Therefore, impacts related to unplanned population growth would be less than significant. Further, as the Approved Project would redevelop an existing commercial property, it would not displace existing people or housing and no impact would occur.

3.14.2 Project Analysis

The Tempo Project proposes to construct a new four-story hotel building with 93 guestrooms, a café and bar, amenities, and a new surface parking area in the Area of Proposed Improvements. The Tempo Project would not include a residential component, or the extension of roads or other infrastructure. Using the same employment generation factors provided in the Indigo IS/MND, the Tempo Project is anticipated to generate 32 employees and the Approved Project would generate approximately 111 new employees, resulting in a total of 143 new employees for the Revised

Project.[27,28] According to SCAG's 2016-2040 RTP/SCS, the City's employment would increase from 28,900 in 2012 to 34,400 in 2045, representing an increase of 5,500 employees between 2012 and 2040.[29] The Revised Project's employment increase of 143 new employees would constitute only 2.6 percent of the City's employment increase between 2012 and 2040. In addition, according to SCAG's 2020-2045 RTP/SCS, the City's employment would increase from 32,600 in 2016 to 36,100 in 2045, representing an increase of 3,500 employees between 2016 and 2045.[30] The Revised Project's employment increase of 143 new employees would constitute only 4.1 percent of the City's employment increase between 2016 and 2045. As with the Approved Project, the Revised Project would provide additional jobs in the City and it is anticipated that employees required for the additional jobs would be drawn from the existing City and regional workforce, thus, not inducing population growth. Therefore, the Revised Project would not directly or indirectly result in substantial unplanned population growth, and impacts would be less than significant, consistent with the determination of the Indigo IS/MND.

Additionally, the Tempo Project would construct a proposed hotel building on APN 5775-015-011, which is currently vacant and does not contain any residential uses. As with the Approved Project, the Revised Project would not displace existing people or housing. Therefore, the Revised Project would not result in any impacts related to population and housing, consistent with the determination of the Indigo IS/MND.

3.14.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

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27 Using a generation factor of 1,500 square feet/employee, the proposed 47,140-square-foot hotel building would generate approximately 32 employees (47,140 / 1,500 = 32 employees).

28 U.S. Green Building Council, LEED Reference Guide for Green Building Design and Construction, 2009, Core & Shell Appendix 1.

29 Southern California Council of Governments, 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy, Demographics and Growth Forecast Appendix, April 7, 2016.

30 Southern California Council of Governments, 2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy – Connect SoCal 2020, Demographics and Growth Forecast Technical Report, September 3, 2020.

3.14.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.15 Public Services

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:							
a) Fire protection?	LTS	LTS	No	No	No	No	No
b) Police protection?	LTS	LTS	No	No	No	No	No
c) Schools?	NI	NI	No	No	No	No	No
d) Parks?	NI	NI	No	No	No	No	No
e) Other public facilities?	NI	NI	No	No	No	No	No

3.15.1 Indigo IS/MND Finding

According to the Indigo IS/MND, the City is served by the Arcadia Fire Department and Arcadia Police Department. Fire Station 105 is located 0.6-mile southeast of the Original Project Site at 710 South Santa Anita Avenue, and the Arcadia Police Department is located 0.3-mile south of the Original Project Site at 250 West Huntington Drive. The Approved Project would involve redevelopment of an existing site into hotel uses and would not include permanent housing resulting in substantial population growth that would necessitate a need for new or altered fire or police facilities. Further, the Approved Project would adhere to the California Fire Code and the City of Arcadia's Fire Code (AMC Section 3122.7). The Indigo IS/MND concluded impacts related to fire protection and police protection would be less than significant.

The Indigo IS/MND states the Arcadia Unified School District provides schools services and the City of Arcadia Recreation and Community Services Department manages the City's parks and recreation facilities. Other public facilities within the Indigo Project vicinity include libraries. As discussed above, implementation of the Approved Project would not result in substantial population growth. Although the new hotel use would result in an increase of employment opportunities, any such population growth would be minor and would not require a need for new or altered school, park, or other public facilities. Further, per SB 50, the Approved Project Applicant would be required to pay a school mitigation fee, which would be deemed full and complete mitigation for any indirect impacts to schools that may occur from Project implementation. The Indigo IS/MND concluded there would be no impact related to schools, parks, and other public facilities.

3.15.2 Project Analysis

The Tempo Project is does not include a residential component that would result in substantial population growth. Although the Tempo Project would generate approximately 32 new employees that may require fire and police services, the increase in demand for such services at the Revised Project Site would not be substantial. The Tempo Project would be required to comply with the most recent California Fire and Building Codes, which have been adopted by reference by the City pursuant to AMC Sections 3121 and 8110, respectively. The City's Fire Prevention Bureau requirements would also conduct site plan reviews and new construction inspections for fire protection systems and emergency access to ensure that the building and site design adheres to applicable fire regulations. Additionally, the Tempo Project would implement on-site security measures, such as security cameras, site lighting, and security personnel to minimize the demand for police services at the Revised Project Site. Further, as the Revised Project area is already served by the Arcadia Fire Department and the Arcadia Police Department, implementation of the Project would not require expansion of their service areas. Therefore, consistent with the Indigo IS/MND, the implementation of the Revised Project would not require the provision of new or physically altered fire or police facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios and response times and impacts related to fire and police protection services would be less than significant.

In addition, the estimated 32 employees generated by the Tempo Project would not measurably increase the demand for school, park, or library services. It is anticipated that the employees for the proposed hotel would be drawn from the existing City and regional workforce. Thus, the Tempo Project would not generate new students that would attend nearby schools. The Tempo Project's employees also would not be expected to utilize existing parks or other public facilities during work hours. Moreover, the Applicant would pay fees pursuant to SB 50 and property taxes, which would offset any nominal demand for school or library services created by the Tempo Project. Therefore, consistent with the Indigo IS/MND, the Revised Project would not result in any impacts related to schools, parks, or library services.

3.15.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.15.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.16 Recreation

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated)?	NI	NI	No	No	No	No	No
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	NI	NI	No	No	No	No	No

3.16.1 Indigo IS/MND Finding

The Indigo IS/MND states the City of Arcadia Recreation and Community Services Department manages the City’s 15 public parks, with the closest park to the Original Project Site being Arcadia County Park. Implementation of the Approved Project would not result in substantial population growth such that physical deterioration of parks and recreational facilities would occur. Further, the Approved Project would not include the construction or expansion of recreational facilities. Therefore, the Indigo IS/MND concluded the Approved Project would not result in any impacts related to recreation.

3.16.2 Project Analysis

As discussed in **Section 4.14, Population and Housing**, the Tempo Project is not a residential project that would generate population growth. The Tempo Project would generate 32 employees and it is anticipated that these employees would be drawn from the existing City or region workforce. The Tempo Project's employees would not be expected to utilize existing parks or recreational facilities during work hours. Although hotel guests may utilize nearby parks, the use is expected to be nominal. Moreover, the Tempo Project would provide amenities including a ground floor outdoor patio, rooftop outdoor patio, and fitness room, that employees and hotel guests may utilize. Lastly, the Tempo Project would not include a recreational facility component, beyond the amenities included in the proposed hotel. As such, the Revised Project would not cause or accelerate substantial physical deterioration of existing parks or other recreational facilities nor include or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Consistent with the determination of the Indigo IS/MND, no impacts related to recreational facilities would occur.

3.16.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.16.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.17 Transportation

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities?	LTS	LTS	No	No	No	No	No
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	LTS	LTS	No	No	No	No	No
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	LTS	LTS	No	No	No	No	No
d) Result in inadequate emergency access?	NI	NI	No	No	No	No	No

3.17.1 Indigo IS/MND Finding

According to the Indigo IS/MND, the City does not have adopted street segment analysis threshold criteria; however, the *Arcadia General Plan, Chapter 2: Circulation and Infrastructure Element* indicates that roadway segments operating at Level of Service (LOS) D or better are considered to be at acceptable levels. As such, the Indigo IS/MND's traffic analysis was conducted in order to compare the overall roadway LOS without and with the Approved Project. The Indigo IS/MND concluded that implementation of the Approved Project would result in incremental, but not significant, impacts at the study intersections. All study intersections would remain at LOS D or better in both peak hours, and, as such, the Approved Project would be consistent with the City's standards, and impacts would be less than significant.

Regarding CEQA Guidelines Section 15064.3, the Indigo IS/MND determined that because the Approved Project is conveniently located in close proximity to public transit and would provide opportunities for increased pedestrian and bicycle activity, these factors would contribute to reducing the Approved Project's VMT. As such, the Approved Project would not conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Impacts would be less than significant.

According to the Indigo IS/MND, the Approved Project would not modify existing roadways or involve construction of structures that would cause transportation hazards. All access points would be designed in accordance with the City's Municipal Code, Development Code, and Design Standards. Further, the Approved Project would construct a hotel development in a commercial area that has been designated and planned for such uses. As such, the Approved Project determined less than significant impacts related to hazards or incompatible uses.

The Indigo IS/MND states construction of the Approved Project would not require road closures in public rights-of-way of Colorado Place or Huntington Drive. Also, prior to operation, the Approved Project would receive all required permits and certificates for occupancy and operation, including those issued by the City of Arcadia Fire Department. Therefore, the Indigo IS/MND concluded no interference or impairment of the emergency response or emergency evacuation plans would occur, and no impact would occur.

3.17.2 Project Analysis

The following section evaluates potential impacts related to transportation and traffic that would result from the construction and operation of the Revised Project. The analysis is based, in part, on the Transportation Impact Analysis (TIA) prepared for the Tempo Project in accordance with the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Services Assessment* (Transportation Guidelines). The TIA is provided as **Attachment G, Transportation Impact Analysis**, which analyzed transportation impacts for a 91-room hotel. After the completion of the TIA, the total number of proposed rooms increased to 93. As such, **Attachment G.1, Transportation Evaluation (93 Rooms)**, was prepared to evaluate the potential impacts of the additional two rooms, which concluded that the original impact determinations for the 91-room hotel would not change with the increase to 93 rooms.

The TIA defines the transportation study area as the following five intersections and evaluates these intersections during the AM and PM peak hours in the vicinity of the Revised Project Site:

1. Colorado Place and San Juan Drive (One-Way Stop Control)
2. Project Driveway #1 & San Juan Drive (Planned One-Way Stop Control)
3. Project Driveway #2 & Colorado Place (Planned One-Way Stop Control)
4. Project Driveway #3 & Colorado Place (One-Way Stop Control)
5. Santa Anita Avenue and Huntington Drive (Signalized Intersection)

CONSISTENCY WITH APPLICABLE PROGRAM, PLAN, ORDINANCE, OR POLICY

Existing Roadways

The characteristics of the existing roadway system in the Revised Project area are described below:

- Colorado Place is a four-lane undivided roadway trending in the east-west direction with left turn lanes provided at roadways and driveways along the corridor. Colorado Place is classified as a Primary Arterial within the transportation study area per the City's General

Plan. Within the transportation study area, there are no bike lanes on either side of the road. Sidewalks are provided on the north side of the street. The posted speed limit is 40 MPH.

- San Juan Drive is a two-lane undivided roadway trending in the north-south direction. San Juan Drive is classified as a local road per the City's General Plan. Sidewalks are provided on both sides of the street with no bicycle facilities within the study area. The posted speed limit is 25 MPH.
- Huntington Drive is classified as a one-way Major Arterial with three lanes going both directions. Huntington Drive goes one-way in the northbound direction and one-way in the southbound direction. Sidewalks are provided intermittently on both sides of the street and on-street parking is not permitted. The posted speed limit is 55 MPH. There are existing bike lanes on both sides of the street.
- Santa Anita Avenue is a four-lane divided roadway trending in the north-south direction. Santa Anita Avenue is classified as a Primary Arterial within the study area per the City's General Plan. Within the transportation study area, there are no bike lanes on either side of the road. Sidewalks are provided on the north side of the street. The posted speed limit is 35 MPH.

Existing Public Transit Services

Public bus transit service in the Revised Project vicinity is currently provided by the Metropolitan Transportation Authority (Metro), Foothill Transit, and Arcadia Transit. Metro provides bus transit service near the Project Site along Huntington Drive and Santa Anita Avenue. Metro currently operates two local Metro bus transit routes in the vicinity of the Project Site. Foothill Transit provides bus transit service along major roadways near the Project study area along Huntington Drive and Santa Anita Avenue. Foothill Transit currently operates one transit route near the Project Site.

LOS Analysis Methodology and Performance Standards

LOS, ranging from LOS A (free-flow conditions) to LOS F (severely congested conditions), is commonly used as a qualitative description of intersection operation and is based on traffic control and experienced delay at the intersection. For signalized intersections, the Intersection Capacity Utilization (ICU) methodology was used. The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance.

The City has identified LOS D as the threshold for acceptable operating conditions for intersections as established in the City's General Plan. LOS E is considered acceptable at intersections adjacent to freeway ramps or adjacent to Santa Anita Park during the racing season. Any intersection operating at an LOS grade worse than the acceptable condition is considered deficient. Signalized intersections will require improvements if one of the following conditions is met:

- LOS C – project results in a volume-to-capacity (V/C) increase of 0.04 or more
- LOS D – project results in V/C increase of 0.02 or more

- LOS E/F – project results in V/C increase of 0.01 or more

Unsignalized intersections will require improvements if the addition of project traffic to an intersection results in the degradation of overall intersection operations from acceptable operations to unacceptable operations, and the intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s).

Existing Level of Service

Table 3.17-1, Existing AM/PM Peak Hour Intersection LOS, summarizes the AM/PM peak hour LOS for all study intersections under existing conditions.

Table 3.17-1
Existing AM/PM Peak Hour Intersection LOS

Study Intersection		Traffic Control	Existing Conditions			
			AM		PM	
			Delay[1]	LOS	Delay[1]	LOS
1	Colorado Place & San Juan Drive	OWSC	26.7	D	12.6	B
2	Project Driveway #1 & San Juan Drive	OWSC	8.9	A	8.7	A
3	Project Driveway #2 & Colorado Place	OWSC	Does not exist without project			
4	Project Driveway #3 & Colorado Place	OWSC	21.8	C	13.1	B
5	Santa Anita Avenue and Huntington Drive[2]	Signal	0.818	C	0.736	C

1. Delay is expressed in seconds per vehicle.
2. Signalized intersections use ICU methodology and report V/C ratios.

LOS = level of service.
OWSC = One Way Stop Control

Source: Michael Baker International, Transportation Impact Analysis – Tempo by Hilton Project, September 24, 2024.

As shown in **Table 3.17-1**, all study intersections operate at an acceptable LOS D or better under existing conditions. At Santa Anita Avenue & Huntington Drive (Intersection No. 5), the ICU methodology is used for analysis and the V/C is reported since this study location is signalized in accordance with the City's *Traffic Impact Analysis Guidelines*.

Existing Plus Project

The Tempo Project would generate a total of 38 AM peak hour trips and 39 PM peak hour trips. The Tempo Project's traffic volumes were added to the existing traffic volumes to determine the Existing Plus Project traffic volumes. **Table 3.17-2, Existing and Existing Plus Project AM/PM Peak Hour Intersection LOS** compares the Existing AM/PM peak hour LOS to the Existing Plus Project AM/PM peak hour LOS for all study intersections. As shown in **Table 3.17-2**, all study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under Existing Plus Project conditions. Therefore, no physical improvements to the study intersections are required.

Table 3.17-2
Existing and Existing Plus Project AM/PM Peak Hour Intersection LOS

Study Intersection		Existing				Existing Plus Project				Change in V/C		Fair Share Required?
		AM		PM		AM		PM				
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	AM	PM	
1	Colorado Place & San Juan Drive	26.7	D	12.6	B	26.9	D	12.6	B	N/A	N/A	No
2	Project Driveway #1 & San Juan Drive	8.9	A	8.7	A	8.9	A	8.7	A	N/A	N/A	No
3	Project Driveway #2 & Colorado Place	Does not exist without project				14.9	B	10.5	B	N/A	N/A	No
4	Project Driveway #3 & Colorado Place	21.8	C	13.1	B	23.0	C	13.4	B	N/A	N/A	No
5	Santa Anita Avenue and Huntington Drive[2]	0.818	C	0.736	C	0.820	C	0.737	A	0.002	0.001	No

1. Delay is expressed in seconds per vehicle for unsignalized intersections.
2. Signalized intersections use ICU methodology and report V/C ratios.
LOS = level of service.

Source: Michael Baker International, Transportation Impact Analysis – Tempo by Hilton Project, September 24, 2024.

Opening Year 2026 Without Project

A forecast of on-street traffic conditions was prepared by incorporating the potential trips associated with other known development projects (cumulative projects) in the Revised Project area. Six cumulative projects, including the Approved Project, were identified that are expected to add traffic volumes to the study intersections. The cumulative projects are expected to generate a total of 772 AM peak hour and 612 PM peak hour trips. **Table 3.17-3, Opening Year 2026 Without Project AM/PM Peak Hour Intersection LOS**, summarizes the AM/PM peak hour LOS for all study intersections under Opening Year 2026 Without Project conditions. As shown in **Table 3.17-3**, all study intersections would operate at an acceptable LOS D or better under Opening Year 2026 Without Project conditions during the AM and PM peak hour except for the intersection of Santa Anita Avenue and Huntington Drive which is reported to operate at an LOS E during the AM peak hour.

Opening Year Plus Project

Traffic volumes for Opening Year 2026 Plus Project conditions were derived by adding Tempo Project traffic volumes to the Opening Year 2026 Without Project traffic volumes.

Table 3.17-4, Opening Year 2026 Plus Project AM/PM Peak Hour Intersection LOS compares the Opening Year 2026 Without Project AM/PM peak hour LOS to the Opening Year 2026 Plus Project AM/PM peak hour LOS for all study intersections. As shown in **Table 3.17-4**, all study intersections are forecast to operate at an acceptable LOS D or better during the AM and PM peak hours under Opening Year 2026 Plus Project conditions except for the intersection of Santa Anita Avenue and Huntington Drive, which is expected to operate at LOS E during the AM peak period. However, the change in V/C with the Tempo Project traffic does not exceed the City's change in V/C threshold of 0.01 for intersections operating at LOS E. Therefore, improvements are not required at the signalized intersection of Santa Anita Avenue and Huntington Drive.

Table 3.17-3
Opening Year 2026 Without Project AM/PM Peak Hour Intersection LOS

Study Intersection		Traffic Control	Opening Year 2026 Without Project			
			AM		PM	
			Delay[1]	LOS	Delay[1]	LOS
1	Colorado Place & San Juan Drive	OWSC	32.5	D	13.0	B
2	Project Driveway #1 & San Juan Drive	OWSC	9.1	A	8.8	A
3	Project Driveway #2 & Colonado Place	OWSC	Does not exist without project			
4	Project Driveway #3 & Colonado Place	OWSC	24.4	D	13.0	B
5	Santa Anita Avenue and Huntington Drive[2]	Signal	**0.849**	**E**	0.765	**D**

Note: Deficient intersection operation indicated in **bold**.
1. Delay is expressed in seconds per vehicle for unsignalized intersections.
2. Signalized intersections use ICU methodology and report V/C ratios.
LOS = level of service
OWSC = One Way Stop Control

Source: Michael Baker International, Transportation Impact Analysis – Tempo by Hilton Project, September 24, 2024.

Table 3.17-4
Opening Year 2026 Plus Project AM/PM Peak Hour Intersection LOS

Study Intersection		Opening Year 2026 Without Project Conditions				Opening Year 2026 Plus Project Conditions				Change in V/C		Fair Share Required?
		AM		PM		AM		PM				
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	AM	PM	
1	Colorado Place & San Juan Drive	32.5	D	13.0	B	32.2	D	13.0	B	N/A	N/A	No
2	Project Driveway #1 & San Juan Drive	9.1	A	8.8	A	9.1	A	8.8	A	N/A	N/A	No
3	Project Driveway #2 & Colorado Place	Does not exist without project				15.6	C	10.7	B	N/A	N/A	No
4	Project Driveway #3 & Colorado Place	24.4	D	13.0	B	27.2	D	14.3	B	N/A	N/A	No
5	Santa Anita Avenue and Huntington Drive	0.849	E	0.765	D	0.850	E	0.767	D	0.001	0.002	No

Note: Deficient intersection operation indicated in **bold**.
1. Delay is expressed in seconds per vehicle for unsignalized intersections.
2. Signalized intersections use ICU methodology and report V/C ratios.
LOS = level of service.

Source: Michael Baker International, Transportation Impact Analysis – Tempo by Hilton Project, September 24, 2024.

Impact Summary

In conclusion, implementation of the Tempo Project and the resulting generation of additional traffic would result in LOS D or better for all study intersections, except for the intersection of Santa Anita Avenue and Huntington Drive, which would operate at LOS E in the AM peak hour with the addition of cumulative project traffic. However, the Tempo Project's change in V/C for the intersection of Santa Anita Avenue and Huntington Drive does not exceed the City's threshold for acceptable operating conditions for intersections. As noted above, the cumulative projects considered for the Opening Year 2026 conditions included the Approved Project. Therefore, the traffic volumes generated by the Revised Project, which includes the Approved Project and the Tempo Project, would not degrade the LOS of any study intersections such that the City's threshold for acceptable operation conditions would be exceeded. Based on the above, implementation of the Revised Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. Impacts would be less than significant and consistent with the impacts disclosed in the Indigo IS/MND.

VMT ASSESSMENT

The Indigo IS/MND evaluated traffic impacts using LOS, rather than VMT; consequently, the conclusions of this addendum also are based on LOS. Notwithstanding that, the following VMT analysis is provided for informational purposes. According to the City's Transportation Guidelines, a project can be presumed to have a less-than-significant VMT impact if the project satisfies one of the following screening criteria:

- Transit Priority Area: Projects located within a TPA.
- Low VMT Area: Residential and office projects located within a low VMT-generating area.
- Project Type: Projects which serve the local community and have the potential to reduce VMT, such as neighborhood K-12 schools, local-serving retail less than 50,000 sf, and local-serving hotels (e.g., non-destination hotels).

The Tempo Project would develop a hotel to serve the local population of the City, and as such, is considered a "non-destination" hotel. Therefore, the Tempo Project would meet the screening criteria for Project Type and no VMT analysis would be required. Accordingly, the Tempo Project's VMT impact is presumed to be less than significant.

The Indigo IS/MND evaluated Approved Project's transportation impacts based on LOS because the City had not adopted the use of VMT at the time. However, the Indigo IS/MND included a qualitative analysis of the Approved Project's VMT in accordance with CEQA Guidelines Section 15064.3 and determined that the Approved Project characteristics would contribute to reducing VMT. Since the Approved Project's VMT impacts were qualitatively concluded to be less than significant and the Tempo Project's VMT impact is less than significant based on the City's screening criteria, the Revised Project, which includes the Approved Project and the Tempo Project, would also have a less-than-significant VMT impact. As such, the Revised Project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b) and impacts would be les than significant, consistent with the determination of the Indigo IS/MND.

HAZARDS AND EMERGENCY ACCESS

The Tempo Project proposes to develop a new hotel use on the Revised Project Site, which is a permitted use within the Commercial land use designation and the C-G zone. As previously described, the Approved Project also includes hotel uses; thus, the Tempo Project's proposed hotel is a compatible use for the Revised Project Site. Development of the Tempo Project would not include modification of any adjacent roadways that could result in hazardous conditions. Therefore, the Tempo Project would not introduce incompatible uses or create roadways hazards.

Vehicle access to the Revised Project Site would continue to be provided via the two existing driveways along Colorado Place, a driveway along San Juan Drive, and a driveway along San Rafael Road. All driveway and internal circulation improvements would be reviewed by the City's Engineering Division to ensure that they meet City standards. Therefore, the Revised Project would not substantially increase hazards due to Tempo Project design features or incompatible uses and impacts would be less than significant, consistent with the determination in the Indigo IS/MND.

Additionally, the Tempo Project would not require any full road closures during project construction. Emergency access to the Revised Project Site and within the surrounding area would be maintained during construction and operation of the Revised Project. Therefore, no interference or impairment of the emergency response or emergency evacuation plans would occur, and consistent with the determination of the Indigo IS/MND, no impact would occur.

3.17.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.17.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.18 Tribal Cultural Resources

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place or object with cultural value to a California Native American tribe, and that is:							
e) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	LTS	LTS	No	No	No	No	No
f) A resource determined by the lead agency, in its discretion and supported by substantial evidence to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	LTSM (AP)	LTSM	No	No	No	No	No

3.18.1 Indigo IS/MND Finding

According to the Indigo IS/MND, no previously recorded tribal cultural resources listed in the California Register of Historical Resources or a local register were identified within the Original Project Site.

As part of the AB 52 notification and consultation process, the City notified a total of six affiliated and interested tribes, of which two responded. Only the Gabrieleno Band of Mission Indians – Kizh Nation requested consultation, which was completed and did not result in the identification of a geographically defined tribal cultural resource within or near the Original Project Site. As such, the City determined no tribal cultural resources are present in the Original Project Site. However, there would still be potential for inadvertent discovery of tribal cultural resources during ground disturbance that may result in potentially significant impacts. To reduce potential impacts, the Approved Project would be required to implement Indigo IS/MND mitigation measure **MM TCR-1**, which includes protocols for the inadvertent discovery of tribal cultural resources. The

Indigo IS/MND concluded impacts related to tribal cultural resources would be reduced to less-than-significant levels with implementation of Indigo IS/MND mitigation measure **MM TCR-1**.

3.18.2 Project Analysis

Based on the CHRIS records search, although there are no known cultural resources within the Revised Project Site, cultural resources have been discovered in the surrounding area. Thus, there is potential for ground-disturbing construction activities to uncover tribal cultural resources within the Revised Project Site. The Tempo Project would require excavation to depths of 12 to 15 feet below grade to construct the subterranean basement level. Therefore, the Tempo Project would be required to implement Indigo IS/MND mitigation measures **MM TCR-1** to reduce potential impacts on tribal cultural resources to less-than-significant levels. With implementation of Indigo IS/MND mitigation measure **MM TCR-1**, the Revised Project would not result in a substantial adverse change in the significance of a tribal cultural resource. Impacts related to tribal cultural resources would be less than significant with mitigation, consistent with the determination of the Indigo IS/MND.

3.18.3 Conclusion

Based on the above, with implementation of Indigo IS/MND mitigation measure **MM TCR-1,** no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.18.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

MM TCR-1 Should a possible TCR be encountered, construction activities within 50 feet of the discovery shall be temporarily halted and the City notified. The City will notify Native American tribes that have been identified by the NAHC to be traditionally and culturally affiliated with the geographic area of the Project. If the potential resource is archaeological in nature, appropriate management requirements shall be implemented as outlined in MM-CUL-1. If the City determines that the potential resource is a TCR (as defined by PRC, Section 21074), tribes consulting under AB 52 would be provided a reasonable period of time, typically 5 days from the date of a new discovery is made, to conduct a site visit and make recommendations regarding future ground disturbance activities as well as the treatment of any discovered TCRs. A qualified archaeologist shall implement a plan for the treatment and disposition of any discovered TCRs based on the nature of the resource and considering the recommendations of the tribe(s). Implementation of proposed recommendations will be made based on the determination of the City that the approach is reasonable and feasible.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.19 Utilities and Service Systems

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
Would the project:							
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	LTS	LTS	No	No	No	No	No
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	LTS	LTS	No	No	No	No	No
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	LTS	LTS	No	No	No	No	No
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	LTS	LTS	No	No	No	No	No
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	NI	NI	No	No	No	No	No

3.19.1 Indigo IS/MND Finding

WATER

The Indigo IS/MND concluded that the Approved Project would connect to the existing water utility infrastructure and would not require water infrastructure improvements, on-site or off-site. Further, the Approved Project would pay development impact fees, which would serve as its fair share contribution to future water infrastructure improvements. According to the City's 2015 UWMP, the City does not experience water supply constraints or deficiencies and the 2015 UWMP anticipates adequate water supply through the planning year 2040 for the City. The 2015 UWMP was based on data obtained from SCAG, which incorporated demographic projections from the City's General Plan. Since the Approved Project is consistent with the Original Project Site's land use designation in the General Plan, the Indigo IS/MND concluded that the Approved Project is also consistent with the 2015 UWMP. Further, the Approved Project would adhere to the water conservation measures in AMC Article VII, Chapter 5, Part 5, Division 3 and 4, and Title 24 of the California Building Code. Based on the above, the Indigo IS/MND determined that the Approved Project would not result in significant effects caused by the relocation or construction of new or expanded water utility infrastructure and that the City has sufficient water supplies to serve the Approved Project. Therefore, impacts related to water infrastructure and supply would be less than significant.

WASTEWATER

According to the Indigo IS/MND, the Original Project Site is served by existing 8-inch, 10-inch and 12-inch sewer lines in Colorado Place, San Rafael Road, and San Juan Drive. The Approved Project would connect to the existing sewer lines and would not require wastewater infrastructure improvements. In addition, the Approved Project would pay development impact fees, which would serve as its fair share contribution to future sewer infrastructure improvements. Therefore, the Indigo IS/MND determined that the Approved Project would not result in significant effects caused by the relocation or construction of new or expanded wastewater infrastructure and impacts would be less than significant.

Wastewater from the Approved Project area is transported to the San Jose Creek Water Reclamation Plant, which is operated by the Los Angeles County Sanitation Districts. The San Jose Creek Water Reclamation Plant has a design capacity of 100 million gallons per day and the wastewater generated by the Approved Project would be less than 0.01 percent of its capacity. As such, the Approved Project would not exceed current capacities of the wastewater treatment system and impacts related to wastewater treatment would be less than significant.

STORMWATER

The Indigo IS/MND concluded that implementation of the Approved Project would not generate increased stormwater runoff as the existing drainage patterns at the Original Project Site would not substantially change compared to existing conditions. The Approved Project would comply with the *LID Standards Manual* and incorporate measures to reduce the peak volume of stormwater runoff discharged into the City's storm drain system and ensure that stormwater is retained on site, to the extent feasible. As such, the Indigo IS/MND determined the Approved Project would not result in significant effects caused by the relocation or construction of new or expanded stormwater infrastructure and impacts related to stormwater drainage facilities would be less than significant.

SOLID WASTE

The Indigo IS/MND concluded that solid waste generated by the Approved Project would be nominal and existing landfills in the Los Angeles region would have sufficient capacity to accommodate solid waste increase from the Approved Project.

Additionally, the Approved Project would adhere to the California Solid Waste Reuse and Recycling Access Act of 1991, which requires cities and counties to divert 50 percent of all solid waste by 2000 and aims to reduce 75 percent of all solid waste by 2020. The Approved Project would also adhere to AMC Article V, which incorporates this act by reference. Overall, the Indigo IS/MND determined impacts related to solid waste generation would be less than significant, and there would be no impact related to compliance with solid waste regulations.

DRY UTILITIES

The Indigo IS/MND states electricity to the Original Project Site is provided by SCE via four 66-kilovolt transmission lines located on the Original Project Site's southern perimeter. Natural gas is provided by Sempra Utilities via an underground high-pressure gas line that crosses the City along Duarte Road, from Holly Avenue to Mountain Avenue in Monrovia. Both the electrical and natural gas lines would be protected during construction of the Approved Project, and no off-site improvements for electricity or natural gas would be anticipated. In addition, the Approved Project would not require new or expanded telecommunication facilities. Therefore, the Indigo IS/MND determined that the Approved Project would not result in significant effects caused by the relocation or construction of new or expanded electric power, natural gas, and telecommunications facilities and impacts would be less than significant.

3.19.2 Project Analysis

WATER

The Tempo Project would construct a four-story hotel building that would increase the Revised Project's water usage compared to existing conditions. Similar to the Approved Project, the Tempo Project would connect to the existing water distribution infrastructure on-site and would not require water infrastructure improvements. The Tempo Project also would pay development impact fees and would comply with the water conservation measures outlined in AMC Article VII, Chapter 5, Part 5, Division 3 and 4 , including the following restrictions specific to hotel uses:

- No restaurant, hotel, cafe, cafeteria, bar or other public place where food or beverage is served or offered for sale, shall serve drinking water to any customer unless expressly requested by the customer.
- No hotel or motel shall launder towels and linens of an occupied guestroom on a daily basis, unless expressly requested by the guest. The hotel or motel shall prominently display a notice in each guestroom of the guest's option not to have towels and linens laundered daily.

As noted above, the Indigo IS/MND determined that the City would have sufficient water supply to serve the Approved Project based on the 2015 UWMP. Since the adoption of the Indigo IS/MND, the City has prepared the 2020 UWMP.[31] According to the 2020 UWMP, the City would have sufficient water supply to meet projected water demand, including during long-term droughts, through 2045. Since the Revised Project is consistent with the General Plan land use designation and the demographic projections in the General Plan were used to develop the 2020 UWMP, the Revised Project is also consistent with the 2020 UWMP.

Therefore, based on the above, the Revised Project would not result in significant effects caused by the relocation or construction of new or expanded water distribution infrastructure and the City has sufficient water supplies to serve the Revised Project. Impacts related to water infrastructure and supply would be less than significant, consistent with the determination in the Indigo IS/MND.

WASTEWATER

Implementation of the Tempo Project would result in an increase in the Revised Project's wastewater generation compared to existing conditions. However, similar to the Approved Project, the Tempo Project would connect to the existing sewer line in Colorado Place.. The Tempo Project would also pay development impact fees that would contribute to future sewer infrastructure improvements and would adhere to AMC Article VII, which regulates the City's sewer line design, sewer system fees and permits. In addition, similar to the Approved Project, the wastewater generated by the Revised Project would be treated at the San Jose Creek Water Reclamation Plant. As discussed above, the San Jose Creek Water Reclamation Plant has a design capacity of 100 million gallons per day and the wastewater generated by the Approved Project would be less than 0.01 percent of its capacity. The amount of wastewater generated by the Tempo Project would be less than the amount generated by the Approved Project due to the smaller size of the hotel development. Thus, the total amount of wastewater generated by the Revised Project would not be substantially greater than the Approved Project's wastewater generation. As such, and given the available capacity of the San Jose Creek Water Reclamation Plant, the Revised Project would not exceed the treatment capacity of the Reclamation Plant. The Revised Project's impacts related to wastewater infrastructure and treatment would be less than significant and consistent with determination in the Indigo IS/MND.

STORMWATER

Implementation of the Tempo Project would not substantially increase imperviousness, as the Area of Proposed Improvements is fully paved except for minor areas of landscaping. In addition, the Tempo Project includes LID features to capture and infiltrate stormwater. Thus, the Tempo Project would not measurably increase stormwater runoff that would be discharged to the City's stormwater drainage system. In addition, as discussed in **Section 4.10, Hydrology and Water Quality**, the Tempo Project would comply with the requirements of the CGP and AMC, Chapter 8 (Stormwater Management and Discharge Control) to control stormwater discharges. The Tempo Project would incorporate BMPs and LID features including two types of shallow stormwater infiltration systems which would manage stormwater runoff and treatment at the Revised Project Site (i.e., permeable paving and an infiltration trench gallery system). As such,

[31] City of Arcadia, Final Urban Water Management Plan, June 2021.

the Revised Project would not result in significant effects caused by the relocation or construction of new or expanded stormwater infrastructure and impacts related to stormwater drainage facilities would be less than significant, consistent with the determination in the Indigo IS/MND.

SOLID WASTE

Implementation of the Tempo Project would generate approximately 273 pounds of solid waste per day, based on the CalEEMod solid waste generation rates (**Attachment A, Air Quality Assessment**). As with the Approved Project, this amount of solid waste is anticipated to be accommodated by existing landfills within the County.

During construction, the Tempo Project would minimize construction waste by complying with the CALGreen Code, which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills. As with the Approved Project, the Tempo Project operations would be required to comply with the California Solid Waste Reuse and Recycling Access Act of 1991 and AMC Article V, which incorporates this act by reference. Therefore, Revised Project's impacts related to solid waste generation would be less than significant, and there would be no impact related to compliance with solid waste regulations, consistent with the determination in the Indigo IS/MND.

DRY UTILITIES

Similar to the Approved Project, SCE and Sempra Utilities would provide electricity and natural gas services to the Revised Project. The Revised Project would connect to existing electricity, natural gas infrastructure and no off-site improvements are anticipated. As with the Approved Project, the Revised Project also would not require new or expanded telecommunication facilities. Therefore, consistent with the determination in the Indigo IS/MND, the Revised Project would not result in significant effects caused by the relocation or construction of new or expanded electric power, natural gas, and telecommunications facilities and impacts would be less than significant.

3.19.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, and no new or different mitigation measures are required.

3.19.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

3.20 Wildfire

ENVIRONMENTAL ISSUE	IMPACT CONCLUSION		ANY NEW SIGNIFICANT IMPACTS OR SUBSTANTIALLY MORE SEVERE IMPACTS RESULTING FROM:			FOR MITIGATION MEASURES (MM), NEW INFORMATION OF SUBSTANTIAL IMPORTANCE SHOWS THAT:	
	REVISED PROJECT	ADOPTED IS/MND	SUBSTANTIAL CHANGE IN THE PROJECT?	SUBSTANTIAL CHANGE IN CIRCUMSTANCE?	NEW INFORMATION OF SUBSTANTIAL IMPORTANCE?	EFFECTIVE BUT PREVIOUSLY INFEASIBLE MM ARE NOW FEASIBLE?	NEW OR DIFFERENT MM WOULD SUBSTANTIALLY REDUCE SIGNIFICANT EFFECT(S)?
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:							
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	LTS	LTS	No	No	No	No	No
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?	LTS	LTS	No	No	No	No	No
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	LTS	LTS	No	No	No	No	No
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	NI	NI	No	No	No	No	No

3.20.1 Indigo IS/MND Finding

As stated in the Indigo IS/MND, the City is not located within a VHFHSZ. The nearest wildland areas are located at the southern part of the San Gabriel Mountains, approximately 2.6 miles north of the Original Project Site. The Approved Project would be constructed in adherence to the requirements of the California Fire Code and would not include any development that would exacerbate fire risks. Construction and operation of the Approved Project would adhere to the City's *Natural Hazard Mitigation Plan and Arcadians Caring Together Improves Our Neighborhoods Plan* and would not impair existing evacuation roadways (identified as Colorado Place and I-210). Thus, implementation of the Approved Project would not substantially impair an adopted emergency response plan or emergency evacuation plan, exacerbate wildfire risk due to slope or wind, or require installation of infrastructure that may exacerbate fire risk, and impacts would be less than significant. In addition, the Original Project Site is located within a fully developed, urban area and is located on relatively flat terrain. As such, implementation of the Approved Project would not expose people or structures to downslope flooding, landslides, or runoff risks and there would be no impact.

3.20.2 Project Analysis

As stated in the Indigo IS/MND, the City does not contain any VHFHSZs. Therefore, the Revised Project Site is not located within or near a state responsibility area or lands classified as VHFHSZs. Similar to the Indigo IS/MND, the Revised Project would adhere to the requirements of the City's *Natural Hazard Mitigation Plan and Arcadians Caring Together Improves Our Neighborhoods Plan*. Implementation of the Revised Project would not impair existing evacuation roadways, and any internal circulation improvements would maintain emergency access. The Revised Project would also comply with the requirements of the California Building Code and Fire Code to ensure fire safety such as the installation of fire sprinkler systems. Further, the Revised Project Site is relatively flat and would not be located on a slope or area of landslide potential and as such, would not expose people or structures to significant related wildfire risks and no impacts would occur. Therefore, wildfire impacts for the Revised Project would be consistent with the determination of the Indigo IS/MND.

3.20.3 Conclusion

Based on the above, no new significant impacts or substantially more severe impacts than those previously identified in the Indigo IS/MND would occur as a result of a substantial change proposed by the Revised Project, a substantial change in circumstances, or new information of substantial importance associated with the Revised Project. Likewise, there is no new information of substantial importance that shows that effective but previously infeasible mitigation measures are now feasible or that new or different mitigation measures would substantially reduce significant effects of the Revised Project. Therefore, no new or different mitigation measures are required.

3.20.4 Mitigation Measures

APPLICABLE INDIGO IS/MND MITIGATION MEASURES

No Indigo IS/MND mitigation measures apply.

NEW MITIGATION MEASURES

No new or different mitigation measures are required.

CHAPTER 4:
ENVIRONMENTAL DETERMINATION

Based upon the evidence in light of the whole record documented in the attached environmental checklist explanation, cited incorporations and attachments, the City finds that the Revised Project:

☐ **Has previously been analyzed** as part of an earlier CEQA document adopted/certified pursuant to CEQA and the State CEQA Guidelines. The proposed project is a component of the whole action analyzed in the previously adopted/certified CEQA document.

☒ **Has previously been analyzed** as part of an earlier CEQA document adopted/certified pursuant to CEQA and the State CEQA Guidelines. Changes and additions to the earlier CEQA document are needed to make the previous documentation adequate to cover the project which are documented in this addendum (CEQA Guidelines Section 15164). None of the conditions described in CEQA Guidelines Section 15162 that would require the preparation of a subsequent or supplemental EIR or negative declaration have occurred.

☐ **Has previously been analyzed** as part of an earlier CEQA document adopted/certified pursuant to CEQA and the State CEQA Guidelines. However, there is important new information and/or substantial changes have occurred requiring the preparation of subsequent CEQA documentation (subsequent or supplemental EIR or negative declaration) pursuant to CEQA Guidelines Sections 15162 through 15163

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ATTACHMENT A: AIR QUALITY ASSESSMENT

Michael Baker
INTERNATIONAL

We Make a Difference

MEMORANDUM

To: Lisa Flores, City of Arcadia

From: Zhe Chen, Michael Baker International

Date: July 22, 2024

Subject: Tempo by Hilton Project – Air Quality Assessment

PURPOSE AND BACKGROUND

The purpose of this technical memorandum is to evaluate potential short- and long-term air quality impacts that would result from the construction and operation of a proposed hotel building and associated improvements in support of the Tempo by Hilton Project Addendum to the *Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo) Project* (2020 IS/MND).

The City prepared the 2020 IS/MND for a redevelopment project located at 125 West Huntington Drive and 123 West Huntington Drive (Original Project Site). On February 5, 2013, the City previously approved the modification of an existing 60,811-square-foot, three-story office building (Parsons building) and the construction of two new medical office buildings, a new general office building, and a new parking structure on the Original Project Site. Of the four new buildings approved under the 2013 development project, only the parking structure and the two medical office buildings (now occupied by the Keck Medicine of University of Southern California [USC]) were constructed. The 2020 IS/MND analyzed (1) the redevelopment of the existing Parsons building on the Original Project Site to allow for 76,754 square feet of hotel and appurtenant uses, including 90 hotel rooms, amenities, and employee or guest shared spaces, and (2) the construction a new 61,538-square-foot, five-story hotel annex building containing 75 hotel rooms and additional amenities such as a hotel spa, café, and outdoor patios to the east of the Parson's building. No changes to the two existing Keck Medicine of USC medical office buildings and parking structure were proposed under the Approved Project. The 2020 IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020 (Resolution No. 2050).

The Tempo by Hiton Project Addendum (Tempo Addendum) analyzes the environmental effects of the Revised Project, which is comprised of the Approved Project described above, and the Tempo Project, which includes a lot line adjustment (LLA) to merge the parcel identified as Assessor's Parcel Number (APN) 2775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) in order to create one legal parcel (Revised Project Site) and to construct a new four-story hotel building on APN 2775-015-011. The Tempo Project would not modify any of the existing medical office buildings, parking structure or the hotel buildings previously approved under the Approved Project. A detailed description of the Tempo Project is provided below. This memorandum analyzes the combined impact of the Tempo Project and the Approved Project analyzed in the 2020 IS/MND.

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PROJECT LOCATION

The City of Arcadia is located in northeast Los Angeles County, generally north of the Interstate 10 Freeway (I-10), south of the Foothill Freeway (I-210), east of State Route 164, and west of I-605. The City is approximately 12 miles northeast of downtown Los Angeles; refer to Exhibit 1, *Regional Vicinity*.

The Revised Project is located within the northeastern portion of Arcadia and is comprised of the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) and one land parcel addressed as 181 Colorado Place (APN 5775-015-011) that is approximately 0.61 acre, or 26,493 square feet;[1] refer to Exhibit 2, *Revised Project Site*. Regional access to the Revised Project Site is provided via I-210. Local access to the Revised Project Site is provided via Colorado Place, San Juan Drive, and San Rafael Road.

EXISTING SITE CONDITIONS

The Revised Project Site, which includes the Original Project Site and APN 5775-015-011, is located in a highly developed and urbanized area of Arcadia. The Original Project Site is occupied by the two Keck Medicine of USC medical office buildings, a parking structure, and the Parsons building. The redevelopment of the Parsons building for hotel uses and the construction of the hotel annex building are currently underway. APN 5775-015-011 is vacant lot currently fenced that was previously occupied by the Original Peppers Mexican and Cantina, surface parking, and landscaping. The restaurant building was demolished in 2023 but the surface parking and landscaping remain.

According to the Arcadia General Plan, Chapter 2: Land Use and Community Design Element, the Revised Project Site is designated as Commercial WHICH. This Commercial designation is intended to encourage a strong pedestrian-oriented environment that provides a variety of retail and service uses, restaurants, and neighborhood-serving commercial uses that complement development in the Downtown Mixed-Use areas.[2] According to the City's Zoning Map, the Revised Project Site is zoned General Commercial (C-G) with a Downtown Overlay.[3] The C-G zone is intended to provide areas for the development of retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The maximum Floor Area Ratio (FAR) permitted under the C-G zone and the Downtown Overlay zone is 1.0 for new development, and the maximum height permitted for new buildings is 48 feet.

Surrounding uses adjacent to the Revised Project Site include residential, office, and commercial uses. The Revised Project Site is bordered by San Juan Drive, the California Thoroughbred Breeders Association, and single-family homes to the north; San Rafael Road and a small commercial plaza to the east; single-family homes to the east and northeast; Colorado Place, Huntington Drive and Le Meriden hotel to the south; and Colorado Place and the Santa Anita Park (a horseracing track) to the west.

Parsons building for hotel uses and the construction of a new hotel annex building. The Tempo Project

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[1] Los Angeles County Assessor, Property Search Tool: APN 5775-015-011, https://assessor.lacounty.gov/homeowners/property-search, accessed June 19, 2024.

[2] City of Arcadia, *Arcadia General Plan, Chapter 2: Land Use and Community Design Element*, February 2024.

[3] City of Arcadia, *City of Arcadia Zoning Map*, Updated February 6, 2024.

NOT TO SCALE

Michael Baker
INTERNATIONAL

06/2024 • JN 201253

TEMPO BY HILTON

Regional Vicinity Map

Exhibit 1

Source: Google Earth Pro, July 2024

Michael Baker INTERNATIONAL

NOT TO SCALE

07/2024 • JN 201253

TEMPO BY HILTON

Revised Project Site

Exhibit 2

PROJECT DESCRIPTION

The Revised Project would consist of the improvements proposed by the Tempo Project, along with the previously Approved Project described in the 2020 IS/MND, which includes the redevelopment of the would develop a four-story hotel building with approximately 47,140 square feet of gross floor area on APN 5775-015-011; refer to Exhibit 3, *Conceptual Site Plan*.

The new hotel building would have a maximum height of 48 feet, excluding rooftop appurtenances, and would consist of a basement level and four above-ground levels containing a total of 91 rooms and ancillary hotel uses. The basement level would primarily contain back-of-house uses for hotel operations, including an electric room, a mechanical room, a laundry room, offices, storage rooms, an employee breakroom, restrooms, and a fitness room for guest use. Level 1 would contain 13 hotel rooms, a kitchen, café, bar, lobby, meeting area, office, restrooms, and an outdoor patio. Levels 2, 3, and 4 would each contain 26 hotel rooms and the roof level would contain an outdoor paved patio, solar panels, and mechanical areas.

The Tempo Project would utilize the existing parking structure located on the Original Project Site to provide parking for hotel employees, guests, and visitors. As shown in Exhibit 3, the Tempo Project would also reconfigure the existing surface parking lot located to the east of the proposed hotel building on the Original Project Site to provide 18 surface parking spaces, including three electric vehicle charging spaces, a trash enclosure, and a connection to the new surface parking area along the south side of the proposed hotel building. The new surface parking area would provide 6 parking spaces, including 4 accessible parking spaces. In addition, the Tempo Project would develop a drop-off area with access via the existing driveway from Colorado Place. Access to the proposed hotel building would be provided from the two existing driveways along Colorado Place and San Juan Drive.

Landscaping improvements to the Revised Project Site would include the removal of 13 existing trees and the installation of 36 new trees as well as other drought tolerant plants within the Area of Proposed Improvements shown in Exhibit 2. Ancillary improvements to the Revised Project Site would include exterior lighting and accessible routes from the proposed hotel building to the new surface parking area, the existing the surface parking lot to the east, and the existing parking structure.

In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,579 square feet by merging APN 5775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029), which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project.

The Tempo Project would require discretionary approvals from the City for an LLA to merge APN 5775-015-011 with the Original Project Site and a Conditional Use Permit to develop the proposed hotel building in a C-G zone.

Source: DesignCell Architecture, June 2024

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TEMPO BY HILTON

Conceptual Site Plan

Exhibit 3

CRITERIA AIR POLLUTANTS

Air quality is a general description of how levels of air pollution and other atmospheric conditions can affect public health and the environment. Under the Federal Clean Air Act (FCAA), the U.S. Environmental Protection Agency (USEPA) has identified six air pollutants that are environmentally prevalent and produced by human activities that are of concern with respect to health, the environment, and welfare of the public. These specific pollutants, known as criteria air pollutants, are pollutants for which the federal and state governments have established ambient air quality standards—or criteria—for outdoor concentrations to protect public health. These pollutants are common byproducts of human activities and have been documented through scientific research to cause various adverse health effect outcomes. The federal ambient concentration criteria are known as the National Ambient Air Quality Standards (NAAQS), and the California ambient concentration criteria are referred to as the California Ambient Air Quality Standards (CAAQS). The criteria air pollutants regulated at the federal level include carbon monoxide (CO), ground-level ozone (O_3), nitrogen dioxide (NO_2), respirable particulate matter ten microns or less in diameter (PM_{10}), fine particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and lead (Pb).

Carbon Monoxide (CO)

Carbon monoxide is a colorless, odorless gas primarily emitted from combustion processes and motor vehicles due to incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO is a localized pollutant that is found in high concentrations only near its source; therefore, elevated concentrations are usually only found near areas of high traffic volumes. Other sources of CO include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. CO causes several health problems, including the aggravation of some heart diseases, reduced tolerance for exercise, impaired mental function, and impaired fetal development. At high levels of exposure, CO reduces the amount of oxygen in the blood, which may be fatal.

Ozone (O_3)

Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. As a highly reactive molecule, O_3 readily combines with many different components of the atmosphere. Consequently, high O_3 levels tend to occur only while high VOC and NO_X levels are present to sustain the formation process, and O_3 levels rapidly decline once the precursors have been depleted. O_3 is considered a regional pollutant because its reactions occur on a regional rather than local scale. In addition, because O_3 requires sunlight to form, significant concentrations occur between the months of April and October. O_3 is a pungent, colorless, toxic gas with direct health effects on humans, including changes in breathing patterns, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes. Groups most sensitive to O_3 include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Nitrogen Dioxide (NO_2)

Nitrogen dioxide is a nitrogen oxide compound produced by the combustion of fossil fuels, such as in both gasoline and diesel-powered internal combustion engines, and from point sources, such as power plants. NO_2 absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility. The principal form of NO_X produced by combustion is nitric oxide, which reacts rapidly to form NO_2, creating the mixture of nitric oxide and NO_2. NO_2 is an acute irritant that can aggravate respiratory illnesses and symptoms. NO_2 may have negative impacts on those with existing illnesses, such as chronic pulmonary fibrosis and an increase in bronchitis in young children.

Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter pollution consists of very small liquid and solid particles floating in the air (e.g., soot, dust, aerosols, fumes, and mists) that can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{10} and $PM_{2.5}$ consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Man-made sources of PM_{10} are agricultural operations, industrial processes, combustion of fossil fuels, construction, demolition operations, and entrainment of road dust into the atmosphere. Natural sources of PM_{10} include windblown dust, wildfire smoke, and sea spray salt. Elevated levels of PM_{10} can cause respiratory irritation, reduced lung function, aggravation of cardiovascular disease, and cancer in individuals. $PM_{2.5}$ is generally associated with combustion processes, as well as formation in the atmosphere as a secondary pollutant through chemical reactions. $PM_{2.5}$ is more likely to penetrate deeply into the lungs and poses a health threat to all groups but particularly to the elderly, children, and those with respiratory problems. Elevated levels of $PM_{2.5}$ can cause respiratory stress, decreased lung function, and increased risk of long-term disease, such as chronic bronchitis, asthma, and lung cancer.

Sulfur Dioxide (SO_2)

Sulfur oxides (SO_X) are compounds of sulfur and oxygen molecules. SO_2 is classified in a group of highly reactive gases known as "oxides of sulfur." The largest sources of SO_2 emissions are from fossil fuel combustion at power plants and other industrial facilities. Other sources of SO_2 emissions include industrial processes, such as extracting metal from ore, and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. SO_2 is linked to several adverse effects on the respiratory system, including aggravation of respiratory diseases, such as asthma and emphysema, and reduced lung function.

Volatile Organic Compounds (VOC)

Volatile Organic Compounds are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. The terms VOC and reactive organic gases (ROG) (see below) are often used interchangeably.

Reactive Organic Gases (ROG)

Similar to VOCs, Reactive Organic Gases (ROGs) are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. The terms ROG and VOC are often used interchangeably.

Lead (Pb)

Lead is a metal found naturally in the environment, as well as in manufactured products. Historically, the major sources of Pb emissions have been mobile and industrial sources. Since the 1970s, the USEPA has set national regulations to gradually reduce the Pb content in gasoline. As a result of phasing out leaded gasoline, metal processing is the current primary source of Pb emissions. The highest level of Pb in the air is generally found near Pb smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. The health impacts of Pb include behavioral and hearing disabilities in children and nervous system impairment.

Toxic Air Contaminants (TACs)

Toxic air contaminants are air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. Exposure to TACs may result in long-term health effects, such as cancer, birth defects, neurological damage, asthma, or genetic damage; or short-term acute effects, such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

ENVIRONMENTAL SETTING

Regional Topography

The California Air Resources Board (CARB) divides the State into 15 air basins that share similar meteorological and topographical features. The Revised Project Site lies within the South Coast Air Basin (Basin). The Basin is a 6,600 square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semi-arid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. The typical mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. Precipitation is limited to a few winter storms.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of O_3 observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The area in which the Revised Project Site is located offers clear skies and sunshine yet is still susceptible to air inversions. These inversions trap a layer of stagnant air near the ground, where it is then further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

The Revised Project Site is in the City of Arcadia which experiences a mild Southern California coastal climate with average high temperatures between 67°F and 89°F, and average low temperatures between 46°F to 67°F. The area also experiences an average of up to 3.1 inches of precipitation per month, with the most precipitation occurring in the month of February.[4]

[4] Weather Spark, *Climate and Average Weather Year Round in Arcadia, California, United States*, https://weatherspark.com/y/1680/Average-Weather-in-Arcadia-California-United-States-Year-Round, accessed on May 17, 2024.

Local Ambient Air Quality

CARB monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. The Revised Project Site is located within Source Receptor Area (SRA) 9, *East San Gabriel Valley*. The monitoring station representative of SRA 9 is the Pasadena-S Wilson Avenue station, located at 752 South Wilson Avenue, Pasadena, approximately 5.2 miles to the west of the Revised Project Site. This monitoring station measures O_3, CO, NO_2, and $PM_{2.5}$. The closest monitoring station that measures PM_{10} is the Azusa station, located at 803 North Loren Avenue, Azusa, approximately 6.6 miles to the east of the Revised Project Site. SO_2 and Pb are not monitored at these stations, and, since the area is designated unclassified/attainment for these pollutants, air quality data for these pollutants are not included in Table 1, *Ambient Air Quality at the Pasadena-S Wilson Avenue and Azusa Monitoring Stations by Year*, which reports ambient air quality measurements and indicates the number of days that each standard has been exceeded at the Pasadena-S Wilson Avenue and Azusa stations.

Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The nearest sensitive receptor to the Revised Project Site is a single-family residence located adjacent to the east of the Area of Proposed Improvements shown in Exhibit 2.

REGULATORY SETTING

Federal

Federal Clean Air Act

The FCAA of 1970 and the FCAA Amendments of 1971 required the USEPA to establish NAAQS, which required the USEPA to adopt more stringent air quality standards or to include standards for other specific pollutants. The FCAA was amended in 1990 to address a large number of air pollutants that are known to cause or may reasonably be anticipated to cause adverse effects to human health or adverse environmental effects. A total of 188 specific pollutants and chemical groups were initially identified as hazardous air pollutants, and the list has been modified over time. The FCAA Amendments included new regulatory programs to control acid deposition and regulate the issuance of stationary source operating permits. These standards identify levels of air quality for “criteria” pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to Table 2, *National and California Ambient Air Quality Standards*.

Table 1
Ambient Air Quality at the Pasadena-S Wilson Avenue and Azusa Monitoring Stations by Year

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Ozone (O_3)[2] (1-hour)	0.09 ppm for 1 hour	NA[6]	2020 2021 2022	0.163 ppm 0.104 ppm 0.143 ppm	41/9 12/0 12/1
Ozone (O_3)[2] (8-hour)	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2020 2021 2022	0.116 ppm 0.087 ppm 0.103 ppm	61/60 32/25 23/22
Carbon Monoxide (CO)[2,4] (1-hour)	20 ppm for 1 hour	35 ppm for 1 hour	2020 2021 2022	1.338 ppm 1.917 ppm 1.562 ppm	0/0 0/0 0/0
Nitrogen Dioxide (NO_2)[2]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2020 2021 2022	0.061 ppm 0.077 ppm 0.066 ppm	0/0 0/0 0/0
Fine Particulate Matter ($PM_{2.5}$)[2, 4]	No Separate Standard	35 µg/m³ for 24 hours	2020 2021 2022	67.7 µg/m³ 63.6 µg/m³ 22.1 µg/m³	NA/2 NA/2 NA/0
Coarse Particulate Matter (PM_{10})[3, 4, 5]	50 µg/m³ for 24 hours	150 µg/m³ for 24 hours[7]	2020 2021 2022	152.3 µg/m³ 79.4 µg/m³ 98.2 µg/m³	9/0 11/0 7/0

ppm = parts per million
µg/m³ = micrograms per cubic meter
NA = Not Applicable
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less

Notes:
1. Maximum concentration is measured over the same period as the California Standards.
2. Data collected from the Pasadena-S Wilson Avenue Monitoring Station located at 752 South Wilson Avenue, Pasadena, CA 91106.
3. Data collected from the Azusa Monitoring Station located at 803 N Loren Ave, Azusa, CA 91702.
4. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.
5. PM_{10} exceedances are based on state thresholds established prior to amendments adopted on June 20, 2002.
6. The federal standard for 1-hour ozone was revoked in June 2005. However, number of days the old federal standard exceeded are shown in the table.
7. The federal standard for average PM_{10} was revoked in December 2006.

Sources:
California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/, accessed May 17, 2024.
California Air Resources Board, *AQMIS2: Air Quality Data*, https://www.arb.ca.gov/aqmis2/aqdselect.php, accessed May 17, 2024.

State

State Implementation Plan

The FCAA Amendments require that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. In California, the SIP is a collection of documents that set forth the State's strategies for achieving the NAAQS and CAAQS—a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the SIP under state law. Local air districts are responsible for preparing and implementing air quality attainment plans for pollutants for which the local air district is in non-compliance, and the plans are incorporated into the SIP.

California Clean Air Act (CCAA) and the California Air Resources Board

Clean Air Act permitting in California is the shared responsibility of the CARB, its 35 air pollution control agencies (districts), and USEPA Region 9. Generally, CARB plays an oversight role for permitting and does not issue any pre-construction or operating permits. However, the state agency provides significant support to agencies that need permitting assistance.

CARB administers the air quality policy in California. The CAAQS were established in 1969 pursuant to the Mulford-Carrell Act. These standards, shown with the NAAQS in Table 2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The CCAA, which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with the CAAQS. These AQMPs also serve as the basis for the preparation of the SIP for the State of California.

Like the USEPA, CARB also designates areas within California as either attainment or non-attainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as non-attainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard and are not used as a basis for designating areas as non-attainment.

Regional

South Coast Air Quality Management District

The SCAQMD is one of California's 35 air quality management districts that have prepared AQMPs to accomplish a five-percent annual reduction in air emissions. The SCAQMD is primarily responsible for planning, implementing, and enforcing air quality standards for the Basin, which is a subregion within the western portion of the SCAQMD. The SCAQMD also regulates portions of the Salton Sea Air Basin and Mojave Desert Air Basin within Riverside County. The Basin is designated nonattainment for O_3 8-hour NAAQS and $PM_{2.5}$ and Pb NAAQS. The Basin is also designated non-attainment for the O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The Basin is designated unclassifiable or in attainment for all other federal and state standards.

Table 2
National and California Ambient Air Quality Standards

<table>
<tr><th rowspan="2">Pollutant</th><th rowspan="2">Averaging Time</th><th colspan="2">California[1]</th><th colspan="2">Federal[2]</th></tr>
<tr><th>Standard[3]</th><th>Attainment Status</th><th>Standards[3,4]</th><th>Attainment Status</th></tr>
<tr><td rowspan="2">Ozone (O_3)</td><td>1 Hour</td><td>0.09 ppm (180 $\mu g/m^3$)</td><td>Nonattainment</td><td>N/A</td><td>N/A[5]</td></tr>
<tr><td>8 Hours</td><td>0.070 ppm (137 $\mu g/m^3$)</td><td>Nonattainment</td><td>0.070 ppm (137 $\mu g/m^3$)</td><td>Nonattainment</td></tr>
<tr><td rowspan="2">Particulate Matter (PM_{10})</td><td>24 Hours</td><td>50 $\mu g/m^3$</td><td>Nonattainment</td><td>150 $\mu g/m^3$</td><td>Attainment/Maintenance</td></tr>
<tr><td>Annual Arithmetic Mean</td><td>20 $\mu g/m^3$</td><td>Nonattainment</td><td>N/A</td><td>N/A</td></tr>
<tr><td rowspan="2">Fine Particulate Matter ($PM_{2.5}$)</td><td>24 Hours</td><td colspan="2">No Separate State Standard</td><td>35 $\mu g/m^3$</td><td>Nonattainment</td></tr>
<tr><td>Annual Arithmetic Mean</td><td>12 $\mu g/m^3$</td><td>Nonattainment</td><td>12.0 $\mu g/m^3$</td><td>Nonattainment</td></tr>
<tr><td rowspan="2">Carbon Monoxide (CO)</td><td>8 Hours</td><td>9.0 ppm (10 mg/m^3)</td><td>Attainment</td><td>9 ppm (10 mg/m^3)</td><td>Attainment/Maintenance</td></tr>
<tr><td>1 Hour</td><td>20 ppm (23 mg/m^3)</td><td>Attainment</td><td>35 ppm (40 mg/m^3)</td><td>Attainment/Maintenance</td></tr>
<tr><td rowspan="2">Nitrogen Dioxide (NO_2)[5]</td><td>Annual Arithmetic Mean</td><td>0.030 ppm (57 $\mu g/m^3$)</td><td>N/A</td><td>53 ppb (100 $\mu g/m^3$)</td><td>Attainment/Maintenance</td></tr>
<tr><td>1 Hour</td><td>0.18 ppm (339 $\mu g/m^3$)</td><td>Attainment</td><td>100 ppb (188 $\mu g/m^3$)</td><td>Attainment/Maintenance</td></tr>
<tr><td rowspan="3">Lead (Pb)[7,8]</td><td>30 days Average</td><td>1.5 $\mu g/m^3$</td><td>Attainment</td><td>N/A</td><td>N/A</td></tr>
<tr><td>Calendar Quarter</td><td>N/A</td><td>N/A</td><td>1.5 $\mu g/m^3$</td><td>Nonattainment</td></tr>
<tr><td>Rolling 3-Month Average</td><td>N/A</td><td>N/A</td><td>0.15 $\mu g/m^3$</td><td>Nonattainment</td></tr>
<tr><td rowspan="4">Sulfur Dioxide (SO_2)[6]</td><td>24 Hours</td><td>0.04 ppm (105 $\mu g/m^3$)</td><td>Attainment</td><td>0.14 ppm (for certain areas)</td><td>Unclassified/Attainment</td></tr>
<tr><td>3 Hours</td><td>N/A</td><td>N/A</td><td>N/A</td><td>N/A</td></tr>
<tr><td>1 Hour</td><td>0.25 ppm (655 $\mu g/m^3$)</td><td>Attainment</td><td>75 ppb (196 $\mu g/m^3$)</td><td>N/A</td></tr>
<tr><td>Annual Arithmetic Mean</td><td>N/A</td><td>N/A</td><td>0.30 ppm (for certain areas)</td><td>Unclassified/Attainment</td></tr>
<tr><td>Visibility-Reducing Particles[9]</td><td>8 Hours (10 a.m. to 6 p.m., PST)</td><td>Extinction coefficient = 0.23 km@<70% RH</td><td>Unclassified</td><td colspan="2" rowspan="4">No Federal Standards</td></tr>
<tr><td>Sulfates</td><td>24 Hour</td><td>25 $\mu g/m^3$</td><td>Attainment</td></tr>
<tr><td>Hydrogen Sulfide</td><td>1 Hour</td><td>0.03 ppm (42 $\mu g/m^3$)</td><td>Unclassified</td></tr>
<tr><td>Vinyl Chloride[7]</td><td>24 Hour</td><td>0.01 ppm (26 $\mu g/m^3$)</td><td>N/A</td></tr>
</table>

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
6. On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of ppb. California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
7. CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
8. The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
9. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board, *Ambient Air Quality Standards Chart,* http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, May 4, 2016.

Air Quality Management Plan

The SCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Under state law, the SCAQMD is required to prepare an AQMP for pollutants for which its jurisdiction is in noncompliance.

To meet the NAAQS and CAAQS, the SCAQMD has adopted a series of AQMPs that serve as a regional blueprint to develop and implement an emissions reduction strategy that will bring the Basin into attainment with the standards in a timely manner. The most significant air quality challenge in the Basin is to reduce NO_X emissions to meet the ozone standard deadline for the non-Coachella Valley portion of the Basin, as NO_X plays a critical role in the creation of O_3. The *2022 Air Quality Management Plan* (2022 AQMP), adopted by the SCAQMD's Governing Board on December 2, 2022, includes strategies to ensure the SCAQMD does its part to further its ability to reduce NO_X emissions as expeditiously as practicable, but no later than the statutory attainment deadline of August 3, 2038, for the Basin and August 3, 2033, for the Riverside County portion of the Salton Sea Air Basin to meet the 2015 federal O_3 standards.[5] The 2022 AQMP builds on the measures already in place from the previous AQMPs and includes a variety of additional strategies, such as regulation, accelerated deployment of available cleaner technology, best management practices, co-benefits from existing programs, incentives, and other CCAA measures to meet the 8-hour O_3 standard. Since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the O_3 standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of annual $PM_{2.5}$ standards.[6]

The SCAQMD's strategy to meet the NAAQS and CAAQS distributes the responsibility for emissions reductions across federal, state, and local levels and industries. Most of these emissions are from heavy-duty trucks, ships, and other state and federally regulated mobile source emissions, the majority of which are beyond SCAQMD's control. The SCAQMD has limited control over truck emissions with rules, such as Rule 1196. The 2022 AQMP is composed of stationary and mobile source emissions reductions, including traditional regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile source strategies, and reductions from federal sources (e.g., aircraft, locomotives, and ocean-going vessels). These strategies are to be implemented in partnership with CARB and USEPA. The SCAQMD will not meet the standard without significant federal action. In addition to federal action, the 2022 AQMP relies on substantial future development of advanced technologies to meet the standards, including the transition to zero- and low-emission technologies. Of the needed NO_X emissions reductions, 46 percent will come from federal actions, 34 percent from CARB actions, and 20 percent will come directly from SCAQMD actions.[7]

The 2022 AQMP also incorporates the transportation strategy and transportation control measures from Southern California Association of Governments' (SCAG) *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS). A more detailed discussion of the 2020-2045 RTP/SCS is included below.

CEQA Air Quality Handbook

The SCAQMD published the *CEQA Air Quality Handbook*, which was approved by the SCAQMD Governing Board, in 1993. The *CEQA Air Quality Handbook* guides local government agencies and consultants in

5 South Coast Air Quality Management District, *2022 Air Quality Management Plan*, adopted December 2, 2022.
6 Ibid.
7 Ibid.

preparing air quality assessments for environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants can analyze and document how proposed and existing projects affect air quality and fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook*.

Rules and Regulations

The SCAQMD has adopted several rules and regulations to regulate sources of air pollution in the Basin and help achieve air quality standards for land use development projects. The following rules apply to the project:

- Rule 402 – Nuisance: This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- Rule 403 – Fugitive Dust: This rule requires projects to prevent, reduce, or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to a project property line, restricts the net PM_{10} emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$), and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Best available control measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers, and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.
- Rule 445 – Wood-Burning Devices: This rule prohibits installation of wood-burning devices into any new development.
- Rule 1113 – Architectural Coatings: This rule requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compounds (VOCs) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- Rule 1138 – Control of Emissions from Restaurant Operations: This rule specifies PM and VOC emissions and odor control requirements for commercial cooking operations that use chain-driven charbroilers to cook meat.
- Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters: This rule requires manufacturers, distributors, retailers, refurbishers, installers, and operators of new and existing units to reduce NO_X emissions from natural gas-fired water heaters, boilers, and process heaters as defined in this rule.
- Rule 1186 – PM_{10} Emissions from Paved and Unpaved Roads, and Livestock Operations: This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM_{10} emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also Rule 403).
- Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities: This rule requires owners and operators of any demolition or renovation activity and the associated disturbance of

asbestos-containing materials, any asbestos storage facility, or any active waste disposal site to implement work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials.

- Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines: This rule applies to stationary compression ignition engines greater than 50 brake horsepower and sets limits on emissions and operating hours. In general, new stationary emergency standby diesel-fueled engines greater than 50 brake horsepower are not permitted to operate more than 50 hours per year for maintenance and testing.

Southern California Association of Governments

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020-2045 RTP/SCS. The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing greenhouse gases (GHGs) from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specially, these strategies are:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the state-mandated reductions in GHG emissions through reduced per capita vehicle miles traveled (VMT). Some of these tools include center-focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions.

The most recent RTP/SCS (*Connect SoCal 2024*) was approved by SCAG's Regional Council in April 2024. Connect SoCal 2024 outlines a vision for a more resilient and equitable future, with investment, policies, and strategies for achieving the region's shared goals through 2050. Connect SoCal 2024 sets forth a forecasted regional development pattern which, when integrated with the transportation network, measures, and policies, will reduce GHG emissions from automobiles and light-duty trucks and achieve the GHG emissions reduction target for the region set by the CARB. In addition, Connect SoCal is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG-emission-reduction goals and FCAA requirements. These are articulated in a set of Regional Strategic Investments, Regional Planning Policies, and Implementation Strategies. The Regional Planning Policies are a resource for County Transportation Commissions (CTCs) and local jurisdictions, who can refer to specific policies to demonstrate alignment with the RTP/SCS when seeking resources from state or federal programs. The Implementation Strategies articulate priorities for SCAG efforts in fulfilling or going beyond the Regional Planning Policies. Outlined in Chapter 3, *The Plan*, of Connect SoCal 2024 are the Implementation Strategies organized within the pillars of Mobility, Communities, Environment, and Economy.

Local

City of Arcadia General Plan

The Arcadia General Plan was adopted in November 2010 and includes the following goals and policies related to air quality that would be applicable to the Revised Project:[8]

Chapter 6: Resource Sustainability Element

- **Goal RS-1**: Continued improvement in local and regional air quality.
  - **Policy RS-1.1**: Reduce local contributions of airborne pollutants to the air basin.
  - **Policy RS-1.2**: Limit, when feasible, locating sensitive receptors near pollutant emitting sources.
  - **Policy RS-1.4**: Lower the emissions caused by motor vehicles through Transportation Demand Management strategies and land use patterns that reduce vehicle miles traveled.
  - **Policy RS-1.5**: Promote the reduction of vehicular traffic and improved efficiency of the City's circulation system (i.e., roadways) as a means to improving air quality.
  - **Policy RS-1.6**: Require projects that generate potentially significant levels of air pollutants to incorporate the most effective air quality mitigation into project design, as appropriate.
  - **Policy CN-1.12 Sustainable Infrastructure**: Encourage the use of low or zero emission vehicles, bicycles, nonmotorized vehicles, and car-sharing programs by supporting new and existing development that includes sustainable infrastructure and strategies such as vehicle charging stations, drop-off areas for ride-sharing services, secure bicycle parking, and transportation demand management programs.
  - **Policy RS-1.7**: Promote energy-efficient building construction and operation practices that reduce emissions and improve air quality.
- **Goal RS-3**: Promoting and utilizing clean forms of transportation to reduce Arcadia's carbon footprint.
  - **Policy RS-3.4**: Promote residents' and business owners' awareness and education of traffic congestion's effect on air pollution and help create voluntary programs that reduce traffic throughout the City.

CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

In accordance with the *California Environmental Quality Act Guidelines* (CEQA Guidelines), project impacts are evaluated to determine whether significant adverse environmental impacts would occur. This analysis will focus on the Revised Project's potential impacts (combined impacts of the Tempo Project and Approved Project) and provide mitigation measures, if required, to reduce or avoid any potentially significant impacts that are identified. According to Appendix G of the CEQA Guidelines, the Revised Project would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement AQ-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 (refer to Impact Statement AQ-2);

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8 City of Arcadia, *Arcadia General Plan,* November 2010.

- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement AQ-3); and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people (refer to Impact Statement AQ-4).

To assist in answering the Appendix G threshold questions, the City utilizes the thresholds of significance established by the SCAQMD.

Regional Thresholds

The SCAQMD's numeric significance thresholds for impacts to regional air quality are presented in Table 3, *South Coast Air Quality Management District Emissions Thresholds*. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emissions below these thresholds is considered to have a less-than-significant effect on regional air quality from both a direct and cumulative impact standpoint.

Table 3
South Coast Air Quality Management District Emissions Thresholds

Phase	Pollutant (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55
Notes: ROG = reactive organic gases; NO_X = nitrous 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						
Source: South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds*, March 2023.						

Localized Significance Thresholds

The SCAQMD has also developed localized significance thresholds (LST) as a tool to assist lead agencies in analyzing localized air quality impacts to sensitive receptors in the vicinity of a project. The SCAQMD's LST Methodology outlines how to analyze localized impacts from common pollutants of concern, including NO_2, CO, PM_{10}, and $PM_{2.5}$. Localized air quality impacts would occur if pollutant concentrations at sensitive receptors exceeded applicable NAAQS or CAAQS.

To minimize efforts, the SCAQMD developed mass rate lookup tables as a simple screening procedure. If a project's on-site emissions do not exceed the screening levels for any pollutant, it can be concluded that the project would not cause or contribute to an adverse localized air quality impact. Screening levels are provided for various distances (i.e., 82 feet [25 meters], 164 feet [50 meters], 328 feet [100 meters], 656 feet [200 meters], and 1,640 feet [500 meters]) between the project boundary and the nearest sensitive receptor and various project site acreages (i.e., 1, 2, and 5 acres).

Cumulative Impacts

Based on SCAQMD guidance, individual construction projects that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also cause a cumulatively considerable increase in emissions for those pollutants for which Basin is in non-attainment. As discussed in the SCAQMD's White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution:

As Lead Agency, the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR… projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The cumulative analysis of air quality impacts in this memorandum follows the SCAQMD's guidance such that construction or operational project emissions will be considered cumulatively considerable if project-specific emissions exceed an applicable recommended significance threshold established by the SCAQMD.

SIGNIFICANCE CRITERIA AND METHODOLOGY

Criteria pollutants for project construction and operation were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.

Construction

Construction of the proposed hotel building and associated improvements would primarily generate temporary criteria pollutants from construction equipment operation on-site and construction worker vehicle trips to and from the project site, and from construction material deliveries to and from the project site. Construction input data for CalEEMod include, but are not limited to, (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; and (3) areas to be excavated and graded. Construction emissions were quantified by estimating the types and quantity of equipment that would be used on-site during each construction phase, as provided by the model defaults. CalEEMod also estimates off-site emissions from worker, vendor, and hauling truck trips.

Construction of the Tempo Project is anticipated to take approximately 16.5 months to complete. The construction activities would include grading, building construction, paving, and architectural coating. The number of worker and vendor trips were based on CalEEMod defaults, and the hauling truck trips were generally based on the soil export volumes provided by the Applicant; approximately 4,800 cubic yards of soil export is required for the Tempo Project. The default trip lengths were used for worker and vendor trips. According to the Applicant, the trip length for hauling trips would be approximately seven miles one-way.

According to the Applicant, the completion of the Approved Project would be completed prior to the start of the construction for the Tempo Project. This analysis assumes that there is no overlap between the Approved Project construction activities and the Tempo Project construction activities.

Operation

Operational sources of criteria pollutant emissions include area, energy, and mobile sources, which are further discussed below. CalEEMod modeling was conducted for the Tempo Project condition.

Area Sources

Emissions associated with area sources include consumer products, landscape maintenance, and architectural coating. Area source emissions were calculated using standard emission rates from CARB, USEPA, SCAQMD, and CalEEMod model defaults.

Energy Sources

The Tempo Project would be served by Southern California Edison (SCE). The primary use of electricity by the Tempo Project would be for space heating and cooling, water heating, ventilation, lighting, appliances, landscaping equipment, and electronics. Emissions from energy sources are primarily generated by natural gas use. The emissions factors for natural gas combustion are based on USEPA's AP-42 (Compilation of Air Pollutant Emissions Factors). Emissions from electricity use are not included in the air quality analysis as they only apply to greenhouse gas emissions since electricity generation is an indirect emission generated off-site and, therefore, not relevant for local and regional air quality conditions.

Mobile Sources

Mobile source emissions are estimated by multiplying the Tempo Project's total VMT by the vehicle emission factors. The vehicle emission factors were CalEEMod default values for the County. The project-specific VMT for the Tempo Project were calculated from Tempo Project trip generation rates and CalEEMod default trip lengths. The Tempo Project trip generation rates are discussed in detail in the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum* (Parking Analysis) prepared by Linscott, Law and Greenspan Engineers (dated March 12, 2024). The Tempo Project would result in 1,113 daily trips during weekdays and 915 trips on Saturdays. As a conservative analysis, daily trips on Sundays are assumed to be the same as weekdays.

IMPACT ANALYSIS

AQ-1 WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.3 a) analyzed the Approved Project's consistency with SCAQMD's 2016 AQMP, which was the latest AQMP when the 2020 IS/MND was prepared. The 2016 AQMP incorporated scientific and technological information and planning assumptions, including the SCAG 2016-2040 RTP/SCS and updated emission inventory methodologies for various source categories. The 2016-2040 RTP/SCS included transportation programs, measures, and strategies generally designed to reduce VMT and related air pollutant emissions from vehicles.

The 2020 IS/MND concluded that the Approved Project would result in less than significant impact relating to the Approved Project's potential to conflict with or obstruct implementation of the applicable AQMP, as the Approved Project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of the ambient air quality standards or interim emission reductions in the AQMP. The Approved Project also would not exceed the assumptions in the AQMP, or increments based on the buildout year and phase.

On December 2, 2022, the SCAQMD Governing Board adopted the 2022 AQMP. The 2022 AQMP incorporates the latest scientific and technical information and planning assumptions, including the latest applicable growth assumptions, updated emission inventory methodologies for various source categories. Additionally, the 2022 AQMP utilized information and data from SCAG and its 2020-2045 RTP/SCS. While SCAG has recently adopted Connect SoCal 2024, SCAQMD has not released an updated AQMP. As such, this consistency analysis is based off the 2016 AQMP that was analyzed in the 2020 IS/MND and the most recent 2022 AQMP.

According to the SCAQMD's *CEQA Air Quality Handbook*, projects must be analyzed for consistency with two main criteria, as discussed below.

Criterion 1:

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations associated with the CAAQS and NAAQS is used as the basis for evaluating project consistency. As detailed below under Impact AQ-3, localized concentrations of CO, NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant during Tempo Project and Approved Project construction and operations. Therefore, the Revised Project would not result in an increase in the frequency or severity of existing air quality violations.

b) *Would the project cause or contribute to new air quality violations?*

As discussed under Impact AQ-2, the Tempo Project in combination with the Approved Project would result in emissions that are below the SCAQMD thresholds. Therefore, the Revised Project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The Revised Project would result in less than significant impacts regarding localized concentrations during Tempo Project and Approved Project construction and operations; refer to Impact AQ-3. As such, the Revised Project would not delay the timely attainment of air quality standards or 2022 AQMP emissions reductions.

Criterion 2:

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether the Revised Project exceeds the assumptions utilized in preparing the forecasts presented in the 2016 AQMP and the 2022 AQMP. Determining whether a project exceeds the assumptions reflected in the AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

A) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

A project is consistent with the AQMP in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the AQMP. Three sources of data form the basis for the projections of air pollutant emissions: general plans, SCAG's regional growth forecast, and SCAG's RTP/SCS. The RTP/SCS also provides socioeconomic forecast projections of regional population growth. As previously discussed, the 2016 AQMP was based on the 2016-2040 RTP/SCS, which considered growth between 2012 and 2040, and the 2022 AQMP is based on the 2020-2045 RTP/SCS, which considered growth between 2016 and 2045.

As discussed under "Existing Site Conditions" above, the Revised Project Site, which is comprised of the Original Project Site and APN 5775-015-011, is designated Commercial (50 dwelling units per acre and 0.5 floor-area ratio) and zoned General Commercial (C-G). The Commercial designation allows a broad array of commercial enterprises, including restaurants, durable goods sales, food stores, lodging, professional offices, specialty shops, indoor and outdoor recreational facilities, and entertainment uses. The C-G zone is intended to provide areas for retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The Tempo Project proposes the construction of a hotel, which would be consistent with the land use and zoning designations for the Revised Project Site. Furthermore, the Tempo Project is anticipated to generate approximately 32 new employees[9] and the Approved Project would generate approximately 111 new employees, resulting in a total of 143 new employees for the Revised Project. According to SCAG's 2016-2040 RTP/SCS, the City's employment would increase from 28,900 in 2012 to 34,400 in 2045, representing an increase of 5,500 employees between 2012 and 2040.[10] The Revised Project's employment increase of 143 new employees would constitute only 2.6 percent of the City's employment increase between 2012 and 2040. In addition, according to SCAG's 2020-2045 RTP/SCS, the City's employment would increase from 32,600 in 2016 to 36,100 in 2045, representing an increase of 3,500 employees between 2016 and 2045.[11] The Revised Project's employment increase of 143 new employees would constitute only 4.1 percent of the City's employment increase between 2016 and 2045. As such, the Revised Project is considered consistent with the SCAG's forecast in its 2016-2040 RTP/SCS and 2020-2045 RTP/SCS, and is consistent with the types, intensity, and patterns of land use previously envisioned for the Original Project Site. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City. As the SCAQMD has incorporated these same projections into the 2016 AQMP and 2022 AQMP, it can be concluded that the proposed project would be consistent with both the 2016 AQMP and the 2022 AQMP.

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9 The number of employees for the Tempo Project was calculated using the same employee generation factor of 1,500 square feet/employee provided in the 2020 IS/MND.

10 Southern California Council of Governments, *2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy, Demographics and Growth Forecast Appendix*, April 7, 2016.

11 Southern California Council of Governments, *2020-2045 Regional Transportation Plan/ Sustainable Communities Strategy – Connect SoCal 2020, Demographics and Growth Forecast Technical Report*, September 3, 2020.

b) *Would the project implement all feasible air quality mitigation measures?*

The Tempo Project in combination with the Approved Project would result in less than significant air quality impacts. Compliance with all feasible emission reduction rules and measures identified by the SCAQMD, including Rule 403 to reduce fugitive dust emissions and Rule 1113 to reduce ROG emissions during architectural coating, would be required as discussed in Impact AQ-2 and Impact AQ-3. As such, the Revised Project meets this AQMP consistency criterion and no mitigation measures are required.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

Land use planning strategies to develop infill sites, reduce VMT and greenhouse gas emissions, and promote sustainable design set forth in the 2016 AQMP and 2022 AQMP are primarily based on the 2016-2040 RTP/SCS and the 2020-2045 RTP/SCS, respectively. Overall, it is anticipated that the Tempo Project would be consistent with SCAG's 2016-2040 RTP/SCS and 2020-2045 RTP/SCS in that it would be an infill development in a highly developed and urbanized area of Arcadia near multiple bus stops and approximately 0.5 mile from the Metro Gold Line Arcadia Station and would provide electric vehicle charging stations, all of which would incentivize employees and visitors to take alternative modes of travel, thereby reducing criteria pollutant emissions. Therefore, the Tempo Project would be consistent with the land use planning strategies, and would be consistent with this criterion.

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The Tempo Project would not result in a long-term impact on the region's ability to meet state and federal air quality standards. Further, the Tempo Project's long-term influence on air quality in the Basin would also be consistent with the SCAQMD and SCAG's goals and policies and is considered consistent with both the 2016 AQMP and the 2022 AQMP. As such, impacts resulting from the Tempo Project would be less than significant and similar to the impacts disclosed in the 2020 IS/MND for the Approved Project, which were determined to be less than significant. In addition, as the Tempo Project and Approved Project are both consistent with the AQMP, the Revised Project would also be less than significant.

Based on the above, the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact AQ-1 would be less than significant, and no project-specific mitigation measures are required.

AQ-2 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?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.3 b) quantified the Approved Project's construction and operational emissions and compared them to the SCAQMD regional significance thresholds. The 2020 IS/MND concluded that emissions during construction and operation of the Approved Project would not exceed SCAQMD thresholds for VOC, NO_X, CO, SO_2, PM_{10}, or $PM_{2.5}$. Therefore, the Approved Project would not result in a cumulatively considerable increase in emissions of nonattainment pollutants, and impacts would be less than significant during construction and operation.

Construction

Refer to Appendix A, *Air Quality Emissions Data* for the detailed CalEEMod output. Table 4, *Construction Criteria Pollutant Emissions* summarizes the estimated maximum daily emissions of VOC (ROG), NO_x, CO, SO_2, PM_{10}, and $PM_{2.5}$ for the Tempo Project.

Table 4
Construction Criteria Pollutant Emissions

Construction Year	Pollutant (pounds/day) [1, 2]					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Tempo Project Emissions						
Year 1 Maximum Daily Emissions (2024)	1.23	11.9	11.5	0.02	2.09	1.20
Year 2 Maximum Daily Emissions (2025)	13.7	10.9	16.8	0.02	1.13	0.57
Maximum Daily Emissions	**13.7**	**11.9**	**16.8**	**0.02**	**2.09**	**1.20**
SCAQMD Significance Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Approved Project Maximum Daily Emissions[3]	**70.42**	**22.99**	**17.44**	**0.04**	**3.52**	**2.11**
Tempo Project Emissions Exceed Approved Project?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions were calculated using CalEEMod version 2022.1. Higher emissions between summer and winter are presented as a conservative analysis.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. Refer to Table 6, Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project, February 2020.

Source: Refer to Appendix A, *Air Quality Emissions Data*, for assumptions used in this analysis.

Fugitive Dust Emissions

Construction activities are a source of fugitive dust emissions that may have a substantial, temporary impact on local air quality. In addition, fugitive dust may be a nuisance to those living and working in the project area. Fugitive dust emissions are associated with land clearing, ground excavation, cut-and-fill, and truck travel on unpaved roadways. Fugitive dust emissions vary substantially from day to day, depending on the level of activity, specific operations, and weather conditions. Fugitive dust from grading and construction is expected to be short-term and would cease upon project completion. It should be noted that most of this material is inert silicates, rather than the complex organic particulates released from combustion sources, which are more harmful to health.

Dust (larger than 10 microns) generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular health concern is the amount of PM_{10} generated as a part of fugitive dust emissions. PM_{10} poses a serious health hazard alone or in combination with other pollutants. $PM_{2.5}$ is mostly produced by mechanical processes. These include automobile tire wear, industrial processes such as cutting and grinding, and re-suspension of particles from the ground or road surfaces by wind and human activities such as construction or agriculture. $PM_{2.5}$ is mostly derived from combustion sources, such as automobiles, trucks, and other vehicle exhaust, as well as from stationary sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and sulfur oxides (SO_X) combining with ammonia. $PM_{2.5}$ components from material in the earth's crust, such as dust, are also present, with the amount varying in different locations.

Construction activities would comply with SCAQMD Rule 402, which prohibits fugitive dust from creating a nuisance off-site, and Rule 403, which requires that excessive fugitive dust emissions be controlled by regular watering or other dust prevention measures. Adherence to SCAQMD Rule 403 would greatly reduce PM_{10} and $PM_{2.5}$ concentrations. It should be noted that these estimated reductions were applied in CalEEMod. As depicted in Table 4, total PM_{10} and $PM_{2.5}$ emissions would not exceed the SCAQMD thresholds during construction. Thus, construction-related air quality impacts would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Exhaust emissions (e.g., NO_x and CO) from construction activities include emissions associated with the transport of machinery and supplies to and from the Revised Project Site, emissions produced on-site as the equipment is used, and emissions from trucks transporting materials to/from the site. As depicted in Table 4, exhaust emissions would be below the established SCAQMD thresholds. Therefore, air quality impacts from equipment and vehicle exhaust emission would be less than significant.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As required, all architectural coatings for the Tempo Project structures would comply with SCAQMD Rule 1113. Rule 1113 provides specifications on painting practices as well as regulates the ROG content of paint. It should be noted that these estimated reductions were applied in CalEEMod. ROG emissions associated with the Tempo Project would be less than significant; refer to Table 4.

Total Construction Emissions

As shown in Table 4, the daily total construction emissions of the Tempo Project would not exceed established SCAQMD thresholds. In addition, construction of the Tempo Project would generate less maximum daily emissions than construction of the Approved Project for all criteria pollutants. It should be noted that this analysis assumes that construction of the Approved Project is complete and that construction of the Tempo Project and Approved Project would not overlap. As such, the Tempo Project would result in less impact than the Approved Project, and construction impacts of the Tempo Project would be less than significant.

Naturally Occurring Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are human health hazards when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed. According to the California Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (August 2000), serpentinite and ultramafic rocks are not known to occur within the vicinity of the Revised Project Site.[12] Thus, there would be no impact in this regard.

<u>Cumulative Short-Term Construction Impacts</u>

With respect to the Tempo Project's construction-period air quality emissions and cumulative Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2022 AQMP pursuant to FCAA mandates. As such, the Tempo Project would comply with SCAQMD Rule 403 requirements and implement all feasible SCAQMD rules to reduce construction air emissions to the extent feasible. Rule 403 requires that fugitive dust be controlled with the best available control measures to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the Tempo Project. In addition, the Tempo Project would comply with adopted 2022 AQMP emissions control measures. Pursuant to SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include related projects.

As detailed above, the Tempo Project's construction emissions would be below the established thresholds and would result in less than significant air quality impacts. Thus, it can be reasonably inferred that the Tempo Project's construction emissions would not contribute to a cumulatively considerable air quality impact for nonattainment criteria pollutants (i.e., O_3) in the Basin. A less than significant impact would occur in this regard.

Operations

Long-term air quality impacts typically consist of mobile source emissions generated from project-related traffic (i.e., motor vehicle use by employees and guests), and emissions from area and energy sources. Emissions associated with each of these sources were calculated and are discussed below in <u>Table 5</u>, <u>*Operational Criteria Pollutant Emissions*</u>.

<u>Mobile Source</u>

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional

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12 California Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report*, August 2000.

or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Vehicle emissions generated by the Tempo Project have been estimated using CalEEMod. According to the Parking Analysis, the Tempo Project would generate 1,113 trips per day on weekdays, and 915 trips per day on Saturdays. As a conservative analysis, daily trips on Sundays are assumed to be the same as weekdays. As shown in Table 5, emissions generated by vehicle traffic associated with the Tempo Project would not exceed established SCAQMD thresholds. Impacts would be less than significant in this regard.

Table 5
Operational Criteria Pollutant Emissions

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Tempo Project Emissions						
Mobile[2]	3.69	3.10	32.9	0.08	7.29	1.88
Area	1.72	0.02	2.51	<0.01	<0.01	<0.01
Energy[3]	0.02	0.45	0.38	<0.01	0.03	0.03
Total Tempo Project Emissions[2]	***5.44***	***3.55***	***35.8***	***0.08***	***7.32***	***1.92***
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***
Approved Project Total Net Change Emissions[3]	**9.73**	**20.30**	**50.31**	**0.15**	**11.55**	**3.24**
Total Tempo Project and Approved Project Emissions	**15.17**	**23.85**	**86.11**	**0.23**	**18.87**	**5.16**
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions calculated using California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model. Higher emissions between summer and winter are presented as a conservative analysis.
2. The numbers may be slightly off due to rounding.
3. Refer to Table 7, Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project, February 2020.

Source: Refer to Appendix A, *Air Quality Emissions Data*, for assumptions used in this analysis.

Area Source Emissions

Area source emissions would be generated from consumer products, architectural coatings, and landscaping. The Tempo Project's criteria pollutant emissions from area sources would not exceed the established thresholds; refer to Table 5.

Energy Source Emissions

The primary use of electricity and natural gas by the Tempo Project would be for space heating and cooling, water heating, ventilation, lighting, appliances, landscaping equipment, and electronics. Criteria air pollutant emissions from electricity use were not quantified since criteria pollutants emissions occur at the site of the power plant, which is off-site. Energy source emissions would not exceed established SCAQMD thresholds; refer to Table 5. Impacts in this regard would be less than significant.

Total Operational Emissions

As shown in Table 5, the daily total operational emissions of the Tempo Project would not exceed established SCAQMD thresholds. In addition, total emissions of the Tempo Project and the Approved Project combined would not exceed SCAQMD thresholds. Therefore, impacts related to the total operational emissions of the Revised Project would be less than significant.

Cumulative Long-Term Operational Impacts

As discussed, the Tempo Project would not result in long-term operational air quality impacts. Additionally, adherence to SCAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. Emission reduction technology, strategies, and plans are constantly being developed. Moreover, the combined operational emissions of the Tempo Project and the Approved Project would not result in long-term operational air quality impacts. As a result, the Revised Project would not contribute a cumulatively considerable net increase of any nonattainment criteria pollutant. Therefore, no cumulative operational impacts associated with implementation of the Revised Project would result.

Air Quality Health Impacts

Adverse health effects induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individual [e.g., age, gender]). In particular, O_3 precursors, VOCs and NO_x, affect air quality on a regional scale. Health effects related to O_3 are therefore the product of emissions generated by numerous sources throughout a region. Existing models have limited sensitivity to small changes in criteria pollutant concentrations and, as such, translating project-generated criteria pollutants to specific health effects or additional days of nonattainment would produce meaningless results. In other words, the project's less than significant increases in regional air pollution from criteria air pollutants during construction would have negligible impacts on human health.

As noted in the Brief of Amicus Curiae by the SCAQMD, the SCAQMD acknowledged it would be extremely difficult, if not impossible to quantify health impacts of criteria pollutants for various reasons including modeling limitations as well as where in the atmosphere air pollutants interact and form.[13] Further, as noted in the Brief of Amicus Curiae by the San Joaquin Valley Air Pollution Control District (SJVAPCD), SJVAPCD has acknowledged that currently available modeling tools are not equipped to provide a meaningful analysis of the correlation between an individual development project's air emissions and specific human health impacts.[14]

The SCAQMD acknowledges that health effects quantification from O_3, as an example, is correlated with the increases in ambient level of O_3 in the air (concentration) that an individual person breathes. SCAQMD's Brief of Amicus Curiae states that it would take a large amount of additional emissions to cause

13 South Coast Air Quality Management District, *Application of the South Coast Air Quality Management District for Leave to File Brief of Amicus Curiae in Support of Neither Party and Brief of Amicus Curiae. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno,* April 3, 2015.

14 San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, April 13, 2015.

a modeled increase in ambient O_3 levels over the entire region. The SCAQMD further states that based on their own modeling in the SCAQMD's *2012 Air Quality Management Plan*, a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O_3 levels at highest monitored site by only nine parts per billion. As such, the SCAQMD concludes that it is not currently possible to accurately quantify O_3-related health impacts caused by NO_x or VOC emissions from relatively small projects (defined as projects with regional scope) due to photochemistry and regional model limitations. Thus, as the Revised Project would not exceed SCAQMD thresholds for construction and operational air emissions, the Revised Project would have a less than significant impact for air quality health impacts.

Conclusion

In conclusion, construction and operational impacts resulting from the Revised Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. The impacts of the Tempo Project would be less than significant and similar to the impacts disclosed in the 2020 IS/MND, which were determined to be less than significant. In addition, construction impacts resulting from the Tempo Project would be less than the Approved Project, as the maximum daily emissions of all criteria pollutants would be lower. Operational impacts resulting from the Tempo Project and the Approved Project combined would be less than significant.

The Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact AQ-2 would be less than significant, and no project-specific mitigation measures are required.

AQ-3 WOULD THE PROJECT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.3 c) analyzed localized construction impact of the Approved Project by comparing on-site emissions with SCAQMD's LSTs and concluded less than significant impact. The 2020 IS/MND also concluded less than significant CO hotspot impact as the Approved Project would not generate traffic that would contribute to potential adverse traffic impacts that may result in the formation of CO hotspots. Lastly, the 2020 IS/MND concluded that the Approved Project would result in less than significant health impacts due to the short period of construction and lack of toxic air contaminants sources on-site during operation.

The nearest sensitive receptor to the Tempo Project is an existing single-family residence located adjacent to the east of the Area of Proposed Improvements. To identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction and operations impacts (area sources only). The CO hotspot analysis following the LST analysis addresses localized mobile source impacts.

Localized Significance Thresholds

LSTs were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for one-, two-, and five-acre projects emitting CO, NO_X, $PM_{2.5}$, or PM_{10}. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The project is located within SRA 9, *East San Gabriel Valley*.

Construction

The SCAQMD guidance on applying CalEEMod to LSTs specifies the number of acres a particular piece of equipment would likely disturb per day.[15] SCAQMD provides LST thresholds for one-, two-, and five-acre site disturbance areas; SCAQMD does not provide LST thresholds for projects over five acres. The Tempo Project would actively disturb approximately one acre per day during the grading phase of construction. Therefore, the construction LSTs for one acre were utilized. The nearest sensitive receptor to the Tempo Project is an existing single-family residence located adjacent to the east of the Area of Proposed Improvements. These sensitive land uses may be potentially affected by air pollutant emissions generated during on-site construction activities. LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. As the nearest sensitive use is adjacent the Area of Proposed Improvements, the lowest LST values for 25 meters (82 feet) were conservatively used.

Table 6, *Localized Significance of Construction Emissions*, shows the localized construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 9. It is noted that the localized emissions presented in Table 6 are less than those in Table 4 because localized emissions include only on-site emissions (i.e., from construction equipment and fugitive dust), and do not include off-site emissions (i.e., from hauling activities). As shown in Table 6, localized construction emissions would not exceed the LSTs for SRA 9. Therefore, localized significance impacts from construction would be less than significant. In addition, construction of the Tempo Project would generate less maximum on-site daily emissions of all four pollutants than construction of the Approved Project. It should be noted that construction of the Approved Project will be completed by the time construction of the Tempo Project begins, and therefore construction of the Tempo Project and Approved Project would not overlap. As such, the Tempo Project would result in less impact than the Approved Project, and construction impacts of the Revised Project would be less than significant.

15 The number of acres represent the total acres traversed by grading equipment. To properly grade a piece of land, multiple passes with equipment may be required. The disturbance acreage is based on the equipment list and days of the grading phase according to the anticipated maximum number of acres a given piece of equipment can pass over in an 8-hour workday.

Table 6
Localized Significance of Construction Emissions

Emissions Source	Emissions (pounds per day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Tempo Project Emissions				
Maximum Daily Construction Emissions[1, 2]	11.39	13.39	1.91	1.16
LST Mass Rate Screening Criteria[3]	*89*	*623*	*5*	*3*
Criteria Exceeded?	***No***	***No***	***No***	***No***
Approved Project Maximum Daily On-Site Emissions[4]	**20.95**	**14.66**	**6.62**	**3.71**
Tempo Project Emissions Exceed Approved Project?	***No***	***No***	***No***	***No***

Notes:
1. The building construction, paving, and architectural coating phases would overlap during Year 2; maximum daily construction emissions from these three phases are combined to be presented as the worst-case scenario for CO emissions. The maximum NOx, PM_{10}, and $PM_{2.5}$ emissions would occur during the grading phase during Year 1.
2. Modeling assumptions include compliance with SCAQMD Rule 403 which requires the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times daily; cover stockpiles with tarps; water all haul roads twice daily; and limit speeds on unpaved roads to 15 miles per hour.
3. The Localized Significance Threshold Mass Rate Screening Criteria was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold was based on the anticipated daily acreage disturbance for construction (approximately one acre; therefore, the one-acre thresholds were used) and Source Receptor Area 9, *East San Gabriel Valley*.
4. Refer to Table 8, Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project, February 2020.

Source: Refer to Appendix A, *Air Quality Emissions Data*, for assumptions used in this analysis.

Operation

According to SCAQMD LST methodology, LSTs would apply to operational activities if the project includes stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site (i.e., warehouse or transfer facilities). The proposed hotel development does not include such uses. Thus, due to the lack of such emissions, no long-term LST analysis is needed. Operational LST impacts would be less than significant in this regard. In addition, the Approved Project also does not include stationary sources or attracts mobile sources that may spend extended periods queuing and idling at the site. Therefore, the combined impacts of the Tempo Project and the Approved Project in this regard would be less than significant.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). To identify CO hotspots, the SCAQMD requires a CO microscale hotspot analysis when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service (LOS) D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hot spots are typically produced at intersection locations.

The Basin is designated as an attainment area for state and federal CO standards. There has been a decline in CO emissions even though VMT on U.S. urban and rural roads have increased. On-road mobile source CO emissions have declined 24 percent between 1989 and 1998, despite a 23 percent rise in motor VMT over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997, while VMT increased 18 percent in the 1990s. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin and would likely experience the highest CO concentrations. Of these locations, the Wilshire Boulevard/Veteran Avenue intersection experienced the highest CO concentration (4.6 ppm), which is well below the 35-ppm 1-hr CO federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection (100,000 ADT), it can be reasonably inferred that CO hotspots would not be experienced at any locations near the Revised Project Site as the Tempo Project would only result in up to 1,113 daily trips and the Approved Project would only result in a net of 2,442 daily trips, for a combined maximum of 3,555 daily trips for the Revised Project. Therefore, impacts related to CO hotspots would be less than significant.

Conclusion

In conclusion, both construction and operational localized air quality impacts resulting from the Revised Project would be less than significant and would be the same as the impacts disclosed in the 2020 IS/MND, which were determined to be less than significant. In addition, construction impacts resulting from the Tempo Project would be less than the Approved Project, as the maximum localized daily emissions would be lower. As with the Approved Project, the Tempo Project would not include stationary sources that would cause localized impacts, or generate significant traffic, and therefore localized operational impacts resulting from the Tempo Project and the Approved Project combined would be less than significant.

The Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact AQ-3 would be less than significant, and no project-specific mitigation measures are required.

AQ-4 WOULD THE PROJECT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE?

Level of Significance: Less Than Significant Impact.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. As stated in the 2020 IS/MND, the Approved Project includes operation of hotel facilities, and restaurant spaces, which are not anticipated to generate odors and does not result in operation of the types of land uses listed by SCAQMD. Thus, the 2020 IS/MND Section 3.3 d) concluded that the Approved Project would result in less than significant odor impact during construction and operation.

The Tempo Project proposes to develop hotel uses on and does not include any uses identified by the SCAQMD as being associated with odors. However, certain odors may emanate from construction operations if diesel-powered construction equipment during the construction period for the Tempo Project. These odors would be limited to the construction period and would disperse quickly; therefore, these odors would not be considered a significant impact. Construction activities associated with the Tempo Project may generate detectable odors from heavy-duty equipment exhaust and architectural coatings. However, construction-related odors would be short-term in nature and cease upon project completion. In addition, the Tempo Project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors from heavy-duty equipment exhaust. The Tempo Project would also comply with the SCAQMD Rule 1113, which would minimize odor impacts from ROG emissions during architectural coating. As such, the Tempo Project would not generate significant amount of other emissions (such as those leading to odors), and impacts would be less than significant in this regard.

In conclusion, construction and operational impacts as a result of the Revised Project pertaining to other air emissions (such as those leading to odors) would be less than significant, and would be the same as impacts disclosed in the 2020 IS/MND, which were also determined to be less than significant. In addition, as with the Approved Project, the Tempo Project would not include land uses that would generate odors, and therefore operational odor impacts resulting from the Tempo project and the Approved Project combined would be less than significant.

The Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact AQ-4 would be less than significant, and no project-specific mitigation measures are required.

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6. San Joaquin Valley Air Pollution Control District, *Application for Leave to File Brief of Amicus Curiae Brief of San Joaquin Valley Unified Air Pollution Control District in Support of Defendant and Respondent, County of Fresno and Real Party In Interest and Respondent, Friant Ranch, L.P. In the Supreme Court of California. Sierra Club, Revive the San Joaquin, and League of Women Voters of Fresno v. County of Fresno*, April 13, 2015.

7. South Coast Air Quality Management District, *2022 Air Quality Management Plan*, adopted December 2, 2022.

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9. South Coast Air Quality Management District, *Final Localized Significant Threshold Methodology*, June 2003, revised July 2008.

10. South Coast Air Quality Management District, *South Coast AQMD Air Quality Significance Thresholds*, March 2023.

11. Sothern California Association of Governments, *Connect SoCal 2024, Chapter 3, The Plan*, April 2024.

12. Weather Spark, *Climate and Average Weather Year Round in Santa Ana, California, United States*, https://weatherspark.com/y/1899/Average-Weather-in-Santa-Ana-California-United-States-Year-Round, accessed May 17, 2024.

Programs

1. Google Earth Pro, 2024.

2. California Air Pollution Control Officers Association, *California Emissions Estimator Model (CalEEMod)*, version 2022.1.

Appendix A

Air Quality Emissions Data

Tempo by Hilton Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tempo by Hilton
Construction Start Date	8/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.141583262590174, -118.03818989813819
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.23

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Hotel	91.0	Room	0.73	57,790	5,318	—	—	—
Parking Lot	25.0	Space	0.22	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Water	W-4	Require Low-Flow Water Fixtures

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	13.7	11.9	16.8	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	3,207	3,207	0.13	0.08	3.18	3,238
Mit.	1.63	13.7	11.9	16.8	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	3,207	3,207	0.13	0.08	3.18	3,238
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
Mit.	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	1.24	4.34	6.62	0.01	0.17	0.89	1.00	0.16	0.41	0.52	—	1,453	1,453	0.06	0.05	0.66	1,469
Mit.	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.12	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.16	0.18	0.03	0.08	0.09	—	241	241	0.01	0.01	0.11	243
Mit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.02	0.04	—	241	241	0.01	0.01	0.11	243
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.89	1.00	0.10	0.41	0.52	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.16	0.18	0.02	0.08	0.09	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.28	0.40	0.10	0.12	0.22	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.05	0.07	0.02	0.02	0.04	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Mit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Mit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664
Mit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600
Mit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6

Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.82	0.82	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7

Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.2. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341

Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341
Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34

Architect Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08

Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	8/15/2024	10/31/2024	5.00	56.0	—
Building Construction	Building Construction	11/1/2024	12/31/2025	5.00	304	—
Paving	Paving	9/1/2025	9/30/2025	5.00	22.0	—
Architectural Coating	Architectural Coating	9/1/2025	9/30/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	86,685	28,895	588

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	4,800	42.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.22

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Parking Lot	0.22	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	86,685	28,895	588

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,308,376	74,583
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,035,757	74,583
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00
Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251
Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943

Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2
Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	Per questionnaire
Construction: Trips and VMT	Per questionnaire
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Vehicle Data	Per traffic study, assume weekday trip rates for Sunday as a conservative analysis
Operations: Architectural Coatings	SCAQMD Rule 1113

ATTACHMENT A-1: REVISED AIR QUALITY, GREENHOUSE GAS, ENERGY, AND NOISE IMPACT ANALYSES

Michael Baker INTERNATIONAL

We Make a Difference

MEMORANDUM

To: Lisa Flores, City of Arcadia

From: Tina Yuan, Michael Baker International
Zhe Chen, Michael Baker International

Date: October 8, 2024

Subject: Revised Tempo by Hilton Project – Air Quality, Greenhouse Gas, Energy, and Noise Impact Analyses

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PURPOSE AND BACKGROUND

The purpose of this technical memorandum is to evaluate potential impacts that would result from the addition of two rooms (Proposed Addition) to the proposed Tempo by Hilton hotel building and associated improvements (project), in support of the *Tempo by Hilton Project Addendum to the 2020 Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo) Project*, which analyzed the environmental effects of the existing medical office buildings, parking structure, and the hotel buildings previously approved, and the proposed four-story Tempo by Hilton hotel building containing a total of 91 rooms and ancillary hotel uses. As the Applicant proposes to add two additional rooms to the project and increase the total number of rooms to 93, this memorandum analyzes the potential air quality, energy, greenhouse gas (GHG) emissions, and noise impacts resulting from the two additional rooms.

AIR QUALITY IMPACT ANALYSIS

The Proposed Addition would increase criteria air pollutants emissions by approximately 2.2 percent (two rooms/91 rooms = 2.2 percent increase) during construction and operation. As the emissions of the previously analyzed 91-room hotel would be well below the short-term construction and long-term operational air quality thresholds established by the South Coast Air Quality Management (SCAMQD), the Proposed Addition would not cause exceedance of SCAQMD thresholds. Furthermore, the Proposed Addition would not involve a change of land use that would increase the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the attainment of air quality or the interim emissions reductions specified in SCAQMD's 2022 Air Quality Management Plan (2022 AQMP). Therefore, the project would be consistent with the 2022 AQMP, and impact would be less than significant.

Furthermore, the Proposed Addition would not change the distance from the nearest sensitive receptors to the project site. As the Proposed Addition would not affect the construction activities, and localized construction emissions of the previously analyzed 91-room hotel would be well below the SCAQMD Localized Significance Thresholds (LST), localized construction emissions impacts of the project would be

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less than significant. Furthermore, the Proposed Addition would not introduce any stationary sources or attract mobile sources that may spend extended periods queuing and idling at the site. Operational LST impacts would remain to be less than significant in this regard. The nominal 2.2-percent emissions increase would not add significant Carbon Monoxide (CO) emissions or odor emissions to the project location. Therefore, impacts related to CO hotspots and odor would be less than significant. As such, the project's impacts from the localized construction and operational emissions, CO hotspots, and odor would remain less than significant.

In conclusion, the project's air quality impacts with the Proposed Addition remain to be less than significant and would be the same impacts as disclosed in the Temp by Hilton Project Addendum, which were also determined to be less than significant. The Proposed Addition would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the Temp by Hilton Project Addendum would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or mitigation measures.

Mitigation Measures: Impacts related to Air Quality would be less than significant, and no mitigation measures are required.

GREENHOUSE GASES IMPACT ANALYSIS

The Proposed Addition would increase GHG emissions from both direct and indirect sources by approximately 2.2 percent, which is nominal. Moreover, the significance of the potential impacts regarding GHG emissions and climate change is not determined by bright-line thresholds, but by the consistency with applicable GHG reduction plans. As the Proposed Addition would not change the land use, project location, and project sustainability features, the project would be consistent with the applicable plans including the Southern California Association of Governments (SCAG) *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020-2045 RTP/SCS), California Air Resource Board (CARB)'s *2022 Scoping Plan*, and *Arcadia General Plan* (General Plan).

In conclusion, the project's GHG impacts with the Proposed Addition remain to be less than significant and would be the same impacts as disclosed in the Temp by Hilton Project Addendum, which was also determined to be less than significant. The Proposed Addition would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the Temp by Hilton Project Addendum would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or mitigation measures.

Mitigation Measures: Impacts related to GHG would be less than significant, and no mitigation measures are required.

ENERGY IMPACT ANALYSIS

The Proposed Addition would increase consumption of energy resources (i.e., electricity, natural gas, construction on-road/off-road, and operational fuel consumption) by approximately 2.2 percent, which is nominal. As such, the project's impact on energy resources would remain less than significant. Furthermore, as the Proposed Addition would not change the land use, project location, and project sustainability features, the project would comply with state and local plans for renewable energy and energy efficiency, which include the California Energy Commission's Integrated Energy Policy Report (IEPR), 2022 Title 24 standards and CALGreen Code, the State Renewable Portfolio Standards (RPS), and the City's General Plan. The Proposed Addition would not change design features that promote energy efficiency and would comply with existing regulations and plans that address energy efficiency, and as such, impacts would be less than significant.

In conclusion, the project's energy impacts with the Proposed Addition remain to be less than significant and would be the same impacts as disclosed in the Temp by Hilton Project Addendum, which was also determined to be less than significant. The Proposed Addition would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the Temp by Hilton Project Addendum would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or mitigation measures.

Mitigation Measures: Impacts related to Energy would be less than significant, and no mitigation measures are required.

NOISE IMPACT ANALYSIS

The Proposed Addition would not change the site boundary, the distance to the nearest sensitive receptors, nor the construction equipment list during each construction phase; as such, construction noise impacts would remain the same as what was analyzed in the Tempo by Hilton Project Addendum. The daily trip would increase by 22 trips per day (approximately 3.9 percent) due to the Proposed Addition, which is nominal and would not cause significant increase of mobile source noise level. As such, project-related traffic noise impacts would be less than significant. On-site operational noise activities would include noise generated from mechanical equipment and outdoor gathering areas. The Proposed Addition would not change the location and specification of the mechanical equipment or the outdoor gathering area. As such, on-site operational noise levels would remain the same. Therefore, the Proposed Addition would not result in new significant impacts to construction and operational noise levels.

Furthermore, the Proposed Addition would not require any new equipment that causes excessive vibration during construction, and therefore the vibration impacts would remain less than significant. Due to the lack of operational vibration sources, the project would not result in operational vibration impacts. As such, the project's construction and operational vibration impacts would be less than significant. As the Proposed Addition would not change the project location, the project would not expose people to excessive noise level from airports.

In conclusion, the project's noise and vibration impacts with the Proposed Addition remain to be less than significant and would be the same impacts as disclosed in the Temp by Hilton Project Addendum, which was also determined to be less than significant. The Proposed Addition would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the Temp by Hilton Project Addendum would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or mitigation measures.

Mitigation Measures: Impacts related to Noise would be less than significant, and no mitigation measures are required.

ATTACHMENT B: PROTECTED TREE REPORT

Protected Tree Report: Tree Survey, Encroachment, Protection and Mitigation

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April 2024

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SUMMARY OF DATA

Total number of healthy Protected Trees on property including street trees located in the adjacent public right-of-way area	5
Total number of off-site Protected Trees with canopies (driplines) encroaching onto the property	1
Total number of diseased/hazardous Protected Trees on site proposed for removal	0
Total number of healthy Protected Trees (on and off site) to be preserved	5
Total number of healthy Protected Trees to be removed	1
Total number of Protected Trees that will be preserved, which will be impacted by construction within dripline (encroached)	3
Total number of Protected Trees with no significant dripline encroachments	2
Total number of proposed mitigation trees to be planted on site	1

BACKGROUND & PURPOSE

I was retained by Lillian Chuang of 181 Colorado LLC, to be the consulting arborist for the planned redevelopment of the property located at 181 Colorado Place. There are Protected Trees located on the property; in the right-of-way area connected to the property; and off-site with portions of their driplines extending over the property. The proposed construction will encroach these trees and this report will serve to both notify the City of Arcadia Planning Division of the extent of the anticipated impacts as well as to inform the builder of the proper protection measures which must be taken in order to preserve the trees. As part of my preparation for this report I made a site visit to the property on April 19, 2024. I was provided with a full-scale Site Plan for my analysis.

PROJECT DESCRIPTION & TREE ORDINANCE

This aerial view (courtesy of Apple Maps) has been illustrated to show the approximate boundary lines (orange).

The property is the longtime location of Pepper's restaurant. The property will be redeveloped into a hotel.

The landscape consists of a haphazard arrangement of palms, small shrubs, citrus trees, and woody perennials that decorated the former restaurant's patios and perimeter. None of these plants are Protected, and all will be removed. Protected Trees are located along the street and in the east parking lot area that is shared with the medical offices that neighbor on the south. The designs have been made to accommodate as many of these trees as possible.

City of Arcadia Tree Ordinance

Oaks, Sycamore, and many other tree species are Protected under the various tree ordinances. Here is a summary of the tree protection laws.

On January 21, 1992 the City Council adopted Ordinance No. 1962 recognizing oak trees as significant aesthetic and ecological resources and establishing criteria for the preservation of oak trees. The regulations (Chapter 7 of the Arcadia Municipal Code) provide that the following oak trees shall not be removed, relocated, damaged, or have their protected zones encroached upon unless an Oak Tree Permit is granted:

- Engelmann Oaks (*Quercus engelmannii)* or Coast Live Oak, California Live Oak (*Quercus agrifolia*) which have a trunk diameter larger than four (4) inches measured at a point four and one half (4 ½) feet above the crown root, or, two (2) or more trunks measuring three (3) inches each or greater in diameter, measured at a point four and one half (4 ½) feet above the crown root.

- Any other living oak tree with a trunk diameter larger than twelve (12) inches measured at a point four and one half (4 ½) feet above the crown root, or, two (2) or more trunks measuring ten (10) inches each or greater in diameter measured at a point four and one half (4 ½) feet above the crown root.

On March 3, 2015, the City Council adopted Ordinance No. 2323 amending the code to add Sycamore trees to the list of City's Tree Preservation Regulations. The protected trees are Oak and Sycamore trees. Protected Sycamore trees are defined as:

- Plantanus racemosa (Sycamore) with a trunk diameter larger than six (6) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring four (4) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.

On August 2, 2016, The City Council adopted Ordinance No. 2338 to add additional protected trees and unprotected trees to the City’s tree preservation regulations. In September, the City began protecting mature trees that are located within a required front, side, street-side, or rear yard setback area that are either larger than 12 inches in diameter or two or more trunks larger than 10 inches in diameter if there are multiple trunks.

Below is a list of the unprotected trees:

1. Fruit trees
2. Fraxinus uhdei (Shamel Ash)
3. Ficuses – Exception: Ficus macrophylla (Moreton Bay Fig)
4. Eucalyptus
5. Ailanthus altissima (Tree of Heaven)
6. Arecaceae (Palm Tree)
7. Schinus terebinthifolius (Brazilian Pepper)
8. Ceratonia siliqua (Carob)
9. Betula pendula (European White Birch)
10. Grevillea robusta (Silk Oak)
11. Morus (Mulberry)
12. Acer saccharinum (Silver Maple)
13. Cupressus sempervirens (Italian cypress)
14. Populus Fremontii (Western Cottonwood)
15. Alnus rhombifolia (White Alder)
16. Populus trichocarpa (Black Cottonwood)
17. Populus ‘Highland’ hybrid
18. Salix lasiolepis (Arroyo Willow)
19. Liquidambars (Sweet Gum)

TREE SURVEY

This table lists all trees with trunk diameters measuring four inches or greater located on the property, as well as all other trees with trunk diameters measuring six inches or greater located on or encroaching onto the property. Off-site trees are indicated with an “os” next to their tree numbers. Multi-trunked specimens are indicated next to the trunk diameter with an “m” and the diameters of the two largest trunks are listed. A determination is then provided for the protected status of each tree based on criteria of species, size and location. All street trees or trees in public areas are Protected regardless of species or size and these trees are marked with an asterisk in the Location column. Tree numbers correspond to the tree locations plotted on the Site Plan included in this report and to all references to each tree in this report. Only Protected Trees non-street trees have numbered tags affixed to their trunks.

Tree Survey for 181 Colorado Place, Arcadia

Tree Identification				Protected Status			
Tree #	Botanical Name	Common Name	Trunk Diameter	Protected Species	Minimum Required Size	Located in Protected Area	PROTECTED TREE
1	Quercus agrifolia	Coast Live Oak	24”	Yes	Yes	Yes	Yes
2	Platanus racemosa	Sycamore	7”	Yes	Yes	Yes	Yes
3	Platanus racemosa	Sycamore	12”	Yes	Yes	Yes	Yes
4	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
5	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
6	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
7	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
8	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
9	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
10	Lagerstroemia indica	Crepe Myrtle	M3 2, 2, 1	Yes	No	Yes	No
11	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
12	Lagerstroemia indica	Crepe Myrtle	M5 2, 2, 2, 2	Yes	No	Yes	No
13	Lagerstroemia indica	Crepe Myrtle	M8 2, 2, 2, 2	Yes	No	Yes	No

Tree Survey for 181 Colorado Place, Arcadia

Tree Identification				Protected Status			
Tree #	Botanical Name	Common Name	Trunk Diameter	Protected Species	Minimum Required Size	Located in Protected Area	**PROTECTED TREE**
14	Lagerstroemia indica	Crepe Myrtle	M10 1,1,1,1	Yes	No	Yes	No
15	Lagerstroemia indica	Crepe Myrtle	M12 1,1,1,1	Yes	No	Yes	No
16	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
17	Ficus microcarpus	Indian Laurel	M2 5, 4	No	No	Yes	No
18	Cedrus deodara	Deodar Cedar	25”	Yes	Yes	Yes	Yes
19	Citrus aurantilfolia	Mexican Lime	8”	No	No	Yes	No
20	Citrus aurantilfolia	Mexican Lime	6”	No	No	Yes	No
21	Pinus canariensis	Canary Island Pine	9”	Yes	No	Yes	No
22	Pinus canariensis	Canary Island Pine	10”	Yes	No	Yes	No
23	Pinus canariensis	Canary Island Pine	12”	Yes	Yes	Yes	Yes
24	Syagrus romanzoffiana	Queen Palm	n/a	No	n/a	Yes	No
25	Podocarpus macrophyllus	Yew Pine	4”	Yes	No	Yes	No
26	Phoenix roebelenii	Pygmy Date Palm	n/a	No	n/a	Yes	No
27	Ficus benjamina	Weeping Fig	5”	No	No	Yes	No
28	Ficus benjamina	Weeping Fig	8”	No	No	Yes	No
29	Pinus canariensis	Canary Island Pine	8”	Yes	No	Yes	No
30	Brachychiton sp.	Flame bottle	4”	Yes	No	Yes	No
31	Brachychiton sp.	Flame bottle	4”	Yes	No	Yes	No
32os	Quercus agrifolia	Coast Live Oak	12”	Yes	Yes	Yes	Yes

This chart includes all Protected Trees that are either located or encroaching on the property. It provides physical data collected from field observations. The trees have been surveyed and numbers correspond to the Schematic Landscape Plan included in this report. Tree numbers with an "os" indicate that the specimen is located off-site and a portion of the canopy extends over the subject property. Trunk diameters of multi-trunked specimens are listed with their two largest trunk diameters.

PROTECTED TREE CHARACTERISTICS & HEALTH MATRIX

CHARACTERISTICS													HEALTH											
		SIZE			FORM		CROWN CLASS			AGE CLASS			FOLIAGE DENSITY			SHOOT GROWTH			WOUND DEFENSE			VIGOR CLASS		
TREE NUMBER	SPECIES	TRUNK DIAMETER (INCHES)	APPROXIMATE HEIGHT (FEET)	AVERAGE SPREAD (FEET)	SYMMETRIC	ASYMMETRIC	DOMINANT	CO-DOMINANT	SUPPRESED	YOUNG	MATURE	OVERMATURE	NORMAL	SPARSE	DISEASE / INSECT	AVERAGE	POOR	TWIG DIEBACK	NORMAL	POOR	WOOD DECAY	GOOD	POOR	DISEASED/HAZARDOUS
1	Quercus agrifolia	24	30	40	X		X				X		X			X			X			X		
2	Platanus racemosa	7	25	20	X		X			X			X			X			X			X		
3	Platanus racemosa	12	40	30	X		X			X			X			X			X			X		
18	Cedrus deodara	25	60	20	X		X					X		X			X		X				X	
23	Pinus canariensis	12	30	15	X		X			X			X			X			X			X		
32os	Quercus agrifolia	12	20	20	X			X		X			X			X			X			X		

This chart includes all Protected Trees that are located on the property and any off-site Protected Trees extending over the property. It provides data collected from the analysis of construction plans. The tree has been surveyed and numbers correspond to the Schematic Landscape Plan included in this report. Tree numbers with an "os" indicate that the specimen is located off-site and a portion of the canopy extends over the subject property. For rootzone impacts, the required excavation is considered only for unbuffered areas. Areas that excavation will occur where existing similar infrastructure exists, e.g. overexcavation and compaction in the footprint of existing home foundation, grading for driveway in the footprint of existing driveway, are considered non-significant encroachments.

CONSTRUCTION IMPACTS MATRIX

	TREE SPECIES	SIZE & CONDITION		ROOTZONE IMPACTS								REQUIRED PRUNING OF LIVE CROWN				
TREE NUMBER	Protected Trees: • Quercus agrifolia, engelmannii, and any other species of Quercus genus larger than 12" • Platanus racemosa • Any tree located in the public right-of-way • All other species 12" or larger that are not on the exemption list	TRUNK DIAMETER (DBH)	CONDITION	Sides of tree where excavation (six inches or deeper) will occur	Sides where excavation impacts are buffered by existing infrastructure	**Excavation will remain a distance of at least 10 X DBH from trunk**	**Excavation will remain a distance of at least 5 X DBH from trunk**	**Excavation will remain a distance of at least 3 X DBH from the trunk**	**Removal or Relocation**	Additional light grading less than 6" deep to occur within dripline	Estimated % of total root mass to be removed or severed	**No Pruning Required**	**Pruning not to exceed 10%**	**Pruning not to exceed 30%**	Number of cuts larger than 3" in diameter required	Diameter of cuts for branch removals
1	Quercus agrifolia	24	Good	None	-					Yes	<10				0	N/A
2	Platanus racemosa	7	Good	All	-					-	-	-	-	-	-	-
3	Platanus racemosa	12	Good	None	-					Yes	<10				0	N/A
18	Cedrus deodara	25	Poor	None	-					Yes	<10				0	N/A
23	Pinus canarienis	12	Good	None	-					Yes	<10				0	N/A
32os	Quercus agrifolia	12	Good	None	-					Yes	<10				0	N/A

DESIGN ANALYSIS OF PROTECTED TREE ENCROACHMENTS

Refer to Site Plan / Schematic Landscape Plan located in pocket at back of this report, and Photos in Appendix A, page 16.

Analysis regarding rootzone impacts are based on the type of impact, e.g, soil compaction, grading, and excavation; as well as the distance from the trunk that the impacts will occur. It is commonly accepted among professional arborists that a distance equal to three times a trunks diameter contains the structural roots responsible for keeping the tree upright. This critical rootzone area is defined as the root plate. Beyond the root plate the roots typically taper off into smaller, less significant sizes. These smaller roots are usually two inches in diameter or smaller and make up the rootmass responsible for water and nutrient uptake. Although roots of these sizes can be cut without significantly impacting health and stability it is advised that no more than 30 percent of the rootmass within the dripline is severed. The bulk of the rootmass is located within the top three feet of soil and root growth slows or halts when soil bulk density exceeds 1.60 g/cm^3 for most soils. More information regarding rootzone impacts is provided in the Excavation and Root Pruning section of the Construction Impact Guidelines, Appendix D.

Tree #1– Coast Live Oak: Located in a planter area at the northeast corner of the property. The existing parking lot entry located in the west portion of the dripline will be replaced in the same footprint. No extensive excavation or grading will be required to accomplish the work; only demolition of the existing hardscape. The planter will be renovated with the proper cultural requirement for the native oak and the tree will likely be pruned for crown shaping.

Tree #2– Western Sycamore Located in a planter at the existing entrance to the parking lot off of San Juan Dr. The trash enclosure will be constructed where the tree is located. It is planned for removal and replacement.

Tree #3– Western Sycamore: Located in a planter at the existing entrance to the parking lot off of San Juan Dr. The parking lot will be modified within the dripline to add electric vehicle charging stations. The work will be done within the paved surface of the existing parking lot and trenching for the conduit will remain clear of the critical rootzone area. The planter will remain and will be unaltered.

Tree #18 - Deodar Cedar: Located in a tree well within the sidewalk along Colorado Pl. The tree well is at the north edge of the existing parking lot entry. The entry will remain, and the pavement will be replaced. No modifications to the dimensions or layout of the entry will occur within the dripline.

The tree is overmature and has a live crown ratio of approximately 30% (amount of live branches and foliage relative to the overall height). A 30% live crown ration is at the threshold where a conifer begins to lack vigor and decline becomes irreversible.

Tree #23 – Canary Island Pine: Well isolated in a planter along the south property line between the block wall that defines the parking lot and the exterior wall of the existing parking structure. No significant excavation or grading will encroach and no pruning is required to complete the project.

Tree #32 – Coast Live Oak: Located off-site on the property to the east, and beyond the block wall that defines the parking lot. The wall will remain, and the parking lot will be resurfaced. No significant excavation or grading will encroach and no pruning is required to complete the project.

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FINDINGS

- Tree #2, a Western Sycamore, located in the east parking lot, will be removed to accommodate the trash enclosure.
- The other two trees located in the east parking lot (Tree's #1 and #3) will not be significantly encroached by construction. The dimensions of their existing planters will not be altered, and the parking lot will be resurfaced.
- The one street tree (Tree #18), a Deodar Cedar, will be preserved in place. The nearby parking lot entry will be resurfaced but not widened. The tree well will remain, and the sidewalk will also likely remain unchanged.
- Tree #23, a Canary Island Pine, will not be impacted by construction. Its location behind a concrete block wall restricts access and minimizes and root zone encroachment.
- Some pruning of Tree #1, a Coast Live Oak, for crown raising and shaping may be done to improve the aesthetic appearance, but pruning is not required to complete the project.

MITIGATION

Tree #2, a Western Sycamore with a seven-inchtrunk diameter will be removed. It can be replaced to parity with a 60" nursery box size tree, which typically have trunk diameters measuring five to seven inches in diameter.

RECOMMENDATIONS

As with many construction projects, soil compaction is the most preventable impact that will need to be monitored in order to provide reliable protection and long-term preservation of the trees. To prevent unnecessary soil compaction a Tree Protection Zones must be established around the Protected Trees before any demolition occurs. The goal is to enclose the largest possible amount of space underneath the tree so that the heavy equipment required for demolition and construction can be routed away from root zones. The recommended Protection Zones are drawn in dashed lines on the Site Plan of this report.

- Prior to demolition the contractor and consulting arborist shall meet on site to make sure Tree Protection Zones are established and to review the goals for the tree protection plan. **The locations and areas of the Protection Zones are drawn with an orange line on the Site Plan included in this report.** Protection zones will not need to be established for Tree #18, 23 or the off-site Tree #31. The workzone fence and existing property line walls function well for that purpose.

- Tree Protection Zone fences shall be at least four feet tall and constructed of chain link fencing secured on metal posts. Where fences are not feasible, e.g., in haul routes or areas where workers will need frequent access, soil and root protection material can be installed. Examples of these are provided in Appendix B.

- Maintain the fences and/or soil protection material throughout the completion of the project. No staging of materials or equipment or washing-out is to occur within the fenced protected zones.

- Refer to the Construction Impact Guidelines in Appendix C for important general preservation measures concerning the different elements of this project.

- Tree #1, the Coast Live Oak, will not need any supplemental watering. The other trees should be irrigated throughout the year. A deep watering that provides good soil moisture to a depth of 16 inches is optimal. The trees should be deeply watered once every 21-28 days during the summer and fall seasons when rain is unlikely.

- The arborist shall monitor a few critical phases of the project: Pre-demolition to direct the installation of the protective fences and soil protection materials; Grading and excavation; any utility or drainage trenching that is required within a Tree Protection Zone; and a final evaluation during the landscape installation phase.

APPENDIX A – Photos

ABOVE: Looking south at Tree #1 from San Juan Dr. The parking lot entry will be resurfaced but the dimensions of the planter will be unchanged. BELOW: Looking north at Tree #2. The trash enclosure will be built where the tree is located and it is planned for removal.

ABOVE: Looking south at Tree #3 from San Juan Dr. The parking lot entry will be resurfaced but the dimensions of the plater will remain unchanged. BELOW: Looking East at Tree #18 from Colorado Pl. The entry on the right (south) side of the tree will be resurfaced. The sidewalk around the tree well will likely be unaltered.

ABOVE: Looking south at Tree #23. This and the other two Pine trees will remain in place and will not be impacted by construction. BELOW: Looking east at the off-site Tree #32. The wall will remain and the tree will not be impacted by construction.

APPENDIX B - Soil and Root Protection Within the Tree Protection Zone

If traffic cannot be kept outside of the Tree Protection Zone for the entire duration of construction, actions can be taken to disperse the vehicular load and protect the roots, minimizing soil compaction and mechanical root damage. These include:

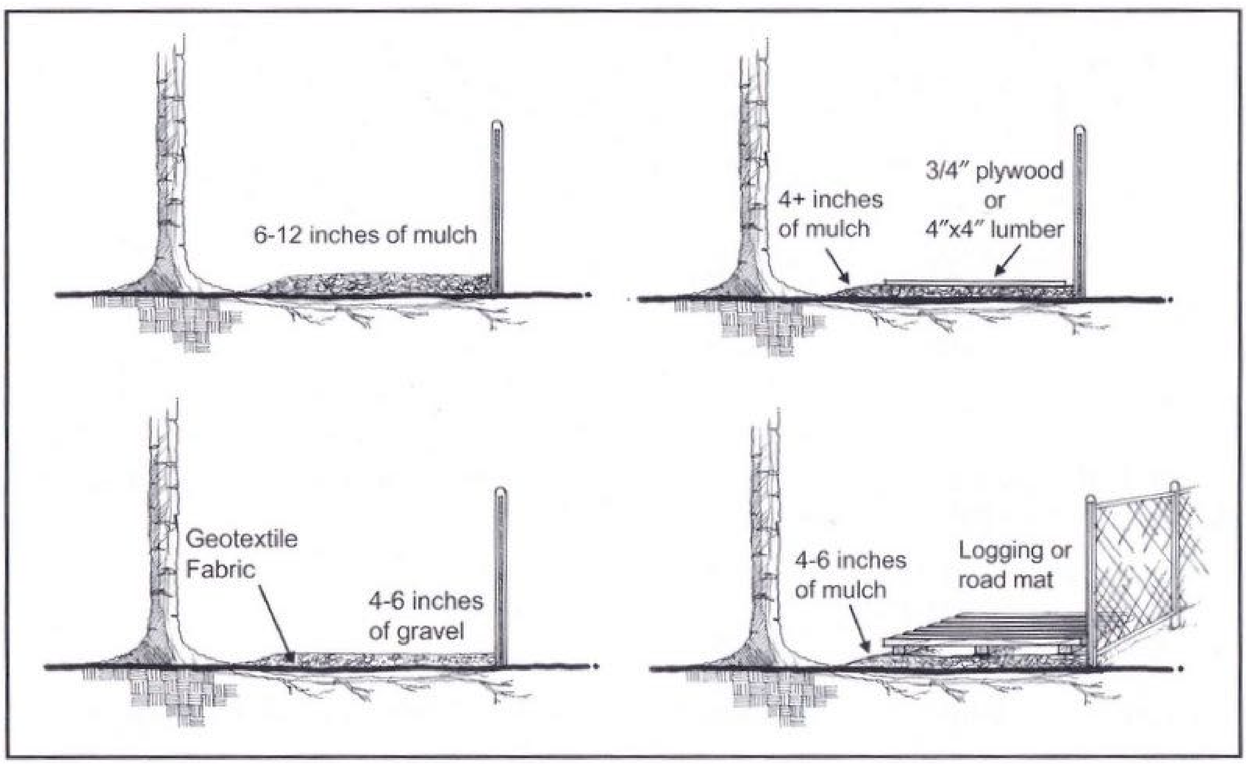
1) Applying 6 to 12 inches of wood chip mulch to the area.

2) Laying ¾-inch thick plywood or 4x4 inch wood beams over a 4+ inch thick layer of wood chip mulch.

2) Applying 4 to 6 inches of gravel over a taut, staked geotextile fabric.

4) Placing commercial logging or road mats on top of a mulch layer.

Stone, geotextile, and mulch exceeding 4 inches thick will need to be removed from the TPZ once the threat of soil or root damage has passed.



APPENDIX C - Protected Tree Construction Impact Guidelines

Size and Distribution of Tree Roots – Taken from Arboriculture, Integrated Management of Landscape Trees Shrubs and Vines. Harris, R.W., Clark, J.W., Matheny N.P. Prentice Hall 2004.

Roots of most plants, including large trees, grow primarily in the top meter (3 ft) of soil (see figure below). Most plants concentrate the majority of their small absorbing roots in the upper 150 mm (6 in.) of soil if the surface is protected by a mulch or forest litter. In the absence of a protective mulch, exposed bare soil can become so hot near the surface that roots do not grow in the upper 200 to 250 mm (8 to 10 in.). Under forest and many landscape situations, however, soil near the surface is most favorable for root growth. In addition, roots tend to grow at about the same soil depth regardless of the slope of the soil surface.

Although root growth is greatly influenced by soil conditions, individual roots seem to have an inherent guidance mechanism. Large roots with vigorous tips usually grow horizontally. Similar roots lateral to the large roots grow at many angles to the vertical, and some grow up into the surface soil. However, few roots in a root system actually grow down.

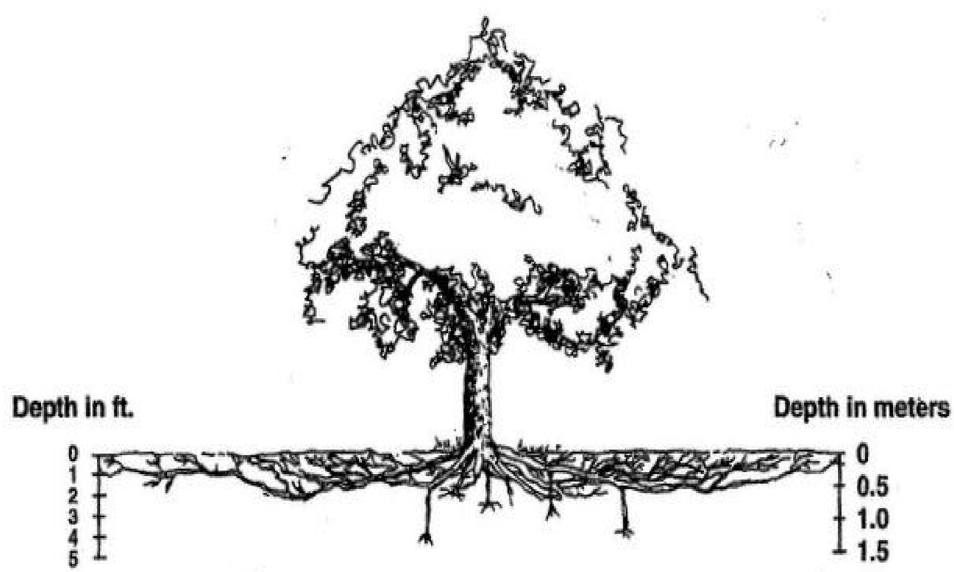


FIGURE In mature trees, the taproot is either lost or reduced in size. The vast majority of the root system is composed of horizontally oriented lateral roots.

The importance of soil

Soil supports and anchors tree roots and provides water, minerals and oxygen. Furthermore, soil is a habitat for soil microorganisms that enhance root function. A soil's ability to sustain tree growth is largely determined by its texture, structure (bulk density), organic matter, water and mineral content, salinity, aeration, and soil-microbe abundance and diversity.

Soil physical properties

Soil texture – the relative proportion of sand, silt and clay, is important because it affects water – and nutrient-holding capacity, drainage and aeration (gaseous diffusion). Soil structure is the arrangement of individual soil particles into clumps (aggregates). The net result is the formulation of larger voids between the aggregates which serve as channels for gaseous diffusion, movement of water and root penetration. Unfortunately, soil aggregates are readily destroyed by activities that compact the soil (increase bulk density). When this occurs, gaseous exchange, permeability, drainage and root growth are restricted.

The influence of the organic matter content of soil properties is quiet significant. Its decomposition by soil organisms releases substances that bind soil particles into larger granules, which improves both soil aeration, and drainage. In essence, the breakdown of organic matter improves water – and nutrient-holding capacity and reduces bulk density. Furthermore, it is the primary source of nitrogen and a major source of nitrogen and a major source of phosphorus and sulfur. Without organic matter soil organisms could not survive and most biochemical processes in the soil would cease.

Soil aeration, the movement and the availability of oxygen, is determined by both soil texture and structure. In general, compacted and finer soils, due to a higher proportion of small pore spaces (micropores), tend to drain slowly and hold less air than coarser, sandy, or well-structured find soils. Water retained in the small pores displaces oxygen and inhibits gaseous diffusion.

The availability of soil water is largely determined by the size of the pore spaces between the soil particles and the larger aggregates in which water is held. Most of the water in the larger pore spaces drains readily due to gravitational forces. A relatively thin film of water, which is readily available to plant roots, remains following drainage. Much of water held within the smaller pore spaces resists uptake by plant roots because it is held tightly on the soil surfaces.

Plant roots require an adequate supply of oxygen for development. Injury or dysfunction results when oxygen availability drops below a critical level. Root respiration is the first process to be restricted, followed by disruptions in growth, metabolism, nutrient and water uptake, and photosynthesis. Furthermore, the accumulation of high levels of carbon dioxide, produced by the roots during respiration can also impair root function. Reduced soil aeration resulting from soil compaction, flooding, excess irrigation, or

impervious pavement favors the development of crown rot (Phytophthora root disease). It also inhibits mycorrhizal fungi that enhance water and nutrient uptake and resist root pathogens.

The forest floor under a canopy in most undeveloped forests and woodland settings is typically covered by a layer of fallen leaves and other woody debris. It is usually cool, shady, well-aerated, and relatively moist – conditions that favor normal root growth. When the natural leaf litter is removed and when a tree's lower canopy is pruned up to provide clearance, the absorbing roots in the upper few inches of the soil experience higher soil temperatures and increased desiccation due to direct exposure to sunlight.

Minimizing the Effects of Construction and Development on Tree Root Systems

Activities that injure roots or adversely affect the root zone should be avoided or kept as far from the trunk as possible. Design changes or alternative building practices that avoid or minimize construction-related impacts should be considered and proposed when applicable.

Soil Compaction

Soils are intentionally compacted under structures, sidewalks, reads, parking areas, and load-bearing fill to prevent subsidence, and to prevent soil movement on slopes. Although unintentional, soil within the root zone of trees is often compacted by unrestricted foot traffic, parking of vehicles, operation of heavy equipment, and during installation of fill. Compaction destroys the soil's natural porosity by eliminating much of the air space contained within it. It leaves the soil hard and impenetrable and largely unfavorable for root growth. The soil's natural porosity, which allows for water movement and storage, gaseous exchange, and root penetration, is greatly reduced. Consequently, root growth and tree health suffer. Soil compaction is best managed by preventing it.

Bulk density is used to describe a soil's porosity, or the amount of space between soil particles and aggregates. High bulk densities indicate a low percentage of total pore space.

Pavement

Paving over the root systems of trees is another serious problem because it reduces the gaseous diffusion and soil moisture. Most paving materials are relatively impervious to water penetration and typically divert water away from a tree's root zone. Cracks and expansion joints do, though, allow for some water infiltration into the soil below. Of greater concern, is the loss of roots from excavation to achieve the required grade, and the necessary compaction to prevent subsidence. Once the soil surface is compacted, a base material is then added and compacted as well. With that done, the surface can then be paved. Thus, pavement within the root zones of trees can damage roots and create

unfavorable soil conditions. One alternative to minimize pavement impacts is to consider placing the pavement on the natural grade over a layer of minimally compacted base material. To reduce sub-grade compaction, consider using reinforced concrete or asphalt over a goetextile blanket to help stabilize the soil. On-grade patios or paving that covers more than one-third of the tree protection zone (TPZ) should be constructed using permeable materials that allow aeration and water penetration. Soil under permeable surfaces should not be compacted to more than 80 percent.

Excavation and root pruning

Excavation within the root zones of trees should be avoided as much as possible. The extent of root pruning (selective) or cutting (non-selective) should be based on the species growth characteristics and adaptive traits, environmental conditions, age, health, crown size, density, live crown ration and structural condition of the tree. The timing of the root pruning or cutting is another important consideration. Moderate to severe root loss during droughts or particularly hot periods can cause serious water-deficit injury or death.

When root pruning/ cutting is unavoidable, roots should be pruned or cut as far from the trunk as possible. Cutting roots on more than one side of a tree should also be avoided. Root cutting extending more than half-way around a tree should generally be no closer than about 10 times the trunk diameter. Recommended distances range from as little as 6 times trunk diameter (DBH) for young trees to 12 times trunk diameter for mature trees. The size of the TPZ should, however, be increased for over mature and declining trees and species that are sensitive to root loss.

The minimum distance from the trunk that roots can be cut on one side of the tree without destabilizing it, is a distance equal to about three times the diameter (DBH) of the trunk. Roots severed within that distance provide little or no structural support. Root pruning or cutting distances from the trunk should be greater for trees that lean and/ or those growing on shallow or wet soil.

In cases where the proposed grading will adversely affect trees designated for retention, special attention should be given to proper root pruning and post-construction care for injured trees. Where structural footings are required for foundations, retaining walls, etc., and roots larger than 2 inches in diameter will be impacted, consider design changes or alternative building methods.

When excavation within 5 times trunk diameter is unavoidable, roots greater than 1 ½ inches in diameter should be located prior to excavation and then pruned to avoid unnecessary damage. Hand-digging or use of a hydraulic or pneumatic soil excavation tool is the least disruptive way to locate roots for pruning. Although mechanical root pruners make clean cuts, they are non-selective. A backhoe bucket, dozer blade or trencher will typically pull, rip or shatter the larger root, causing additional damage toward the tree. Once the roots that interfere with the structure being built, e.g.,

foundations, footings, retaining wall, curbs, etc., are exposed, they should then be cut perpendicular to their long axis using a hand-saw, 'carbide-tipped chainsaw' or sharp ax, depending on size. Roots that are pruned in this manner typically regenerate new roots from near the cut. Roots exposed by excavation should be protected from exposure to sun and desiccation. Exposed roots that can not be covered with soil by the end of the day should be covered with moistened burlap or similar material.

Roots can generally be cut in a non-selective manner when excavating near of beyond the dripline. Ripped, splintered or fractured portions of roots however, should be re-cut. The damaged portion should be removed using sharp tools. The cut should be flat across the root with the adjacent bark intact. Wound dressings should not be applied to pruned or damaged roots except when recommended for disease, insect or sprout control.

The best approach to avoid water-deficit injury following root loss during the growing season is to provide ample irrigation. Irrigation should be considered prior to, during, and after root pruning. Watering schedules should also consider local soil conditions, climate, topography, time of year, species adaptability, extent of root pruning and tree health. If possible, irrigate the tree 7 to 10 days prior to excavation so that there is an adequate reservoir of soil water. Water can be delivered to large construction sites via water-tank trucks and applied directly to affected trees or stored nearby in plastic tanks. On relatively flat terrain, a 6 to 8 inch soil berm at the tree's dripline should be constructed to act as a watering basin. On steep terrain, soaker hoses should be used. They can be placed across the slope or spirally around the trunk, from about six feet away to the dripline. In addition, a two to four inch layer of wood chip mulch should be applied to as much of the root zone as possible to retard soil water loss.

Pruning foliage to compensate for root loss is not supported by scientific research and likely to result in slower recovery. Fertilization to stimulate root growth is generally unwarranted and may be counterproductive.

Trenching within the Tree Protection Zone

Trenching for underground utilities should be routed around the TPZ. When this is unavoidable, trenching within the TPZ should be done by 'hand' or using a pneumatic or hydraulic soil excavation tool, carefully working around larger roots. Roots larger than 1 ½ inches in diameter should not be cut. Dig below these roots to route utilities or install drains. A combination of tools can also produce satisfactory results, for example, a skillful backhoe operator under the arborist's supervision can dig down several inches at a time and detect larger roots by 'feel' (resistance). At that point, as assistant can expose the root and dig around it. In this manner, the backhoe can then continue extending the trench though the TPZ. Tunneling (boring) through the TPZ is the preferable alternative. For most large trees, tunneling depth should be at least 36 inches. Tunneling should begin at the edge of the TPZ, but no closer than a distance equal to one foot of clearance for each inch of tree DBH. Tunnels should also be offset to either side of the trunk. For trenching that extends only part way into TPZ, consider trenching radially to the tree trunk, as this is less harmful than tangential trenching. All trenches

made within the TPZ should be backfilled as quickly as possible to prevent root and soil desiccation.

Managing Root Injured Trees

Root-pruned trees should be monitored for symptoms of water-deficit injury for a specified period following root pruning. Irrigation should be considered prior to, during, and after root pruning. Irrigation schedules should consider local soil conditions, climate, topography, time of year, species tolerance, extent of root pruning and tree health.

Grade Change: Fill Soil

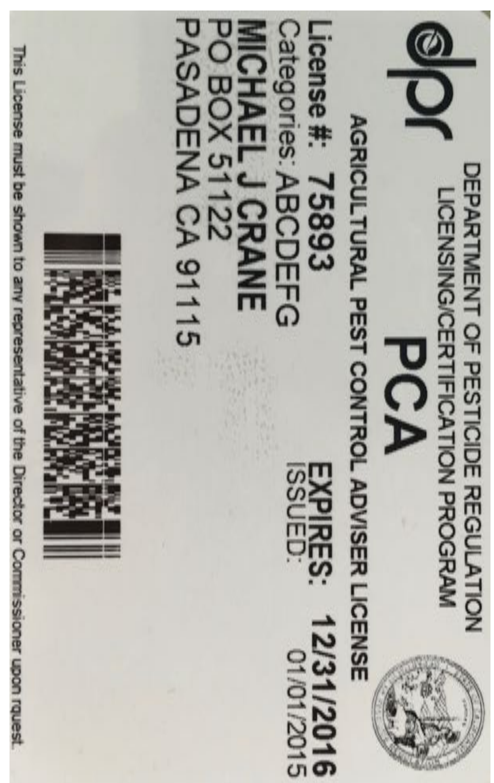
Fill soil placed within the root zones of trees can have an adverse effect, particularly if the soil is compacted to support a structure or pavement. Soil compaction reduces aeration and water infiltration. Fill soil, die to textural changes, can also prevent water from penetrating the original soil layer below where the roots are. Furthermore, soil placed against the root crown and lower trunk can lead to root disease problems, especially if the soil near the trunk remains moist during the summer from irrigation. Alternatives to placing fills over roots zones shall be considered and proposed as appropriate.

AUTHOR'S CREDENTIALS


INTERNATIONAL SOCIETY OF ARBORICULTURE
BOARD CERTIFIED MASTER ARBORIST™
Michael J. Crane
Having successfully completed the requirements set by the Arborist Certification Board of the International Society of Arboriculture, the above named is hereby recognized as an ISA Board Certified Master Arborist®
International Society of Arboriculture
Certification Board, Chair
International Society of Arboriculture
WE-6643B
Certification Number
Nov 09, 2006
Certified Since
Dec 31, 2018
Expiration Date


The American Society of Consulting Arborists
in recognition of fulfillment of the requirements for Registered Consulting Arborist status
confers upon
Michael Crane, RCA #440
Registered Membership
January 18, 2006
President
Executive Director


International Society of Arboriculture
Tree Risk Assessment Qualification
Michael J. Crane
Having successfully completed the requirements established by the Certification Board of the International Society of Arboriculture, the above named is hereby recognized as ISA Tree Risk Assessment Qualified.
Certification Board Chair
International Society of Arboriculture
Executive Director
International Society of Arboriculture
February 1, 2013
Issue Date
December 11, 2020
Term of Validity End Date


DEPARTMENT OF PESTICIDE REGULATION
LICENSING/CERTIFICATION PROGRAM
PCA
AGRICULTURAL PEST CONTROL ADVISER LICENSE
License #: 75893 EXPIRES: 12/31/2016
Categories: ABCDEFG ISSUED: 01/01/2015
MICHAEL J CRANE
PO BOX 51122
PASADENA CA 91115
This License must be shown to any representative of the Director or Commissioner upon request.

CERTIFICATION OF PERFORMANCE

I, Michael Crane, certify that:

- I have personally inspected the tree(s) and the property referred to in this report and have stated my findings accurately.

- I have no current or prospective interest in the vegetation or the property that is the subject of this report and have no personal interest or bias with respect to the parties involved.

- The analysis, opinions, and conclusions stated herein are my own and are based on current scientific procedures and facts.

- My analysis, opinions, and conclusions were developed and this report has been prepared according to commonly accepted arboricultural practices.

- No one provided significant professional assistance to me, except as indicated within the report.

- My compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party not upon the results of the assessment, the attainment of stipulated results, or the occurrence of any subsequent events.

I further certify that I am a member in good standing of the American Society of Consulting Arborists and the International Society of Arboriculture. I have been involved in the field of Horticulture in a full-time capacity for a period of more than 25 years.

Signed: ______________________________

Registered Consulting Arborist #440; American Society of Consulting Arborist
Board Certified Master Arborist #WE 6643B; International Society of Arboriculture
Licensed California Agricultural Pest Control Adviser #AA08269

MICHAEL CRANE
asca AMERICAN SOCIETY of CONSULTING ARBORISTS
Registered Consulting Arborist #440

Date: April 30, 2024

SITE SUMMARY

DESCRIPTION	INFORMATION / REQUIREMENT	COMPLIANCE
APN	5775-015-011	
ADDRESS	181 COLORADO PLACE	
JURISDICTION	CITY OF ARCADIA, CA	
PLANNED LAND USE	C-G	
ZONING CLASSIFICATION	C-G (GENERAL COMMERCIAL)	
HOTEL USE ALLOWED	WITH CUP	Y
MAX BUILDING HEIGHT	48 FT. PERMITTED / 48 FT. PROVIDED	Y
FIRE ACCESS REQUIRED		Y
FRONT SETBACK	0 FT. REQUIRED / 17.5 FT. PROVIDED	Y
SIDE SETBACK	5 FT. REQUIRED / 6 FT. PROVIDED	Y
REAR SETBACK	20 FT. REQUIRED / 72 FT. PROVIDED	Y
FAR	1	

PARKING REQUIREMENTS

REFERENCE HOTEL PROJECT PARKING DEMAND ANALYSIS

GROSS BUILDING AREA: TEMPO ONLY

LEVEL 1:	11,030 SF
LEVEL 2:	11,990 SF
LEVEL 3:	12,060 SF
LEVEL 4:	12,060 SF

STAIRS:	2,187 SF
FIRE RISER:	51 SF
ELECTRICAL/DATA ROOMS:	315 SF
ELEVATORS:	1,424 SF
SHAFTS:	64 SF

TOTAL GBA ABOVE GRADE: 47,140 SF

BASEMENT LEVEL: 10,650 SF

TOTAL FAR GBA ALL BUILDING ON SITE CALCULATION:

BUILDING A (MEDICAL OFFICE) + BUILDING B (MEDICAL OFFICE) + BUILDING C (HILTON HOTEL) + BUILDING D (HILTON HOTEL) + TEMPO HOTEL = **19,845 + 19,231 + 69,447 + 69,356 + 47,140 = 225,019 SF**

TOTAL FAR GBA ALL BUILDING ON SITE: 225,019 SF
TOTAL SITE SF: 226,579 SF

TOTAL SITE FAR: 0.993

VICINITY MAP

SITE PLAN
1" = 20'-0"

TEMPO BY HILTON

SAN JUAN DRIVE & COLORADO PLACE, ARCADIA, CA 91007

designcell ARCHITECTURE

DR-1.1
3/8/2024

ATTACHMENT C: ENERGY ASSESSMENT

MEMORANDUM

To: Lisa Flores, City of Arcadia

From: Dennis Dinh, Michael Baker International

Date: July 22, 2024

Subject: Tempo by Hilton Project – Energy Assessment

PURPOSE AND BACKGROUND

The purpose of this technical memorandum is to evaluate potential short-term construction and long-term operational energy consumption impacts that would result from the construction and operation of a proposed hotel building and associated improvements in support of the Tempo by Hilton Project Addendum to the *Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo) Project* (2020 IS/MND).

The City prepared the 2020 IS/MND for a redevelopment project located at 125 West Huntington Drive and 123 West Huntington Drive (Original Project Site). On February 5, 2013, the City previously approved the modification of an existing 60,811-square-foot, three-story office building (Parsons building) and the construction of two new medical office buildings, a new general office building, and a new parking structure on the Original Project Site. Of the four new buildings approved under the 2013 development project, only the parking structure and the two medical office buildings (now occupied by the Keck Medicine of University of Southern California [USC]) were constructed. The 2020 IS/MND analyzed (1) the redevelopment of the existing Parsons building on the Original Project Site to allow for 76,754 square feet of hotel and appurtenant uses, including 90 hotel rooms, amenities, and employee or guest shared spaces, and (2) the construction a new 61,538-square-foot, five-story hotel annex building containing 75 hotel rooms and additional amenities such as a hotel spa, café, and outdoor patios to the east of the Parson's building. No changes to the two existing Keck Medicine of USC medical office buildings and parking structure were proposed under the Approved Project. The 2020 IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020 (Resolution No. 2050).

The Tempo by Hiton Project Addendum (Tempo Addendum) analyzes the environmental effects of the Revised Project, which is comprised of the Approved Project described above, and the Tempo Project, which includes a lot line adjustment (LLA) to merge the parcel identified as Assessor's Parcel Number (APN) 2775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) in order to create one legal parcel (Revised Project Site) and to construct a new four-story hotel building on APN 2775-015-011. The Tempo Project would not modify any of the existing medical office buildings, parking structure or the hotel buildings previously approved under the Approved Project. A detailed description of the Tempo Project is provided below. This memorandum analyzes the combined impact of the Tempo Project and the Approved Project analyzed in the 2020 IS/MND.

5 Hutton Centre Drive, Suite 500, Santa Ana, CA 92707
Office: 949.472.3505 | Fax: 949.472.8373

PROJECT LOCATION

The City of Arcadia is located in northeast Los Angeles County, generally north of the Interstate 10 Freeway (I-10), south of the Foothill Freeway (I-210), east of State Route 164, and west of I-605. The City is approximately 12 miles northeast of downtown Los Angeles; refer to Exhibit 1, *Regional Vicinity*.

The Revised Project is located within the northeastern portion of Arcadia and is comprised of the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) and one land parcel addressed as 181 Colorado Place (APN 5775-015-011) that is approximately 0.61 acre, or 26,493 square feet;[1] refer to Exhibit 2, *Revised Project Site*. Regional access to the Revised Project Site is provided via I-210. Local access to the Revised Project Site is provided via Colorado Place, San Juan Drive, and San Rafael Road.

EXISTING SITE CONDITIONS

The Revised Project Site, which includes the Original Project Site and APN 5775-015-011, is located in a highly developed and urbanized area of Arcadia. The Original Project Site is occupied by the two Keck Medicine of USC medical office buildings, a parking structure, and the Parsons building. The redevelopment of the Parsons building for hotel uses and the construction of the hotel annex building are currently underway. APN 5775-015-011 is vacant lot currently fenced that was previously occupied by the Original Peppers Mexican and Cantina, surface parking, and landscaping. The restaurant building was demolished in 2023 but the surface parking and landscaping remain.

According to the Arcadia General Plan, Chapter 2: Land Use and Community Design Element, the Revised Project Site is designated as Commercial WHICH. This Commercial designation is intended to encourage a strong pedestrian-oriented environment that provides a variety of retail and service uses, restaurants, and neighborhood-serving commercial uses that complement development in the Downtown Mixed-Use areas.[2] According to the City's Zoning Map, the Revised Project Site is zoned General Commercial (C-G) with a Downtown Overlay.[3] The C-G zone is intended to provide areas for the development of retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The maximum Floor Area Ratio (FAR) permitted under the C-G zone and the Downtown Overlay zone is 1.0 for new development, and the maximum height permitted for new buildings is 48 feet.

Surrounding uses adjacent to the Revised Project Site include residential, office, and commercial uses. The Revised Project Site is bordered by San Juan Drive, the California Thoroughbred Breeders Association, and single-family homes to the north; San Rafael Road and a small commercial plaza to the east; single-family homes to the east and northeast; Colorado Place, Huntington Drive and Le Meriden hotel to the south; and Colorado Place and the Santa Anita Park (a horseracing track) to the west.

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1 Los Angeles County Assessor, Property Search Tool: APN 5775-015-011, https://assessor.lacounty.gov/homeowners/property-search, accessed June 19, 2024.

2 City of Arcadia, *Arcadia General Plan, Chapter 2: Land Use and Community Design Element*, February 2024.

3 City of Arcadia, *City of Arcadia Zoning Map*, Updated February 6, 2024.

NOT TO SCALE

06/2024 • JN 201253

Michael Baker INTERNATIONAL

TEMPO BY HILTON

Regional Vicinity Map

Exhibit 1

Source: Google Earth Pro, July 2024

Michael Baker INTERNATIONAL

NOT TO SCALE

07/2024 • JN 201253

TEMPO BY HILTON

Revised Project Site

Exhibit 2

PROJECT DESCRIPTION

The Revised Project would consist of the improvements proposed by the Tempo Project, along with the previously Approved Project described in the 2020 IS/MND, which includes the redevelopment of the Parsons building for hotel uses and the construction of a new hotel annex building. The Tempo Project would develop a four-story hotel building with approximately 47,140 square feet of gross floor area on APN 5775-015-011; refer to Exhibit 3, *Conceptual Site Plan*.

The new hotel building would have a maximum height of 48 feet, excluding rooftop appurtenances, and would consist of a basement level and four above-ground levels containing a total of 91 rooms and ancillary hotel uses. The basement level would primarily contain back-of-house uses for hotel operations, including an electric room, a mechanical room, a laundry room, offices, storage rooms, an employee breakroom, restrooms, and a fitness room for guest use. Level 1 would contain 13 hotel rooms, a kitchen, café, bar, lobby, meeting area, office, restrooms, and an outdoor patio. Levels 2, 3, and 4 would each contain 26 hotel rooms and the roof level would contain an outdoor paved patio, solar panels, and mechanical areas.

The Tempo Project would utilize the existing parking structure located on the Original Project Site to provide parking for hotel employees, guests, and visitors. As shown in Exhibit 3, the Tempo Project would also reconfigure the existing surface parking lot located to the east of the proposed hotel building on the Original Project Site to provide 18 surface parking spaces, including three electric vehicle charging spaces, a trash enclosure, and a connection to the new surface parking area along the south side of the proposed hotel building. The new surface parking area would provide 6 parking spaces, including 4 accessible parking spaces. In addition, the Tempo Project would develop a drop-off area with access via the existing driveway from Colorado Place. Access to the proposed hotel building would be provided from the two existing driveways along Colorado Place and San Juan Drive.

Landscaping improvements to the Revised Project Site would include the removal of 13 existing trees and the installation of 36 new trees as well as other drought tolerant plants within the Area of Proposed Improvements shown in Exhibit 2. Ancillary improvements to the Revised Project Site would include exterior lighting and accessible routes from the proposed hotel building to the new surface parking area, the existing the surface parking lot to the east, and the existing parking structure.

In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,579 square feet by merging APN 5775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029), which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project.

The Tempo Project would require discretionary approvals from the City for an LLA to merge APN 5775-015-011 with the Original Project Site and a Conditional Use Permit to develop the proposed hotel building in a C-G zone.

Source: DesignCell Architecture, June 2024

Michael Baker
INTERNATIONAL

NOT TO SCALE

06/2024 • JN 201253

TEMPO BY HILTON

Conceptual Site Plan

Exhibit 3

ENVIRONMENTAL SETTING

Electricity

Southern California Edison (SCE) provides electricity services, billing, customer service and power line maintenance and repair in the City of Arcadia. Over the past 15 years, electricity generation in California has undergone a transition. Historically, California has relied heavily on oil- and gas-fired plants to generate electricity. Spurred by regulatory measures and tax incentives, California's electrical system has become more reliant on renewable energy sources, including cogeneration, wind energy, solar energy, geothermal energy, biomass conversion, transformation plants, and small hydroelectric plants. Unlike petroleum production, electricity generation is usually not tied to the location of the fuel source and can be delivered great distances via the electrical grid. The generating capacity of a unit of electricity is expressed in megawatts (MW). Net generation refers to the gross amount of energy produced by a unit, minus the amount of energy the unit consumes. Generation is typically measured in kilowatt-hours (kWh), megawatt-hours (MWh), or gigawatt-hours (GWh).

Natural Gas

Southern California Gas (SoCalGas) provides natural gas service to the City. SoCalGas provides natural gas to approximately 21.8 million customers across a 24,000-square-mile territory, including parts of the following counties: Riverside, Orange, San Bernardino, Los Angeles, Ventura, Santa Barbara, Kern, Inyo, Tulare, and Mono. Natural gas generation is expressed in therms, where one therm is equivalent to 100,000 British Thermal Units (BTU). In 2022, the total natural gas consumption in the SoCalGas service area was 5,026 million therms, with the greatest consumption occurring in the residential and industrial sectors, which consumed 2,230 million therms and 1,606 million therms, respectively.[4]

Automotive Fuel

In California, gasoline consumed primarily by light-duty cars, pickup trucks, and sport utility vehicles is the most-used transportation fuel. Diesel, the second most-used transportation fuel, is primarily consumed by heavy-duty trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles. Both gasoline and diesel are primarily petroleum-based, and their consumption releases greenhouse gas (GHG) emissions. The transportation sector is the single largest source of GHG emissions in California and accounts for the largest share of California's energy consumption. Approximately 40 percent of all inventoried GHG emissions in California in 2019 was generated by the transportation sector. California's transportation sector accounts for one-third of California's total energy consumption in 2020. To reduce statewide vehicle emissions, California requires that all motorists use California Reformulated Gasoline, which is sourced almost exclusively from California refineries.

Energy Usage

Total energy usage in California was 6,882 trillion BTU in 2022, which equates to an average of 189 million BTU per capita.[5] Of California's total energy usage, the breakdown by sector is approximately 42 percent

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4 California Energy Commission, *Gas Consumption by Entity*, http://www.ecdms.energy.ca.gov/, accessed June 11, 2024.

5 U.S. Energy Information Administration, *California State Energy Profile*, April 20, 2023, https://www.eia.gov/state/print.php?sid=CA, accessed July 2, 2024.

transportation, 22 percent industrial, 17 percent commercial, and 17 percent residential.[6] Electricity in California are generally consumed by stationary users such as residences and commercial and industrial facilities, whereas petroleum consumption is generally accounted for by transportation-related energy use. In 2023, taxable gasoline sales (including aviation gasoline) in California accounted for 13,584,697,639 gallons of gasoline.[7]

The electricity and natural gas consumption attributable to County of Los Angeles (County) from 2012 to 2022 is shown in Table 1, *Electricity and Natural Gas Consumption in Los Angeles County 2012-2022*. The year 2022 is the most recent year for which data is available.

Table 1
Electricity and Natural Gas Consumption in Los Angeles County 2012-2022

Year	Electricity Consumption (in millions of kilowatt hours)	Natural Gas Consumption (in millions of therms)
2012	69,167.61	2,985.15
2013	68,280.24	3,065.44
2014	69,859.79	2,793.87
2015	69,460.62	2,791.05
2016	69,364.52	2,877.86
2017	68,591.44	2,956.04
2018	67,834.13	2,921.51
2019	66,741.98	3,048.32
2020	65,566.25	2,936.69
2021	66,003.29	2,882.77
2022	68,484.96	2,820.29

Source:
California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 21, 2024.
California Energy Commission, *Gas Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 21, 2024.

Automotive fuel consumption in Los Angeles County from 2012 to 2024 is shown in Table 2, *Automotive Fuel Consumption in Los Angeles County 2012-2024*.

6 Ibid.
7 California Department of Tax and Fee Administration, *Net Taxable Gasoline Gallons*, available at: https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm, accessed June 11, 2024.

Table 2
Automotive Fuel Consumption in Los Angeles County 2012-2024

Year	On-Road Automotive Fuel Consumption (gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (Construction Equipment) (gallons)
2012	4,145,221,612	30,386,041
2013	4,173,407,883	31,412,517
2014	4,211,469,581	32,380,286
2015	4,326,848,476	33,324,823
2016	4,480,187,933	34,221,807
2017	4,468,352,951	35,091,687
2018	4,409,152,566	35,918,628
2019	4,337,453,104	36,717,728
2020	3,873,168,111	30,373,898
2021	4,323,377,195	30,359,249
2022	4,291,007,510	30,353,204
2023	4,238,500,098	29,661,665
2024(Projected)	4,160,462,341	30,219,621

Source:
California Air Resources Board, *EMFAC2021, https://arb.ca.gov/emfac/emissions-inventory/*, accessed June 21, 2024.
California Air Resources Board, *EMFAC2021 Off-Road Web Platform, https://arb.ca.gov/emfac/offroad/emissions-inventory/*, accessed June 21, 2024.

REGULATORY SETTING

State

Senate Bill 100

Senate Bill (SB) 100 (Chapter 312, Statutes of 2018) requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt-hours (kWh) of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; 60 percent by December 31, 2030; and 100 percent by December 31, 2045. SB 100 requires the California Public Utilities Commission (CPUC), California Energy Commission (CEC), state board, and all other state agencies incorporate this policy into all relevant planning. In addition, SB 100 requires the CPUC, CEC, and state board to utilize programs authorized under existing statutes to achieve such renewable energy goals.

California Building Energy Efficiency Standards (Title 24)

The 2022 California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6), commonly referred to as “Title 24,” became effective on January 1, 2023. In general, Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022 Title 24 standards encourage efficient electric heat pumps, establish electric-ready requirements for new homes, expand solar photovoltaic and battery storage standards, strengthen ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Title 24 standards.

California Green Building Standards (CALGreen)

The 2022 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as CALGreen, went into effect on January 1, 2023. CALGreen is the first-in-the-nation mandatory green buildings standards code. The California Building Standards Commission developed the green building standards to meet the goals of California's landmark initiative Assembly Bill (AB) 32, which established a comprehensive program of cost-effective reductions of GHGs to 1990 levels by 2020. CALGreen was developed to (1) reduce GHGs from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the environmental directives of the administration. CALGreen requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, heating/ventilation and air conditioning [HVAC], and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. There is growing recognition among developers and retailers that sustainable construction is not prohibitively expensive, and that there is a significant cost-savings potential in green building practices and materials.[8]

California Public Utilities Commission Energy Efficiency Strategic Plan

The CPUC prepared an *Energy Efficiency Strategic Plan* (Strategic Plan) in September 2008 with the goal of promoting energy efficiency and GHG reductions. In January 2011, a lighting chapter was adopted and added to the Strategic Plan. The Strategic Plan is California's single roadmap to achieving maximum energy savings in the State from 2009 to 2020 and beyond. The Strategic Plan contains the practical strategies and actions to attain significant statewide energy savings, because of a year-long collaboration by energy experts, utilities, businesses, consumer groups, and governmental organizations in California, throughout the West, nationally and internationally. The plan includes the following four strategies:

1. All new residential construction in California will be zero net energy by 2020;
2. All new commercial construction in California will be zero net energy by 2030;
3. HVAC will be transformed to ensure that its energy performance is optimal for California's climate; and
4. All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

California Public Utilities Commission Community Choice Aggregation

Community Choice Aggregation (CCA) was enacted by Assembly Bill 117 (AB 117) in 2002. Under AB 117, "all electrical corporations must cooperate fully with community choice aggregators investigating, pursuing, or implementing community choice aggregator programs."

The investor-owned utility (IOU) continues to provide transmission and distribution, metering, billing, collection, and customer service to retail customers participating in CCAs. AB 117 also provided guidance on how communities may create a CCA program. AB 117 requires that the city or county pass an ordinance to implement a CCA program within its jurisdiction. Two or more cities or counties may participate in a CCA program as a group through a Joint Powers agency. Potential customers within a community's service area are automatically enrolled in a CCA program unless they opt out, if they are notified in writing of

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8 U.S. Green Building Council, *Green Building Costs and Savings*, https://www.usgbc.org/articles/green-building-costs-and-savings, accessed June 24, 2024.

their right to opt out. If a customer opts out of CCA service, the IOU will continue to serve them as bundled customers.

CCAs are responsible to meet regulatory compliance requirements established in Resource Adequacy (RA), Integrated Resource Planning (IRP), and Renewable Portfolio Standards (RPS). CCAs are responsible for tracking and compliance with CPUC regulations.

California Energy Commission Integrated Energy Policy Report

In 2002, the California State legislature adopted Senate Bill (SB) 1389, which requires the CEC to develop an Integrated Energy Policy Report (IEPR) every two years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the 2023 Integrated Energy Policy Report (2023 IEPR) on February 14, 2024. The 2023 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California, many of which will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The 2023 IEPR discusses speeding connection of clean resources to the electricity grid, the potential use of clean and renewable hydrogen, and the California Energy Demand Forecast to 2040.

Executive Order N-79-20

Executive Order N-79-20, issued September 23, 2020, directs the State to require all new cars and passenger trucks sold in the State to be zero-emission vehicles by 2035. Executive Order N-79-20 further states that all medium- and heavy-duty vehicles sold in the State will be zero-emission by 2045.

Local

City of Arcadia General Plan

The Arcadia General Plan, Chapter 6: Resource Sustainability Element includes the following goals and policies related to energy consumption that would be applicable to the Revised Project:[9]

<u>Chapter 6: Resource Sustainability Element</u>

- **Goal RS-5:** Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation.
  - **Policy RS-5.3:** Require that all new developments meet or exceed the state and local energy conservation requirements.
  - **Policy RS-5.5:** Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.

9 City of Arcadia, *Arcadia General Plan Resource Sustainability Element*, November 16, 2010.

- **Policy RS-5.9:** Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.

Arcadia Municipal Code

Arcadia Municipal Code, Article VIII, Chapter 1 – Building Code, incorporates the California Green Building Standards Code by reference.

CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

In accordance with the *California Environmental Quality Act Guidelines* (CEQA Guidelines), project impacts are evaluated to determine whether significant adverse environmental impacts would occur. This analysis will focus on the project's potential impacts and provide mitigation measures, if required, to reduce or avoid any potentially significant impacts that are identified. According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to energy if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (refer to Impact Statement EN-1); and/or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (refer to Impact Statement EN-2).

SIGNIFICANCE CRITERIA AND METHODOLOGY

Appendix F of the CEQA Guidelines is an advisory document that assists environmental document preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. The analysis for Impact Statement EN-1 and EN-2 rely upon Appendix F of the CEQA Guidelines, which recommends the following topics that a lead agency may consider to determine whether the project would result in inefficient, wasteful, and unnecessary consumption of energy and whether the project would conflict with adopted energy conservation plans:

- **Topic 1**: The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- **Topic 2**: The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- **Topic 3**: The effects of the project on peak and base period demands for electricity and other forms of energy.
- **Topic 4**: The degree to which the project complies with existing energy standards.
- **Topic 5**: The effects of the project on energy resources.
- **Topic 6**: The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

Quantification of energy usage is presented and addresses **Topic 1**. The discussion on construction-related energy use focuses on **Topics 2, 4,** and **5**. The discussion on operational energy use is divided into transportation energy demand and building energy demand. The transportation energy demand analysis discusses **Topics 2, 4, 5,** and **6**, and the building energy demand analysis discusses **Topics 2, 3, 4,** and **5**.

Construction Methodology

Construction of the Tempo Project would require temporary energy consumption primarily using fuel for construction equipment, construction worker vehicle trips to and from the Revised Project Site, and the import and export of earth materials to and from the Revised Project Site by heavy trucks. It should be noted that the construction of the Approved Project will be completed prior to the start of, and would not overlap with, the construction of the Tempo Project. As such, the combined impact of construction energy resources from the Tempo Project and the Approved Project would not be analyzed; only the consumption of energy resources the construction of the Tempo Project would be analyzed.

The estimated construction fuel consumption is based on the Tempo Project's construction equipment list, timing/phasing, and hours of duration for construction equipment, as well as vendor, hauling, and construction worker trips. The Tempo Project would be constructed in one phase/duration over a period of approximately 16.5 months. Construction is anticipated to begin during the third quarter of 2024 and conclude by the end of 2025. Energy consumption during construction, including gasoline and diesel fuel consumption from construction equipment, hauling trips, vendor trips, and worker trips, was estimated using the assumptions and factors from California Emissions Estimator Model (CalEEMod) version 2022.1. The results of the CalEEMod modeling for construction estimates are included in Appendix A, *Energy Data*.

Operations Methodology

The Tempo Project would require energy use in the form of electricity, natural gas, and fuel consumption. The CalEEMod modeling included energy consumption data for the Tempo Project. The energy consumption of the Tempo Project would also be added to the energy consumption of the Approved Project to determine the total combined impact on energy resources. The combined annual electricity and natural gas consumption from both the Tempo Project and Approved Project would then be compared to the total consumption in Los Angeles County in 2022, the latest year consumption data is available.

Based on the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum* (Parking Analysis) prepared by Linscott, Law and Greenspan Engineers (March 12, 2024), the Tempo Project results in an operational trip generation of approximately 1,113 average daily trips (ADT) on weekdays and 915 ADT Saturdays. Additionally, the impact analysis would take into account the Approved Project's operational fuel consumption. The combined fuel consumption for operational trips from the Tempo Project and the Approved Project would be compared to the projected fuel consumption in Los Angeles County for the year 2026 (operational year of the Tempo Project). The results of the CalEEMod modeling for operational energy consumption estimates are included in Appendix A, *Energy Data*.

IMPACT ANALYSIS

EN-1 WOULD THE PROJECT RESULT IN POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES, DURING PROJECT CONSTRUCTION OR OPERATION?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.6 a) concluded that the Approved Project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during construction and operation of the development. As such, the Approved Project's impacts on energy resources would be less than significant.

The following impact analysis focuses on the three sources of energy that are relevant to the Tempo Project: electricity, natural gas, and transportation fuel for vehicle trips associated with operations as well as the fuel necessary for construction. The following analysis also considers the Approved Project's annual operational energy consumption. As stated above, the construction of the Approved Project will be completed prior to the start of the construction of the Tempo Project. As such, energy consumption from construction (construction off-road and on-road fuel) of the Approved Project would not be combined with the Tempo Project. The estimated energy consumption for the Tempo Project and Approved Project is summarized in Table 3, *Tempo Project and Approved Project Energy Consumption*.

Table 3
Tempo Project and Approved Project Energy Consumption

Energy Type	Tempo Project Annual Energy Consumption[1]	Approved Project Annual Energy Consumption[2]	Combined Annual Energy Consumption
Electricity Consumption	817 MWh	1,369 MWh	2,187 MWh
Natural Gas Consumption	16,685 therms	49,474 therms	66,159 therms
Fuel Consumption			
Construction Off-Road Fuel Consumption[3]	17,590 gallons	-	17,590 gallons
Construction On-Road Fuel Consumption[3]	20,733 gallons	-	20,733 gallons
Operational Fuel Consumption	195,888 gallons	303,077 gallons	498,953 gallons

Notes:
1. Tempo Project electricity and natural gas consumptions as modeled in California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model. Tempo Project fuel consumption calculated based on CalEEMod results. Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.
2. Approved project electricity and natural gas consumption based on Appendix A, Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project, February 2020. Refer to Table 13, Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project, February 2020 for operational fuel consumption for the Approved Project.
3. Construction of the Approved Project will be completed prior to the start of the construction of the Tempo Projoect. As such, the analysis does not analyze the combined construction energy impact from both projects.

Source: Refer to Appendix A, *Energy Data* for CalEEMod outputs and assumptions used in this analysis.

The combined annual energy consumption from Table 3 is compared to the Los Angeles County's annual energy consumption. Table 4, *Tempo Project and Approved Project Combined Energy Consumption Increase*, displays the combined annual energy consumption percentage increase of the Tempo Project and Approved Project over the County's energy consumption.

Table 4
Proposed Project and Approved Project Combined Energy Consumption Increase

Energy Type	Combined Annual Energy Consumption[1]	Los Angeles County Annual Energy Consumption[2]	Percentage Increase Countywide
Electricity Consumption[3]	2,187 MWh	68,484,956 MWh	0.0032%
Natural Gas Consumption[4]	66,159 therms	2,821,285,935 therms	0.0023%
Fuel Consumption			
Construction Off-Road Fuel Consumption	17,590 gallons	32,013,161 gallons	0.0549%
Construction On-Road Fuel Consumption	20,733 gallons	4,160,462,341 gallons	0.0005%
Operational Fuel Consumption	498,953 gallons	3,981,438,709 gallons	0.0125%

Notes:
1. Combined annual energy consumption refers to the combined consumption from the Tempo Project and Approved Project. Refer to Table 3.
2. The combined annual increase in electricity and natural gas consumption is compared to the total consumption in Los Angeles County in 2022, the latest year with data available. The Tempo Project's increases in construction off-road and on-road fuel consumption are compared with the projected Los Angeles Countywide off-road fuel consumption and Los Angeles Countywide on-road fuel consumption in 2024, the first year of construction. The combined annual consumption of operational automotive fuel is compared with the projected Countywide on-road fuel consumption in 2026, the Tempo Project's operational year.
3. Los Angeles County electricity consumption data source: California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/elecbycounty.aspx, accessed June 12, 2024.
4. Los Angeles County gas consumption data source: California Energy Commission, *Gas Consumption by County*, https://ecdms.energy.ca.gov/gasbycounty.aspx, accessed June 12, 2024.

Source: Refer to Appendix A, *Energy Data* for CalEEMod outputs and assumptions used in this analysis.

As shown in Table 4, the combined operational electricity usage would constitute an approximate 0.0032 percent increase over the County's typical annual electricity consumption. Additionally, the combined operational natural gas usage would constitute an approximately 0.0023 percent increase over the County's typical annual natural gas consumption. The Tempo Project's off-road construction equipment diesel fuel consumption and on-road construction fuel consumption would increase Los Angeles County's consumption by 0.0549 percent and 0.0005 percent, respectively. Based on the Parking Analysis, the Tempo Project operations would generate approximately 1,113 ADT on weekdays and Sundays, and approximately 915 ADT on Saturdays. As a conservative analysis, the 1,113 ADT was utilized to estimate the Tempo Project's fuel consumption; refer to Appendix A. Based on Table 13 of the 2020 IS/MND, the Approved Project would consume approximately 303,077 gallons of fuel per year. As such, the combined operational fuel consumption from both projects would be approximately 498,953 gallons of fuel per year, constituting an approximately 0.0125 percent increase over the County's projected annual fuel consumption in 2026. As such, the Revised Project's construction and operational energy consumption would be nominal compared to the County's consumption (**Topic 1**).

Construction Energy Consumption

During construction, the Tempo Project would consume energy in two general forms: (1) the fuel energy consumed by construction vehicles and equipment; and (2) bound energy in construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Fossil fuels for construction vehicles and other energy-consuming equipment would be used during grading, building construction, paving, and architectural coating. As indicated in Table 4, the Tempo Project's off-road fuel consumption and on-road fuel consumption from construction would be approximately 17,590 gallons and 20,733 gallons, respectively. Consequently, the Tempo Project's off-road construction equipment diesel fuel consumption and on-road construction fuel consumption would increase Los Angeles County's consumption by 0.0549 percent and 0.0005 percent, respectively.

During construction, the Tempo Project may construct a temporary staging ground. The temporary staging ground may include mobile office trailers and equipment that may consume electricity. However, the electricity consumption during construction would be nominal and temporary. Additionally, natural gas would not be consumed during construction. As such, construction of the Tempo Project would have a nominal effect on the local and regional energy supplies (fuel or electricity) and would not require additional capacity (**Topic 2**).

Some incidental energy conservation would occur during construction through compliance with state requirements that equipment not in use for more than five minutes be turned off (i.e., Title 13, California Code of Regulations Section 2485). Construction equipment would also be required to comply with the latest U.S. Environmental Protection Agency (EPA) and CARB engine emissions standards. These emissions standards require highly efficient combustion systems that maximize fuel efficiency and reduce unnecessary fuel consumption. Section 2449 of 13 CCR Article 4.8, Chapter 9 would minimize the idling of construction equipment used for the construction of the Revised Project. In addition, because the cost of fuel and transportation is a significant aspect of construction budgets, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction (**Topic 4**).

Substantial reductions in energy inputs for construction materials can be achieved by selecting building materials composed of recycled materials that require substantially less energy to produce than nonrecycled materials.[10] The integration of green building materials can help reduce environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these building industry source material. The project-related incremental increase in the use of energy bound in construction materials such as asphalt, steel, concrete, pipes and manufactured or processed materials (e.g., lumber and gas) for the Revised Project would not substantially increase demand for energy compared to overall local and regional demand for construction materials. Further, it is noted that construction fuel use is temporary and would cease upon completion of construction activities. There are no unusual project characteristics that would necessitate the use of construction equipment, or building materials, or methods that would be less energy efficient than at comparable construction sites in the region or State. Therefore, fuel energy and construction materials consumed during construction would not represent a significant demand on energy resources (**Topic 5**) and a less than significant impact would occur in this regard.

Operational Energy Consumption

Transportation Energy Demand

Pursuant to the Federal Energy Policy and Conservation Act of 1975, the National Highway Traffic and Safety Administration is responsible for establishing additional vehicle standards and for revising existing standards. Compliance with federal fuel economy standards is not determined for each individual vehicle model. Rather, compliance is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. As discussed above, the Tempo Project would generate up to 1,113 ADT, which would consume approximately 195,888 gallons of fuel per year. Additionally, based on Table 13 of the 2020 IS/MND, the Approved Project would consume approximately 303,077 gallons of fuel per year. As such, the Tempo Project and Approved Project combined would result

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10 California Department of Resources Recycling and Recovery, *Construction and Demolition Debris Recycling*, https://calrecycle.ca.gov/condemo/, accessed June 24, 2024.

in an annual fuel consumption rate of approximately 498,953 gallons, which constitutes a 0.0125 percent increase over the County's projected on-road fuel consumption in 2026; refer to Table 4. Therefore, the Revised Project would not substantially increase the County's operational fuel consumption, and the Revised Project does not propose any unusual features that would result in excessive long-term operational fuel consumption (**Topic 2**).

The main source of operational fuel consumption for the Revised Project would come from individuals traveling to the Revised Project Site for short-term visits. The Revised Project would also consume fuel in the form of employees driving to and from the Revised Project Site. However, visitor traveling and employee commuting factors are outside of the scope of the design of the Revised Project. Notwithstanding, the Tempo Project would include three electric vehicle (EV) parking spaces with electrical charging station installed and the Approved Project included 15 EV charging stations in compliance with CALGreen standards. This requirement would encourage and support alternative modes of travel and thus reduce the petroleum fuel consumption (**Topic 4, Topic 5,** and **Topic 6**). Additionally, the Revised Project is located approximately 0.5 miles west from the Arcadia Station. Bus stops currently serviced by Foothill Transit are also located approximately 0.25 miles to the southeast along Huntington Drive. Bus stops would help reduce overall vehicle miles traveled (VMT) as public transportation could transport a large group of people in one vehicle, reducing solo car trips. Therefore, fuel consumption associated with vehicle trips generated by the Revised Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region. A less than significant impact would occur in this regard.

Building Energy Demand

The CEC developed 2024 to 2040 forecasts for energy consumption and peak demand in support of the 2023 IEPR for each of the major electricity and natural gas planning areas and the State based on the economic and demographic growth projections. CEC forecasted baseline electricity consumption grows at a rate of about 1.7 percent annually through 2040.[11] The natural gas consumption grows at a rate of about 0.2 percent annually through 2035.[12]

As shown in Table 4, the combined operational energy consumption from the Tempo Project and the Approved Project would represent approximately 0.0032 percent increase over the 2022 Countywide electricity consumption and approximately 0.0023 percent increase over the 2022 Countywide natural gas consumption. This percent increase in energy consumption would be significantly below CEC's forecast. Therefore, the Revised Project would be consistent with the CEC's energy consumption forecasts. Thus, the Revised Project would not require additional energy capacity or supplies (**Topic 2**). Additionally, the Revised Project would consume energy during the same time periods as other commercial developments and would consume energy evenly throughout the day. As a result, the Revised Project would not result in unique or more intensive peak or base period electricity demand (**Topic 3**).

The Revised Project would be required to comply with the most current Title 24 standards (i.e., 2022 Title 24). The 2022 Title 24 provides minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Specifically, the Tempo Project would install low flow water fixtures and water efficient irrigation.

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11 California Energy Commission, *2023 Integrated Energy Policy Report, page 130*, February 14, 2024.

12 Based on *2023 Integrated Energy Policy Report*, the gas forecast is updated every two years, in odd years. As such, the natural gas consumption shown here is based on the California Energy Commission, *Final 2022 Integrated Energy Policy Report Update, Figure 18*, May 10, 2023.

These features were included in the CalEEMod modeling. Title 24 Building Energy Efficiency Standards are updated every 3-year and become more stringent between each update, as such, complying with the most current Title 24 standards would make the Revised Project more energy efficient than existing buildings built under the earlier versions of the Title 24 standards (**Topic 4**).

The electricity provider for the City, SCE, is subject to California's RPS reflected in SB 100. The RPS requires investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 44 percent by the end of 2024, 52 percent by the end of 2027, 60 percent of total procurement by 2030, and 100 percent of total procurement by 2045. Renewable energy is generally defined as energy that comes from resources which are naturally replenished within a human timescale such as sunlight, wind, tides, waves, and geothermal heat. The increase in reliance of such energy resources further ensures that new development projects will not result in the waste of the finite energy resources (**Topic 5**).

In conclusion, the combined energy consumption from the Tempo Project and the Approved Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. As such, impacts for the Revised Project would be less than significant.

Conclusion

In conclusion, the Tempo Project would consume energy resources (i.e., electricity, natural gas, construction on-road/off-road, and operational fuel consumption) that would only represent a nominal increase in the existing and forecasted Countywide consumption even after considering the Approved Project's energy consumption. As such, the Tempo Project's impact on energy resources would be less than significant and would be similar to the impacts disclosed in the 2020 IS/MND, which were determined to be less than significant. In addition, the combined impact from both the Tempo Project and the Approved Project would not result in a significant increase in energy consumption in the County.

Based on the above, the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact EN-1 would be less than significant. Therefore, no mitigation measures are required.

EN-2 WOULD THE PROJECT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.6 b) concluded that the Approved Project would not conflict with existing energy standards and regulations. As such, it was concluded that impacts relating to energy consumption during the construction and operation of the Approved Project would be less than significant.

The Revised Project would comply with state and local plans for renewable energy and energy efficiency, which include the CEC's IEPR, Title 24 standards and CalGreen Code, and the California's RPS. As discussed above, the combined operational energy (electricity and natural gas) consumption of the Tempo Project and Approved Project would represent a nominal increase over the current Countywide consumption. Specifically, the combined electricity consumption would represent an approximately 0.0032 percent increase in electricity consumption over the current Countywide usage, which would be significantly below CEC's forecasts in the 2023 IEPR (i.e., forecasted baseline electricity consumption grows at a rate of about 1.7 percent annually through 2040); refer to Table 4. Additionally, the combined natural gas consumption would represent an approximately 0.0023 percent increase in natural gas consumption over the current Countywide usage, which would be significantly below CEC's forecasts in the 2023 IEPR (i.e., forecasted baseline natural gas consumption grows at a rate of about 0.2 percent annually through 2035); refer to Table 4. Therefore, the Revised Project would be consistent with the CEC's 2023 IEPR.

Further, the Revised Project would comply the most current Title 24 (2022 Title 24), which provides minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. The Revised Project would also comply with the CALGreen Code which requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, HVAC, and plumbing fixtures), divert construction waste from landfills, and incorporate electric vehicles charging infrastructure. Specifically, the Tempo Project would install EV charging stations and water efficient features (i.e., low flow fixtures and water efficient irrigation). The Approved Project also included EV charging stations and water efficient features. Implementation of the most current and applicable Title 24 standards significantly reduces energy usage. Additionally, per the RPS, the Revised Project would utilize electricity that would achieve 60 percent of total procurement by 2030, and 100 percent renewable energy by 2045. As such, the Revised Project would comply with state energy plans including the 2023 IEPR, the most current Title 24 as well as CalGreen standards, and California's RPS.

Additionally, the Revised Project would comply with applicable goals and policies pertaining to energy and energy efficiency in the General Plan. Table 5, *Consistency with the Arcadia General Plan*, discusses the Revised Project's consistency with applicable goals and policies.

In conclusion, based on the above, the Revised Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

Table 5
Consistency with the Arcadia General Plan

Goals and Policies	Project Consistency
Goal RS-5: Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation.	
Policy RS-5.3: Require that all new developments meet or exceed the state and local energy conservation requirements.	**Consistent.** The Revised Project would comply the 2022 Title 24 standards and the CALGreen Code. The 2022 Title 24 standards provides minimum energy efficiency standards for new developments. The Revised Project would be consistent with this policy.
Policy RS-5.5: Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.	**Consistent.** The Revised Project would be supplied with electricity by SCE which would comply with the RPS that requires the electricity providers to achieve 60 percent of total procurement by 2030, and 100 percent renewable energy by 2045. As such, the Revised Project would utilize electricity from SCE that would be required to meet these renewable energy procurement goals. Additionally, the Tempo Project would include a solar ready roof which would allow for the future installation of solar panels for on-site energy production. The Revised Project would utilize alternative energy sources and would be consistent with this policy.
Policy RS-5.9: Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.	**Consistent.** The Tempo Project would provide three EV charging stations and the Approved Project included 14 EV charging stations that would help promote the use of electric vehicles. Electric vehicles typically achieve better fuel economy compared to traditional gasoline and diesel vehicles and thus, would reduce help reduce operational vehicle fuel consumption.[1] Additionally, the Revised Project Site is located approximately 0.5 miles west from the Metro Gold Line Arcadia Station. Bus stops currently serviced by Foothill Transit are also located approximately 0.25 miles to the southeast along Huntington Drive. As such, the Revised Project would incorporate features that encourage alternative modes of transportation and is located near existing public transportation. The Revised Project would be consistent with this policy.
1. United States Department of Energy, *Electric Vehicle Benefits and Considerations*, https://afdc.energy.gov/fuels/electricity-benefits#:~:text=Depending%20on%20how%20they%20are,costs%20than%20similar%20conventional%20vehicles, accessed July 1, 2024.	
Source: City of Arcadia, *Arcadia General Plan Resource Sustainability Element*, November 16, 2010.	

Conclusion

In conclusion, the Tempo Project would comply with existing regulation and plans that address energy efficiency and as such, impacts would be less than significant. Additionally, the Tempo Project's impact would be similar to the impacts disclosed in the 2020 IS/MND, which were determined to be less than significant.

As such the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact EN-2 would be less than significant. Therefore, no mitigation measures are required.

REFERENCES

Documents

1. California Air Resources Board, *EMFAC2021, https://arb.ca.gov/emfac/emissions-inventory/*, accessed June 21, 2024.

2. California Air Resources Board, *EMFAC2021 Off-Road Web Platform, https://arb.ca.gov/emfac/offroad/emissions-inventory/*, accessed June 21, 2024.

3. California Air Resources Board, *EMFAC2021 Off-Road Web Platform, https://arb.ca.gov/emfac/offroad/emissions-inventory/*, accessed March 1, 2024.

4. California Department of Resources Recycling and Recovery, *Green Building*, https://calrecycle.ca.gov/greenbuilding/, accessed June 24, 2024.

5. California Department of Tax and Fee Administration, *Net Taxable Gasoline Gallons*, available at: https://www.cdtfa.ca.gov/taxes-and-fees/spftrpts.htm, accessed June 11, 2024.

6. California Energy Commission, *2023 Integrated Energy Policy Report, Figure 18*, February 14, 2024.

7. California Energy Commission, *Electricity Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 21, 2024.

8. California Energy Commission, *Gas Consumption by County*, http://www.ecdms.energy.ca.gov/, accessed June 21, 2024.

9. City of Arcadia, *Arcadia General Plan Resource Sustainability Element*, November 16, 2010.

10. Linscott, Law, and Greenspan Engineers, *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum*, March 12, 2024.

11. United States Department of Energy, Electric Vehicle Benefits and Considerations, https://afdc.energy.gov/fuels/electricity-benefits#:~:text=Depending%20on%20how%20they%20are,costs%20than%20similar%20conventional%20vehicles, accessed July 1, 2024.

12. U.S. Energy Information Administration, *California State Energy Profile*, April 20, 2023, https://www.eia.gov/state/print.php?sid=CA, accessed June 11, 2024.

13. U.S. Green Building Council, *Green Building Costs and Savings*, https://www.usgbc.org/articles/green-building-costs-and-savings, accessed June 24, 2024.

Programs

1. Google Earth, 2023.

2. California Air Pollution Control Officers Association, California Emissions Estimator Model (CalEEMod), version 2022.1.

Appendix A
Energy Data

Tempo by Hilton Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tempo by Hilton
Construction Start Date	8/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.141583262590174, -118.03818989813819
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.23

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Hotel	91.0	Room	0.73	57,790	5,318	—	—	—
Parking Lot	25.0	Space	0.22	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Water	W-4	Require Low-Flow Water Fixtures

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	13.7	11.9	16.8	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	3,207	3,207	0.13	0.08	3.18	3,238
Mit.	1.63	13.7	11.9	16.8	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	3,207	3,207	0.13	0.08	3.18	3,238
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
Mit.	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	1.24	4.34	6.62	0.01	0.17	0.89	1.00	0.16	0.41	0.52	—	1,453	1,453	0.06	0.05	0.66	1,469
Mit.	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.12	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.16	0.18	0.03	0.08	0.09	—	241	241	0.01	0.01	0.11	243
Mit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.02	0.04	—	241	241	0.01	0.01	0.11	243
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.89	1.00	0.10	0.41	0.52	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.16	0.18	0.02	0.08	0.09	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.28	0.40	0.10	0.12	0.22	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.05	0.07	0.02	0.02	0.04	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Mit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Mit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664
Mit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600
Mit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6

Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.82	0.82	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7

Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.2. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341

Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341
Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34

Architect Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08

Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	8/15/2024	10/31/2024	5.00	56.0	—
Building Construction	Building Construction	11/1/2024	12/31/2025	5.00	304	—
Paving	Paving	9/1/2025	9/30/2025	5.00	22.0	—
Architectural Coating	Architectural Coating	9/1/2025	9/30/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	86,685	28,895	588

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	4,800	42.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.22

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Parking Lot	0.22	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	86,685	28,895	588

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,308,376	74,583
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,035,757	74,583
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00
Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251
Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943

Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2
Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	Per questionnaire
Construction: Trips and VMT	Per questionnaire
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Vehicle Data	Per traffic study, assume weekday trip rates for Sunday as a conservative analysis
Operations: Architectural Coatings	SCAQMD Rule 1113

Tempo By Hilton Project
Energy Calculations

Land Use	Natural Gas Use		Electricity Use	
	(kBTU/yr)	(Therms)	(kWh/yr)	(MWh/yr)
Fast Food Resturaunt w/o Drive Thru	237,683	2376.83	44,167	44.1672
Fast Food Resturaunt w/o Drive Thru	361,832	3618.32	67,237	67.2371
Health Club	135,135	1351.35	79,170	79.1695
High Turnover Sit Down Resturaunt	896,503	8965.03	166,592	166.592
Hotel	3,316,240	33162.4	1,000,900	1000.9
Parking Lot	0	0	11,172	11.172
Recreational Swimming Pool	0	0	0	0
Hotel	1,668,496	16684.96	808,696	808.696
Parking Lot	0	0	8,586	8.586
Totals	**6,615,889**	**66,159**	**2,186,520**	**2,187**

Legend:

Proposed = Yellow
Approved = Green

1 kBTU = 0.01 therms

Energy Type	Project Annual Energy Consumption	Los Angeles County Annual Energy Consumption (2022)	Percentage Increase Countywide
Electricity (MWh)	2,187	5,558,913	0.0393%
Natural Gas (Therms)	66,159	171,045,020	0.0387%

Individual Energy Consumption	Natural Gas Use (therms)	Electricity Use (MWh)	Legend:
Approved Project	49,474	1,369	Proposed = Yellow
Proposed Project	16,685	817	Approved = Green
Total	**66,159**	**2,187**	
Los Angeles County Energy Consumption (2022)	2,820,285,935	68,484,956	
	0.0023%	0.0032%	
Percent Increase			

Tempo By Hilton Project
Energy Calculations

Vehicle Type	Percent of Vehicle Trips[1]	Daily Trips[2]	Annual Vehicle Miles Traveled	Average Fuel Economy (miles per gallon)[3]	Total Annual Fuel Consumption (gallons)[4]	
Passenger Cars	0.51	563	1,834,977	22	83,408	
Light/Medium Trucks	0.47	523	1,706,474	17.3	98,640	County Operational
Heavy Trucks/Other	0.02	27	88,573	6.4	13,839	2029
TOTAL [6]	***1.00***	**1,113**	***3,630,024***	**--**	***195,888***	255,450,567
						0.0767%

Notes:

1. Percent of Vehicle Trip distribution based on trip characteristics within the CalEEMod model.
2. Daily Trips taken from ITE manual.
3. Average fuel economy derived from the Department of Transportation.
4. Total Daily Fuel Consumption calculated by dividing the daily VMT by the average fuel economy (i.e., VMT/Average Fuel Economy).
5. Values may be slightly off due to rounding.

Source: Refer to CalEEMod outputs for assumptions used in this analysis.

Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.

Combined Operational Mobile Fuel Consumption

	Total Fuel Consumption
Proposed Project	195,888
Approved Project	303,077
Total	498,965
Los Angeles County Fuel Consumption (2022)	3981438709
Percent Increase	0.0125%

Tempo By Hilton Project
Energy Calculations

WORKER TRIPS						
Phase	**Phase Length (# days)**	**# Worker Trips**	**Worker Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)**	**Total Fuel Consumption**
Grading	56	16	18.5	16,576	**24.90284233**	665.63
Building Construction	304	48	18.5	269,952		10,840.21
Paving	22	36	18.5	14,652		588.37
Architectural Coating	22	10	18.5	4,070		163.44
						12,257.64

VENDOR TRIPS						
Phase	**Phase Length (# days)**	**# Vendor Trips**	**Vendor Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)**	**Total Fuel Consumption**
Grading	56	0	10.2	0	**8.343886151**	0.00
Building Construction	304	20	10.2	62,016		7,432.51
Paving	22	0	10.2	0		0.00
Architectural Coating	22	0	10.2	0		0.00
						7,432.51

HAULING TRIPS						
Phase	**Phase Length (# days)**	**# Hauling Trips**	**Hauling Trip Length**	**Total VMT**	**Fuel Consumption Factor (Miles/Gallon/Day)[1]**	**Total Fuel Consumption**
Grading	56	22	7	8,624	**8.343886151**	1,033.57
						1,033.57
Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.						
					TOTAL OFF-SITE MOBILE GALLONS CONSUMED DURING CONSTRUCTION	**20,723.72**
					County On-road Gallons	4160462341
					2024	0.0005%

Tempo By Hilton Project
Energy Calculations

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor	Fuel Consumption Rate (gallons per hour)	Duration (total hours/day)	# days	Total Fuel Consumption (gallons)
Grading	Graders	1	6	148	0.41	2.4272	6	56	815.54
Grading	Rubber Tired Dozers	1	6	367	0.40	5.872	6	56	1972.99
Grading	Tractor/Loaders/Backhoes	1	7	84	0.37	1.2432	7	56	487.33
Building Construction	Cranes	1	4	367	0.29	4.2572	4	304	5176.76
Building Construction	Forklift	2	6	82	0.20	0.656	12	304	2393.09
Building Construction	Tractor/Loaders/Backhoes	2	8	84	0.37	1.2432	16	304	6046.92
Paving	Cement and Mortar Mixers	4	6	10	0.56	0.224	24	22	118.27
Paving	Pavers	1	7	81	0.42	1.3608	7	22	209.56
Paving	Rollers	1	7	36	0.38	0.5472	7	22	84.27
Paving	Tractor/Loaders/Backhoes	1	7	84	0.37	1.2432	7	22	191.45
Architectural Coating	Air Compressors	1	6	37	0.48	0.7104	6	22	93.77
								Total:	**17,589.96**

Notes:

Fuel Consumption Rate = Horsepower x Load Factor x Fuel Consumption Factor

Where:

Fuel Consumption Factor for a diesel engine is 0.04 gallons per horsepower per hour (gal/hp/hr) and a gasoline engine is 0.06 gal/hp/hr.

Countywide operational fuel consumption, off-road construction equipment diesel fuel consumption, and on-road fuel consumption are from CARB EMFAC2021.

Source: Refer to CalEEMod outputs for assumptions used in this analysis.

ATTACHMENT D: GEOTECHNICAL ENGINEERING INVESTIGATION

Geotechnologies, Inc.
Consulting Geotechnical Engineers

439 Western Avenue
Glendale, California 91201-2837
818.240.9600 • Fax 818.240.9675

January 2, 2024
File Number 22449

181 Colorado LLC
25 East Huntington Drive
Arcadia, California 91006

Attention: Mike Soo

Subject: Geotechnical Engineering Investigation
Proposed Hotel Development – Tempo Hotel by Hilton
181 Colorado Place, Arcadia, California

Dear Mr. Soo:

This letter transmits the Geotechnical Engineering Investigation for the subject site prepared by Geotechnologies, Inc. This report provides geotechnical recommendations for the development of the site, including earthwork, seismic design, retaining walls, excavations, shoring and foundation design. Engineering for the proposed project should not begin until approval of the geotechnical investigation is granted by the local building official. Significant changes in the geotechnical recommendations may result due to the building department review process.

The validity of the recommendations presented herein is dependent upon review of the geotechnical aspects of the project during construction by this firm. The subsurface conditions described herein have been projected from limited subsurface exploration and laboratory testing. The exploration and testing presented in this report should in no way be construed to reflect any variations which may occur between the exploration locations, or which may result from changes in subsurface conditions.

Should you have any questions please contact this office.

Respectfully submitted,
GEOTECHNOLOGIES, INC.

ELAHE NEZHAD
Staff Engineer
R.C.E. 95112

GREGORIO VARELA
Principal Engineer
R.C.E. 81201

EN/GV:km

Email to: [msoo@asiaaspec.com]

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GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED HOTEL DEVELOPMENT – TEMPO HOTEL BY HILTON
181 COLORADO PLACE
ARCADIA, CALIFORNIA

INTRODUCTION

This report presents the results of the geotechnical engineering investigation performed on the subject site. The purpose of this investigation was to identify the distribution and engineering properties of the geologic materials underlying the site, and to provide geotechnical recommendations for the design of the proposed development.

This investigation included five exploratory borings, collection of representative samples, laboratory testing, engineering analysis, review of published geologic data, review of available geotechnical engineering information and the preparation of this report. The exploratory boring locations are shown on the enclosed Plot Plan. The results of the exploration and the laboratory testing are presented in the Appendix of this report.

PROPOSED DEVELOPMENT

Information concerning the proposed development was furnished by the client. In addition, the plans prepared by Designcell Architecture, dated July 14, 2023, were reviewed for the preparation of this report. The site is proposed to be developed with a four-story hotel structure and adjoining paved parking areas. The footprint of the proposed hotel structure will be approximately 11,206 square feet. The majority of the proposed hotel structure will be built over a subterranean level. A portion of the proposed structure, located to the southwest, will be built at-grade. The enclosed Plot Plan illustrates the portion of the structure to be underlain by a subterranean level, and the portion of the structure to be built at-grade. The exact depth of the proposed subterranean level is unknown at this time. But based on the experience of this firm, it is anticipated that the finished grade of the subterranean level will extend to a depth ranging between 10 and 12 feet below the ground level.

Structural information is not available at this time. Column loads are estimated to be between 300 and 700 kips. Wall loads are estimated to be between 5 and 20 kips per lineal foot. These loads reflect dead and live loads. Grading is expected to consist of excavations in the order of 12 to 15 feet below grade for construction of the proposed subterranean level, as well as the removal and recompaction of the existing unsuitable soils for support of the at-grade portion of the structure.

Any changes in the design of the project or location of any structure, as outlined in this report, should be reviewed by this office. The recommendations contained in this report should not be considered valid until reviewed and modified or reaffirmed, in writing, subsequent to such review.

SITE CONDITIONS

The Project Site is located at 181 Colorado Place, in the City of Arcadia, California. The Project Site is bounded by San Juan Drive to the northwest, existing residential structures to the northeast, existing medical office buildings to the southeast and Colorado Place to the to the southwest.

The site grade is relatively level. The site is currently occupied with a one-story commercial structure with associated paved parking lot. It is anticipated that the existing one-story building will be demolished to allow for the construction of the proposed building.

The vegetation on the site consists of grass lawns, trees and shrubs contained in planter areas. Drainage across the site is by sheetflow to the city streets.

GEOTECHNICAL EXPLORATION

FIELD EXPLORATION

The site was explored on November 1, 2023 by drilling three borings and excavating two test pits. The borings were drilled to depths varying between 30 and 60 feet below the existing grade with the aid of a truck-mounted drilling rig using 8-inch diameter hollowstem augers. The test pits were excavated with the aid of hand tools and hand labor to a depth of 3 and 6 feet below existing grade. The exploration locations are shown on the Plot Plan and the geologic materials encountered are logged on Plates A-1 through A-5.

The location of the exploratory excavations was determined from hardscaped features shown in the enclosed Plot Plan. The location of the exploratory excavations should be considered accurate only to the degree implied by the method used.

Geologic Materials

Fill materials were encountered in all exploratory excavations, at depths of approximately 1 to 3 feet below the existing site grade. The fill consists of silty sands and sandy silts, which are dark brown and dark yellowish brown in color, moist, medium dense, or stiff, and fine grained.

The fill is in turn underlain by native alluvial soils, consisting of silty sands and sands. The native alluvial soils range from dark brown to dark and yellowish brown in color, and are moist, medium dense to very dense, and fine to medium grained.

More detailed descriptions of the earth materials encountered may be obtained from individual logs of the subsurface excavations.

Groundwater

Groundwater was not encountered during exploration, which was conducted to a maximum depth of 60 feet below the existing grade. The historically highest groundwater level was established by review of the Mount Wilson 7½ Minute Quadrangle Seismic Hazard Zone Report, 030 Plate 1.2 entitled "Historically Highest Ground Water Contours". Review of this plate indicates that the historically highest groundwater level is over 100 feet below the existing site grade.

Fluctuations in the level of groundwater may occur due to variations in rainfall, temperature, and other factors not evident at the time of the measurements reported herein. Fluctuations also may occur across the site. High groundwater levels can result in changed conditions.

Caving

Caving could not be directly observed during exploration due to the continuously-case design of the hollowstem augers. Based on the experience of this firm, large diameter excavations that encounter granular, cohesionless soils will most likely experience caving.

SEISMIC EVALUATION

REGIONAL GEOLOGIC SETTING

The subject property is located in the northern portion of the Peninsular Ranges Geomorphic Province. The Peninsular Ranges are characterized by northwest-trending blocks of mountain ridges and sediment-floored valleys. The dominant geologic structural features are northwest trending fault zones that either die out to the northwest or terminate at east-trending reverse faults that form the southern margin of the Transverse Ranges.

REGIONAL FAULTING

Based on criteria established by the California Division of Mines and Geology (CDMG) now called California Geologic Survey (CGS), Faults may be categorized as Holocene-active, Pre-Holocene faults, and Age-undetermined faults. Holocene-active faults are those which show evidence of surface displacement within the last 11,700 years. Pre-Holocene faults are those that have not moved in the past 11,700 years. Age-undetermined faults are faults where the recency of fault movement has not been determined.

Buried thrust faults are faults without a surface expression but are a significant source of seismic activity. They are typically broadly defined based on the analysis of seismic wave recordings of hundreds of small and large earthquakes in the southern California area. Due to the buried nature of these thrust faults, their existence is usually not known until they produce an earthquake. The risk for surface rupture potential of these buried thrust faults is inferred to be low (Leighton, 1990). However, the seismic risk of these buried structures in terms of recurrence and maximum potential magnitude is not well established. Therefore, the potential for surface rupture on these surface-verging splays at magnitudes higher than 6.0 cannot be precluded.

SEISMIC HAZARDS AND DESIGN CONSIDERATIONS

The primary geologic hazard at the site is moderate to strong ground motion (acceleration) caused by an earthquake on any of the local or regional faults. The potential for other earthquake-induced hazards was also evaluated including surface rupture, liquefaction, dynamic settlement, inundation and landsliding.

Surface Rupture

In 1972, the Alquist-Priolo Special Studies Zones Act (now known as the Alquist-Priolo Earthquake Fault Zoning Act) was passed into law. As revised in 2018, The Act defines

"Holocene-active" Faults utilizing the same aging criteria as that used by California Geological Survey (CGS). However, established state policy has been to zone only those faults which have direct evidence of movement within the last 11,700 years. It is this recency of fault movement that the CGS considers as a characteristic for faults that have a relatively high potential for ground rupture in the future.

CGS policy is to delineate a boundary from 200 to 500 feet wide on each side of the Holocene-Active fault trace based on the location precision, the complexity, or the regional significance of the fault. If a site lies within an Earthquake Fault Zone, a geologic fault rupture investigation must be performed that demonstrates that the proposed building site is not threatened by surface displacement from the fault before development permits may be issued.

Ground rupture is defined as surface displacement which occurs along the surface trace of the causative fault during an earthquake. Based on research of available literature and results of site reconnaissance, no known Holocene-active or Pre-Holocene faults underlie the subject site.

Based on review of the enclosed Earthquake Zone of Required Investigation Map, the closest fault to the site which could cause surface rupture is the Raymond Fault. The Earthquake Fault Zone delineated for the Raymond Fault is located approximately 1,200feet to the northwest of the Project Site. Based on these considerations, the potential for surface ground rupture at the subject site is considered low.

Liquefaction

Liquefaction is a phenomenon in which saturated silty to cohesionless soils below the groundwater table are subject to a temporary loss of strength due to the buildup of excess pore pressure during cyclic loading conditions such as those induced by an earthquake. Liquefaction-related effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures.

The Seismic Hazards Maps of the State of California (CDMG, 1999), do not classify the site as part of the potentially "Liquefiable" area. This determination is based on groundwater depth records, soil type and distance to a fault capable of producing a substantial earthquake.

Groundwater was not encountered during exploration, which was excavated to a maximum depth of 60 feet below the existing grade. The historically highest groundwater level was established by review of the Mount Wilson 7½ Minute Quadrangle Seismic Hazard Zone Report, 030 Plate 1.2 entitled "Historically Highest Ground Water Contours". Review of this plate indicates that the historically highest groundwater level is on the order of 100 feet below grade.

Based on the medium dense to very dense nature of the underlying soils, and the depth to the historically highest groundwater level, the potential for liquefaction occurring at the site is considered to be remote.

Dynamic Dry Settlement

Seismically-induced settlement or compaction of dry or moist, cohesionless soils can be an effect related to earthquake ground motion. Such settlements are typically most damaging when the settlements are differential in nature across the length of structures.

A site-specific seismic dry sand settlement analysis was performed utilizing Tokimatsu and Seed's procedure for the soils encountered in Boring B2 (Tokimatsu and Seed, 1987). The enclosed dynamic dry settlement analysis is based on a peak ground acceleration (PGA_M) of 0.953g, and a mean magnitude (M_W) of 7.04. These values were obtained from the SEAOC/OSHPD U.S. Seismic Design Maps tool and the USGS Probabilistic Seismic Hazard Deaggregation program (USGS, 2014).

The site-specific seismic dry sand settlement analysis was performed to a depth of 60 feet. Based on the parameters provided above, the enclosed seismically-induced dry sand settlement calculation resulted in a total dynamic dry settlement of 0.34 inches. Differential dynamic dry settlement would not be expected to exceed two-thirds of the total dynamic settlement, or 0.23 inches, and would be expected to occur over a distance of 30 feet.

Tsunamis, Seiches and Flooding

Tsunamis are large ocean waves generated by sudden water displacement caused by a submarine earthquake, landslide, or volcanic eruption. Review of the County of Los Angeles Flood and Inundation Hazards Map, Leighton (1990), indicates the site does not lie within the mapped tsunami inundation boundaries.

Seiches are oscillations generated in enclosed bodies of water which can be caused by ground shaking associated with an earthquake. No major water-retaining structures are located immediately up gradient from the project site. Therefore, the risk of flooding from a seismically-induced seiche is considered to be remote.

Review of the County of Los Angeles Flood and Inundation Hazards Map, Leighton (1990), indicates the site lies within the inundation boundaries of the Big Santa Anita Dam. A determination of whether a higher site elevation would remove the site from the potential inundation zones is beyond the scope of this investigation.

Landsliding

The probability of seismically-induced landslides occurring on the site is considered to be low due to the general lack of elevation difference across or adjacent to the site.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the exploration, laboratory testing, and research, it is the finding of Geotechnologies, Inc. that construction of the proposed hotel is considered feasible from a geotechnical engineering standpoint provided the advice and recommendations presented herein are followed and implemented during construction.

Groundwater was not encountered during exploration, conducted to a maximum depth of 60 feet below the existing grade. Approximately 1 to 3 feet of existing fill materials were encountered during exploration at the site. The existing fill materials are considered to be unsuitable for support of the proposed foundations, floor slabs, or additional fill. However, the existing fill materials are expected to be removed during excavation of the proposed subterranean level, exposing native soils at the subterranean subgrade. Within the at-grade portion of the structure, the existing fill may be reused for the preparation of a compacted fill pad.

It is recommended that the proposed structure be supported by conventional foundations. Conventional foundations to support the subterranean portion of the structure may bear in the native soils expected at the subterranean subgrade. Conventional foundations to support the at-grade portion of the structure should bear in a newly built compacted fill pad. For the creation of a compacted fill pad, all existing fill materials and upper native soils should be removed and recompacted to a minimum depth of 5 feet below the proposed subgrade, or 3 feet below the bottom of the proposed foundations, whichever is greater. In addition, the proposed fill pad shall be over excavated a minimum of 3 feet horizontally beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater.

It is anticipated that excavation of the proposed subterranean level will require shoring measures to provide a stable working area due to the proposed depth, the granular nature of the onsite soils, and the proximity of adjacent properties and public right of ways.

Foundations for small outlying structures, such as property line walls, planters, trach enclosures, and canopies, which are not to be tied-in to the proposed buildings, may be supported on conventional foundations bearing in native soils, and/or properly placed compacted fill.

The validity of the conclusions and design recommendations presented herein is dependent upon review of the geotechnical aspects of the proposed construction by this firm. The subsurface conditions described herein have been projected from borings on the site as indicated and should in no way be construed to reflect any variations which may occur between these borings or which may result from changes in subsurface conditions. Any changes in the design or location of any structure, as outlined in this report, should be reviewed by this office. The recommendations contained herein should not be considered valid until reviewed and modified or reaffirmed subsequent to such review.

SEISMIC DESIGN CONSIDERATIONS

California Building Code Seismic Parameters

Based on information derived from the subsurface investigation, the subject site is classified as Site Class D, which corresponds to a “Stiff Soil” Profile, according to Table 20.3-1 of ASCE 7-16. This information and the site coordinates were input into the OSHPD seismic utility program in order to calculate ground motion parameters for the site.

CALIFORNIA BUILDING CODE SEISMIC PARAMETERS	
California Building Code	2022
ASCE Design Standard	7-16
Risk Category	II
Site Class	D
Mapped Spectral Acceleration at Short Periods (S_S)	1.991g
Site Coefficient (F_a)	1.0
Maximum Considered Earthquake Spectral Response for Short Periods (S_{MS})	1.991g
Five-Percent Damped Design Spectral Response Acceleration at Short Periods (S_{DS})	1.327g
Mapped Spectral Acceleration at One-Second Period (S_1)	0.730g
Site Coefficient (F_v)	1.7*
Maximum Considered Earthquake Spectral Response for One-Second Period (S_{M1})	1.241g*
Five-Percent Damped Design Spectral Response Acceleration for One-Second Period (S_{D1})	0.827g*

* *According to ASCE 7-16, a Long Period Site Coefficient (F_v) of 1.7 may be utilized provided that the value of the Seismic Response Coefficient (C_s) is determined by Equation 12.8-2 for values of $T \leq 1.5T_s$ and taken as equal to 1.5 times the value computed in accordance with either Equation 12.8-3 for $T_L \geq T > 1.5T_s$ or equation 12.8-4 for $T > T_L$. Alternatively, a site-specific ground motion hazard analysis may be performed in accordance with ASCE 7-16 Section 21.1 and/or a ground motion hazard analysis in accordance with ASCE 7-16 Section 21.2 to determine ground motions for any structure.*

EXPANSIVE SOILS

The upper onsite geologic materials are in the very low expansion range. The Expansion Index was found to be between 10 and 17 for bulk samples remolded to 90 percent of the laboratory maximum dry density. Recommended reinforcing is noted in the "Foundation Design" and "Slabs on Grade" sections of this report.

WATER-SOLUBLE SULFATES

The Portland cement portion of concrete is subject to attack when exposed to water-soluble sulfates. Usually the two most common sources of exposure are from soil and marine environments.

The sources of natural sulfate minerals in soils include the sulfates of calcium, magnesium, sodium, and potassium. When these minerals interact and dissolve in subsurface water, a sulfate concentration is created, which will react with exposed concrete. Over time sulfate attack will destroy improperly proportioned concrete well before the end of its intended service life.

The water-soluble sulfate content of the onsite geologic materials was tested by California Test 417. The water-soluble sulfate content was determined to be less than 0.1% percentage by weight for the soils tested. Based on the most recent revision to American Concrete Institute (ACI) Standard 318, the sulfate exposure is considered to be negligible for geologic materials with less than 0.1% and Type I cement may be utilized for concrete foundations in contact with the site soils.

GRADING GUIDELINES

Site Preparation

- A thorough search should be made for possible underground utilities and/or structures. Any existing or abandoned utilities or structures located within the footprint of the proposed grading should be removed or relocated as appropriate.

- All vegetation, existing fill, and soft or disturbed geologic materials should be removed from the areas to receive controlled fill. All existing fill materials and any disturbed geologic materials resulting from grading operations shall be completely removed and properly recompacted prior to foundation excavation.

- Any vegetation or associated root system located within the footprint of the proposed structures should be removed during grading.

- Subsequent to the indicated removals, the exposed grade shall be scarified to a depth of six inches, moistened to optimum moisture content, and recompacted in excess of the minimum required comparative density.

- The excavated areas shall be observed by the geotechnical engineer prior to placing compacted fill.

Recommended Over-excavation for Proposed At-Grade Portion of the Structure

Within the proposed at-grade portion of the structure, all existing fill and upper native soils shall be excavated to a minimum depth of 5 feet below the bottom of the proposed subgrade, or 3 feet below the bottom of the proposed foundations, whichever is greater. In addition, the excavation shall extend horizontally at least 3 feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundations, whichever is greater. An over-excavation is not required for the subterranean portion of the structure.

Compaction

All fill should be mechanically compacted in layers not more than 8 inches thick. The materials placed should be moisture conditions to within 3 percent of the optimum moisture content of the particular material placed. All fill shall be compacted to at least 90 percent of the maximum laboratory dry density for the materials used. The maximum density shall be determined by the laboratory operated by Geotechnologies, Inc. in general accordance with the most recent revision of ASTM D 1557.

Field observation and testing shall be performed by a representative of the geotechnical engineer during grading to assist the contractor in obtaining the required degree of compaction and the proper moisture content. Where compaction is less than required, additional compactive effort shall be made with adjustment of the moisture content, as necessary, until a minimum of 90 percent compaction is obtained.

Acceptable Materials

The excavated onsite materials are considered satisfactory for reuse in the controlled fills as long as any debris and/or organic matter is removed. Materials larger than 6 inches should not be used for the fill.

Any imported materials shall be observed and tested by the representative of the geotechnical engineer prior to use in fill areas. Imported materials should contain sufficient fines so as to be relatively impermeable and result in a stable subgrade when compacted. Any required import materials should consist of geologic materials with an expansion index of less than 40. The water-soluble sulfate content of the import materials should be less than 0.1% percentage by weight.

Imported materials should be free from chemical or organic substances which could affect the proposed development. A competent professional should be retained in order to test imported materials and address environmental issues and organic substances which might affect the proposed development.

Utility Trench Backfill

Utility trenches should be backfilled with controlled fill. The utility should be bedded with clean sands at least one foot over the crown. The remainder of the backfill may be onsite soil compacted to 90 percent of the laboratory maximum dry density. Utility trench backfill should be tested by representatives of this firm in general accordance with the most recent revision of ASTM D 1557.

Shrinkage

Shrinkage results when a volume of soil removed at one density is compacted to a higher density. A shrinkage factor between 5 and 15 percent should be anticipated when excavating and recompacting the existing fill and underlying native geologic materials on the site to an average comparative compaction of 92 percent.

Weather Related Grading Considerations

When rain is forecast all fill that has been spread and awaits compaction shall be properly compacted prior to stopping work for the day or prior to stopping due to inclement weather. These fills, once compacted, shall have the surface sloped to drain to an area where water can be removed.

Temporary drainage devices should be installed to collect and transfer excess water to the street in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope.

Work may start again, after a period of rainfall, once the site has been reviewed by a representative of this office. Any soils saturated by the rain shall be removed and aerated so that the moisture content will fall within three percent of the optimum moisture content.

Surface materials previously compacted before the rain shall be scarified, brought to the proper moisture content and recompacted prior to placing additional fill, if considered necessary by a representative of this firm.

Geotechnical Observations and Testing During Grading

Geotechnical observations and testing during grading are considered to be a continuation of the geotechnical investigation. It is critical that the geotechnical aspects of the project be reviewed by representatives of Geotechnologies, Inc. during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise this office at least twenty-four hours prior to any required site visit.

Proper compaction is necessary to reduce settlement of overlying improvements. Some settlement of compacted fill should be anticipated. Any utilities supported therein should be designed to accept differential settlement. Differential settlement should also be considered at the points of entry to the structure.

FOUNDATION DESIGN

Conventional Foundations

The proposed hotel structure may be supported by a conventional foundation system. Conventional foundations to support the subterranean portion of the structure may bear in the native soils expected at the subterranean subgrade. Conventional foundations to support the at-grade portion of the structure should bear in a newly built compacted fill pad.

Continuous foundations may be designed for a bearing capacity of 3,000 pounds per square foot and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade and 18 inches into the recommended bearing material.

Column foundations may be designed for a bearing capacity of 3,500 pounds per square foot and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade and 18 inches into the recommended bearing material.

The bearing capacity increase for each additional foot of width is 250 pounds per square foot. The bearing capacity increase for each additional foot of depth is 700 pounds per square foot. The maximum recommended bearing capacity is 5,000 pounds per square foot.

The bearing capacities indicated above are for the total of dead and frequently applied live loads, and may be increased by one third for short duration loading, which includes the effects of wind or seismic forces.

Miscellaneous Foundations

Conventional foundations for structures such as privacy walls or trash enclosures which will not be rigidly connected to the proposed structure may bear in native soils. Continuous footings may be designed for a bearing capacity of 1,500 pounds per square foot, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade and 18 inches into the recommended bearing material. No bearing capacity increases are recommended.

Since the recommended bearing capacity is a net value, the weight of concrete in the foundations may be taken as 50 pounds per cubic foot and the weight of the soil backfill may be neglected when determining the downward load on the foundations.

Foundation Reinforcement

All continuous foundations should be reinforced with a minimum of four #4 steel bars. Two should be placed near the top of the foundation, and two should be placed near the bottom.

Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations and by passive earth pressure. An allowable coefficient of friction of 0.38 may be used with the dead load forces.

Passive geologic pressure for the sides of foundations poured against undisturbed or recompacted soil may be computed as an equivalent fluid having a density of 250 pounds per cubic foot with a maximum earth pressure of 1,500 pounds per square foot. The passive and friction components may be combined for lateral resistance without reduction. A one-third increase in the passive value may be used for short duration loading such as wind or seismic forces.

Foundation Settlement

Settlement of the foundation system is expected to occur on initial application of loading. The maximum static settlement is not expected to exceed ⅔-inch. Differential static settlement between new foundations is not expected to exceed ¼-inch.

In addition to static settlement, the existing and proposed foundations should be able to withstand seismically induced settlement. The static and seismic settlements are additive. Seismic dry settlement of up to 0.34 inches could potentially occur during the design-based seismic event. The differential seismically induced settlement is expected to be in the order of 0.23 inches.

Based on the above considerations, it is recommended that the foundation system is able to tolerate a total settlement (static plus seismic) of up to 1 inch, and a differential settlement (static plus seismic) of up to ½-inch. The differential settlement would be expected to occur over a distance of 30 feet.

Foundation Observations

It is critical that all foundation excavations are observed by a representative of this firm to verify penetration into the recommended bearing materials. The observation should be performed prior to the placement of reinforcement. Foundations should be deepened to extend into satisfactory geologic materials, if necessary. Foundation excavations should be cleaned of all loose soils prior to placing steel and concrete. Any required foundation backfill should be mechanically compacted, flooding is not permitted.

RETAINING WALL DESIGN

It is anticipated that retaining walls ranging between 10 and 12 feet in height will be required for the proposed subterranean level. As a precautionary measure, recommendations for the design of underground retaining walls up to a height of 15 feet have been provided herein. Retaining walls may be designed as indicated below, depending on whether the walls will be restrained or cantilevered. Retaining wall foundations may be designed in accordance with the provisions of the "Foundation Design" section of this report.

Additional pressure should be added for a surcharge condition due to vehicular traffic or adjacent structures. It is anticipated that the proposed retaining walls will be surcharged by the at-grade portion of the structure. Information regarding the loading of these at-grade foundations will be necessary to analyze the anticipated lateral surcharge.

Vehicular traffic is expected in the vicinity of the retaining walls. For traffic surcharge, the upper 10 feet of any retaining wall adjacent to streets, driveways or parking areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot traffic surcharge. If the traffic is more than 10 feet from the retaining walls, the traffic surcharge may be neglected.

Restrained Retaining Walls

Restrained subterranean retaining walls supporting a level back slope may be designed to resist a triangular distribution of earth pressure, as recommended in the table below. It is recommended the walls be designed to resist the greater of the at-rest pressure, or the active pressure plus the seismic pressure, as discussed in the "Dynamic (Seismic) Earth Pressure" section below.

RESTRAINED SUBTERRANEAN WALLS		
	AT-REST EARTH PRESSURE	**ACTIVE EARTH PRESSURE *(To be Combined with Dynamic Seismic Earth Pressure)**
Height of Wall (Feet)	Triangular Distribution of Pressure (Pounds per Cubic Foot)	Triangular Distribution of Pressure (Pounds per Cubic Foot)
Up to 15	56	31*

The lateral earth pressure recommended above for retaining walls assumes that a permanent drainage system will be installed so that external water pressure will not be developed against the walls. Also, where necessary, the retaining walls should be designed to accommodate any surcharge pressures that may be imposed by adjacent traffic and existing structures.

Dynamic (Seismic) Earth Pressure

Retaining walls exceeding 6 feet in height shall be designed to resist the additional earth pressure caused by seismic ground shaking. A triangular pressure distribution should be utilized for the additional seismic loads, with an equivalent fluid pressure of 25 pounds per cubic foot. The seismic earth pressure should be combined with the lateral active earth pressure for analyses of restrained basement walls under seismic loading condition.

Miscellaneous Cantilever Retaining Walls

Cantilever retaining walls up to 15 feet in height supporting a level back slope may be designed utilizing a triangular distribution of pressure. Cantilever retaining walls may be designed for 31 pounds per cubic foot for walls retaining up to 15 feet of earth. This pressure assumes a subdrain system will be installed behind the wall. In addition, cantilever walls greater than 6 feet in height shall be designed to resist seismic earth pressure indicated in the “Dynamic (Seismic) Earth Pressure” section above.

For this equivalent fluid pressure to be valid, walls which are to be restrained at the top should be backfilled prior to the upper connection being made. Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures.

Retaining Wall Drainage

All retaining walls shall be provided with a subdrain system in order to minimize the potential for future hydrostatic pressure buildup behind the proposed retaining walls. Subdrains may consist of four-inch diameter perforated pipes, placed with perforations facing down. The pipe shall be encased in at least one-foot of gravel around the pipe. The gravel shall be wrapped in filter fabric. The gravel may consist of three-quarter inch to one-inch crushed rocks.

As an alternative to the standard perforated subdrain pipe and gravel drainage system, the use of gravel pockets and weepholes is an acceptable drainage method. Weepholes shall be a minimum of 4 inches in diameter, placed at 8 feet on center along the base of the wall. Gravel pockets shall be a minimum of 1 cubic foot in dimension and may consist of three-quarter inch to one-inch crushed rocks, wrapped in filter fabric. A collector pipe shall be installed to direct collected waters to a sump

Certain types of subdrain pipe are not acceptable to the various municipal agencies, it is recommended that prior to purchasing subdrainage pipe, the type and brand is cleared with the proper municipal agencies. Subdrainage pipes should outlet to an acceptable location. Some municipalities do not allow the use of flat-drainage products, such as Miradrain, as a primary drainage system. The use of such a product should be researched with the building official.

The lateral earth pressures recommended above for retaining walls assume that a permanent drainage system will be installed so that external water pressure will not be developed against the walls. If a drainage system is not provided, the walls should be designed to resist an external hydrostatic pressure due to water in addition to the lateral earth pressure. In any event, it is recommended that retaining walls be waterproofed.

Sump Pump Design

The purpose of the recommended retaining wall backdrainage system is to relieve hydrostatic pressure. Groundwater was not encountered during exploration to a depth of 60 feet. Therefore, the only water which could affect the proposed retaining walls would be irrigation water and precipitation. Additionally, the proposed site grading is such that all drainage is directed to the street and the structure has been designed with adequate non-erosive drainage devices.

Based on these considerations the retaining wall backdrainage system is not expected to experience an appreciable flow of water, and in particular, no groundwater will affect it. However, for the purposes of design, a flow of 5 gallons per minute may be assumed.

Waterproofing

Moisture effecting retaining walls is one of the most common post construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water inside the building. Efflorescence is a process in which a powdery substance is produced on the surface of the concrete by the evaporation of water. The white powder usually consists of soluble salts such as gypsum, calcite, or common salt. Efflorescence is common to retaining walls and does not affect their strength or integrity.

It is recommended that retaining walls be waterproofed. Waterproofing design and inspection of its installation is not the responsibility of the geotechnical engineer. A qualified waterproofing consultant should be retained in order to recommend a product or method which would provide protection to below grade walls.

Retaining Wall Backfill

Any required backfill should be mechanically compacted in layers not more than 8 inches thick, to at least 90 percent of the maximum density obtainable by the latest revision of ASTM D 1557 method of compaction. Flooding should not be permitted. Proper compaction of the backfill will be necessary to reduce settlement of overlying walks and paving. Some settlement of required backfill should be anticipated, and any utilities supported therein should be designed to accept differential settlement, particularly at the points of entry to the structure.

Proper compaction of the backfill will be necessary to reduce settlement of overlying walks and paving. Some settlement of required backfill should be anticipated, and any utilities supported therein should be designed to accept differential settlement, particularly at the points of entry to the structure.

TEMPORARY EXCAVATIONS

It is anticipated that excavations on the order of 15 feet in vertical height will be required for the proposed subterranean level and foundation elements. The excavations are expected to expose fill and dense native soils, which are suitable for vertical excavations up to 5 feet where not surcharged by adjacent traffic or structures. Excavations which will be surcharged by adjacent traffic, public way, properties, or structures should be shored.

Where sufficient space is available, temporary unsurcharged embankments could be sloped back without shoring. Excavations over 5 feet in height should be excavated at a uniform 1:1 (h:v) slope gradient in its entirety to a maximum height of 15 feet. A uniform sloped excavation does not have a vertical component.

Where sloped embankments are utilized, the tops of the slopes should be barricaded to prevent vehicles and storage loads within seven feet of the tops of the slopes. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. The soils exposed in the cut slopes should be inspected during excavation by personnel from this office so that modifications of the slopes can be made if variations in the soil conditions occur.

It is critical that the soils exposed in the cut slopes are observed by a representative of this office during excavation so that modifications of the slopes can be made if variations in the earth material conditions occur. All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on top of the excavation nor to flow towards it.

Excavation Observations

It is critical that the soils exposed in the cut slopes are observed by a representative of Geotechnologies, Inc. during excavation so that modifications of the slopes can be made if variations in the geologic material conditions occur. Many building officials require that temporary excavations should be made during the continuous observations of the geotechnical engineer. All excavations should be stabilized within 30 days of initial excavation.

SHORING DESIGN

The following information on the design and installation of the shoring is as complete as possible at this time. It is suggested that a review of the final shoring plans and specifications be made by this office prior to bidding or negotiating with a shoring contractor be made.

One method of shoring would consist of steel soldier piles, placed in drilled holes and backfilled with concrete. The soldier piles may be designed as cantilevers or laterally braced utilizing drilled tie-back anchors or raker braces.

Soldier Piles

Drilled cast-in-place soldier piles should be placed no closer than 2 diameters on center. The minimum diameter of the piles is 18 inches. Structural concrete should be used for the soldier piles below the excavation; lean-mix concrete may be employed above that level. As an alternative, lean-mix concrete may be used throughout the pile where the reinforcing consists of a wideflange section. The slurry must be of sufficient strength to impart the lateral bearing pressure developed by the wideflange section to the earth materials. For design purposes, an allowable passive value for the earth materials below the bottom plane of excavation may be assumed to be 600 pounds per square foot per foot. To develop the full lateral value, provisions should be implemented to assure firm contact between the soldier piles and the undisturbed earth materials.

The frictional resistance between the soldier piles and retained earth material may be used to resist the vertical component of the anchor load. The coefficient of friction may be taken as 0.38 based on uniform contact between the steel beam and lean-mix concrete and retained earth. The portion of soldier piles below the plane of excavation may also be employed to resist the downward loads. The downward capacity may be determined using a frictional resistance of 600 pounds per square foot. The minimum depth of embedment for shoring piles is 5 feet below the bottom of the footing excavation, or 7 feet below the bottom of excavated plane, whichever is deeper.

Caving should be expected during drilling of the soldier piles. Casing may be required should caving be experienced. If casing is used, extreme care should be employed so that the pile is not pulled apart as the casing is withdrawn. At no time should the distance between the surface of the concrete and the bottom of the casing be less than 5 feet.

Lagging

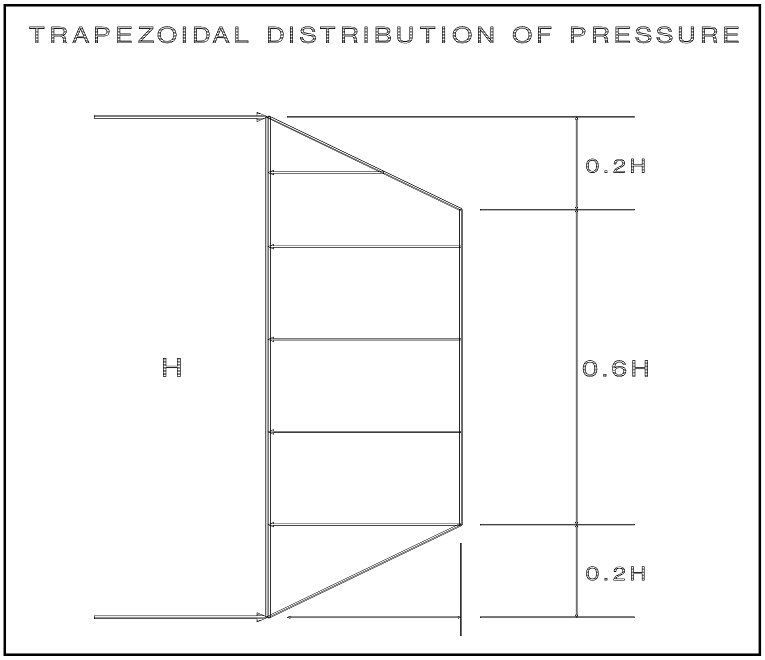
Soldier piles and anchors should be designed for the full anticipated pressures. Due to the cohesionless nature of the underlying earth materials, lagging will be required throughout the entire depth of the excavation. Due to arching in the geologic materials, the pressure on the lagging will be less. It is recommended that the lagging should be designed for the full design pressure but be limited to a maximum of 400 pounds per square foot. It is recommended that a representative of this firm observe the installation of lagging to insure uniform support of the excavated embankment.

Lateral Pressures

A triangular distribution of lateral earth pressure should be utilized for the design of cantilevered shoring system. A trapezoidal distribution of lateral earth pressure would be appropriate where shoring is to be restrained at the top by bracing or tie backs. The design of trapezoidal distribution of pressure is shown in the diagram below. Equivalent fluid pressures for the design of cantilevered and restrained shoring are presented in the following table:

Height of Shoring (feet)	Cantilever Shoring System Equivalent Fluid Pressure (pcf) Triangular Distribution of Pressure	Restrained Shoring System Lateral Earth Pressure (psf)* Trapezoidal Distribution of Pressure
Up to 18	28 pcf	18H psf

*Where H is the height of the shoring in feet.



Where a combination of sloped embankment and shoring is utilized, the pressure will be greater and must be determined for each combination. Additional active pressures should be applied where the shoring will be surcharged by adjacent traffic or structures.

The upper ten feet of the temporary shoring wall adjacent to streets, driveways or parking areas should be designed to resist a uniform lateral pressure of 100 pounds per square foot, acting as a result of an assumed 300 pounds per square foot surcharge behind the walls due to normal street traffic. If the traffic is kept back at least ten feet from the retaining walls, the traffic surcharge may be neglected.

Tied-Back Anchors

Tied-back anchors may be used to resist lateral loads. Friction anchors are recommended. For design purposes, it may be assumed that the active wedge adjacent to the shoring is defined by a plane drawn 35 degrees with the vertical through the bottom plane of the excavation. Friction anchors should extend a minimum of 20 feet beyond the potentially active wedge.

Drilled friction anchors may be designed for a skin friction of 500 pounds per square foot. Pressure grouted anchor may be designed for a skin friction of 2,500 pounds per square foot. Where belled anchors are utilized, the capacity of belled anchors may be designed by assuming the diameter of the bonded zone is equivalent to the diameter of the bell. Only the frictional resistance developed beyond the active wedge would be effective in resisting lateral loads.

It is recommended that at least 3 of the initial anchors have their capacities tested to 200 percent of their design capacities for a 24-hour period to verify their design capacity. The total deflection during this test should not exceed 12 inches. The anchor deflection should not exceed 0.75 inches during the 24-hour period, measured after the 200 percent load has been applied.

All anchors should be tested to at least 150 percent of design load. The total deflection during this test should not exceed 12 inches. The rate of creep under the 150 percent test load should not exceed 0.1 inch over a 15-minute period in order for the anchor to be approved for the design loading.

After a satisfactory test, each anchor should be locked-off at the design load. This should be verified by rechecking the load in the anchor. The load should be within 10 percent of the design load. Where satisfactory tests are not attained, the anchor diameter and/or length should be increased or additional anchors installed until satisfactory test results are obtained. The installation and testing of the anchors should be observed by the geotechnical engineer. Minor caving during drilling of the anchors should be anticipated.

Anchor Installation

Tied-back anchors may be installed between 20 and 45 degrees below the horizontal. Caving of the anchor shafts, particularly within sand deposits, should be anticipated and the following provisions should be implemented in order to minimize such caving. The anchor shafts should be filled with concrete by pumping from the tip out, and the concrete should extend from the tip of the anchor to the active wedge. In order to minimize the chances of caving, it is recommended that the portion of the anchor shaft within the active wedge be backfilled with sand before testing the anchor. This portion of the shaft should be filled tightly and flush with the face of the excavation. The sand backfill should be placed by pumping; the sand may contain a small amount of cement to facilitate pumping.

Deflection

It is difficult to accurately predict the amount of deflection of a shored embankment. It should be realized that some deflection will occur. It is estimated that the deflection could be on the order of one inch at the top of the shored embankment. If greater deflection occurs during construction, additional bracing may be necessary to minimize settlement of adjacent buildings and utilities in adjacent street and alleys. If desired to reduce the deflection, a greater active pressure could be used in the shoring design. Where internal bracing is used, the rakers should be tightly wedged to minimize deflection. The proper installation of the raker braces and the wedging will be critical to the performance of the shoring.

Shoring deflection shall be limited to ½ inch at the top of the shored embankment where a structure is within a 1:1 (h:v) plane projected up from the base of the excavation. A maximum deflection of 1 inch is allowed provided there are no structures within a 1:1 (h:v) plane drawn upward from the base of the excavation.

Monitoring

Because of the depth of the excavation, some mean of monitoring the performance of the shoring system is suggested. The monitoring should consist of periodic surveying of the lateral and vertical locations of the tops of all soldier piles and the lateral movement along the entire lengths of selected soldier piles. Also, some means of periodically checking the load on selected anchors will be necessary, where applicable.

Some movement of the shored embankments should be anticipated as a result of the relatively deep excavation. It is recommended that photographs of the existing buildings on the adjacent properties be made during construction to record any movements for use in the event of a dispute.

Shoring Observations

It is critical that the installation of shoring is observed by a representative of Geotechnologies, Inc. Many building officials require that shoring installation should be performed during continuous observation of a representative of the geotechnical engineer. The observations insure that the recommendations of the geotechnical report are implemented and so that modifications of the recommendations can be made if variations in the geologic material or groundwater conditions warrant. The observations will allow for a report to be prepared on the installation of shoring for the use of the local building official, where necessary.

Raker Brace Foundations

An allowable bearing pressure of 4,000 pounds per square foot may be used for the design a raker foundations. This bearing pressure is based on a raker foundation a minimum of 4 feet in width and length as well as 3 feet in depth. The base of the raker foundations should be horizontal. Care should be employed in the positioning of raker foundations so that they do not interfere with the foundations for the proposed structure.

SLABS ON GRADE

Concrete Slabs-on Grade

Interior concrete floor slabs should be a minimum of 4 inches in thickness, and should be reinforced with a minimum of #3 steel bars on 18-inch centers each way. Outdoor concrete flatwork should be a minimum of 4 inches in thickness, and should be reinforced with a minimum of #3 steel bars on 24-inch centers each way.

Interior slabs-on-grade and outdoor concrete flatwork should be cast over undisturbed native soils, or properly controlled fill materials. Any geologic materials loosened or over-excavated should be wasted from the site or properly compacted to 90 percent of the maximum dry density.

Design of Slabs That Receive Moisture-Sensitive Floor Coverings

Geotechnologies, Inc. does not practice in the field of moisture vapor transmission evaluation and mitigation. Therefore, where necessary, it is recommended that a qualified consultant should be engaged to evaluate the general and specific moisture vapor transmission paths and any impact on the proposed construction. The qualified consultant should provide recommendations for mitigation of potential adverse impacts of moisture vapor on various components of the structure.

Where any dampness would be objectionable or where the slab will be cast below the historic high groundwater level, it is recommended that floor slabs should be waterproofed. A qualified waterproofing consultant should be engaged in order to recommend a product and/or method which would provide protection from unwanted moisture.

All concrete slabs-on-grade should be supported on vapor retarder/barrier. The design of the slab and the installation of the vapor retarder/barrier should comply with the most recent revisions of ASTM E 1643 and ASTM E 1745. The vapor retarder/barrier should comply with ASTM E 1745 Class A requirements. The necessity of a vapor retarder/barrier is not a geotechnical issue and should be confirmed by qualified members of the design team.

Where a vapor retarder/barrier is used, it should be placed on a level and compact subgrade. Precautions should be taken to protect the vapor retarder/barrier from damage during installation of reinforcing, utilities and concrete. The use of stakes driven thought the vapor retarder/barrier should be avoided. Repair any damaged areas of the vapor retarder/barrier prior to concrete placement.

Concrete Crack Control

The recommendations presented in this report are intended to reduce the potential for cracking of concrete slabs-on-grade due to settlement. However even where these recommendations have been implemented, foundations, stucco walls and concrete slabs-on-grade may display some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete cracking may be reduced and/or controlled by limiting the slump of the concrete used, proper concrete placement and curing, and by placement of crack control joints at reasonable intervals, in particular, where re-entrant slab corners occur.

For standard control of concrete cracking, a maximum crack control joint spacing of 15 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. The crack control joints should be installed as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. Construction joints should be designed by a structural engineer.

Complete removal of the existing fill soils beneath outdoor flatwork such as walkways or patio areas, is not required, however, due to the rigid nature of concrete, some cracking, a shorter design life and increased maintenance costs should be anticipated. In order to provide uniform support beneath the flatwork it is recommended that a minimum of 12 inches of the exposed subgrade beneath the flatwork be scarified and recompacted to 90 percent relative compaction.

PAVEMENTS

Prior to placing paving, the existing grade should be scarified to a depth of 12 inches, moistened as required to obtain optimum moisture content, and recompacted to 95 percent of the maximum dry density as determined by the most recent revision of ASTM D 1557. The design team should be aware that removal of all existing fill in the area of new paving is not required, however, pavement constructed in this manner will most likely have a shorter design life and increased maintenance costs. The following pavement sections are recommended:

Service	**Asphalt Pavement Thickness Inches**	**Base Course Inches**
Passenger Cars	3	4
Moderate Truck	4	6
Heavy Truck	5	8

Service	**Concrete Pavement Thickness Inches**	**Base Course Inches**
Passenger Car and Moderate Truck	6	4
Heavy Truck	7 ½	4

For standard crack control maximum expansion joint spacing of 15 feet should not be exceeded. Lesser spacings would provide greater crack control. Joints at curves and angle points are recommended. Concrete paving should be reinforced with a minimum of #3 steel bars on 24-inch centers each way.

Aggregate base should be compacted to a minimum of 95 percent of the most recent revision of ASTM D 1557 laboratory maximum dry density. Base materials should conform to Sections 200-2.2 or 200-2.4 of the "Standard Specifications for Public Works Construction", (Green Book), latest edition.

The performance of pavement is highly dependent upon providing positive surface drainage away from the edges. Ponding of water on or adjacent to pavement can result in saturation of the subgrade materials and subsequent pavement distress.

SITE DRAINAGE

Proper surface drainage is critical to the future performance of the project. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. Proper site drainage should be maintained at all times.

All site drainage, with the exception of any required to disposed of onsite by stormwater regulations, should be collected and transferred to the street in non-erosive drainage devices. The proposed structure should be provided with roof drainage. Discharge from downspouts, roof drains and scuppers should not be permitted on unprotected soils within five feet of the building perimeter. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. Drainage should not be allowed to flow uncontrolled over any descending slope. Planters which are located within a distance equal to the depth of a retaining wall should be sealed to prevent moisture adversely affecting the wall. Planters which are located within five feet of a foundation should be sealed to prevent moisture affecting the earth materials supporting the foundation.

STORMWATER DISPOSAL

Regulatory agencies have been requiring the disposal of a certain amount of stormwater generated on a site by infiltration into the site soils. Increasing the moisture content of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the designed engineering properties. This means that any overlying structure, including buildings, pavements and concrete flatwork, could sustain damage due to saturation of the subgrade soils. Proper site drainage is critical to the performance of any structure in the built environment.

The Proposed Systems

It is the understanding of this firm that two types of shallow stormwater infiltration systems are proposed for the project. The shallow stormwater infiltration systems are expected to consist of permeable paving, and an infiltration trench gallery system.

It is the opinion of this firm that the proposed shallow stormwater infiltration systems are suitable for the site. The final location and design of the proposed infiltration system shall be reviewed and approved by this office prior to construction to evaluate whether the intent of the recommendations provided by this firm are satisfied.

Percolation Testing

Shallow percolation testing was conducted following the procedure for shallow percolation test, provided in the Guidelines for Design, Investigation and Reporting Low Impact Development Stormwater Infiltration (GS200.1), dated June 30, 2021, presented in the Administrative Manual for the County of Los Angeles, Department of Public Works, Geotechnical and Material Engineering Division. Individual tests were performed for each proposed stormwater infiltration system. These tests are summarized individually below:

Percolation Testing for Permeable Paving

Shallow percolation testing was conducted in TP1. The test pit was initially excavated to a depth of 2 feet, then a one cubic foot excavation was conducted at the bottom for the purpose of conducting the testing.

After the test pit was excavated, its bottom was presoaked for a minimum of 2 hours prior to the test. After the presoak, the test pit was refilled with water and the absorption of the soils was measured. The table below summarizes the results of the infiltration rates derived from the testing.

These rates include correction factors (RF_t, RF_v, and RF_s), as required by the County of Los Angeles procedure. Field readings and calculations have been enclosed in the Appendix.

Test Pit No.	Depth of Test Pit Below Existing Ground Surface (ft.)	Percolation Testing Conducted Between Depths:	Infiltration Rate (in./hr.)
TP1	3	2' and 3'	2.12

Percolation Testing for Infiltration Trench Gallery

Shallow percolation testing was conducted in TP2. The test pit was initially excavated to a depth of 5 feet, then a one cubic foot excavation was conducted at the bottom for the purpose of conducting the testing.

After the test pit was excavated, its bottom was presoaked for a minimum of 2 hours prior to the test. After the presoak, the test pit was refilled with water and the absorption of the soil was measured. The table below summarizes the results of the infiltration rates derived from the testing. These rates include correction factors (RF_t, RF_v, and RF_s), as required by the County of Los Angeles procedure. Field readings and calculations have been enclosed in the Appendix.

Percolation Testing Boring No.	Depth of Boring Below Existing Ground Surface (ft.)	Percolation Testing Conducted Between Depths (ft.):	Infiltration Rate (in./hr.)
TP2	6	5 and 6	4.48

<u>Recommendations</u>

Based on the results of the exploration, testing and research, it is the finding of this firm that on-site stormwater infiltration is feasible for the site. Based on the subsurface conditions, it is the opinion of this firm that proposed permeable pavers and trench gallery system are suitable for on-site stormwater infiltration.

The edge of the proposed stormwater infiltration trench system shall maintain a minimum horizontal setback distance of 15 feet from any structure, and 10 feet away from any private property line. The edge of the proposed permeable paving system should maintain a minimum horizontal setback distance of 5 feet from any structure and any private property line, provided that this system will only be exposed to incidental stormwater.

Based to the granular nature of the underlying native soils, the stormwater should percolate in a generally vertical manner. The potential for creating a perched water condition is considered to be remote. The proposed stormwater infiltration system should not cause any damage, settlement, or adversely affect any neighboring buildings. The soils are in the very low expansion range, and are not susceptible to significant hydroconsolidation.

The subject site is not located in an area considered susceptible to liquefaction. The proposed stormwater infiltration system will not be located in hillside area, and no slopes are nearby. The onsite soils are in the very low expansion range, and are not susceptible to significant hydroconsolidation.

The proposed infiltration device is, however, situated within a parking area. The client must be aware that repeated saturation of the soils may cause settlement to occur. The settlement may manifest itself as cracking in any overlying pavement, flatwork or other improvements. These improvements may require increased maintenance and have a shorter design life.

It is recommended that the design team, including the structural engineer, waterproofing consultant, plumbing engineer, environmental engineer and landscape architect be consulted in regard to the design and construction of infiltration systems. The design and construction of stormwater infiltration systems is not the responsibility of the geotechnical engineer. However, based on the experience of this firm, it is recommended that several aspects of the use of such facilities should be considered by the design and construction team:

- Open infiltration basins have many negative associated issues. Such a design must consider attractive nuisance, impacts to growing vegetation, impacts to air quality and vector control.

- All infiltration devices should be provided with overflow protection. Once the device is full of water, additional water flowing to the device should be diverted to another acceptable disposal area, or disposed offsite in an acceptable manner.

- All connections associated with stormwater infiltration devices should be sealed and water-tight. Water leaking into the subgrade soils can lead to loss of strength, piping, erosion, settlement and/or expansion of the effected earth materials.

- Excavations proposed for the installation of stormwater facilities should comply with the "Temporary Excavations" sections of the referenced reports well as CalOSHA Regulations where applicable.

DESIGN REVIEW

Engineering of the proposed project should not begin until approval of the geotechnical report by the Building Official is obtained in writing. Significant changes in the geotechnical recommendations may result during the building department review process.

It is recommended that the geotechnical aspects of the project be reviewed by this firm during the design process. This review provides assistance to the design team by providing specific recommendations for particular cases, as well as review of the proposed construction to evaluate whether the intent of the recommendations presented herein are satisfied.

CONSTRUCTION MONITORING

Geotechnical observations and testing during construction are considered to be a continuation of the geotechnical investigation. It is critical that this firm review the geotechnical aspects of the project during the construction process. Compliance with the design concepts, specifications or recommendations during construction requires review by this firm during the course of construction. All foundations should be observed by a representative of this firm prior to placing concrete or steel. Any fill which is placed should be observed, tested, and verified if used for engineered purposes. Please advise Geotechnologies, Inc. at least twenty-four hours prior to any required site visit.

If conditions encountered during construction appear to differ from those disclosed herein, notify Geotechnologies, Inc. immediately so the need for modifications may be considered in a timely manner.

It is the responsibility of the contractor to ensure that all excavations and trenches are properly sloped or shored. All temporary excavations should be cut and maintained in accordance with applicable OSHA rules and regulations.

EXCAVATION CHARACTERISTICS

The exploration performed for this investigation is limited to the geotechnical excavations described. Direct exploration of the entire site would not be economically feasible. The owner, design team and contractor must understand that differing excavation and drilling conditions may be encountered based on boulders, gravel, oversize materials, groundwater and many other conditions. Fill materials, especially when they were placed without benefit of modern grading codes, regularly contain materials which could impede efficient grading and drilling. Southern California sedimentary bedrock is known to contain variable layers which reflect differences in depositional environment. Such layers may include abundant gravel, cobbles and boulders. Similarly, bedrock can contain concretions. Concretions are typically lenticular and follow the bedding. They are formed by mineral deposits. Concretions can be very hard. Excavation and drilling in these areas may require full size equipment and coring capability. The contractor should be familiar with the site and the geologic materials in the vicinity.

CLOSURE AND LIMITATIONS

The purpose of this report is to aid in the design and completion of the described project. Implementation of the advice presented in this report is intended to reduce certain risks associated with construction projects. The professional opinions and geotechnical advice contained in this report are sought because of special skill in engineering and geology and were prepared in accordance with generally accepted geotechnical engineering practice. Geotechnologies, Inc. has a duty to exercise the ordinary skill and competence of members of the engineering profession. Those who hire Geotechnologies, Inc. are not justified in expecting infallibility, but can expect reasonable professional care and competence.

The recommendations of this report pertain only to the site investigated and are based upon the assumption that the geologic conditions do not deviate from those disclosed in the investigation. If any variations are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geotechnologies, Inc. should be notified so that supplemental recommendations can be prepared.

This report is issued with the understanding that it is the responsibility of the owner, or the owner's representatives, to ensure that the information and recommendations contained herein are brought to the attention of the project architect and engineer and are incorporated into the plans. The owner is also responsible to see that the contractor and subcontractors carry out the geotechnical recommendations during construction.

The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside control of this firm. Therefore, this report is subject to review and should not be relied upon after a period of three years.

Geotechnical observations and testing during construction is considered to be a continuation of the geotechnical investigation. It is, therefore, most prudent to employ the consultant performing the initial investigative work to provide observation and testing services during construction. This practice enables the project to flow smoothly from the planning stages through to completion.

Should another geotechnical firm be selected to provide the testing and observation services during construction, that firm should prepare a letter indicating their assumption of the responsibilities of geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for review. The letter should acknowledge the concurrence of the new geotechnical engineer with the recommendations presented in this report.

EXCLUSIONS

Geotechnologies, Inc. does not practice in the fields of methane gas, radon gas, environmental engineering, waterproofing, dewatering organic substances or the presence of corrosive soils or wetlands which could affect the proposed development including mold and toxic mold. Nothing in this report is intended to address these issues and/or their potential effect on the proposed development. A competent professional consultant should be retained in order to address environmental issues, waterproofing, organic substances and wetlands which might affect the proposed development.

GEOTECHNICAL TESTING

Classification and Sampling

The soil is continuously logged by a representative of this firm and classified by visual examination in accordance with the Unified Soil Classification system. The field classification is verified in the laboratory, also in accordance with the Unified Soil Classification System. Laboratory classification may include visual examination, Atterberg Limit Tests and grain size distribution. The final classification is shown on the excavation logs.

Samples of the geologic materials encountered in the exploratory borings were collected and transported to the laboratory. Undisturbed samples of soil are obtained at frequent intervals. Unless noted on the excavation logs as an SPT sample, samples acquired while utilizing a hollow-stem auger drill rig are obtained by driving a thin-walled, California Modified Sampler with successive 30-inch drops of a 140-pound hammer. The soil is retained in brass rings of 2.50 inches outside diameter and 1.00 inch in height. The central portion of the samples are stored in close fitting, waterproof containers for transportation to the laboratory. Samples noted on the excavation logs as SPT samples are obtained in general accordance with the most recent revision of ASTM D 1586. Samples are retained for 30 days after the date of the geotechnical report.

Moisture and Density Relationships

The field moisture content and dry unit weight are determined for each of the undisturbed soil samples, and the moisture content is determined for SPT samples in general accordance with the most recent revision of ASTM D 4959 or ASTM D 4643. This information is useful in providing a gross picture of the soil consistency between exploration locations and any local variations. The dry unit weight is determined in pounds per cubic foot and shown on the "Excavation Logs", A-Plates. The field moisture content is determined as a percentage of the dry unit weight.

Direct Shear Testing

Shear tests are performed in general accordance with the most recent revision of ASTM D 3080 with a strain controlled, direct shear machine manufactured by Soil Test, Inc. or a Direct Shear Apparatus manufactured by GeoMatic, Inc. The rate of deformation is approximately 0.025 inches per minute. Each sample is sheared under varying confining pressures in order to determine the

Mohr-Coulomb shear strength parameters of the cohesion intercept and the angle of internal friction. Samples are generally tested in an artificially saturated condition. Depending upon the sample location and future site conditions, samples may be tested at field moisture content. The results are plotted on the "Shear Test Diagram," B-Plates.

The most recent revision of ASTM 3080 limits the particle size to 10 percent of the diameter of the direct shear test specimen. The sheared sample is inspected by the laboratory technician running the test. The inspection is performed by splitting the sample along the sheared plane and observing the soils exposed on both sides. Where oversize particles are observed in the shear plane, the results are discarded and the test run again with a fresh sample.

Consolidation Testing

Settlement predictions of the soil's behavior under load are made on the basis of the consolidation tests in general accordance with the most recent revision of ASTM D 2435. The consolidation apparatus is designed to receive a single one-inch high ring. Loads are applied in several increments in a geometric progression, and the resulting deformations are recorded at selected time intervals. Porous stones are placed in contact with the top and bottom of each specimen to permit addition and release of pore fluid. Samples are generally tested at increased moisture content to determine the effects of water on the bearing soil. The normal pressure at which the water is added is noted on the drawing. Results are plotted on the "Consolidation Test," C-Plates.

Expansion Index Testing

The expansion tests performed on the remolded samples are in accordance with the Expansion Index testing procedures, as described in the most recent revision of ASTM D 4829. The soil sample is compacted into a metal ring at a saturation degree of 50 percent. The ring sample is then placed in a consolidometer, under a vertical confining pressure of 1 lbf/square inch and inundated with distilled water. The deformation of the specimen is recorded for a period of 24 hour or until the rate of deformation becomes less than 0.0002 inches/hour, whichever occurs first. The expansion index, EI, is determined by dividing the difference between final and initial height of the ring sample by the initial height, and multiplied by 1,000.

Laboratory Compaction Characteristics

The maximum dry unit weight and optimum moisture content of a soil are determined in general accordance with the most recent revision of ASTM D 1557. A soil at a selected moisture content is placed in five layers into a mold of given dimensions, with each layer compacted by 25 blows of a 10 pound hammer dropped from a distance of 18 inches subjecting the soil to a total compactive effort of about 56,000 pounds per cubic foot. The resulting dry unit weight is determined. The procedure is repeated for a sufficient number of moisture contents to establish a relationship between the dry unit weight and the water content of the soil. The data when plotted represent a curvilinear relationship known as the compaction curve. The values of optimum moisture content and modified maximum dry unit weight are determined from the compaction curve.

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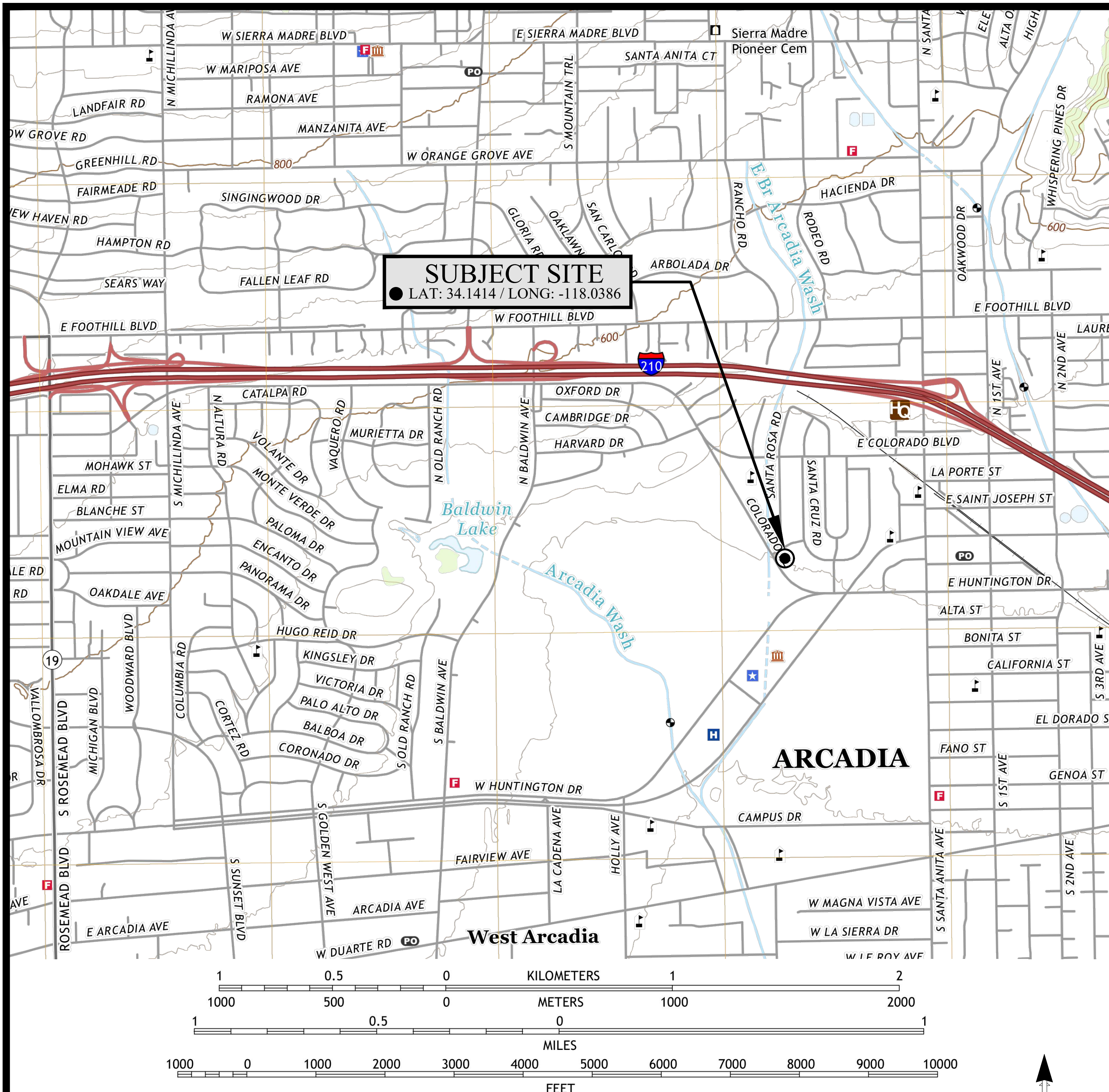

REFERENCE: USGS TOPOGRAPHIC MAPS, 7.5 MINUTE SERIES, MOUNT. WILSON, CA QUADRANGLE 2022

VICINITY MAP

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449

Plot Date: Dec. 28, 2023

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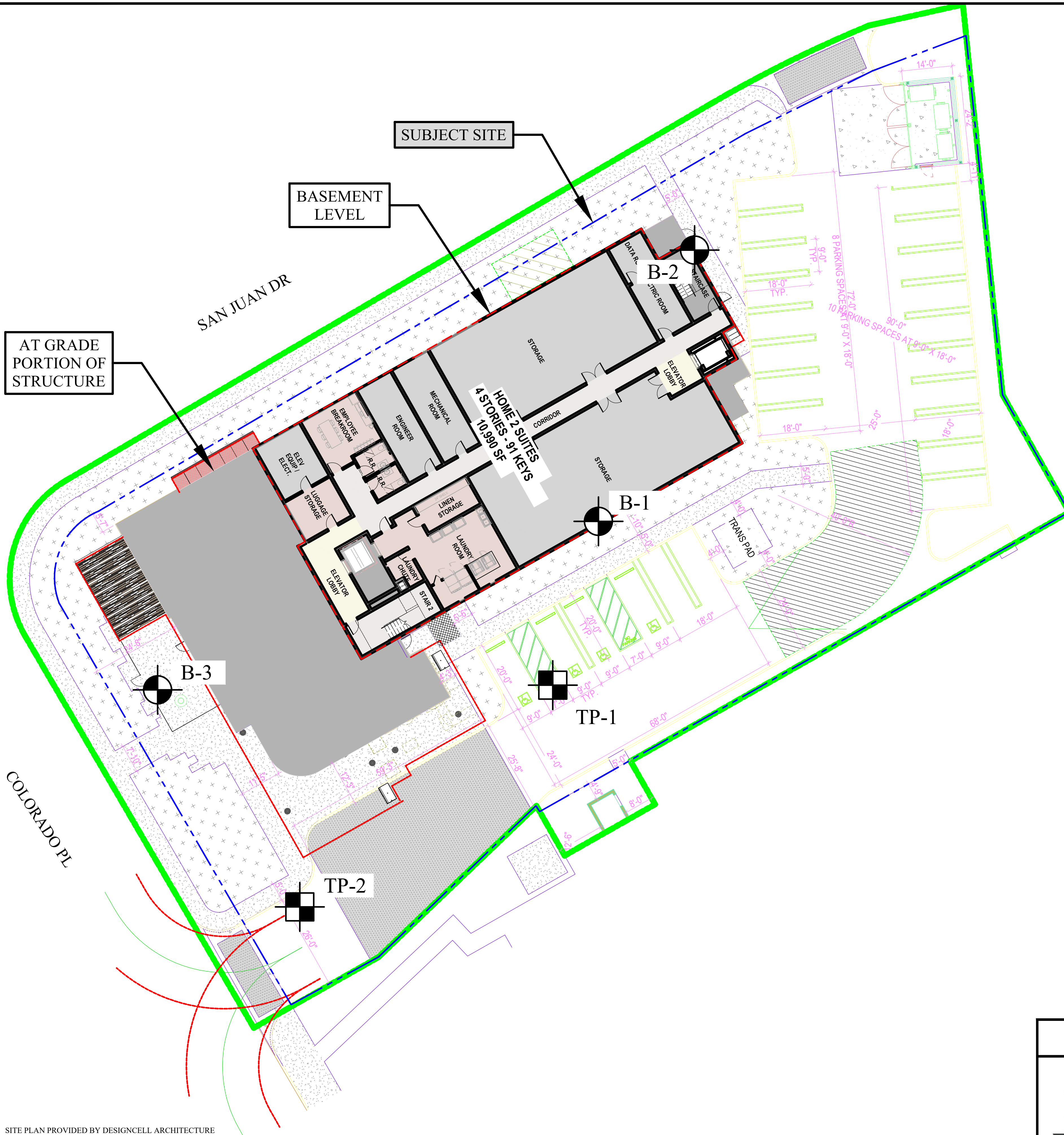
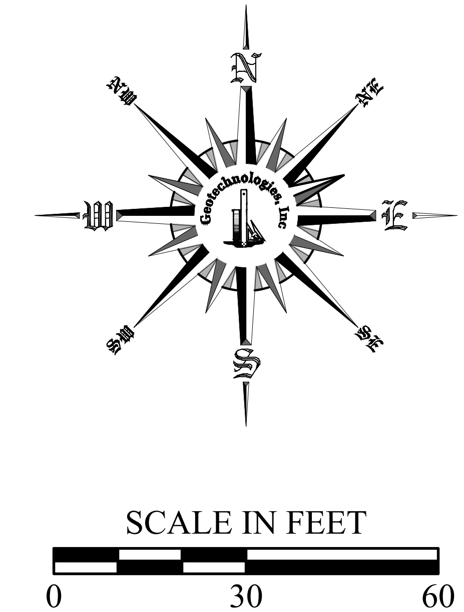




LEGEND

B-3 LOCATION AND NUMBER OF BORING (THIS INVESTIGATION)

TP-2 LOCATION AND NUMBER OF TEST PIT (THIS INVESTIGATION)

REFERENCE: SITE PLAN PROVIDED BY DESIGNCELL ARCHITECTURE
DATE: 08/02/2023

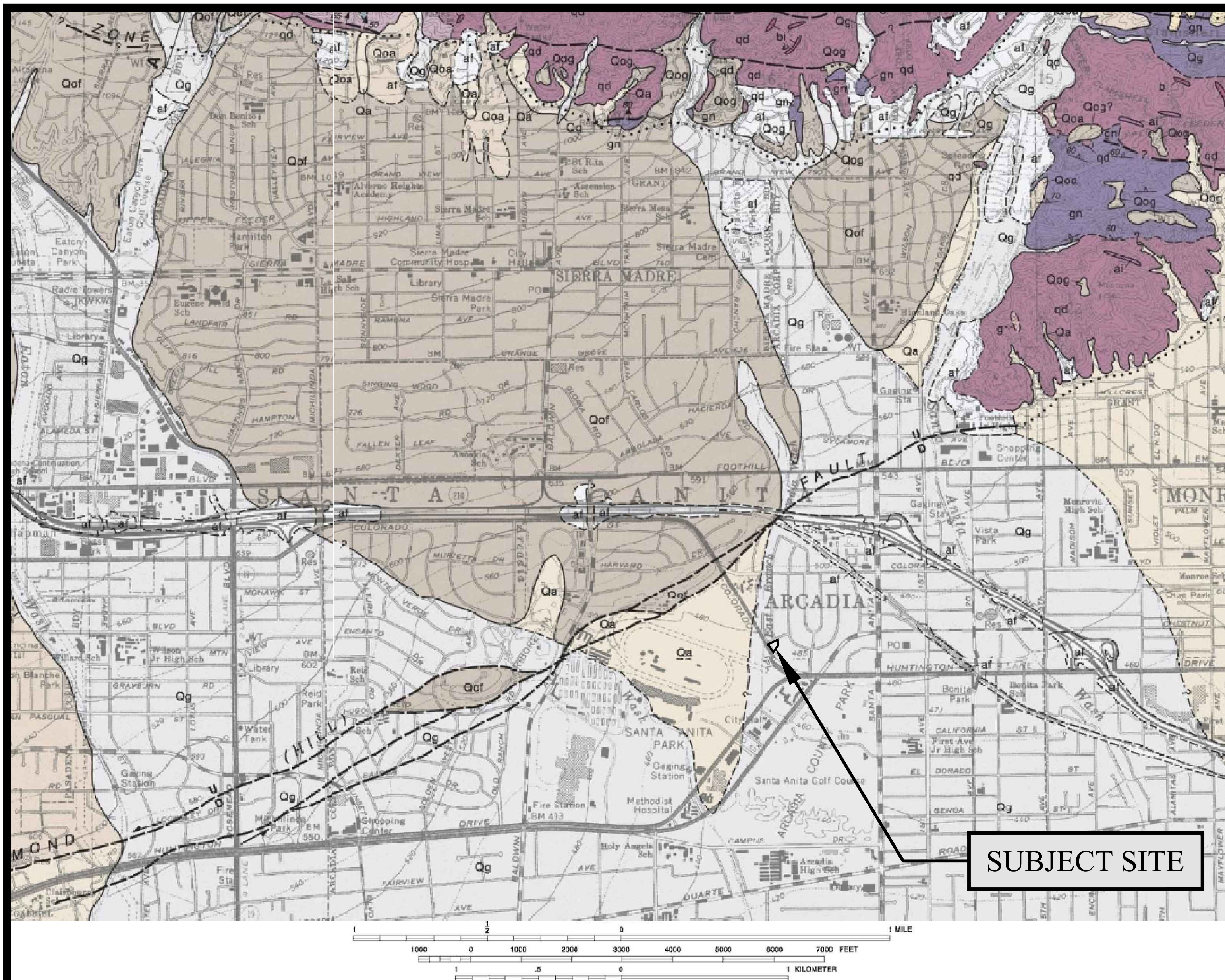
PLOT PLAN

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

Drawn by: JD | File No.: 22449

Date: December 2023



LEGEND

af: SURFICIAL SEDIMENTS - Artificial fill; not all areas shown

Qg: Gravel and sand of major stream channels and alluvial fan outwash from major canyons; grades southward into alluvium

Qa: Alluvial gravel, sand and silt of valley areas

Qof: OLDER DISSECTED SURFICIAL SEDIMENTS - Alluvial fan gravel and sand derived from San Gabriel Mountains

Qog: Old alluvial fan gravel and sand derived from San Gabriel Mountains

gr: GRANITIC ROCKS - Gray-white, medium to fine grained massive granitic rocks ranging from granite through quartz monzonite to granodiorite, composed essentially of quartz, potassic feldspar, sodic plagioclase feldspar and few scattered flakes of biotite mica; rock complexly intrusive as pods and dikes, some as aplite and pegmatite dikes, into older basement rocks

qd: QUARTZ DIORITE - Gray quartz diorite, medium grained, somewhat incoherent where weathered, composed of plagioclase feldspar, biotite mica, potassic feldspar, quartz, hornblende, in that order of decreasing abundance; rock massive to gneissoid and includes small lenses of gneiss; in many places rock complexly intruded by dikes, sills and pods of leucogranitic rocks of only larger masses are shown

REFERENCE: T.W. DIBBLEE (1998) (EDITED 2010) GEOLOGIC MAP OF THE MOUNT WILSON & AZUSA QUADRANGLES (#DF-67)

N

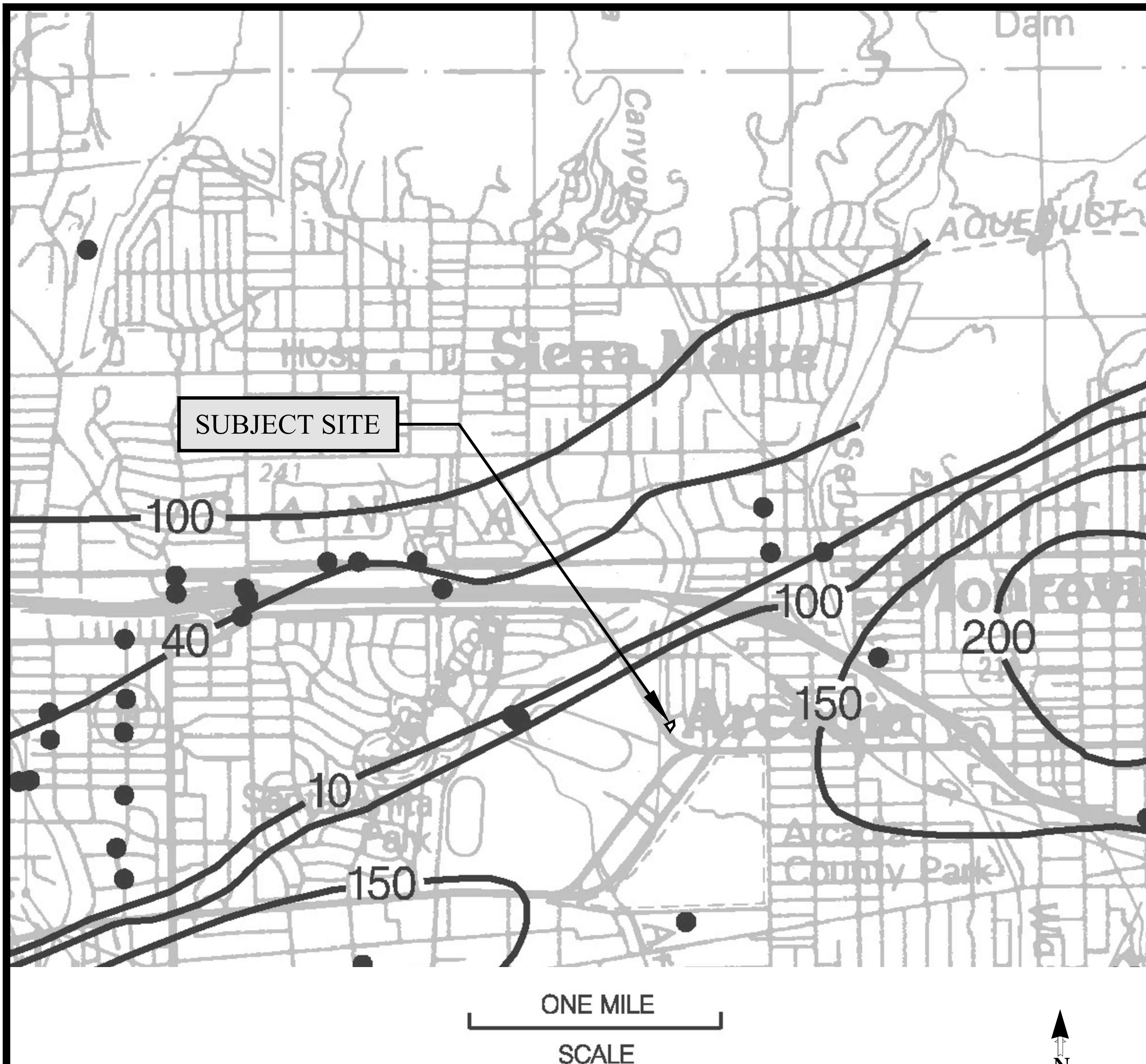
Geotechnologies, Inc

GEOLOGIC MAP (DIBBLEE)

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449



LEGEND

- Borehole Site
- 30 Depth to ground water in feet

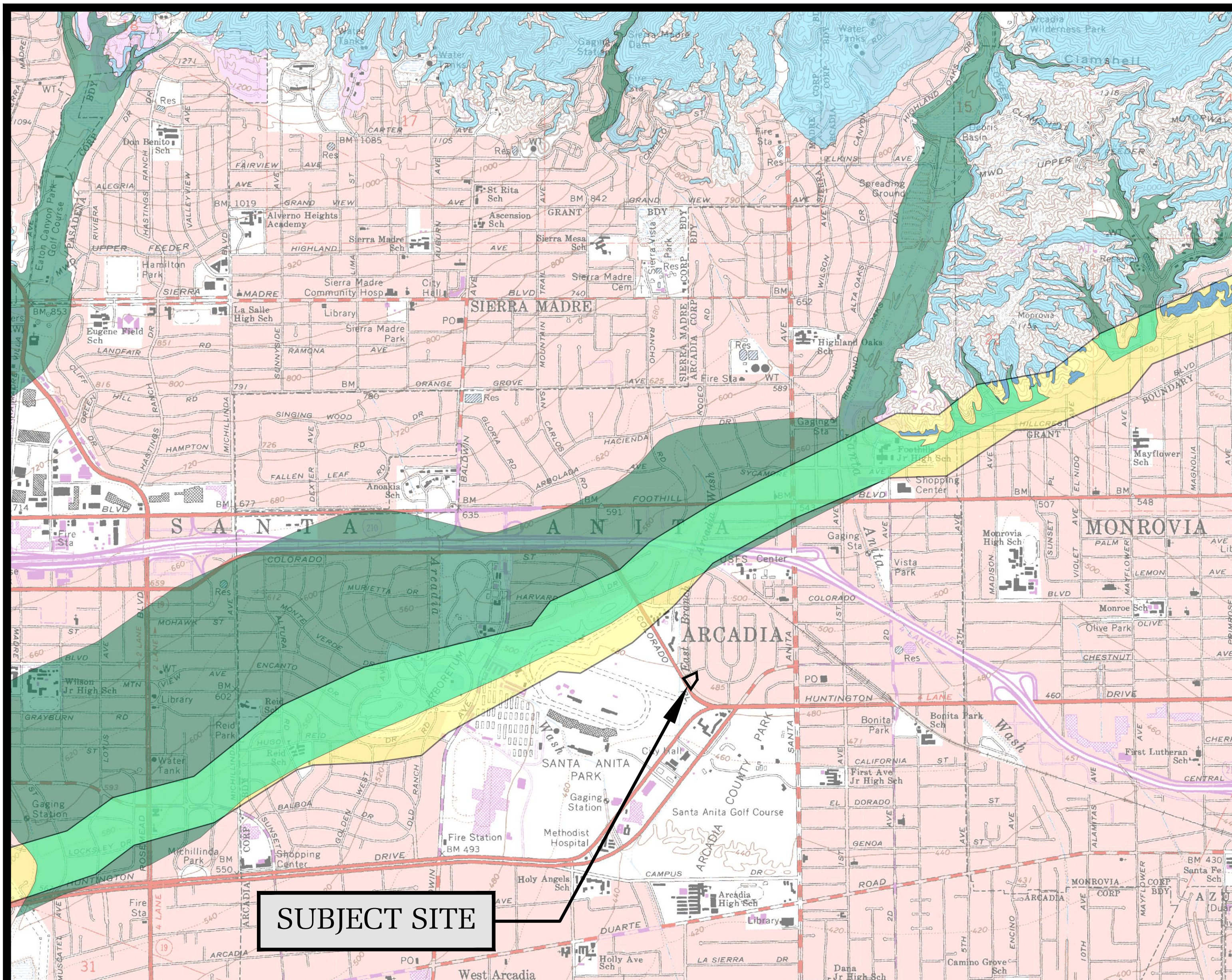
REFERENCE: CDMG, SEISMIC HAZARD ZONE REPORT, 030 MOUNT WILSON, 7.5 - MINUTE QUADRANGLE, LOS ANGELES COUNTY, CALIFORNIA 1998

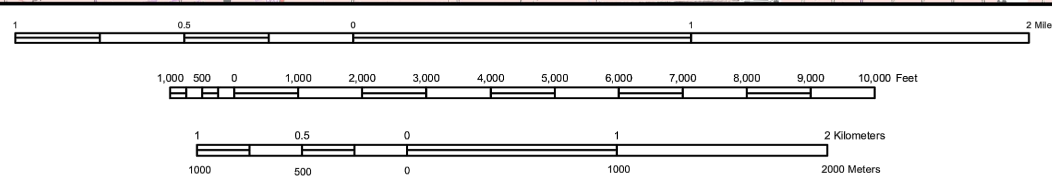
HISTORICALLY HIGHEST GROUNDWATER LEVELS

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449





N

LEGEND

LIQUEFACTION ZONES

EARTHQUAKE-INDUCED LANDSLIDE ZONES

1906

ACTIVE FAULT TRACES

EARTHQUAKE FAULT ZONES

REFERENCE: EARTHQUAKE ZONES OF REQUIRED INVESTIGATION, MOUNT WILSON QUADRANGLE (CGS, 1999)

EARTHQUAKE ZONES OF REQUIRED INVESTIGATION

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449

BORING LOG NUMBER 1

181 Colorado, LLC **Date: 11/01/23**

File No. 22449 **Method: 8-inch diameter Hollow Stem Auger**

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
				0 --		3-inch Asphalt, No Base
				-		
				1 --		FILL: Silty Sand, dark brown, moist, medium dense, fine grained
				-		
				2 --		
2.5	9	12.2	95.5	-		
				3 --		
				-	SM	NATIVE SOILS: Silty Sand, dark brown, moist, medium dense, fine grained
				4 --		
				-		
5	26	12.0	110.3	5 --		
				-		
				6 --		
				-		
				7 --		
				-		
				8 --		
				-		
				9 --		
				-		
10	39	2.5	105.7	10 --		
				-	SP	Sand, dark and yellowish brown, moist, medium dense, fine to medium grained
				11 --		
				-		
				12 --		
				-		
				13 --		
				-		
				14 --		
				-		
15	60	2.4	122.2	15 --		
	50/5"			-		very dense
				16 --		
				-		
				17 --		
				-		
				18 --		
				-		
				19 --		
				-		
20	55	5.9	102.3	20 --		
				-	SM/SP	Silty Sand to Sand, dark and yellowish brown, moist, medium dense, fine to medium grained
				21 --		
				-		
				22 --		
				-		
				23 --		
				-		
				24 --		
				-		
25	44	11.5	123.4	25 --		
				-	SM	Silty Sand, dark brown, moist, medium dense, fine grained

BORING LOG NUMBER 1

181 Colorado, LLC

File No. 22449

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				-		
				26 --		
				-		
				27 --		
				-		
				28 --		
				-		
				29 --		
				-		
30	48	10.1	124.6	30 --		
				-		Total Depth 30 feet
				31 --		No Water
				-		Fill to 3 feet
				32 --		
				-		
				33 --		NOTE: The stratification lines represent the approximate
				-		boundary between earth types; the transition may be
				34 --		gradual.
				-		Used 8-inch diameter Hollow-Stem Auger
				35 --		140-lb. Automatic Hammer, 30-inch drop
				-		Modified California Sampler used unless otherwise noted
				36 --		
				-		
				37 --		
				-		
				38 --		
				-		
				39 --		
				-		
				40 --		
				-		
				41 --		
				-		
				42 --		
				-		
				43 --		
				-		
				44 --		
				-		
				45 --		
				-		
				46 --		
				-		
				47 --		
				-		
				48 --		
				-		
				49 --		
				-		
				50 --		
				-		

BORING LOG NUMBER 2

181 Colorado, LLC **Date: 11/01/23**

File No. 22449 **Method: 8-inch diameter Hollow Stem Auger**

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
				0 --		3½-inch Asphalt, No Base
				-		
				1 --		FILL: Sandy Silt to Silty Sand, dark brown, moist, medium dense, stiff, fine grained
				-		
				2 --		
2.5	13	17.0	105.1	-		
				3 --		
				-	SM	NATIVE SOILS: Silty Sand, dark brown, moist, medium dense, fine grained
				4 --		
				-		
5	11	14.8	SPT	5 --		
				-		
				6 --		
				-		
				7 --		
7.5	34	3.0	108.5	-		
				8 --	SP	Sand, yellowish brown, moist, medium dense, fine to medium grained
				-		
				9 --		
				-		
10	16	3.2	SPT	10 --		
				-	SM/SP	Silty Sand to Sand, dark and yellowish brown, moist, medium dense, fine to medium grained
				11 --		
				-		
				12 --		
12.5	78	4.2	106.0	-		
				13 --	SP	Sand, yellowish brown, moist, very dense, fine to medium grained
				-		
				14 --		
				-		
15	17	3.5	SPT	15 --		
				-		medium dense
				16 --		
				-		
				17 --		
17.5	72	3.4	110.2	-		
				18 --		dense to very dense
				-		
				19 --		
				-		
20	34	3.2	SPT	20 --		
				-		
				21 --		
				-		
				22 --		
22.5	68	8.6	112.7	-		
				23 --	SM/SP	Silty Sand to Sand, dark brown, moist, dense, fine to medium grained
				-		
				24 --		
				-		
25	23	16.1	SPT	25 --		
				-	SM	Silty Sand, dark brown, moist, medium dense, fine grained

BORING LOG NUMBER 2

181 Colorado, LLC

File No. 22449
kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				26 --		
				27 --		
27.5	68	4.5	118.5	-		
				28 --	SP	Sand, dark brown, moist, dense, fine to medium grained
				29 --		
30	35	8.9	SPT	30 --		
				-	SM	Silty Sand, dark brown, moist, medium dense, fine grained
				31 --		
				32 --		
32.5	65 50/5"	3.4	122.4	-		
				33 --	SP	Sand, dark brown, moist, very dense, fine to medium grained
				34 --		
35	34	5.9	SPT	35 --		
				-	SP/SM	Sand to Silty Sand, dark and grayish brown, moist medium dense, fine grained
				36 --		
				37 --		
37.5	40 50/5"	3.4	116.4	-		
				38 --	SP	Sand, dark and yellowish brown, moist, very dense, fine to medium grained
				39 --		
40	37	4.1	SPT	40 --		
				41 --		
				42 --		
42.5	82	13.8	119.2	-		
				43 --	SM	Silty Sand, dark brown, moist, very dense, fine grained
				44 --		
45	35	11.5	SPT	45 --		
				46 --		
				47 --		
47.5	45 50/5"	3.9	106.2	-		
				48 --	SP	Sand, yellowish brown, moist, very dense, fine to medium grained
				49 --		
50	63	2.1	SPT	50 --		

BORING LOG NUMBER 2

181 Colorado, LLC

File No. 22449

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				-		
				51 --		
				-		
				52 --		
52.5	45	2.4	117.2	-		
	50/4"			53 --		
				-		
				54 --		
				-		
55	50/6"	3.5	SPT	55 --		
				-		
				56 --		
				-		
				57 --		
57.5	46	2.2	112.8	-		
	50/5"			58 --		
				-		
				59 --		
				-		
60	38	2.5	SPT	60 --		
	50/3"			-		Total Depth 60 feet
				61 --		No Water
				-		Fill to 3 feet
				62 --		
				-		
				63 --		NOTE: The stratification lines represent the approximate
				-		boundary between earth types; the transition may be
				64 --		gradual.
				-		Used 8-inch diameter Hollow-Stem Auger
				65 --		140-lb. Automatic Hammer, 30-inch drop
				-		Modified California Sampler used unless otherwise noted
				66 --		
				-		SPT=Standard Penetration Test
				67 --		
				-		
				68 --		
				-		
				69 --		
				-		
				70 --		
				-		
				71 --		
				-		
				72 --		
				-		
				73 --		
				-		
				74 --		
				-		
				75 --		
				-		

BORING LOG NUMBER 3

181 Colorado, LLC | **Date: 11/01/23**

File No. 22449 | **Method: 8-inch diameter Hollow Stem Auger**

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
				0 --		3-inch Asphalt, No Base
				-		
				1 --		FILL: Silty Sand, dark brown, moist, medium dense, fine grained
				-		
				2 --		
2.5	14	2.6	110.0	-		
				3 --		
				-	SM/SP	NATIVE SOILS: Silty Sand to Sand, dark brown, moist, medium dense, fine to medium grained
				4 --		
				-		
5	28	5.2	106.2	5 --		
				-		
				6 --		
				-		
				7 --		
				-		
				8 --		
				-		
				9 --		
				-		
10	27	1.9	106.7	10 --		
				-		
				11 --		
				-		
				12 --		
				-		
				13 --		
				-		
				14 --		
				-		
15	77	5.4	114.3	15 --		
				-	SM	Silty Sand, dark brown, moist, dense, fine to medium grained
				16 --		
				-		
				17 --		
				-		
				18 --		
				-		
				19 --		
				-		
20	72	10.2	119.4	20 --		
				-		fine grained
				21 --		
				-		
				22 --		
				-		
				23 --		
				-		
				24 --		
				-		
25	83	12.0	122.0	25 --		
				-		

BORING LOG NUMBER 3

181 Colorado, LLC

File No. 22449

kk/km

Sample Depth ft.	Blows per ft.	Moisture content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description
				-		
				26 --		
				-		
				27 --		
				-		
				28 --		
				-		
				29 --		Sand, yellowish brown, moist, very dense, fine to medium
				-	SP	grained
30	89	2.6	107.4	30 --		
				-		Total Depth 30 feet
				31 --		No Water
				-		Fill to 3 feet
				32 --		
				-		
				33 --		NOTE: The stratification lines represent the approximate
				-		boundary between earth types; the transition may be
				34 --		gradual.
				-		Used 8-inch diameter Hollow-Stem Auger
				35 --		140-lb. Automatic Hammer, 30-inch drop
				-		Modified California Sampler used unless otherwise noted
				36 --		
				-		
				37 --		
				-		
				38 --		
				-		
				39 --		
				-		
				40 --		
				-		
				41 --		
				-		
				42 --		
				-		
				43 --		
				-		
				44 --		
				-		
				45 --		
				-		
				46 --		
				-		
				47 --		
				-		
				48 --		
				-		
				49 --		
				-		
				50 --		
				-		

LOG OF TEST PIT NUMBER 1

181 Colorado, LLC **Drilling Date: 11/01/23**

File No. 22449 **Method: Hand Dig**

kk/km

Sample Depth ft.	Moisture Content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
			0 --		3-inch Asphalt, No Base
			-		FILL: Silty Sand, dark and yellowish brown, moist, medium dense, fine
1	12.5	118.2	1 --		grained
			-	SM	Silty Sand, dark brown, moist, medium dense, fine grained
			2 --		
			-	SM/SP	Silty Sand to Sand, dark brown, moist, medium dense, fine grained
3	12.3	101.1	3 --		
			-		Total Depth 3 feet
			4 --		No Water
			-		Fill to 1 foot
			5 --		
			-		
			6 --		NOTE: The stratification lines represent the approximate
			-		boundary between earth types; the transition may be gradual.
			7 --		
			-		Used 4-inch diameter Hand-Augering Equipment; Hand Sampler
			8 --		
			-		
			9 --		
			-		
			10 --		
			-		
			11 --		
			-		
			12 --		
			-		
			13 --		
			-		
			14 --		
			-		
			15 --		
			-		
			16 --		
			-		
			17 --		
			-		
			18 --		
			-		
			19 --		
			-		
			20 --		
			-		
			21 --		
			-		
			22 --		
			-		
			23 --		
			-		
			24 --		
			-		
			25 --		
			-		

LOG OF TEST PIT NUMBER 2

181 Colorado, LLC — **Drilling Date: 11/01/23**

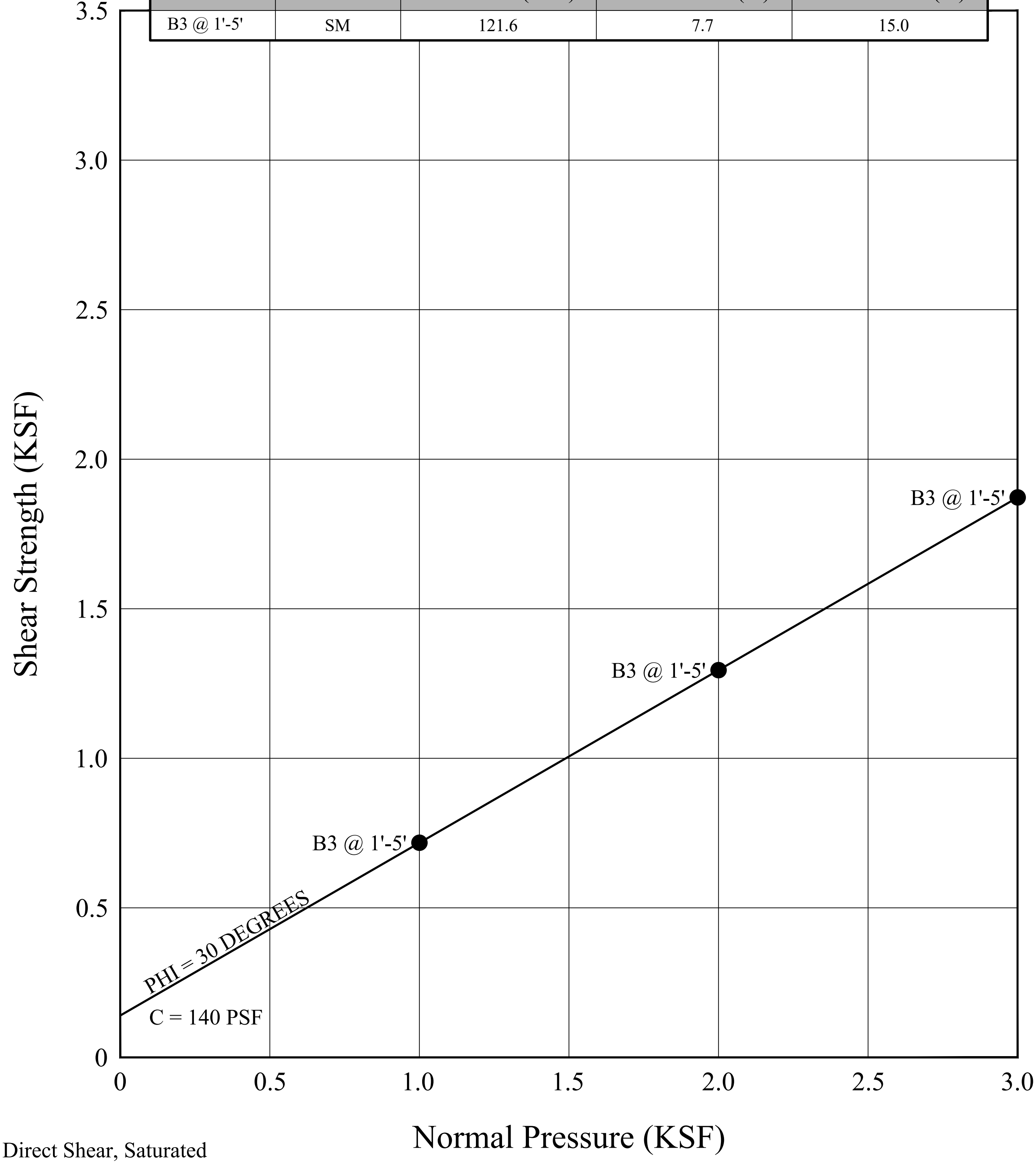
File No. 22449 — **Method: Hand Dig**

kk/km

Sample Depth ft.	Moisture Content %	Dry Density p.c.f.	Depth in feet	USCS Class.	Description Surface Conditions: Asphalt for Parking
			0 --		2½-inch Asphalt, No Base
			-		
1	2.0	115.8	1 --		FILL: Silty Sand, dark brown, moist, medium dense, fine grained,
			-	SM	
			2 --		NATIVE SOILS: Silty Sand, dark brown, moist, medium dense, fine
			-		grained
3	2.8	110.3	3 --		
			-		
			4 --	SP	Sand, yellowish brown, moist, medium dense, fine to medium grained
			-		
5	6.0	120.7	5 --		
			-	SM/SP	Silty Sand to Sand, dark brown, moist, medium dense, fine grained
			6 --		
			-		Total Depth 6 feet
			7 --		No Water
			-		Fill to 1 foot
			8 --		
			-		
			9 --		NOTE: The stratification lines represent the approximate
			-		boundary between earth types; the transition may be gradual.
			10 --		
			-		Used 4-inch diameter Hand-Augering Equipment; Hand Sampler
			11 --		
			-		
			12 --		
			-		
			13 --		
			-		
			14 --		
			-		
			15 --		
			-		
			16 --		
			-		
			17 --		
			-		
			18 --		
			-		
			19 --		
			-		
			20 --		
			-		
			21 --		
			-		
			22 --		
			-		
			23 --		
			-		
			24 --		
			-		
			25 --		
			-		

BULK SAMPLE REMOLDED TO 90 PERCENT OF THE MAXIMUM LABORATORY DENSITY

SAMPLE	SOIL TYPE	DRY DENSITY (PCF)	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B3 @ 1'-5'	SM	121.6	7.7	15.0



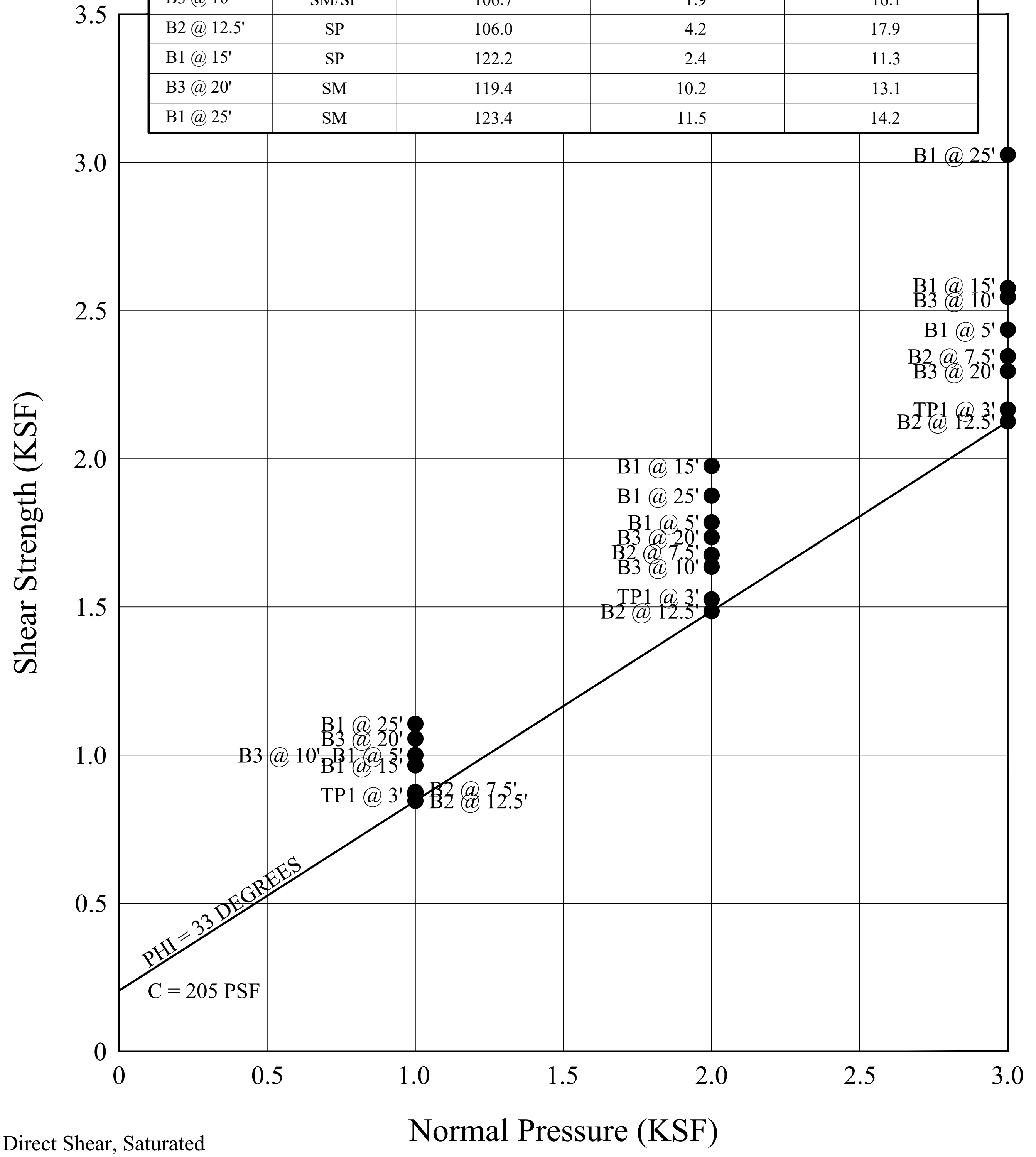
SHEAR TEST DIAGRAM (ASTM D3080)

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449 | PLATE: B-1

SAMPLE	SOIL TYPE	DRY DENSITY (PCF)	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
TP1 @ 3'	SM/SP	101.1	12.3	15.8
B1 @ 5'	SM	110.3	12.0	17.5
B2 @ 7.5'	SP	108.5	3.0	15.3
B3 @ 10'	SM/SP	106.7	1.9	16.1
B2 @ 12.5'	SP	106.0	4.2	17.9
B1 @ 15'	SP	122.2	2.4	11.3
B3 @ 20'	SM	119.4	10.2	13.1
B1 @ 25'	SM	123.4	11.5	14.2

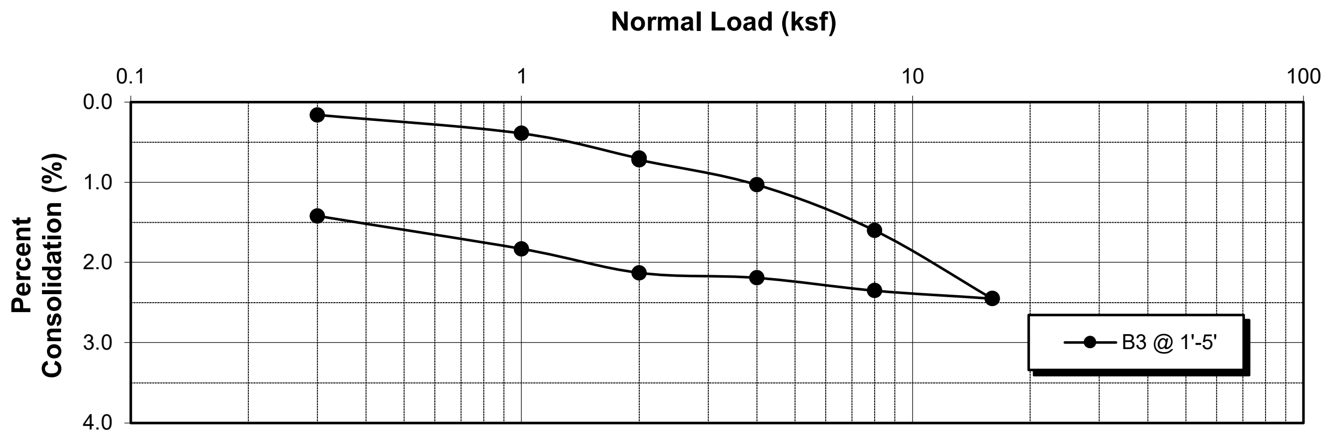


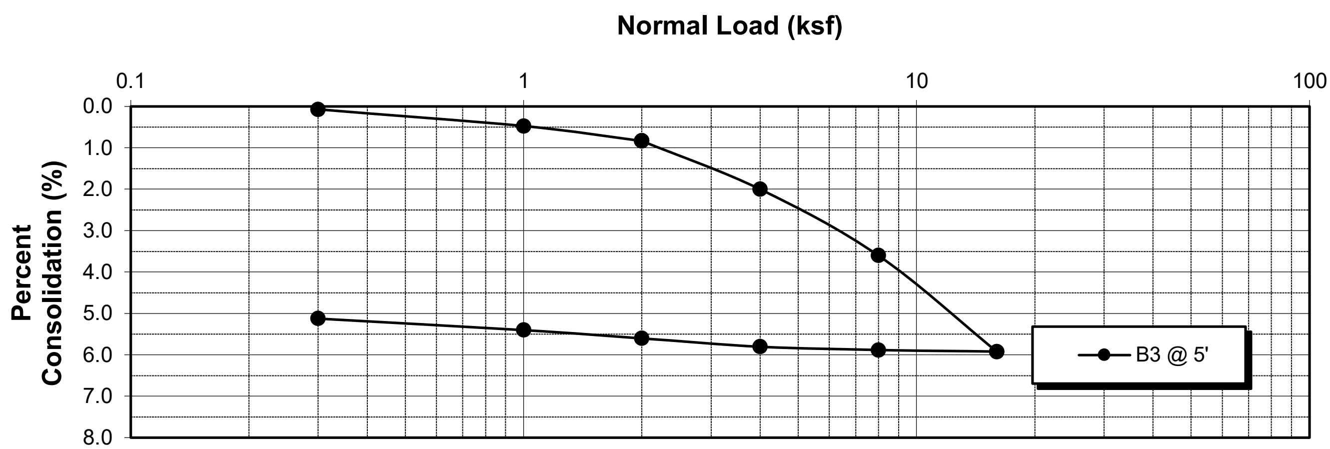
SHEAR TEST DIAGRAM (ASTM D3080)

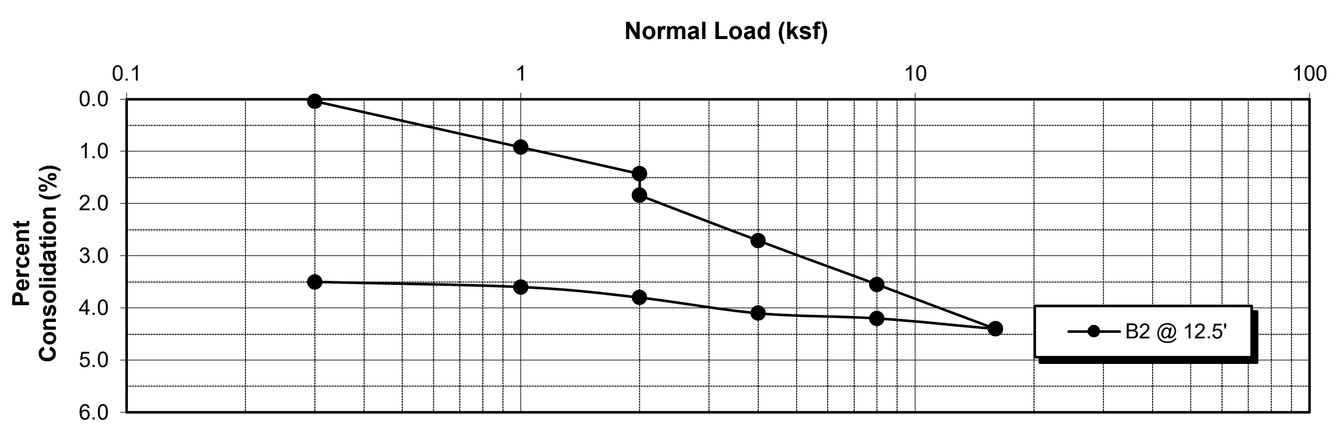
Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449 | PLATE: B-2





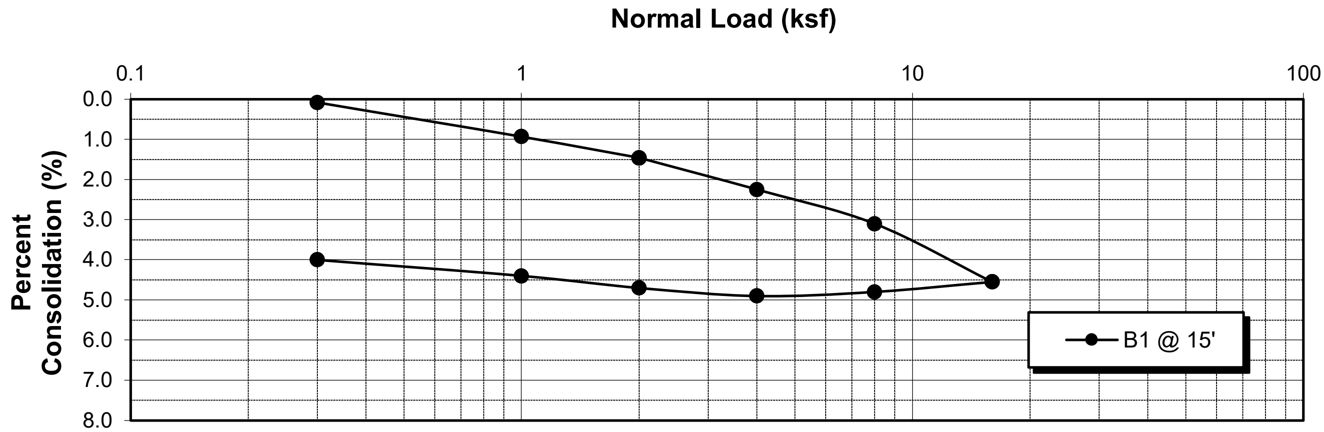


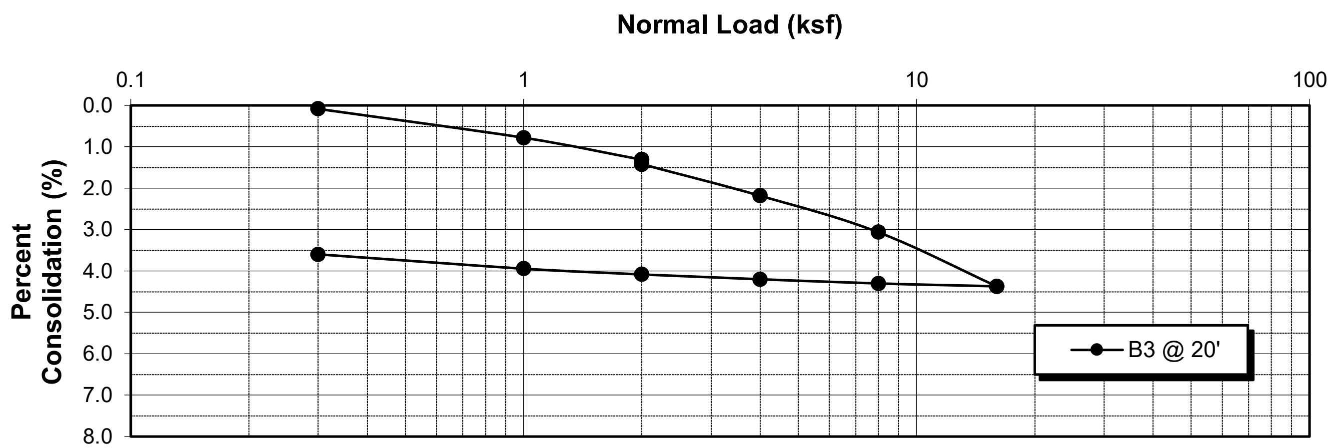
Water added at 2 KSF

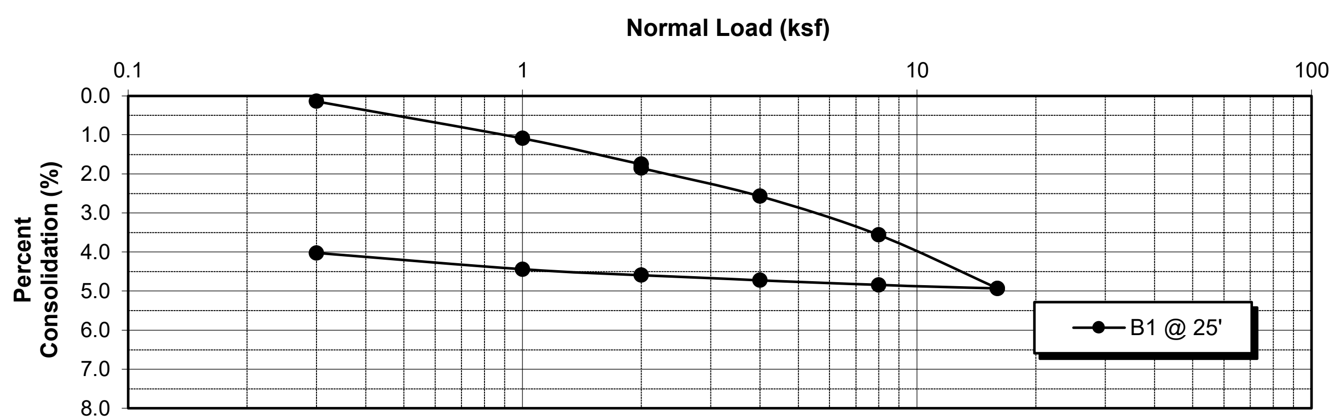
CONSOLIDATION (ASTM D2435)

Geotechnologies, Inc.
Consulting Geotechnical Engineers

PROJECT: 181 COLORADO, LLC	
FILE NO.: 22449	PLATE: C-1





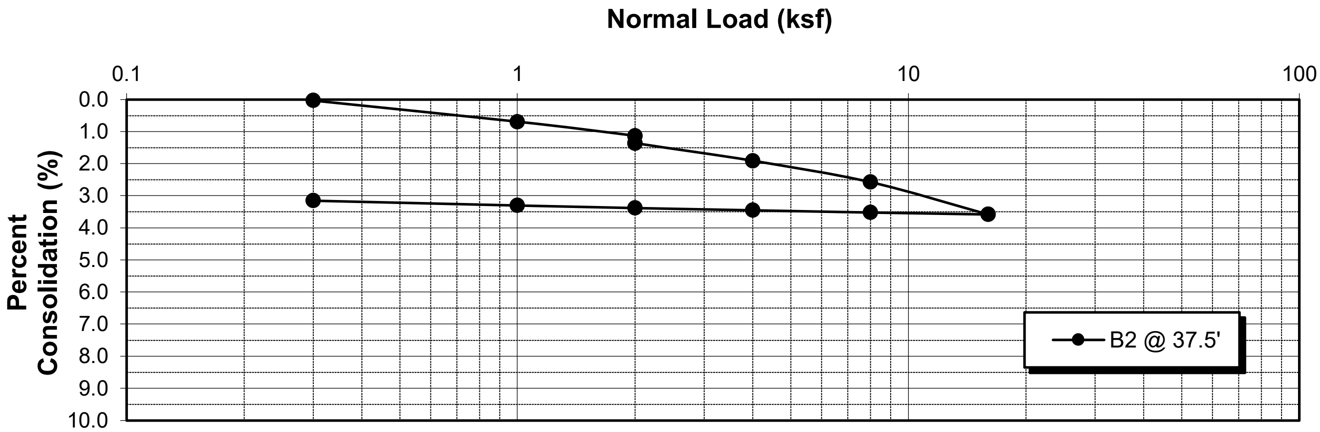


Water added at 2 KSF

CONSOLIDATION(ASTM D2435)

Geotechnologies, Inc.
Consulting Geotechnical Engineers

PROJECT: 181 COLORADO, LLC	
FILE NO.: 22449	PLATE: C-2



Water added at 2 KSF

CONSOLIDATION(ASTM D2435)

Geotechnologies, Inc.

Consulting Geotechnical Engineers

PROJECT: 181 COLORADO, LLC	
FILE NO.: 22449	PLATE: C-3

LABORATORY COMPACTION CHARACTERISTICS (ASTM D1557)		
SAMPLE	B1 @ 1'-5'	B3 @ 1'-5'
SOIL TYPE	SM	SM
MAXIMUM DRY DENSITY (PCF)	132.5	135.1
OPTIMUM MOISTURE %	8.5	7.7

EXPANSION INDEX (ASTM D4829)		
SAMPLE	B1 @ 1'-5'	B3 @ 1'-5'
SOIL TYPE	SM	SM
EXPANSION INDEX UBC STANDARD 18-2	17	10
EXPANSION CHARACTER	VERY LOW	VERY LOW

SULFATE CONTENT (CALIFORNIA TEST 417)		
SAMPLE	B1 @ 1'-5'	B3 @ 1'-5'
SULFATE CONTENT: (Percentage by Weight)	<0.1%	<0.1%

COMPACTION/EXPANSION/SULFATE DATA SHEET

Geotechnologies, Inc.
Consulting Geotechnical Engineers

181 COLORADO, LLC

FILE NO: 22449 | PLATE: D

GEOTECHNOLOGIES, INC.

FILE NO.: 22449

PROJECT: 181 Colorado Pl, Arcadia

BORING 2

EVALUATION OF EARTHQUAKE-INDUCED SETTLEMENTS IN DRY SANDY SOILS

INPUT:

EARTHQUAKE INFORMATION:

Earthquake Magnitude:	7.0
Peak Horiz. Acceleration (g):	0.95

Depth of Base of Strata (ft)	Thickness of Layer (ft)	USCS Soil Type	Depth of Mid-point of Layer (ft)	Soil Unit Weight (pcf)	Overburden Pressure at Mid-point (tsf)	Mean Effective Pressure at Mid-point (tsf)	Average Cyclic Shear Stress [Tav]	Field SPT [N]	Correction Factor [Cer]	Relative Density [Dr] (%)	Correction Factor [Cn]	Corrected [N1]60	ΔN for Fines Content	Fines Corrected [N1]60	Maximum Shear Mod. [Gmax] (tsf)	[geff]*[Geff] / [Gmax]	[geff]	[geff]*100%	Volumetric Strain [E15} (%)	Number of Strain Cycles [Nc]	Corrected Vol. Strains [Ec]	Settlement [S] (inches)
5.0	5.0	SM	2.5	122.0	0.15	0.10	0.094	11	1.3	70.0	1.60	22.88	5.5	28.4	435.830	2.06E-04	6.00E-03	6.00E-01	3.80E-01	11.1644	0.3327	0.00
10.0	5.0	SM/SP	7.5	111.0	0.44	0.30	0.273	16	1.3	79.0	1.35	28.1	5.5	33.6	786.335	3.02E-04	1.60E-03	1.60E-01	8.50E-02	11.1644	0.0744	0.09
15.0	5.0	SP	12.5	114.0	0.73	0.49	0.442	17	1.3	75.0	1.11	24.5	0.0	24.5	905.216	3.92E-04	2.40E-03	2.40E-01	2.00E-01	11.1644	0.1751	0.04
25.0	10.0	SP	20.0	122.0	1.17	0.79	0.698	34	1.3	99.0	1.00	44.2	0.0	44.2	1400.798	3.60E-04	1.00E-03	1.00E-01	2.10E-02	11.1644	0.0184	0.04
45.0	20.0	SM	35.0	123.8	2.10	1.40	1.157	35	1.3	60.0	0.90	41.0	5.5	46.5	1904.383	3.74E-04	8.00E-03	8.00E-01	3.00E-02	11.1644	0.0263	0.13
60.0	15.0	SP/SM	52.5	120.4	3.17	2.12	1.538	63	1.3	75.0	0.80	65.5	5.5	71.0	2696.392	3.13E-04	5.50E-03	5.50E-01	3.00E-02	11.1644	0.0263	0.04

Total Calculated Dynamic Dry Settlement (inches) 0.34

Geotechnologies, Inc.

Project:	181 Colorado, LLC
File No.:	22449

Soil Weight	γ	115	pcf
Internal Friction Angle	ϕ	31	degrees
Height of Retaining Wall	H	15	feet

NON-HYDROSTATIC (DRAINED) DESIGN

Restrained Retaining Wall Design based on At Rest Earth Pressure

$\sigma'_h = K_o \sigma'_v$

$K_o = 1 - \sin\phi$	0.485	
$\sigma'_v = \gamma H$	1725.0	psf

$\sigma'_h =$	836.6	psf	
EFP =	55.8	pcf	
$P_o =$	6274.2	lbs/ft	(based on a triangular distribution of pressure)

Design wall for an EFP of 56 pcf

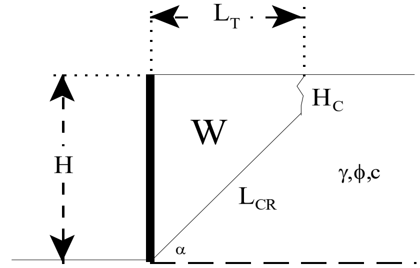
Geotechnologies, Inc.

Project: 181 Colorado LLC
File No.: 22449
Description:

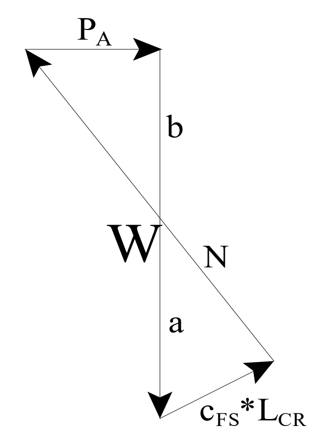
Retaining Wall Design with Level Backfill
(Vector Analysis)

Input:

Retaining Wall Height	(H)	15.00	feet
Unit Weight of Retained Soils	(γ)	115.0	pcf
Friction Angle of Retained Soils	(ϕ)	31.0	degrees
Cohesion of Retained Soils	(c)	205.0	psf
Factor of Safety	(FS)	1.50	
		28	
Factored Parameters:	(ϕ_{FS})	21.8	degrees
	(c_{FS})	136.7	psf



Failure Angle (α) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	4.0	105	12033.5	15.6	5031.8	7001.7	2996.6
46	3.9	101	11658.3	15.5	4790.4	6867.9	3082.3
47	3.8	98	11288.8	15.3	4566.7	6722.1	3158.9
48	3.7	95	10925.5	15.2	4359.2	6566.3	3226.8
49	3.7	92	10568.6	15.0	4166.3	6402.3	3286.1
50	3.6	89	10218.2	14.8	3986.8	6231.4	3337.1
51	3.6	86	9874.3	14.7	3819.4	6054.9	3379.9
52	3.6	83	9536.8	14.5	3663.0	5873.8	3414.5
53	3.5	80	9205.6	14.3	3516.7	5688.9	3441.3
54	3.5	77	8880.5	14.2	3379.7	5500.9	3460.1
55	3.5	74	8561.4	14.0	3251.0	5310.4	3471.1
56	3.5	72	8247.9	13.9	3129.9	5118.0	3474.3
57	3.5	69	7940.0	13.7	3015.8	4924.2	3469.8
58	3.5	66	7637.2	13.5	2908.0	4729.2	3457.4
59	3.5	64	7339.4	13.4	2806.1	4533.3	3437.3
60	3.6	61	7046.3	13.2	2709.4	4337.0	3409.2
61	3.6	59	6757.7	13.0	2617.4	4140.3	3373.2
62	3.6	56	6473.3	12.9	2529.8	3943.5	3329.0
63	3.7	54	6192.8	12.7	2446.0	3746.8	3276.6
64	3.7	51	5916.0	12.5	2365.7	3550.3	3215.8
65	3.8	49	5642.5	12.3	2288.4	3354.1	3146.5
66	3.9	47	5372.2	12.2	2213.8	3158.5	3068.3
67	4.0	44	5104.8	12.0	2141.4	2963.5	2981.1
68	4.1	42	4839.9	11.8	2070.8	2769.1	2884.6
69	4.2	40	4577.3	11.6	2001.7	2575.7	2778.6
70	4.3	38	4316.7	11.4	1933.5	2383.2	2662.7



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$
$b = W-a$
$P_A = b*\tan(\alpha-\phi_{FS})$
$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\ max}$ 3474.3 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP 30.9 pcf

Design Wall for an Equivalent Fluid Pressure: 31 pcf

Geotechnologies, Inc.

Project: 181 Colorado LLC
File No.: 22449
Description:

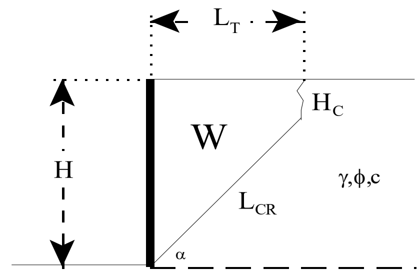
Shoring Design with Level Backfill
(Vector Analysis)

Input:

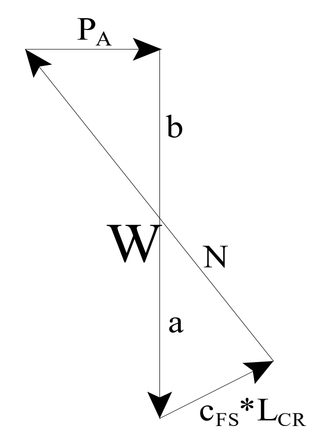
Shoring Height	(H)	18.00 feet
Unit Weight of Retained Soils	(γ)	115.0 pcf
Friction Angle of Retained Soils	(ϕ)	31.0 degrees
Cohesion of Retained Soils	(c)	205.0 psf
Factor of Safety	(FS)	1.25

28

Factored Parameters:	(ϕ_{FS})	25.7 degrees
	(c_{FS})	164.0 psf



Failure Angle (α) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) feet^2	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	5.5	147	16895.5	17.7	7900.0	8995.6	3154.9
46	5.3	143	16415.4	17.6	7496.7	8918.8	3303.9
47	5.2	139	15932.9	17.5	7123.1	8809.8	3439.6
48	5.1	134	15450.9	17.4	6776.9	8674.0	3562.2
49	4.9	130	14971.3	17.3	6455.7	8515.6	3672.1
50	4.9	126	14495.6	17.2	6157.5	8338.1	3769.5
51	4.8	122	14024.9	17.0	5880.3	8144.7	3854.7
52	4.7	118	13559.9	16.9	5622.1	7937.8	3927.7
53	4.7	114	13100.9	16.7	5381.3	7719.6	3989.0
54	4.6	110	12648.3	16.6	5156.3	7491.9	4038.5
55	4.6	106	12202.1	16.4	4945.8	7256.3	4076.5
56	4.6	102	11762.4	16.2	4748.4	7014.0	4103.1
57	4.5	99	11329.1	16.1	4563.0	6766.1	4118.2
58	4.5	95	10902.1	15.9	4388.5	6513.6	4122.0
59	4.5	91	10481.2	15.7	4223.9	6257.3	4114.5
60	4.6	88	10066.2	15.5	4068.2	5997.9	4095.7
61	4.6	84	9656.8	15.3	3920.8	5736.0	4065.4
62	4.6	80	9252.7	15.2	3780.6	5472.1	4023.6
63	4.7	77	8853.8	15.0	3647.1	5206.6	3970.3
64	4.7	74	8459.6	14.8	3519.6	4940.0	3905.2
65	4.8	70	8069.8	14.6	3397.2	4672.6	3828.2
66	4.9	67	7684.2	14.4	3279.5	4404.7	3739.0
67	5.0	63	7302.3	14.1	3165.7	4136.7	3637.6
68	5.1	60	6923.8	13.9	3055.2	3868.7	3523.6
69	5.2	57	6548.3	13.7	2947.3	3601.1	3396.7
70	5.4	54	6175.4	13.4	2841.3	3334.1	3256.7



Design Equations (Vector Analysis):

$a = c_{FS}*L_{CR}*\sin(90+\phi_{FS})/\sin(\alpha-\phi_{FS})$

$b = W-a$

$P_A = b*\tan(\alpha-\phi_{FS})$

$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\ max}$ 4122.0 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of shoring)

$EFP = 2*P_A/H^2$

EFP 25.4 pcf

Design Shoring for an Equivalent Fluid Pressure: 28 pcf

Date: 1-Nov-23
File No. 22449
File Name : 181 Colorado PL

Percolation Rate Calculation for Test Pit

Testing Pit Number	1	
Total Depth of Test Pit (Including Test Hole)	36	inches
Volume of Test Hole Excavated at Bottom	1	cubic foot
Ground surface elevation	N.A.	feet
Pre-soak Time	2	hours
Measured By	H.C.	

Terms
Initial water depth (d1) =dc-di
Water level drop (Δd) = di-df

di and df are taken from ground surface

Reading Number	Clock Time	Elapsed Time	Water Measurement (d_i) and (d_f)	Percolation Rate	Preadjusted Percolation Rate		Initial Water depth (d1)	Water level Drop (Δd)
							d1 = dc-di	Δd = di-df
1		Min	in	in/min	in/hour		in	in
	10:50		24.00				24.00	
	11:20	30	30.70	0.22	13.40			6.70
2								
	11:20		24.00				24.00	
	11:54	30	30.30	0.21	12.60			6.30
3								
	11:57		24.00				24.00	
	12:27	30	29.80	0.19	11.60			5.80
4								
	12:30		24.00				24.00	
	13:00	30	29.50	0.18	11.00			5.50
5								
	1:02		24.00				24.00	
	1:32	30	29.40	0.18	10.80			5.40
6								
	1:35		24.00				24.00	
	2:05	30	29.30	0.18	10.60			5.30
7								
8								

Preadjusted Stabilized Rate	Reduction Factor (RF_t)	RFv=	RFs=
in/hr	Unitless	Unitless	Unitless
10.60	2.000	1.00	2.00

Infiltration Rate = 2.12 in/hr
(Includes Reduction Factors)

Note: Calculation based on County of Los Angeles, Administrative Manual, Low Impact Development Best Management Practice Guideline for Design, Investigation, and Reporting, dated 06/30/21.
LA County Minimum Corrected Infiltration Rate is 0.3 Inches per hour

Date: 1-Nov-23
File No. 22449
File Name : 181 Colorado PL

Percolation Rate Calculation for Test Pit

Testing Pit Number	2	
Total Depth of Test Pit (Including Test Hole)	72	inches
Volume of Test Hole Excavated at Bottom	1	cubic foot
Ground surface elevation	N.A.	feet
Pre-soak Time	2	hours
Measured By	H.C.	

Terms

Initial water depth (d1) =dc-di
Water level drop (Δd) = di-df

di and df are taken from ground surface

Reading Number	Clock Time	Elapsed Time	Water Measurement (d_i) and (d_f)	Percolation Rate	Preadjusted Percolation Rate		Initial Water depth (d1)	Water level Drop (Δd)
							d1 = dc-di	Δd = di-df
1		Min	in	in/min	in/hour		in	in
	10:50		60.00				60.00	
	11:20	30	71.90	0.40	23.80			11.90
2								
	11:20		60.00				60.00	
	11:50	30	71.70	0.39	23.40			11.70
3								
	11:57		60.00				60.00	
	12:27	30	71.50	0.38	23.00			11.50
4								
	12:30		60.00				60.00	
	13:00	30	71.40	0.38	22.80			11.40
5								
	1:02		60.00				60.00	
	1:32	30	71.25	0.38	22.50			11.25
6								
	1:35		60.00				60.00	
	2:05	30	71.20	0.37	22.40			11.20
7								
8								

Preadjusted Stabilized Rate	Reduction Factor (RF_t)	RFv=	RFs=
in/hr	Unitless	Unitless	Unitless
22.40	2.000	1.00	2.00

Infiltration Rate = 4.48 in/hr

(Includes Reduction Factors)

Note: Calculation based on County of Los Angeles, Administrative Manual, Low Impact Development Best Management Practice Guideline for Design, Investigation, and Reporting, dated 06/30/21.
LA County Minimum Corrected Infiltration Rate is 0.3 Inches per hour

ATTACHMENT E: GREENHOUSE GAS EMISSIONS ASSESSMENT

MEMORANDUM

To: Lisa Flores, City of Arcadia

From: Darshan Shivaiah, Michael Baker International

Date: July 22, 2024

Subject: Tempo by Hilton Project – Greenhouse Gas Emissions Assessment

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PURPOSE AND BACKGROUND

The purpose of this technical memorandum is to evaluate potential short- and long-term greenhouse gas emissions (GHG) impacts that would result from the construction and operation of a proposed hotel building and associated improvements in support of the Tempo by Hilton Project Addendum to the *Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo) Project* (2020 IS/MND).

The City prepared the 2020 IS/MND for a redevelopment project located at 125 West Huntington Drive and 123 West Huntington Drive (Original Project Site). On February 5, 2013, the City previously approved the modification of an existing 60,811-square-foot, three-story office building (Parsons building) and the construction of two new medical office buildings, a new general office building, and a new parking structure on the Original Project Site. Of the four new buildings approved under the 2013 development project, only the parking structure and the two medical office buildings (now occupied by the Keck Medicine of University of Southern California [USC]) were constructed. The 2020 IS/MND analyzed (1) the redevelopment of the existing Parsons building on the Original Project Site to allow for 76,754 square feet of hotel and appurtenant uses, including 90 hotel rooms, amenities, and employee or guest shared spaces, and (2) the construction a new 61,538-square-foot, five-story hotel annex building containing 75 hotel rooms and additional amenities such as a hotel spa, café, and outdoor patios to the east of the Parson's building. No changes to the two existing Keck Medicine of USC medical office buildings and parking structure were proposed under the Approved Project. The 2020 IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020 (Resolution No. 2050).

The Tempo by Hiton Project Addendum (Tempo Addendum) analyzes the environmental effects of the Revised Project, which is comprised of the Approved Project described above, and the Tempo Project, which includes a lot line adjustment (LLA) to merge the parcel identified as Assessor's Parcel Number (APN) 2775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) in order to create one legal parcel (Revised Project Site) and to construct a new four-story hotel building on APN 2775-015-011. The Tempo Project would not modify any of the existing medical office buildings, parking structure or the hotel buildings previously approved under the Approved Project. A detailed description of the Tempo Project is provided below. This memorandum analyzes the combined impact of the Tempo Project and the Approved Project analyzed in the 2020 IS/MND.

5 Hutton Centre Drive, Suite 500, Santa Ana, CA 92707
Office: 949.472.3505 | Fax: 949.472.8373

PROJECT LOCATION

The City of Arcadia is located in northeast Los Angeles County, generally north of the Interstate 10 Freeway (I-10), south of the Foothill Freeway (I-210), east of State Route 164, and west of I-605. The City is approximately 12 miles northeast of downtown Los Angeles; refer to Exhibit 1, *Regional Vicinity*.

The Revised Project is located within the northeastern portion of Arcadia and is comprised of the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) and one land parcel addressed as 181 Colorado Place (APN 5775-015-011) that is approximately 0.61 acre, or 26,493 square feet;[1] refer to Exhibit 2, *Revised Project Site*. Regional access to the Revised Project Site is provided via I-210. Local access to the Revised Project Site is provided via Colorado Place, San Juan Drive, and San Rafael Road.

EXISTING SITE CONDITIONS

The Revised Project Site, which includes the Original Project Site and APN 5775-015-011, is located in a highly developed and urbanized area of Arcadia. The Original Project Site is occupied by the two Keck Medicine of USC medical office buildings, a parking structure, and the Parsons building. The redevelopment of the Parsons building for hotel uses and the construction of the hotel annex building are currently underway. APN 5775-015-011 is vacant lot currently fenced that was previously occupied by the Original Peppers Mexican and Cantina, surface parking, and landscaping. The restaurant building was demolished in 2023 but the surface parking and landscaping remain.

According to the Arcadia General Plan, Chapter 2: Land Use and Community Design Element, the Revised Project Site is designated as Commercial WHICH. This Commercial designation is intended to encourage a strong pedestrian-oriented environment that provides a variety of retail and service uses, restaurants, and neighborhood-serving commercial uses that complement development in the Downtown Mixed-Use areas.[2] According to the City's Zoning Map, the Revised Project Site is zoned General Commercial (C-G) with a Downtown Overlay.[3] The C-G zone is intended to provide areas for the development of retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The maximum Floor Area Ratio (FAR) permitted under the C-G zone and the Downtown Overlay zone is 1.0 for new development, and the maximum height permitted for new buildings is 48 feet.

Surrounding uses adjacent to the Revised Project Site include residential, office, and commercial uses. The Revised Project Site is bordered by San Juan Drive, the California Thoroughbred Breeders Association, and single-family homes to the north; San Rafael Road and a small commercial plaza to the east; single-family homes to the east and northeast; Colorado Place, Huntington Drive and Le Meriden hotel to the south; and Colorado Place and the Santa Anita Park (a horseracing track) to the west.

1 Los Angeles County Assessor, Property Search Tool: APN 5775-015-011, https://assessor.lacounty.gov/homeowners/property-search, accessed June 19, 2024.

2 City of Arcadia, *Arcadia General Plan, Chapter 2: Land Use and Community Design Element*, February 2024.

3 City of Arcadia, *City of Arcadia Zoning Map*, Updated February 6, 2024.

Michael Baker INTERNATIONAL

NOT TO SCALE

06/2024 • JN 201253

TEMPO BY HILTON

Regional Vicinity Map

Exhibit 1

Source: Google Earth Pro, July 2024

Michael Baker INTERNATIONAL

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TEMPO BY HILTON

Revised Project Site

Exhibit 2

PROJECT DESCRIPTION

The Revised Project would consist of the improvements proposed by the Tempo Project, along with the previously Approved Project described in the 2020 IS/MND, which includes the redevelopment of the Parsons building for hotel uses and the construction of a new hotel annex building. The Tempo Project would develop a four-story hotel building with approximately 47,140 square feet of gross floor area on APN 5775-015-011; refer to Exhibit 3, *Conceptual Site Plan*.

The new hotel building would have a maximum height of 48 feet, excluding rooftop appurtenances, and would consist of a basement level and four above-ground levels containing a total of 91 rooms and ancillary hotel uses. The basement level would primarily contain back-of-house uses for hotel operations, including an electric room, a mechanical room, a laundry room, offices, storage rooms, an employee breakroom, restrooms, and a fitness room for guest use. Level 1 would contain 13 hotel rooms, a kitchen, café, bar, lobby, meeting area, office, restrooms, and an outdoor patio. Levels 2, 3, and 4 would each contain 26 hotel rooms and the roof level would contain an outdoor paved patio, solar panels, and mechanical areas.

The Tempo Project would utilize the existing parking structure located on the Original Project Site to provide parking for hotel employees, guests, and visitors. As shown in Exhibit 3, the Tempo Project would also reconfigure the existing surface parking lot located to the east of the proposed hotel building on the Original Project Site to provide 18 surface parking spaces, including three electric vehicle charging spaces, a trash enclosure, and a connection to the new surface parking area along the south side of the proposed hotel building. The new surface parking area would provide 6 parking spaces, including 4 accessible parking spaces. In addition, the Tempo Project would develop a drop-off area with access via the existing driveway from Colorado Place. Access to the proposed hotel building would be provided from the two existing driveways along Colorado Place and San Juan Drive.

Landscaping improvements to the Revised Project Site would include the removal of 13 existing trees and the installation of 36 new trees as well as other drought tolerant plants within the Area of Proposed Improvements shown in Exhibit 2. Ancillary improvements to the Revised Project Site would include exterior lighting and accessible routes from the proposed hotel building to the new surface parking area, the existing the surface parking lot to the east, and the existing parking structure.

In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,579 square feet by merging APN 5775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029), which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project.

The Tempo Project would require discretionary approvals from the City for an LLA to merge APN 5775-015-011 with the Original Project Site and a Conditional Use Permit to develop the proposed hotel building in a C-G zone.

Source: DesignCell Architecture, June 2024

Michael Baker
INTERNATIONAL

NOT TO SCALE

06/2024 • JN 201253

TEMPO BY HILTON

Conceptual Site Plan

Exhibit 3

GLOBAL CLIMATE CHANGE

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[4] The greenhouse effect traps heat in the troposphere through a threefold process as follows: short wave radiation emitted by the sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This "trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect.

California is a substantial contributor of global GHGs, emitting approximately 381.3 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2021, which is 12.6 $MMTCO_2e$ higher than 2020 levels.[5] A carbon dioxide equivalent (CO_2e)[6] is defined as the number of metric tons of carbon dioxide (CO_2) emissions with the same global warming potential as one metric ton of another GHG. Methane (CH_4) is also an important GHG that potentially contributes to global climate change. GHGs are global in their effect, which is to increase the earth's ability to absorb heat in the atmosphere. As primary GHGs have a long lifetime in the atmosphere, accumulate over time, and are generally well-mixed, their impact on the atmosphere is mostly independent of the point of emission. Every nation emits GHGs and as a result makes an incremental cumulative contribution to global climate change; therefore, global cooperation will be required to reduce the rate of GHG emissions enough to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO_2, CH_4, and nitrous oxide (N_2O) from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO_2 concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO_2 concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of June 2024, the highest monthly average concentration of CO_2 in the atmosphere was recorded at 426.49 ppm.[7]

The Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm CO_2e concentration is required to keep global mean warming below 2 degrees Celsius (°C) (3.8 degrees Fahrenheit), which in turn is assumed to be necessary to avoid dangerous climate change.

SCOPE OF ANALYSIS FOR CLIMATE CHANGE

The study area for climate change and the analysis of GHG emissions is broad as climate change is influenced by worldwide emissions and their global effects. However, the study area is also limited by the *California Environmental Quality Act Guidelines* [Section 15064(d)] (CEQA Guidelines), which directs lead

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4 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

5 California Air Resource Board, *California Greenhouse Gas Emissions from 2001 to 2021: Trends of Emissions and Other Indicators*, December 14, 2023.

6 Carbon Dioxide Equivalent (CO_2e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

7 Scripps Institution of Oceanography, *The Keeling Curve, Carbon Dioxide Concentration at Mauna Loa Observatory*, https://keelingcurve.ucsd.edu/, accessed June 27, 2024.

agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact which may be caused by the Revised Project.

The baseline against which to compare potential impacts of the Revised Project includes the natural and anthropogenic drivers of global climate change, including worldwide GHG emissions from human activities that have grown more than 70 percent between 1970 and 2004. The State of California is leading the nation in managing GHG emissions. Accordingly, the impact analysis for the Revised Project relies on guidelines, analyses, policy, and plans for reducing GHG emissions established by the California Air Resources Board (CARB).

ENVIRONMENTAL SETTING

Regional Topography

CARB divides the State into 15 air basins that share similar meteorological and topographical features. The Revised Project Site lies within the South Coast Air Basin (Basin). The Basin is a 6,600 square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semi-arid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. The typical mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. Precipitation is limited to a few winter storms.

The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have had recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically nine to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The Revised Project is in the City of Arcadia. The City experiences a mild Southern California coastal climate with average high temperatures between 67°F and 89°F, and average low temperatures between 46°F to

67°F. The area also experiences an average of up to 3.1 inches of precipitation per month, with the most precipitation occurring in the month of February.[8]

REGULATORY SETTING

Federal

GHG Endangerment Ruling

The U.S. Supreme Court in *Massachusetts et al. v. Environmental Protection Agency et al*. (549 U.S. 05-1120 [2007]) held that the U.S. Environmental Protection Agency (USEPA) has the authority to regulate motor vehicle GHG emissions under the federal Clean Air Act (CAA) and make a determination whether or not GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably endanger public health or welfare. In December 2009, the USEPA issued an endangerment finding for GHG emissions under the CAA, which set the stage for future regulations as the finding did not impose any emission reduction requirements. Accordingly, in response to the endangerment finding, the USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires facilities that emit 25,000 metric tons of CO_2e or more per year to submit an annual report.

Corporate Average Fuel Economy (CAFE) Standards

Established by the US Congress in 1975, the Corporate Average Fuel Economy (CAFE) Standards (49 Code of Federal Regulations [CFR] Parts 531 and 533) set fuel economy standards for all new passenger cars and light trucks sold in the United States. The NHTSA and the USEPA jointly administer the CAFE standards, which become more stringent each year.

In August 2016, the USEPA and NHTSA announced the adoption of phase two programs related to the fuel economy and GHG emissions standards for medium- and heavy-duty trucks. The phase two program applied to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards were expected to lower CO_2 emissions by approximately 1.1 billion metric tons of CO_2 and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program. The NHTSA and the USEPA jointly published the “Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program” (SAFE I Rule) in September 2019 and issued the Final SAFE Rule (i.e., SAFE Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks) in April 2020. The SAFE I Rule relaxed federal CAFE vehicle standards and revoked California’s authority to set its own vehicle standards. On December 29, 2021, the NHTSA issued the final rule to repeal the SAFE I Rule, effective January 28, 2022, which removes the improper restrictions placed on states and local governments from developing innovative policies to address their specific environmental and public health challenges.[9] The USEPA also issued a decision on March 14, 2022, that rescinded its 2019 withdrawal of California’s authority to set its own vehicle standards. State

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8 Weather Spark, *Climate and Average Weather Year Round in Arcadia, California, United States*, https://weatherspark.com/y/1680/Average-Weather-in-Arcadia-California-United-States-Year-Round, accessed on June 21, 2024.

9 Federal Register, Vol. 86, No. 247, December 29, 2021.

Executive Order S-03-05

Executive Order S-03-05, signed by Governor Schwarzenegger in June 2005, set the following GHG reduction targets for the State:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 1493

Assembly Bill (AB) 1493, also known as the Pavley Bill, requires that the CARB develop and adopt by January 1, 2005, regulations that achieve "the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." On June 30, 2009, the USEPA granted the waiver of CAA preemption to California for its GHG emissions standards for motor vehicles beginning with the 2009 model year. Pavley I regulated model years from 2009 to 2016, and Pavley II, which is now referred to as "LEV (Low Emission Vehicle) III GHG," regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs, which should provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels.

Assembly Bill 32 - California Global Warming Solutions Act of 2006, Senate Bill 32 - California Global Warming Solutions Act of 2016, and Climate Change Scoping Plans

California's major initiative for reducing GHG emissions is outlined in AB 32, the California Global Warming Solutions Act of 2006, which was signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and required CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 required CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 limit of 427 $MMTCO_2e$. To implement AB 32, the first Climate Change Scoping Plan (2008 Scoping Plan) was approved by CARB on December 11, 2008, and included measures to address GHG emissions reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. Many of the GHG emissions reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard [LCFS], Advanced Clean Car [ACC] standards, and Cap-and-Trade Program) have been adopted since approval of the Scoping Plan.

In May 2014, CARB approved the first update to the 2008 Scoping Plan, the 2013 Scoping Plan, which defined CARB's climate change priorities for the next five years and set the groundwork to reach post-2020 statewide goals. The update highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan and evaluated how to align the State's longer-term GHG emissions reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use.

Senate Bill (SB) 32, signed into law on September 8, 2016, extended AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remained unchanged). In December 2017, CARB adopted the 2017 Scoping Plan (an update to the 2013 Scoping Plan), which provided a framework for achieving the 2030 target. The 2017 Scoping Plan relied on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, as well as implementation of then recently adopted policies, such as SB 350 and SB 1383. The 2017 Scoping

Plan also put an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan, the 2017 Scoping Plan did not provide project-level thresholds for land use development. Instead, it recommended that local governments adopt policies and locally appropriate quantitative thresholds consistent with statewide per capita goals of no more than 6 $MTCO_2e$ by 2030 and 2 $MTCO_2e$ by 2050.

In response to the passage of AB 1279 and the identification of the 2045 GHG emissions reduction target, CARB adopted the 2022 Climate Change Scoping Plan (2022 Scoping Plan) in December 2022. The 2022 Scoping Plan builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying a new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Scoping Plan includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

The 2022 Scoping Plan assesses the progress California is making toward reducing its GHG emissions by at least 40 percent below 1990 levels by 2030, as called for in SB 32 and laid out in the 2017 Scoping Plan; addresses recent legislation and direction from Governor Newsom; extends and expands upon these earlier plans; and implements a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, as well as taking an additional step of adding carbon neutrality as a science-based guide for California's climate work. As stated in the 2022 Scoping Plan, "the plan outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the State's natural and working lands and using a variety of mechanical approaches." Specifically, the 2022 Scoping Plan achieves the following:

- Identifies a path to keep California on track to meet its SB 32 GHG reduction target of at least 40 percent below 1990 emissions by 2030.
- Identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic emissions by 85 percent below 1990 levels.
- Focuses on strategies for reducing California's dependency on petroleum to provide consumers with clean energy options that address climate change, improve air quality, and support economic growth and clean sector jobs.
- Integrates equity and protecting California's most impacted communities as driving principles throughout the document.
- Incorporates the contribution of natural and working lands to the State's GHG emissions, as well as their role in achieving carbon neutrality.
- Relies on the most up-to-date science, including the need to deploy all viable tools to address the existential threat that climate change presents, including carbon capture and sequestration, as well as direct air capture.
- Evaluates the substantial health and economic benefits of taking action.
- Identifies key implementation actions to ensure success.

In addition to reducing emissions from transportation, energy, and industrial sectors, the 2022 Scoping Plan includes emissions and carbon sequestration in natural and working lands and explores how they contribute to long-term climate goals. Under the Scoping Plan Scenario, California's 2030 emissions are anticipated to be 48 percent below 1990 levels, representing an acceleration of the current SB 32 target. The Cap-and-Trade Program continues to play a large factor in the reduction of near-term emissions for meeting the accelerated 2030 reduction target. Every sector of the economy will need to begin to transition in this decade to meet these GHG emissions reduction goals and achieve carbon neutrality no later than 2045. The 2022 Scoping Plan approaches decarbonization from two perspectives, managing a phasedown of existing energy sources and technologies, as well as increasing, developing, and deploying alternative clean energy sources and technology.

Senate Bill 375 - 2008 Sustainable Communities and Climate Protection Act

SB 375, signed in August 2008, enhances the State's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. In addition, SB 375 directs each of the State's 18 major metropolitan planning organizations to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8-percent reduction in GHGs from transportation sources by 2020 and a 19-percent reduction in GHGs from transportation sources by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements.

Senate Bill 100 - California Renewables Portfolio Standard Program

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard (RPS) Program, which had been last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18 to Achieve Carbon Neutrality

On September 10, 2018, Governor Brown issued Executive Order B-55-18, which established a new Statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG emissions reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

California Building Standards Code

California Code of Regulations Title 24 is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, and accessibility for persons with physical and sensory disabilities. These standards are updated every three years. The most recent update, the 2022 California Building Standards, went into effect on January 1, 2023.

Part 6 – Building Energy Efficiency Standards/Energy Code

California Code of Regulations Title 24, Part 6, is the Building Energy Efficiency Standards, also referred to as the California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and nonresidential buildings to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission. The 2022 Energy Code continues to improve upon the previous 2019 Title 24 standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2022 Energy Code is anticipated to reduce GHG emissions by 10 $MMTCO_2e$ over the next 30 years and result in approximately $1.5 billion in consumer savings. Compliance with Title 24 is enforced through the building permit process.

Part 11 – California Green Building Standards

Title 24, Part 11, is referred to as the California Green Building Standards (CALGreen) Code and was developed to help the State achieve its GHG emissions reduction goals under AB 32 by codifying standards for reducing building-related energy, water, and resource demand, which in turn reduces GHG emissions from energy, water, and resource demand. The CALGreen Code establishes mandatory measures, which include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality, for new residential and nonresidential buildings.

Regional

Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy

SCAG formally adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) on September 3, 2020, to provide a roadmap for sensible ways to expand transportation options, improve air quality, and bolster Southern California's long-term economic viability. The 2020-2045 RTP/SCS builds upon the progress made through implementation of the 2016-2040 RTP/SCS and includes ten goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. These performance goals were adopted to help focus future investments on the best-performing projects, as well as different strategies to preserve, maintain, and optimize the performance of the existing transportation system. The 2020-2045 RTP/SCS is forecast to help California reach its GHG reduction goals by reducing GHG emissions from passenger cars by 8 percent below 2005 levels by 2020 and 19 percent by 2035 in accordance with the most recent CARB targets adopted in March 2018. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. The SCS establishes a land use vision of center-focused placemaking, concentrating growth in and near Priority Growth Areas, transferring of development rights, urban greening, creating greenbelts and community separators, and implementing regional advance mitigation to help the region meet its regional vehicle miles traveled (VMT) and GHG reduction goals, as required by the State.

The most recent 2024-2050 RTP/SCS was adopted by SCAG's Regional Council in April 2024. The 2024-2050 RTP/SCS outlines a vision for a more resilient and equitable future, with investment, policies, and strategies for achieving the region's shared goals through 2050. The 2024-2050 RTP/SCS sets forth a forecasted regional development pattern which, when integrated with the transportation network, measures, and policies, will reduce GHG emissions from automobiles and light-duty trucks and achieve the GHG emissions reduction target for the region set by the CARB. In addition, the 2024-2050 RTP/SCS is supported by a combination of transportation and land use strategies that outline how the region can achieve California's GHG-emission-reduction goals and federal Clean Air Act requirements. These are articulated in a set of Regional Strategic Investments, Regional Planning Policies, and Implementation Strategies. The Regional Planning Policies are a resource for County Transportation Commissions (CTCs) and local jurisdictions, who can refer to specific policies to demonstrate alignment with the 2024-2050 RTP/SCS when seeking resources from state or federal programs. The Implementation Strategies articulate priorities for SCAG efforts in fulfilling or going beyond the Regional Planning Policies.[10] While SCAG has adopted the 2024-2050 RTP/SCS, CARB has not yet certified it or approved SCAG's GHG emissions reduction calculations.

Local

City of Arcadia General Plan

The Arcadia General Plan (General Plan)[11], Chapter 6: Resource Sustainability Element, addresses GHG-reducing goals and policies as follows.

- **Goal RS-2.** Reducing Arcadia's carbon footprint in compliance with SB 375 and AB 32.

    - **Policy RS-2.1.** Cooperate with the state to implement AB 32, which calls for reducing greenhouse gas emissions to 1990 levels by 2020, and Executive Order S-3-05, which calls for 1990 levels by 2020 and 80% below 1990 levels by 2050.

    - **Policy RS-2.2.** Reduce per capita greenhouse gas emissions to 15% below 2005 levels by 2020, and total municipal greenhouse gas emissions to 15% below 2005 levels by 2020.

    - **Policy RS-2.3.** Participate in regional strategies and plan to implement SB 375, and in particular, use the legislatively authorized incentives, such as grants and transportation funding and waivers to environmental assessments, to encourage infill and transit-oriented development.

    - **Policy RS-2.4.** Pursue the strategies in the Land Use and Community Design Element to encourage transit-oriented development in established focused areas.

    - **Policy RS-2.5.** Pursue the enhancement of bicycle and pedestrian infrastructure set forth in the Circulation and Infrastructure Element to help decrease vehicle miles traveled and vehicle trips.

    - **Policy-RS-2.6.** Coordinate land use, circulation, and infrastructure improvement efforts with the West San Gabriel Valley Planning Council, regional planning agencies, and surrounding municipalities.

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10 Southern California Association of Governments, *Connect SoCal: A Plan for Navigating to a Brighter Future (2024-2050 Regional Transportation Plan/Sustainable Communities Strategy)*, adopted April 4, 2024.

11 City of Arcadia, *Arcadia General Plan,* November 2010.

- **Goal RS-3.** Promoting and utilizing clean forms of transportation to reduce Arcadia's carbon footprint.

  - **Policy RS-3.3.** Educate residents on methods of sustainable driving techniques such as: reducing excessive speeding, preventing car idling, regular car maintenance for maximizing fuel efficiency, and carpooling.

  - **Policy RS-3.4.** Promote residents' and business owners' awareness and education of traffic congestion's affect on air pollution and help create voluntary programs that reduce traffic throughout the City.

- **Goal RS-5:** Wise and creative energy use that incorporates new technologies for energy generation and new approaches to energy conservation.
  - **Policy RS-5.3:** Require that all new developments meet or exceed the state and local energy conservation requirements.

  - **Policy RS-5.5:** Support State legislative initiatives to revise utility rates in a manner that provides incentives for energy conservation and provides funding for research and development of alternative energy sources.

  - **Policy RS-5.9:** Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.

CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

In accordance with the CEQA Guidelines, project impacts are evaluated to determine whether significant adverse environmental impacts would occur. According to Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to GHGs if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (refer to Impact Statement GHG-1); and/or

- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases (refer to Impact Statement GHG-2).

The baseline against which to compare potential impacts of a project includes the natural and anthropogenic drivers of global climate change, including worldwide GHG emissions from increased fossil fuel consumption and industrial emissions.[12] As a result, the study area for climate change and the analysis of GHG emissions is broad. However, the study area is also limited by CEQA Guidelines Section 15064.4(b), which directs lead agencies to consider an "indirect physical change" only if that change is a reasonably foreseeable impact, which may be caused by the project.

12 USEPA, Global *Greenhouse Gas Emissions Data*, https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, accessed June 18, 2024.

SIGNIFICANCE CRITERIA AND METHODOLOGY

CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions of projects and consider several other factors that may be used in the determination of significance of GHG emissions from a project, including the extent to which the project may increase or reduce GHG emissions, whether a project's emissions exceeds an applicable significance threshold, and the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

However, CEQA Guidelines Section 15064.4 does not establish a threshold of significance. CEQA Guidelines Section 15064.7 provides lead agencies the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look to thresholds developed by other public agencies or suggested by other experts, if any threshold chosen is supported by substantial evidence. The City of Arcadia has not adopted a numerical significance threshold for assessing impacts related to GHG emissions. Similarly, the SCAQMD, the Governor's Office of Planning and Research (OPR), CARB, California Air Pollution Control Officers Association (CAPCOA), or any other state or applicable regional agency has yet to adopt a numerical significance threshold for assessing GHG emissions that is applicable to the Revised Project.

It should be noted that the 2020 IS/MND discussed that the SCAQMD adopted a 10,000 $MTCO_2e$ per year threshold for permitted stationary sources/industrial projects. Although the 2020 IS/MND acknowledged that the SCAQMD did not adopt a significance threshold for residential and general land use development projects, it used the SCAQMD's 3,000 $MTCO_2e$ per year screening threshold for all land use types for any projects that are not exempt from CEQA or where there are no qualifying GHG reduction plans are applicable. As such, the 2020 IS/MND compared the Approved Project's GHG emissions to the screening threshold of 3,000 $MTCO_2e$ per year. However, the proposed threshold was based on the State's GHG emissions reduction goal identified in AB 32 for the year 2020, which is outdated, and SCAQMD never adopted the threshold.

Further, impacts of climate change are experienced on a global scale regardless of the location of GHG emission sources, and therefore, a numerical significance threshold for individual development projects is speculative. Throughout the State, air districts are moving from numerical significance thresholds to qualitative significance thresholds that focus on project features to reduce GHG emissions or consistency with GHG reduction plans. For example, in the Bay Area Air Quality Management District (BAAQMD) 2022 CEQA Guidelines, the GHG thresholds of significance are either whether land use projects include certain project design elements related to buildings and transportation or whether the project is consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). This is a major update to BAAQMD's 2017 CEQA Guidelines, where a numerical significance threshold was required. To reduce GHG emissions impact, it is more effective for development projects to include project features that directly or indirectly reduce GHG emissions rather than relying on a numerical significance threshold, which is highly dependent on the type and size of the development.

Therefore, the significance of the Revised Project's potential impacts regarding GHG emissions and climate change will be assessed solely on its consistency with plans and policies adopted for the purposes of reducing GHG emissions and mitigating the effects of climate change and the Revised Project's ability to incorporate sustainable features and strategies from such plans and policies in its design to reduce GHG emissions. The analysis has also quantified the Tempo Project's GHG emissions and calculated the Revised Project's GHG emissions by adding the GHG emissions from the Tempo Project to the GHG emission generated by the Approved Project for informational purposes.

It should be noted that individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to significant cumulative effects, even if individual changes resulting from a project are limited. As a result, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. According to CEQA Guidelines Section 15064(h)(1), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem in the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans, and plans or regulations for the reduction of GHG emissions. Therefore, a lead agency can make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

IMPACT ANALYSIS

GHG-1 WOULD THE PROJECT GENERATE GREENHOUSE GAS EMISSIONS, EITHER DIRECTLY OR INDIRECTLY, THAT MAY HAVE A SIGNIFICANT IMPACT ON THE ENVIRONMENT?

GHG-2 WOULD THE PROJECT CONFLICT WITH AN APPLICABLE PLAN, POLICY OR REGULATION ADOPTED FOR THE PURPOSE OF REDUCING THE EMISSIONS OF GREENHOUSE GASES

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.8 a) quantified the Approved Project's construction and operational GHG emissions and compared to the SCAQMD "bright-line" screening threshold. The 2020 IS/MND concluded that emissions during construction and operation of the Approved Project would be approximately 2,539.59 $MTCO_2e$ per year and would not exceed SCAQMD screening threshold. Therefore, the Approved Project would not generate GHG emissions that would have a significant impact on environment.

The 2020 IS/MND Section 3.8 b) acknowledged that the General Plan includes goals and policies that were adopted for the purpose of reducing GHG emissions and provided an analysis of the Approved Project's consistency with the applicable General Plan goals and policies. Further, the 2020 IS/MND concluded that the Approved Project would not obstruct implementation of the CARB 2017 Scoping Plan, SCAG 2016-2040 RTP/SCS, the City's General Plan goals and policies, and, as such, impacts would be less than significant.

Project-Related Greenhouse Gas Emissions

Direct project-related GHG emissions include emissions from construction activities, area sources, mobile sources, and refrigerants, while indirect sources include emissions from energy consumption, water demand, and solid waste generation. The California Emissions Estimator Model (CalEEMod) version 2022.1 was used to calculate project-related GHG emissions, including direct and indirect GHG emissions.

Construction of the Tempo Project is anticipated to take approximately 16.5 months to complete. The construction activities would include grading, building construction, paving, and architectural coating. CalEEMod outputs are contained within Appendix A, *Greenhouse Gas Emissions Data*. Table 1, *Estimated Greenhouse Gas Emissions*, presents the estimated GHG emissions associated with the Revised Project.

Table 1
Estimated Greenhouse Gas Emissions

Source	CO_2	CH_4	N_2O	Refrigerants	CO_2e
	Metric Tons/year[1]				
Direct Emissions					
Construction (amortized over 30 years)[2]	11.08	<0.01	<0.01	<0.01	11.18
Mobile Source[3]	1,255	0.06	0.05	1.89	1,275
Area Source	1.17	<0.01	<0.01	-	1.18
Refrigerants	-	-	-	15.0	15.0
Total Direct Emissions	*1,267.25*	*0.06*	*0.05*	*16.89*	*1,302*
Indirect Emissions					
Energy	286	0.02	<0.01	-	287
Water	4.09	0.07	<0.01	-	6.22
Solid Waste	4.45	0.44	0.00	-	15.6
Total Indirect Emissions	*294.54*	*0.53*	*<0.01*	-	*308.82*
Total Tempo Project Emissions	***1,610.82***				
Approved Project Emissions[4]	***2,539.59***				
Total Tempo Project and Approved Project Emissions	***4,150.41***				

Notes:
1. Emissions calculated using California Emissions Estimator Model Version 2022.1 (CalEEMod) computer model; totals may be slightly off due to rounding.
2. Total Tempo Project construction GHG emissions equate to 335.4 $MTCO_2e$. Value shown is amortized over the lifetime of the Tempo Project (assumed to be 30 years).
3. Based on the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum (Parking Analysis)* prepared by Linscott, Law and Greenspan Engineers (dated March 12, 2024).
4. Refer to Table 15, *Initial Study/Mitigated Negative Declaration – Arcadia Hotel and Annex (Hotel Indigo) Project*, February 2020.

Source: Refer to Appendix A, *Greenhouse Gas Emissions Data* for assumptions used in this analysis.

Direct Project-Related Source of Greenhouse Gases

Construction Emissions. Based on CalEEMod, the Tempo Project would result in a total of 335.4 $MTCO_2e$ of emissions during construction. Construction GHG emissions are amortized over 30 years (i.e., total construction emissions divided by the lifetime of the Tempo Project, assumed to be 30 years), then added to the operational emissions, as recommended by SCAQMD.[13] The amortization takes into consideration the temporary nature of construction activities. It should be noted that construction of the Approved Project will be completed prior to the start of the construction for the Tempo Project; therefore, construction of the Tempo Project and Approved Project would not overlap. As shown in Table 1, construction of the Tempo Project would generate approximately 11.18 $MTCO_2e$ of emissions per year when amortized over 30 years.

Mobile Source Emissions. According to the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum* (Parking Analysis) prepared by Linscott, Law and Greenspan Engineers (dated March 12, 2024), the Tempo Project would result in 1,113 daily trips during

[13] The project lifetime is based on the standard 30-year assumption of the South Coast Air Quality Management District (South Coast Air Quality Management District, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008).

weekdays and 915 trips on Saturdays. As a conservative analysis, daily trips on Sundays are assumed to be the same as weekdays.; refer to Appendix A. The Tempo Project would result in a total of 1,275 $MTCO_2e$ per year of GHG emissions from mobile source; refer to Table 1.

Area Source. Area source emissions would be generated due to an increased demand for consumer products, architectural coating, and landscaping associated with the development of the Tempo Project. The Tempo Project would result in a total of 1.18 $MTCO_2e$ per year of GHG emissions from area source; refer to Table 1.

Refrigerants. Refrigerants are substances used in equipment for air conditioning and refrigeration. Most of the refrigerants used today are HFCs or blends thereof, which can have high global warming potential values. All equipment that uses refrigerants has a charge size (i.e., quantity of refrigerant the equipment contains), and an operational refrigerant leak rate, and each refrigerant has a global warming potential that is specific to that refrigerant. CalEEMod quantifies refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime, and then derives average annual emissions from the lifetime estimate. As noted in Table 1, the Tempo Project would result in 15.00 $MTCO_2e$ per year of GHG emissions from refrigerants.

Indirect Project-Related Source of Greenhouse Gases

Energy Consumption. Energy consumption emissions were calculated using the CalEEMod model and project-specific land use data. The Tempo Project would be required to comply with the most current Title 24 (i.e., 2022 Title 24). The 2022 Title 24 provides minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Additionally, the Tempo Project would also include solar-ready roofs. Overall, the Tempo Project would indirectly result in 287.0 $MTCO_2e$ per year of GHG emissions due to energy consumption; refer to Table 1.

Water Demand. According to CalEEMod, the Tempo Project would consume approximately 2,308,376 gallons of indoor water per year, and 74,583 gallons of outdoor water per year (i.e., for landscaping). Emissions from indirect impacts from water use would result in 6.22 $MTCO_2e$ per year of GHG emissions; refer to Table 1.

Solid Waste. Solid waste associated with operations of the proposed project would result in 15.6 $MTCO_2e$ per year of GHG emissions; refer to Table 1.

Total Project-Related Sources of Greenhouse Gases

As shown in Table 1, the total amount of Tempo Project related GHG emissions from direct and indirect sources combined would total approximately 1,610.82 $MTCO_2e$ per year. Total emissions of the Revised Project (the Tempo Project and the Approved Project combined) would be approximately 4,150.41 $MTCO_2e$ per year, which exceeds the SCAQMD 3,000 $MTCO_2e$ per year screening threshold utilized in the 2020 IS/MND. However, the 3,000 $MTCO_2e$ threshold was never adopted by SCAQMD and is based on the State's outdated GHG emissions reduction goal for 2020. As such, this threshold is discussed in this analysis for informational purposes. Moreover, as discussed above, the significance of the Revised Project's potential impacts regarding GHG emissions and climate change is not determined by the SCAQMD bright-line screening thresholds, but by the Revised Project's consistency with applicable plans, which is discussed in more detail below.

Consistency With Applicable Plans

The consistency analysis within the 2020 IS/MND is based on the 2017 Scoping Plan and SCAG 2016-2040 RTP/SCS. However, these documents have since been updated, with the most recent approved iterations being the 2022 Scoping Plan and the 2020-2045 RTP/SCS. These documents have been updated to include more stringent goals and policies to ensure that existing and future developments are on track to meet Statewide GHG reduction goals. As such, the most recent and approved iterations are more stringent compared to the 2017 Scoping Plan and 2016-2040 RTP/SCS. Thus, the GHG plan consistency for the Revised Project is based on consistency with the 2022 Scoping Plan, SCAG 2020-2045 RTP/SCS, and applicable goals and policies from the City's General Plan. It should be noted that although the latest 2024-2050 RTP/SCS was adopted on April 4, 2024, CARB concluded that the technical methodology SCAG used to quantify the GHG emission reductions for the 2024-2050 RTP/SCS does not operate accurately.[14] SCAG is currently working on updating the technical methodology and resubmitting for CARB's review. Until CARB approves the methodology, the 2024-2050 RTP/SCS is not a fully adopted document, especially from the GHG reduction perspective of the proposed strategies. As such, the consistency analysis relies upon the 2020-2045 RTP/SCS. The 2022 Scoping Plan describes the approach the State will take to achieve carbon neutrality by 2045. The SCAG 2020-2045 RTP/SCS includes strategies for the region to reach the regional target of reducing GHG from transportation sector. The City's General Plan contains goals and policies that would help implement energy efficient measures and would subsequently reduce GHG emissions within the City.

Consistency With 2022 Scoping Plan

The 2022 Scoping Plan identifies reduction measures necessary to achieve the goal of carbon neutrality by 2045 or earlier. Actions that reduce GHG emissions are identified for each AB 32 inventory sector. Provided in Table 2, *Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors*, is an evaluation of applicable reduction actions/strategies by emissions source category to determine how the Revised Project would be consistent with or exceed reduction actions/strategies outlined in the 2022 Scoping Plan. As shown therein, the Revised Project would be consistent with the GHG emission reduction strategies contained in the 2022 Scoping Plan.

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14 California Air Resources Board, RE: CARB Review of Southern California Association of Governments' 2024 SCS Senate Bill 375 Greenhouse Gas Emissions Draft Technical Methodology, March 29, 2024. https://ww2.arb.ca.gov/sites/default/files/2024-04/SCAG%20memo%20final.pdf, accessed, June 27, 2024.

Table 2
Consistency with the 2022 Scoping Plan: AB 32 Inventory Sectors

Actions and Strategies	Project Consistency Analysis
Smart Growth / Vehicles Miles Traveled (VMT)	
Reduce VMT per capita to 25 percent below 2019 levels by 2030, and 30 percent below 2019 levels by 2045	**Consistent**. The Revised Project Site is located within 0.25 miles from an existing bus top located at Huntington Drive and Santa Clara Street to the east. The Tempo Project would also include three electric vehicle (EV) charging stations and the Approved Project included 15 EV charging stations in accordance with Title 24 standards. Thus, the Revised Project would include features that encourage alternative modes of transportation that would reduce VMT. As such, the Revised Project would be consistent with this action.
New Residential and Commercial Buildings	
All electric appliances beginning 2026 (residential) and 2029 (commercial), contributing to 6 million heat pumps installed Statewide by 2030	**Not Applicable.** The City of Arcadia has not adopted an ordinance or program requiring all electric appliances. The Revised Project is anticipated to be operational before such ordinance or program is adopted as the Revised Project would begin operation before 2029. However, if adopted, the Revised Project would be required to comply with such regulation. As such, the Revised Project would be consistent with this action.
Construction Equipment	
Achieve 25 percent of energy demand electrified by 2030 and 75 percent electrified by 2045	**Applicable.** The City of Arcadia has not adopted an ordinance or program requiring electricity-powered construction equipment. The Revised Project construction is anticipated to be completed before such ordinance or program is adopted as construction of the Revised Project would be completed before 2030. However, if adopted, the Revised Project would be required to comply with such regulation. As such, the Revised Project would be consistent with this action.
Non-Combustion Methane Emissions	
Divert 75 percent of organic waste from landfills by 2025	**Consistent**. SB 1383 establishes targets to achieve a 50 percent reduction in the level of statewide organic waste disposal from 2014 levels by 2020 and a 75 percent reduction by 2025. The law establishes an additional target that not less than 20 percent of currently disposed edible food is recovered for human consumption by 2025. The Revised Project would comply with local and regional regulations and recycle or compost 75 percent of waste by 2025 pursuant to SB 1383. As such, the Revised Project would be consistent with this action.
Source: California Air Resources Board, *2022 Scoping Plan*, November 16, 2022.	

Consistency with the 2020-2045 RTP/SCS

On September 3, 2020, the Regional Council of SCAG formally adopted the 2020-2045 RTP/SCS. Five key SCS strategies are included in the 2020-2045 RTP/SCS to help the region meet its regional VMT and GHG reduction goals, as required by the State. Table 3, *Consistency With 2020-2045 RTP/SCS*, provides a consistency analysis of the Revised Project with these five 2020-2045 RTP/SCS strategies. As shown therein, the Revised Project would be consistent with the GHG emission reduction strategies contained in the 2020-2045 RTP/SCS.

Table 3
Consistency With 2020-2045 RTP/SCS

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
Focus Growth Near Destinations and Mobility Options		
• Emphasize land use patterns that facilitate multimodal access to work, educational and other destinations • Focus on a regional jobs/housing balance to reduce commute times and distances and expand job opportunities near transit and along center-focused main streets • Plan for growth near transit investments and support implementation of first/last mile strategies • Promote the redevelopment of underperforming retail developments and other outmoded nonresidential uses • Prioritize infill and redevelopment of underutilized land to accommodate new growth, increase amenities and connectivity in existing neighborhoods • Encourage design and transportation options that reduce the reliance on and number of solo car trips (this could include mixed uses or locating and orienting close to existing destinations) • Identify ways to "right size" parking requirements and promote alternative parking strategies (e.g., shared parking or smart parking)	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** Transit Priority Areas (TPAs) are defined in the 0.5-mile radius around an existing or planned major transit stop or an existing stop along a HQTA. A High Quality Transit Area (HQTA) is defined as a corridor with fixed route bus service frequency of 15 minutes (or less) during peak commute hours. Although the Tempo Project is not located in a TPA or High Quality Transit Corridor (HQTC), it is located near bus stops (existing bus top located at Huntington Drive and Santa Clara Street) and is approximately 0.5 mile from the Metro Gold Line Arcadia Station. The Revised Project Site is an infill site and the Tempo Project would construct a new hotel on a parcel of land that has been underutilized and is currently vacant. Further, the Revised Project Site is located within an urbanized area and within walking and biking distance to existing commercial and neighborhood-serving retail uses, as well as destinations such as the Santa Anita Park. The Revised Project would also provide EV parking spaces in accordance with CALGreen Code. Therefore, the Revised Project would redevelop an infill site by constructing a hotel near destinations, in an area with mobility options that would reduce trips.
Promote Diverse Housing Choices		
• Preserve and rehabilitate affordable housing and prevent displacement • Identify funding opportunities for new workforce and affordable housing development • Create incentives and reduce regulatory barriers for building context sensitive accessory dwelling units to increase housing supply • Provide support to local jurisdictions to streamline and lessen barriers to housing development that supports reduction of greenhouse gas emissions	**PGA, Job Centers, HQTAs, NMA, TPAs, Livable Corridors, Green Region, Urban Greening.**	**Not Applicable.** The Revised Project is not a housing development and therefore would not affect housing supplies.
Leverage Technology Innovations		
• Promote low emission technologies such as neighborhood electric vehicles, shared rides hailing, car sharing, bike sharing and scooters by providing supportive and safe infrastructure such as dedicated lanes, charging and parking/drop-off space • Improve access to services through technology—such as	**HQTA, TPAs, NMA, Livable Corridors.**	**Consistent.** The Revised Project would be required to comply with all applicable Title 24 and CALGreen building codes at the time of construction. These building codes would require EV charging stations, designated EV parking, as well as bike parking. As detailed above, the Approved

Reduction Strategy	Applicable Land Use Tools	Project Consistency Analysis
telework and telemedicine as well as other incentives such as a "mobility wallet," an app-based system for storing transit and other multi-modal payments • Identify ways to incorporate "micro-power grids" in communities, for example solar energy, hydrogen fuel cell power storage and power generation		Project included 15 EV charging stations and the Tempo Project would include 3 EV charging stations and a solar-ready roof. Therefore, the Revised Project would leverage technology innovations and promote alternative modes of transportation to help the City, County, and State meet their GHG reduction goals. The Revised Project would be consistent with this reduction strategy.
Support Implementation of Sustainability Policies		
• Pursue funding opportunities to support local sustainable development implementation projects that reduce greenhouse gas emissions • Support statewide legislation that reduces barriers to new construction and that incentivizes development near transit corridors and stations • Support local jurisdictions in the establishment of Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization and Investment Authorities (CRIAs), or other tax increment or value capture tools to finance sustainable infrastructure and development projects, including parks and open space • Work with local jurisdictions/communities to identify opportunities and assess barriers to implement sustainability strategies • Enhance partnerships with other planning organizations to promote resources and best practices in the SCAG region • Continue to support long range planning efforts by local jurisdictions • Provide educational opportunities to local decisions makers and staff on new tools, best practices and policies related to implementing the Sustainable Communities Strategy	**Center Focused Placemaking, Priority Growth Areas (PGA), Job Centers, High Quality Transit Areas (HQTAs), Transit Priority Areas (TPA), Neighborhood Mobility Areas (NMAs), Livable Corridors, Spheres of Influence (SOIs), Green Region, Urban Greening.**	**Consistent.** As previously discussed, the Revised Project is located near existing bus stops and approximately 0.5 mile from the existing Metro Gold Line Arcadia Station. The Revised Project would support sustainable development implementation that would reduce GHG emissions by installing EV charging stations to promote alternative modes of transportation. Further, the Revised Project would comply with sustainable practices included in the most current and applicable Title 24 standards and CALGreen, including the installation of high efficiency lighting, water efficient landscaping, low-flow water fixtures, among others. Thus, the Revised Project would be consistent with this reduction strategy.
Promote a Green Region		
• Support development of local climate adaptation and hazard mitigation plans, as well as project implementation that improves community resiliency to climate change and natural hazards • Support local policies for renewable energy production, reduction of urban heat islands and carbon sequestration • Integrate local food production into the regional landscape • Promote more resource efficient development focused on conservation, recycling and reclamation • Preserve, enhance and restore regional wildlife connectivity • Reduce consumption of resource areas, including agricultural land • Identify ways to improve access to public park space	**Green Region, Urban Greening, Greenbelts and Community Separators.**	**Consistent.** The Revised Project is in an urbanized area and would not interfere with regional wildlife connectivity or convert agricultural land. Additionally, the Tempo Project would also include a solar-ready roof for the future installation of photovoltaic solar panels. Thus, the Revised Project would support resource efficient development that reduces energy consumption and GHG emissions. The Revised Project would be consistent with this reduction strategy.
Source: Southern California Association of Governments, *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy – Connect SoCal*, September 3, 2020.		

Consistency with the City General Plan

The City's General Plan Goals RS-2 and RS-3 and related policies are mainly focused on City's municipal operations in achieving the statewide GHG reduction goals and policies. However, the Revised Project would provide on-site EV charging stations and would be located within 0.25 miles of existing bus stops and approximately 0.5 mile from the Metro Gold Line Arcadia Station. Therefore, the Revised Project would support the City's goal of promoting and utilizing clean forms of transportation to reduce the City's carbon footprint. In addition, Tempo Project would have a solar ready roof and the Revised Project would comply with the CALGreen Code which requires that new buildings employ water efficiency and conservation, increase building system efficiencies (e.g., lighting, HVAC, and plumbing fixtures), divert construction waste from landfills, and incorporate EV charging infrastructure Thus, the Revised Project would support General Plan Goal RS-5 to incorporate new technology for energy generation and promote energy conservation. Based on the above, the Revised Project would be consistent with the General Plan goals and policies.

Conclusion

As shown in Table 1, the total emissions of the Revised Project would be approximately 4,150.41 $MTCO_2e$ per year, which exceeds the SCAQMD 3,000 $MTCO_2e$ per year screening threshold utilized in the 2020 IS/MND. However, the 3,000 $MTCO_2e$ threshold was never adopted by SCAQMD and is based on an outdated GHG emission reductions goal. As such, the significance determination for GHG emissions is based on consistency with applicable statewide, regional, and local climate change mandates, plans, policies, and regulations. As discussed above, the characteristics of the Revised Project render it consistent with statewide, regional, and local climate change mandates, plans, policies, and regulations. More specifically, the GHG plan consistency analysis provided above demonstrates that the Revised Project would comply with the regulations and GHG reduction goals, policies, actions, measures, and strategies outlined in the 2022 Scoping Plan, 2020-2045 RTP/SCS, and the City's General Plan. Consistency with these plans would reduce the impact of the Revised Project's incremental contribution to GHG emissions. Accordingly, the Revised Project would not conflict with any applicable plan, policy, regulation, or recommendation adopted for the purpose of reducing GHG emissions. As the Revised Project is consistent with statewide, regional, and local GHG reduction plans, the Revised Project would also be consistent with the State's long-term goal to achieve statewide carbon neutrality (zero-net emissions). Therefore, implementation of the Revised Project would not generate significant GHG emissions that would have a significant impact on the environment or conflict with an applicable GHG reduction plan, policy or regulation and impacts would be less than significant.

Based on the above, the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact GHG-1 and Impact GHG-2 would be less than significant, and no project-specific mitigation measures are required.

REFERENCES

Documents

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2. California Air Resource Board, *California Greenhouse Gas Emissions from 2001 to 2021: Trends of Emissions and Other Indicators*, December 14, 2023.

3. California Air Resources Board, RE: *CARB Review of Southern California Association of Governments' 2024 SCS Senate Bill 375 Greenhouse Gas Emissions Draft Technical Methodology, March 29, 2024*. https://ww2.arb.ca.gov/sites/default/files/2024-04/SCAG%20memo%20final.pdf, accessed, June 27, 2024.

4. City of Arcadia, *Arcadia General Plan Resource Sustainability Element,* November 2010.

5. Linscott, Law, and Greenspan Engineers, *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum*, March 12, 2024.

6. Scripps Institution of Oceanography, *The Keeling Curve, Carbon Dioxide Concentration at Mauna Loa Observatory*, https://keelingcurve.ucsd.edu/, accessed June 27, 2024.

7. South Coast Air Quality Management District, *Board Letter – Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*, December 5, 2008.

8. South Coast Air Quality Management District, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

9. Sothern California Association of Governments, *Connect SoCal 2024, Chapter 3, The Plan*, April 2024.

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11. USEPA, *Global Greenhouse Gas Emissions Data*, https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data, accessed June 18, 2024.

Programs

1. Google Earth Pro, 2024.

2. California Air Pollution Control Officers Association, *California Emissions Estimator Model (CalEEMod)*, version 2022.1.

Appendix A
Greenhouse Gas Emissions Data

Tempo by Hilton Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Tempo by Hilton
Construction Start Date	8/1/2024
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	0.50
Precipitation (days)	24.4
Location	34.141583262590174, -118.03818989813819
County	Los Angeles-South Coast
City	Arcadia
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4922
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.23

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Hotel	91.0	Room	0.73	57,790	5,318	—	—	—
Parking Lot	25.0	Space	0.22	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads
Water	W-4	Require Low-Flow Water Fixtures

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.63	13.7	11.9	16.8	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	3,207	3,207	0.13	0.08	3.18	3,238
Mit.	1.63	13.7	11.9	16.8	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	3,207	3,207	0.13	0.08	3.18	3,238
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
Mit.	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
% Reduced	—	—	—	—	—	—	72%	65%	—	73%	61%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.59	1.24	4.34	6.62	0.01	0.17	0.89	1.00	0.16	0.41	0.52	—	1,453	1,453	0.06	0.05	0.66	1,469
Mit.	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.12	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.16	0.18	0.03	0.08	0.09	—	241	241	0.01	0.01	0.11	243
Mit.	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.02	0.04	—	241	241	0.01	0.01	0.11	243
% Reduced	—	—	—	—	—	—	66%	53%	—	71%	56%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	5.48	6.02	0.49	2.61	3.11	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.89	1.00	0.10	0.41	0.52	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.16	0.18	0.02	0.08	0.09	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.5	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,095	2,095	0.09	0.06	1.03	2,117
2025	1.63	13.7	10.9	16.8	0.02	0.44	0.69	1.13	0.41	0.17	0.57	—	3,207	3,207	0.13	0.08	3.18	3,238
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.48	1.23	11.9	11.4	0.02	0.54	1.55	2.09	0.49	0.71	1.20	—	2,090	2,090	0.09	0.06	0.06	2,111
2025	0.76	0.63	5.61	8.54	0.01	0.22	0.40	0.62	0.20	0.10	0.30	—	1,923	1,923	0.08	0.06	0.05	1,945
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.27	2.55	2.80	< 0.005	0.11	0.28	0.40	0.10	0.12	0.22	—	552	552	0.02	0.02	0.18	558
2025	0.59	1.24	4.34	6.62	0.01	0.17	0.30	0.47	0.16	0.07	0.23	—	1,453	1,453	0.06	0.05	0.66	1,469
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.05	0.47	0.51	< 0.005	0.02	0.05	0.07	0.02	0.02	0.04	—	91.5	91.5	< 0.005	< 0.005	0.03	92.4
2025	0.11	0.23	0.79	1.21	< 0.005	0.03	0.05	0.09	0.03	0.01	0.04	—	241	241	0.01	0.01	0.11	243

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Mit.	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Mit.	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664
Mit.	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600
Mit.	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599
% Reduced	—	—	—	—	—	—	—	—	—	—	—	2%	< 0.5%	< 0.5%	1%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	31.3	9,785	9,816	3.64	0.33	117	10,123
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	31.3	9,439	9,470	3.65	0.35	91.0	9,756
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	31.3	9,339	9,370	3.64	0.34	102	9,664

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.18	1,546	1,551	0.60	0.06	16.8	1,600

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Area	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.57	5.44	3.30	35.8	0.08	0.09	7.24	7.32	0.08	1.84	1.92	30.8	9,782	9,813	3.58	0.33	117	10,119
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Area	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6

Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.08	4.98	3.55	30.5	0.08	0.08	7.24	7.32	0.08	1.84	1.92	30.8	9,436	9,467	3.60	0.35	91.0	9,751
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.91	3.53	3.06	30.2	0.07	0.05	6.94	6.99	0.05	1.76	1.81	—	7,582	7,582	0.38	0.32	11.4	7,698
Area	0.31	1.59	0.01	1.72	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.08	7.08	< 0.005	< 0.005	—	7.10
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	1,726	1,726	0.12	0.01	—	1,732
Water	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Waste	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	4.26	5.14	3.52	32.3	0.08	0.09	6.94	7.03	0.08	1.76	1.85	30.8	9,336	9,367	3.58	0.34	102	9,659
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Area	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	286	286	0.02	< 0.005	—	287
Water	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Waste	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	0.78	0.94	0.64	5.89	0.01	0.02	1.27	1.28	0.01	0.32	0.34	5.09	1,546	1,551	0.59	0.06	16.8	1,599

3. Construction Emissions Details

3.1. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	5.31	5.31	—	2.57	2.57	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.82	0.82	—	0.39	0.39	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7

Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.2. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.41	1.19	11.4	10.7	0.02	0.53	—	0.53	0.49	—	0.49	—	1,713	1,713	0.07	0.01	—	1,719
Dust From Material Movement	—	—	—	—	—	—	1.38	1.38	—	0.67	0.67	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.18	1.75	1.65	< 0.005	0.08	—	0.08	0.08	—	0.08	—	263	263	0.01	< 0.005	—	264
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.10	0.10	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.32	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	43.5	43.5	< 0.005	< 0.005	—	43.7
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.57	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	106	106	< 0.005	< 0.005	0.42	107
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.43	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	276	276	0.02	0.04	0.61	291
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.04	0.48	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	100	100	< 0.005	< 0.005	0.01	102
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	0.01	0.45	0.20	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	277	277	0.02	0.04	0.02	290
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	15.6	15.6	< 0.005	< 0.005	0.03	15.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	42.4	42.4	< 0.005	0.01	0.04	44.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.59	2.59	< 0.005	< 0.005	< 0.005	2.62
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.02	7.02	< 0.005	< 0.005	0.01	7.38

3.3. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.56	5.60	6.98	0.01	0.26	—	0.26	0.23	—	0.23	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.07	0.67	0.83	< 0.005	0.03	—	0.03	0.03	—	0.03	—	156	156	0.01	< 0.005	—	156
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.8	25.8	< 0.005	< 0.005	—	25.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.55	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	325	325	0.01	0.01	0.04	329
Vendor	0.02	0.01	0.37	0.18	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	306	306	0.01	0.04	0.02	319
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.19	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	39.3	39.3	< 0.005	< 0.005	0.07	39.9
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	36.5	36.5	< 0.005	0.01	0.04	38.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.51	6.51	< 0.005	< 0.005	0.01	6.60
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.04	6.04	< 0.005	< 0.005	0.01	6.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341

Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	5.14	6.94	0.01	0.22	—	0.22	0.20	—	0.20	—	1,305	1,305	0.05	0.01	—	1,309
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	0.37	3.67	4.96	0.01	0.16	—	0.16	0.14	—	0.14	—	932	932	0.04	0.01	—	935
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.07	0.67	0.90	< 0.005	0.03	—	0.03	0.03	—	0.03	—	154	154	0.01	< 0.005	—	155
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.11	1.69	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	336	336	0.01	0.01	1.23	341
Vendor	0.02	0.01	0.34	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.82	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.10	0.12	1.43	0.00	0.00	0.32	0.32	0.00	0.07	0.07	—	318	318	0.01	0.01	0.03	322
Vendor	0.02	0.01	0.36	0.17	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.02	—	301	301	0.01	0.04	0.02	314
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.08	0.07	0.09	1.07	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	231	231	0.01	0.01	0.38	234
Vendor	0.02	0.01	0.26	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	0.01	0.03	0.25	224
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.02	0.20	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.2	38.2	< 0.005	< 0.005	0.06	38.7
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.5	35.5	< 0.005	< 0.005	0.04	37.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.51	4.37	5.31	0.01	0.19	—	0.19	0.18	—	0.18	—	823	823	0.03	0.01	—	826
Paving	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.32	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.6	49.6	< 0.005	< 0.005	—	49.8
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.22	8.22	< 0.005	< 0.005	—	8.25
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.08	0.08	1.22	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	242	242	0.01	0.01	0.89	246
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.02	14.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.32	2.32	< 0.005	< 0.005	< 0.005	2.35
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.08
Architectural Coatings	—	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34

Architect Coatings	—	0.14	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	67.1	67.1	< 0.005	< 0.005	0.25	68.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.89	3.89	< 0.005	< 0.005	0.01	3.94
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Total	4.08	3.69	2.83	32.9	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	8,025	8,025	0.38	0.31	27.1	8,154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.03	3.64	3.10	30.2	0.08	0.05	7.24	7.29	0.05	1.84	1.88	—	7,690	7,690	0.39	0.33	0.70	7,797
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.71	0.64	0.56	5.51	0.01	0.01	1.27	1.28	0.01	0.32	0.33	—	1,255	1,255	0.06	0.05	1.89	1,275

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08
Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,179	1,179	0.07	0.01	—	1,183
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.5	< 0.005	< 0.005	—	12.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,191	1,191	0.07	0.01	—	1,196
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	195	195	0.01	< 0.005	—	196
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2.07	2.07	< 0.005	< 0.005	—	2.08

Total	—	—	—	—	—	—	—	—	—	—	—	—	197	197	0.01	< 0.005	—	198

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	535	535	0.05	< 0.005	—	536
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.5	88.5	0.01	< 0.005	—	88.8

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.45	0.41	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Total	0.45	1.72	0.02	2.51	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.3	10.3	< 0.005	< 0.005	—	10.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	1.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	1.31	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.06	0.05	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18
Total	0.06	0.29	< 0.005	0.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.17	1.17	< 0.005	< 0.005	—	1.18

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.42	23.5	27.9	0.46	0.01	—	42.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.73	3.89	4.62	0.08	< 0.005	—	7.04

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.90	20.8	24.7	0.40	0.01	—	37.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.65	3.44	4.09	0.07	< 0.005	—	6.22

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.68	0.00	—	93.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	4.45	0.00	4.45	0.44	0.00	—	15.6

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.3	90.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.0	15.0

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Grading	Grading	8/15/2024	10/31/2024	5.00	56.0	—
Building Construction	Building Construction	11/1/2024	12/31/2025	5.00	304	—
Paving	Paving	9/1/2025	9/30/2025	5.00	22.0	—
Architectural Coating	Architectural Coating	9/1/2025	9/30/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

Grading	Tractors/Loaders/Backh	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Grading	Graders	Diesel	Average	1.00	6.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	4.00	367	0.29
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix

Grading	—	—	—	—
Grading	Worker	7.50	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	10.7	7.00	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	24.3	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	9.47	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	17.5	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	4.85	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	86,685	28,895	588

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Grading	—	4,800	42.0	0.00	—
Paving	0.00	0.00	0.00	0.00	0.22

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Hotel	0.00	0%
Parking Lot	0.22	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Hotel	1,113	915	1,113	395,928	10,205	8,389	10,205	3,630,024
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	86,685	28,895	588

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Hotel	808,696	532	0.0330	0.0040	1,668,496
Parking Lot	8,586	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,308,376	74,583
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Hotel	2,035,757	74,583
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Hotel	49.8	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9	annual days of extreme heat
Extreme Precipitation	9.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	16.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	70.7
AQ-DPM	57.7
Drinking Water	73.7
Lead Risk Housing	54.4
Pesticides	0.00
Toxic Releases	70.1
Traffic	80.3
Effect Indicators	—
CleanUp Sites	74.9
Groundwater	0.00
Haz Waste Facilities/Generators	59.8
Impaired Water Bodies	0.00
Solid Waste	70.4
Sensitive Population	—
Asthma	6.04
Cardio-vascular	7.47
Low Birth Weights	7.29
Socioeconomic Factor Indicators	—
Education	42.7
Housing	10.2
Linguistic	80.2
Poverty	27.9
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	84.3320929
Employed	68.92082638
Median HI	57.88528166
Education	—
Bachelor's or higher	80.67496471
High school enrollment	100
Preschool enrollment	84.88387014
Transportation	—
Auto Access	70.20402926
Active commuting	5.915565251
Social	—
2-parent households	35.26241499
Voting	21.00603105
Neighborhood	—
Alcohol availability	87.47593995
Park access	34.12036443
Retail density	39.49698447
Supermarket access	46.73424868
Tree canopy	66.75221352
Housing	—
Homeownership	46.75991274
Housing habitability	43.07712049
Low-inc homeowner severe housing cost burden	33.1707943

Low-inc renter severe housing cost burden	70.48633389
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	52.11086873
Arthritis	0.0
Asthma ER Admissions	94.2
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	97.0
Cognitively Disabled	87.2
Physically Disabled	80.2
Heart Attack ER Admissions	84.0
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	97.1
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	84.9
Elderly	16.5
English Speaking	18.2
Foreign-born	95.7
Outdoor Workers	60.7
Climate Change Adaptive Capacity	—
Impervious Surface Cover	34.1
Traffic Density	80.4
Traffic Access	23.0
Other Indices	—
Hardship	23.2
Other Decision Support	—
2016 Voting	20.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	30.0
Healthy Places Index Score for Project Location (b)	65.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Per site plan
Construction: Construction Phases	Per questionnaire
Construction: Trips and VMT	Per questionnaire
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Vehicle Data	Per traffic study, assume weekday trip rates for Sunday as a conservative analysis
Operations: Architectural Coatings	SCAQMD Rule 1113

ATTACHMENT F: NOISE AND VIBRATION ASSESSMENT

MEMORANDUM

To: Lisa Flores, City of Arcadia

From: Zhe Chen, Michael Baker International

Date: July 22, 2024

Subject: Tempo by Hilton Project – Noise and Vibration Assessment

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PURPOSE AND BACKGROUND

The purpose of this memorandum is to evaluate potential short- and long-term noise and vibration related impacts to surrounding land uses as a result of the construction and operation of a proposed hotel building and associated improvements in support of the Tempo by Hilton Project Addendum to the Initial Study/Mitigated Negative Declaration, Arcadia Hotel and Annex (Hotel Indigo) Project (2020 IS/MND).

The City prepared the 2020 IS/MND for a redevelopment project located at 125 West Huntington Drive and 123 West Huntington Drive (Original Project Site). On February 5, 2013, the City previously approved the modification of an existing 60,811-square-foot, three-story office building (Parsons building) and the construction of two new medical office buildings, a new general office building, and a new parking structure on the Original Project Site. Of the four new buildings approved under the 2013 development project, only the parking structure and the two medical office buildings (now occupied by the Keck Medicine of University of Southern California [USC]) were constructed. The 2020 IS/MND analyzed (1) the redevelopment of the existing Parsons building on the Original Project Site to allow for 76,754 square feet of hotel and appurtenant uses, including 90 hotel rooms, amenities, and employee or guest shared spaces, and (2) the construction a new 61,538-square-foot, five-story hotel annex building containing 75 hotel rooms and additional amenities such as a hotel spa, café, and outdoor patios to the east of the Parson's building. No changes to the two existing Keck Medicine of USC medical office buildings and parking structure were proposed under the Approved Project. The 2020 IS/MND was adopted by the City of Arcadia Planning Commission on April 14, 2020 (Resolution No. 2050).

The Tempo by Hiton Project Addendum (Tempo Addendum) analyzes the environmental effects of the Revised Project, which is comprised of the Approved Project described above, and the Tempo Project, which includes a lot line adjustment (LLA) to merge the parcel identified as Assessor's Parcel Number (APN) 2775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) in order to create one legal parcel (Revised Project Site) and to construct a new four-story hotel building on APN 2775-015-011. The Tempo Project would not modify any of the existing medical office buildings, parking structure or the hotel buildings previously approved under the Approved Project. A detailed description of the Tempo Project is provided below. This memorandum analyzes the combined impact of the Tempo Project and the Approved Project analyzed in the 2020 IS/MND.

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PROJECT LOCATION

The City of Arcadia is located in northeast Los Angeles County, generally north of the Interstate 10 Freeway (I-10), south of the Foothill Freeway (I-210), east of State Route 164, and west of I-605. The City is approximately 12 miles northeast of downtown Los Angeles; refer to Exhibit 1, ***Regional Vicinity***.

The Revised Project is located within the northeastern portion of Arcadia and is comprised of the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029) and one land parcel addressed as 181 Colorado Place (APN 5775-015-011) that is approximately 0.61 acre, or 26,493 square feet;[1] refer to Exhibit 2, ***Revised Project Site***. Regional access to the Revised Project Site is provided via I-210. Local access to the Revised Project Site is provided via Colorado Place, San Juan Drive, and San Rafael Road.

EXISTING SITE CONDITIONS

The Revised Project Site, which includes the Original Project Site and APN 5775-015-011, is located in a highly developed and urbanized area of Arcadia. The Original Project Site is occupied by the two Keck Medicine of USC medical office buildings, a parking structure, and the Parsons building. The redevelopment of the Parsons building for hotel uses and the construction of the hotel annex building are currently underway. APN 5775-015-011 is vacant lot currently fenced that was previously occupied by the Original Peppers Mexican and Cantina, surface parking, and landscaping. The restaurant building was demolished in 2023 but the surface parking and landscaping remain.

According to the Arcadia General Plan, Chapter 2: Land Use and Community Design Element, the Revised Project Site is designated as Commercial WHICH. This Commercial designation is intended to encourage a strong pedestrian-oriented environment that provides a variety of retail and service uses, restaurants, and neighborhood-serving commercial uses that complement development in the Downtown Mixed-Use areas.[2] According to the City's Zoning Map, the Revised Project Site is zoned General Commercial (C-G) with a Downtown Overlay.[3] The C-G zone is intended to provide areas for the development of retail and service uses, offices, restaurants, public uses, and similar and compatible uses. The maximum Floor Area Ratio (FAR) permitted under the C-G zone and the Downtown Overlay zone is 1.0 for new development, and the maximum height permitted for new buildings is 48 feet.

Surrounding uses adjacent to the Revised Project Site include residential, office, and commercial uses. The Revised Project Site is bordered by San Juan Drive, the California Thoroughbred Breeders Association, and single-family homes to the north; San Rafael Road and a small commercial plaza to the east; single-family homes to the east and northeast; Colorado Place, Huntington Drive and Le Meriden hotel to the south; and Colorado Place and the Santa Anita Park (a horseracing track) to the west.

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1 Los Angeles County Assessor, Property Search Tool: APN 5775-015-011, https://assessor.lacounty.gov/homeowners/property-search, accessed June 19, 2024.

2 City of Arcadia, *Arcadia General Plan, Chapter 2: Land Use and Community Design Element*, February 2024.

3 City of Arcadia, *City of Arcadia Zoning Map*, Updated February 6, 2024.

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TEMPO BY HILTON

Regional Vicinity Map

Exhibit 1

Source: Google Earth Pro, July 2024

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Revised Project Site

Exhibit 2

PROJECT DESCRIPTION

The Revised Project would consist of the improvements proposed by the Tempo Project, along with the previously Approved Project described in the 2020 IS/MND, which includes the redevelopment of the Parsons building for hotel uses and the construction of a new hotel annex building. The Tempo Project would develop a four-story hotel building with approximately 47,140 square feet of gross floor area on APN 5775-015-011; refer to Exhibit 3, *Conceptual Site Plan*.

The new hotel building would have a maximum height of 48 feet, excluding rooftop appurtenances, and would consist of a basement level and four above-ground levels containing a total of 91 rooms and ancillary hotel uses. The basement level would primarily contain back-of-house uses for hotel operations, including an electric room, a mechanical room, a laundry room, offices, storage rooms, an employee breakroom, restrooms, and a fitness room for guest use. Level 1 would contain 13 hotel rooms, a kitchen, café, bar, lobby, meeting area, office, restrooms, and an outdoor patio. Levels 2, 3, and 4 would each contain 26 hotel rooms and the roof level would contain an outdoor paved patio, solar panels, and mechanical areas.

The Tempo Project would utilize the existing parking structure located on the Original Project Site to provide parking for hotel employees, guests, and visitors. As shown in Exhibit 3, the Tempo Project would also reconfigure the existing surface parking lot located to the east of the proposed hotel building on the Original Project Site to provide 18 surface parking spaces, including three electric vehicle charging spaces, a trash enclosure, and a connection to the new surface parking area along the south side of the proposed hotel building. The new surface parking area would provide 6 parking spaces, including 4 accessible parking spaces. In addition, the Tempo Project would develop a drop-off area with access via the existing driveway from Colorado Place. Access to the proposed hotel building would be provided from the two existing driveways along Colorado Place and San Juan Drive.

Landscaping improvements to the Revised Project Site would include the removal of 13 existing trees and the installation of 36 new trees as well as other drought tolerant plants within the Area of Proposed Improvements shown in Exhibit 2. Ancillary improvements to the Revised Project Site would include exterior lighting and accessible routes from the proposed hotel building to the new surface parking area, the existing the surface parking lot to the east, and the existing parking structure.

In order to comply with the maximum FAR of 1.0 for the C-G zone and Downtown Overlay, the Tempo Project would create one legal parcel with a total site area of 226,579 square feet by merging APN 5775-015-011 with the Original Project Site (APNs 5775-015-024, 5775-015-027, 5775-015-028, and 5775-015-029), which has a gross floor area of approximately 177,879 square feet. With the addition of the Tempo Project, the total gross floor area for the Revised Project Site would be approximately 225,019 square feet. This would result in a total site FAR of 0.99 for the Revised Project.

The Tempo Project would require discretionary approvals from the City for an LLA to merge APN 5775-015-011 with the Original Project Site and a Conditional Use Permit to develop the proposed hotel building in a C-G zone.

Source: DesignCell Architecture, June 2024

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Conceptual Site Plan

Exhibit 3

FUNDAMENTALS OF SOUND AND ENVIRONMENTAL NOISE

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its amplitude and frequency (or pitch). The human ear does not hear all frequencies equally. In particular, the ear deemphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel scale (dBA) has been developed. Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner like the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is perceived to be twice as loud and 20 dBA higher is perceived to be four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Noise is generally defined as unwanted or excessive sound, which can vary in intensity by over one million times within the range of human hearing; therefore, a logarithmic scale, known as the decibel scale (dB), is used to quantify sound intensity. Noise can be generated by several sources, including mobile sources such as automobiles, trucks, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Noise generated by mobile sources typically attenuates (is reduced) at a rate between 3 dBA and 4.5 dBA per doubling of distance. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate between 6 dBA and about 7.5 dBA per doubling of distance.

There are several metrics used to characterize community noise exposure, which fluctuate constantly over time. One such metric, the equivalent sound level (L_{eq}), represents a constant sound that, over the specified period, has the same sound energy as the time-varying sound. This is commonly used to describe the "average" noise levels within the environment. Noise exposure over a longer period is often evaluated based on the Day-Night Sound Level (L_{dn}). This is a measure of 24-hour noise levels that incorporates a 10-dBA penalty (or an additional 10 dBA) for sounds occurring between 10:00 p.m. and 7:00 a.m. when sounds seem to be louder. The penalty is intended to reflect the increased human sensitivity to noises occurring during nighttime hours, particularly at times when people are sleeping and there are lower ambient (background) noise conditions. Typical L_{dn} noise levels for light- and medium-density residential areas range from 55 dBA to 65 dBA. Similarly, Community Noise Equivalent Level (CNEL) is a measure of 24-hour noise levels, not an actual sound level heard at any time, that incorporates a 5-dBA penalty for sounds occurring between 7:00 p.m. and 10:00 p.m. and a 10-dBA penalty for sounds occurring between 10:00 p.m. and 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively.[4]

FUNDAMENTALS OF ENVIRONMENTAL GROUNDBORNE VIBRATION

Ground vibration consists of oscillatory (i.e., rapidly fluctuating) motions or waves with an average motion of zero (i.e., no net movement of the vibration element). Sources of earth-borne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

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4 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. Vibration decibels (VdB) is commonly used to measure the RMS vibration velocity level. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.[5]

Table 1, *Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels*, displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. Common sources for groundborne vibration are planes, trains, and construction activities such as pile driving and vibratory compacting activities which require the use of heavy-duty earth moving equipment. For the purposes of this analysis, a PPV descriptor with units of inches per section (in/sec) is used to evaluate construction-generated vibration for building damage and human complaints.

Table 1
Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches/second)	Approximate Vibration Velocity Level (VdB)	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception.	Vibrations unlikely to cause damage of any type.
0.08	87	Vibrations readily perceptible.	Recommended upper level to which ruins and ancient monuments should be subjected.
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities.	Virtually no risk of architectural damage to normal buildings.
0.2	94	Vibrations may begin to annoy people in buildings.	Threshold at which there is a risk of architectural damage to normal dwellings.
0.4–0.6	98–104	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges.	Architectural damage and possibly minor structural damage.

Source: California Department of Transportation, *Transportation Related Earthborne Vibrations*, 2002.

5 Ibid.

ENVIRONMENTAL SETTING

Noise Sensitive Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive receptor to the Tempo Project is a single-family residence located adjacent to the east of the Area of Proposed Improvements.

Stationary Sources

Land uses in the Revised Project area are mostly residential, commercial, and recreational uses. The primary sources of stationary noise in the vicinity of the Revised Project Site are urban-related activities (i.e., mechanical equipment and crowd). The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

Mobile Sources

Most of the existing noise in the Revised Project area is generated from traffic along surrounding roadways including Colorado Place.

Existing Ambient Noise Levels

To quantify existing ambient noise levels in the Revised Project area, Michael Baker International conducted three short-term noise measurements in the vicinity of the Area of Proposed Improvements on May 15, 2024. The noise measurement locations are shown in Exhibit 4, ***Noise Measurement Locations***, and are representative of typical existing noise exposure at the nearest sensitive receptors. The 10-minute measurements were taken between 10:30 a.m. and 11:30 a.m. Short-term (L_{eq}) measurements are considered representative of the noise levels throughout the day. The noise measurements were taken during "off-peak" (9:00 a.m. through 3:00 p.m.) traffic noise hours as this provides a more conservative baseline. During rush hour traffic, vehicle speeds and heavy truck volumes are often low. Free-flowing traffic conditions just before or after rush hour often yield higher noise levels.[6] The noise levels measured near the Area of Proposed Improvements are identified in Table 2, *Noise Measurements*.

[6] California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

Table 2
Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{max} (dBA)	L_{min} (dBA)	Start Time
1	Near a multi-family building at northeast corner of Santa Rosa Road and San Juan Road intersection	54.2	73.4	42.3	10:58 a.m.
2	In front of a single-family residence at 143 Santa Cruz Road	62.0	84.1	40.5	11:10 a.m.
3	In front of a multi-family building at 225 Santa Rosa Road	51.3	68.3	41.0	11:24 a.m.
Refer to Appendix A, *Noise Data*, for the results of the field measurements.					

Meteorological conditions were cloudy with cool temperatures (60 degrees Fahrenheit [°F]), and wind speeds of approximately four miles per hour. Measured noise levels ranged from 51.3 to 62.0 dBA L_{eq}. The sources of peak noise include traffic along nearby roadways. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters. Refer to Appendix A, *Noise Data*, for the results of the field measurements.

Existing Vibration Sources

Commercial and industrial operations in the City can generate varying degrees of ground vibration, depending on the operational procedures and equipment. Such equipment-generated vibrations spread through the ground and diminish with distance from the source. The result from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibrations at moderate levels, to slight structural damage at the highest levels. The Revised Project area is adjacent to existing commercial uses to the south. Additionally, roadways have the potential to generate vibrations. As previously discussed, most of the existing noise in the Revised Project area is generated from traffic along Colorado Place. However, according to the FTA, it is unusual for vibration from sources, such as buses and trucks, to be perceptible, even in locations close to major roads.[7]

[7] Federal Transit Administration, *Noise and Vibration Impact Assessment Manual, Section 5.2, Sources of Transit Ground-borne Vibration and Noise*, September 2018.

Source: Google Earth Pro, July 2024

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Noise Measurement Locations

Exhibit 4

REGULATORY SETTING

Environmental noise and vibration are controlled and regulated by federal, state, and local agencies. Federal agencies like the U.S. Environmental Protection Agency (EPA) are responsible for managing major noise sources in commerce including transportation vehicles and equipment, machinery, and appliances under the Noise Control Act of 1972.[8] However, the primary responsibility of addressing noise issues is with the state and local governments.[9]

Federal

Federal Highway Administration

The *2006 Federal Highway Administration Highway Construction Noise Handbook* (Handbook) prepared by the Federal Highway Administration (FHWA) identifies noise levels generated by various construction equipment. The Handbook was prepared to recognize the potential for construction noise impact, determine the extent and type of analysis appropriate for addressing construction noise impact, and evaluating and implementing techniques to mitigate construction noise.

Federal Transit Administration

The Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* provides criteria for acceptable levels of groundborne vibration for various types of buildings, which are shown in Table 3, *Structural Vibration Damage Criteria*.

Table 3
Structural Vibration Damage Criteria

Building Category	Peak Particle Velocity for Continuous Sources (PPV) (inches/second [in/sec])
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineering concrete and masonry (no plaster)	0.3
III. Nonengineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12
Source: FTA, *Transit Noise and Vibration Impact Assessment Manual*, 2018.	

State

State Office of Planning and Research

The State Office of Planning and Research's (OPR) *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms

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8 U.S. Environmental Protection Agency, *Summary of the Noise Control Act: 42 USC Section 4901 et seq.,* 1972, https://www.epa.gov/laws-regulations/summary-noise-control-act, accessed June 13, 2024.

9 U.S. Environmental Protection Agency, *Clean Air Act Title IV – Noise Pollution*, https://www.epa.gov/clean-air-act-overview/clean-air-act-title-iv-noise-pollution, accessed June 13, 2024.

of the CNEL. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Table 4, *Land Use Compatibility for Community Noise Environments* depicts the range of noise exposure levels overlap between the normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable categories. OPR's *State General Plan Guidelines* note that noise planning policy needs to be rather flexible and dynamic to reflect not only technological advances in noise control, but also economic constraints governing application of noise-control technology and anticipated regional growth and demands of the community. In project specific analyses, each community must decide the level of noise exposure its residents are willing to tolerate within a limited range of values below the known levels of health impairment. Therefore, the City may use their discretion to determine which noise levels are considered acceptable or unacceptable, based on land use, project location, and other project factors.

Table 4
Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dBA)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential – Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 – 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 75	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 70	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

Notes: NA = not applicable; L_{dn} = day/night average; CNEL = community noise equivalent level; dBA = A-weighted decibels
Normally Acceptable – Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
Conditionally Acceptable – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
Normally Unacceptable – New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
Clearly Unacceptable – New construction or development should generally not be undertaken.
Source: Office of Planning and Research, *General Plan Guidelines*, 2003.

Local

City of Arcadia General Plan

The Arcadia General Plan (General Plan), Chapter 9: Noise Element provides a framework to limit noise exposure within the City of Arcadia. Existing and future noise environments and the compatibility of land uses are considered in the Noise Element, as well as sensitive receptors and generators of stationary noise. The General Plan includes interior and exterior noise standards as summarized in Table 5, *Arcadia Interior/Exterior Noise Standards*. Table 5 shows standards and criteria that specify acceptable limits of noise for various land uses throughout the City. The City uses the standards identified in Table 5 as the primary tools to ensure compatibility between land uses and outdoor ambient noise.

Table 5
Arcadia Interior/Exterior Noise Standards

Land Use	Maximum Exterior Noise Level	Maximum Interior Noise Level
Residential: Rural, Single-Family, and Multifamily	65 dBA CNEL	45 dBA CNEL
Schools		
Classroom	70 dBA CNEL	45 dBA L_{eq}
Playground	70 dBA CNEL	-
Libraries	-	45 dBA
Hospitals/Convalescent Facilities		
Sleeping Areas	65 dBA CNEL	45 dBA CNEL
Living Areas	-	50 dBA CNEL
Reception, Office	-	50 dBA L_{eq}
Hotels/Motels		
Sleeping Areas	-	45 dBA CNEL
Reception, Office	-	50 dBA L_{eq}
Places of Worship	65 dBA CNEL	45 dBA L_{eq}
Open Space/Recreation		
Wildlife Habitat	60 dBA CNEL	-
Passive Recreation Areas	65 dBA CNEL	-
Active Recreation Areas	70 dBA CNEL	-
Commercial and Business Park		
Office	-	55 dBA L_{eq}
Restaurant, Retail, Service	-	65 dBA L_{eq}
Warehousing/Industrial	-	70 dBA L_{eq}
Source: City of Arcadia General Plan.		

The Noise Element includes the following goals and policies that are applicable to the Revised Project:

- **Goal N-1**: Effective incorporation of noise considerations into land use planning decisions
  - **Policy N-1.2**: Ensure that acceptable noise levels are maintained near schools, hospitals, and other sensitive areas in accordance with the Noise/Land Use Compatibility Guidelines in Figure N-4, Table N-2 Interior/Exterior Noise Standards (Table 5), and the City's noise ordinance.
  - **Policy N-1.4**: Discourage new development of residential or other noise-sensitive uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels that comply with Noise/Land Use Compatibility Guidelines in Figure N-4 and Table N-2 Interior/Exterior Noise Standards (Table 5).
  - **Policy N-1.5**: Require that proposed projects that have the potential to result in noise impacts include an acoustical analysis and appropriate mitigation to achieve the interior and exterior noise standards indicated in Table N-2 Interior/Exterior Noise Standards (Table 5).
- **Goal N-3**: Limited intrusion of point-source noise within residential neighborhoods and on noise sensitive uses

- **Policy N-1.2**: Ensure that acceptable noise levels are maintained near schools, hospitals, and other sensitive areas in accordance with the Noise/Land Use Compatibility Guidelines in Figure N-4, Table N-2 Interior/Exterior Noise Standards (Table 5), and the City's noise ordinance.

- **Policy N-3-5**: Require noise created by new non-transportation noise sources to be mitigated so as not to exceed acceptable interior and 9-16 | Noise Arcadia General Plan – November 2010 exterior noise level standards identified in this Noise Element.

City of Arcadia Municipal Code

Article IV, Chapter 6 of the City of Arcadia Municipal Code (Municipal Code) sets limits on exterior noise levels. Arcadia's exterior noise standard puts restrictions on the duration of noises of various magnitudes. The following sections of the Municipal Code are applicable to the Revised Project.

Chapter 6. – Noise Regulations

4610.3 – Noise Limits

a) *It shall be unlawful for any person within the City of Arcadia to produce or cause or allow to be produced sound or noise which is amplified by the use of sound amplifying equipment and which amplified noise or sound is received on property occupied by another person within the designated region, in excess of the following levels, except as expressly provided otherwise or exempted hereinafter* (Table 6, *Arcadia Exterior Noise Limits*)*:*

Table 6
Arcadia Exterior Noise Limits

Region	Day 7:00 a.m. to 10:00 p.m.	Night 10:00 p.m. to 7:00 a.m.
Residential Zone	55 dBA	50 dBA
Commercial Zone	65 dBA	60 dBA
Industrial Zone	70 dBA	70 dBA
Source: City of Arcadia Municipal Code.		

At the boundary line between two of the above zones the noise level of the quieter zone shall be used.

b) *Corrections to Noise Limits. The numerical limits given in Section 4610.3(a) shall be adjusted by the following corrections, where appropriate* (Table 7, *Corrections to Noise Limits*)*:*

Table 7
Corrections to Noise Limits

Noise Condition	Correction (in dB)
1. Impulsive sounds, pure tone or sounds with a cyclically varying amplitude	-5
2. Noise occurring more than 5 but less than 15 minutes per hour[1]	+5
3. Noise occurring more than 1 but less than 5 minutes per hour[1]	+10
4. Noise occurring less than 1 minute per hour[1]	+15
Notes: 1. The correction applies to daytime hours only (i.e. 7:00 a.m. to 10:00 p.m.).	
Source: City of Arcadia Municipal Code.	

c) *It shall be unlawful for any person to produce or cause or allow to be produced sound or noise from air-conditioning equipment, pumps, fans or similar machinery which is received on residentially zoned property occupied by another person in excess of 55 dBA, provided, however, that if such machinery was installed prior to December 1, 1970, the noise level shall not be in excess of 60 dBA.*

d) *Exemption: Noise caused by "Emergency Work" as herein defined and from mechanical devices, apparatus, or equipment used, related to, or connected with such Emergency Work is exempt from the limits prescribed by this Chapter* (i.e. Municipal Code Chapter 6).

Chapter 2. – Disorderly Conduct, Nuisances, Etc.

4261. – Prohibited Hours Defined

The term "prohibited hours" as used in this Part shall mean any time after the hour of 6:00 p.m. of any weekday; any time before the hour of 7:00 a.m. of any weekday; any time after the hour of 5:00 p.m. of any Saturday; any time before the hour of 8:00 a.m. of any Saturday; any time on any Sunday; and any time on any of the following holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day; and Christmas Day, provided that if in any calendar year any such holiday falls on a Sunday, the following Monday shall constitute the holiday.

4262. – Construction Limited

Unless a permit so to do shall first have been obtained as provided in Section 4263, no person shall during prohibited hours engage in any earth excavation, land fill or earth moving operation or in the construction of any portion of a building or structure, nor shall any person during prohibited hours use or operate any truck, tractor, crane, rig or any mechanical equipment of any kind in connection with, in the performance of or in furtherance of any of the foregoing.

Chapter 1. – Development Code

9103.01.080 - Mechanical and Electrical Equipment Screening.

A. Screening Required.

1. Mechanical equipment, including but not limited to heating and air conditioning devices, shall be located within the building or if mounted elsewhere, shall be screened from public view. Mechanical equipment on the ground or on the roof shall be screened from view from adjacent properties and the public right-of-way by an enclosure designed as part of the building or by appropriate landscaping.

CALIFORNIA ENVIRONMENTAL QUALITY ACT THRESHOLDS

In accordance with the *California Environmental Quality Act* (CEQA Guidelines), project impacts are evaluated to determine whether significant adverse environmental impacts would occur. This analysis will focus on the Revised Project's potential impacts and provide mitigation measures, if required, to reduce or avoid any potentially significant impacts that are identified. According to Appendix G of the CEQA Guidelines, the Revised Project would have a significant impact related to noise and vibration if it would:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (refer to Impact Statement NOI-1);

- Generation of excessive groundborne vibration or groundborne noise levels (refer to Impact Statement NOI-2); and/or

- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels (refer to Impact Statement NOI-3).

SIGNIFICANCE CRITERIA AND METHODOLOGY

Construction Noise Standards

The City of Arcadia does not have a quantitative threshold that applies to noise levels at active construction sites. To evaluate whether the Tempo Project would generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold was utilized from the Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). As a division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction-related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3-dBA increase, the exposure time is cut in half. For the purposes of this analysis, the lowest, most conservative construction noise level threshold of 85 dBA L_{eq} was used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time, they are expressed as L_{eq} noise levels. Therefore, the noise level threshold of 85 dBA L_{eq} over a period of eight hours or more is used to evaluate the potential project-related construction noise level impacts at the nearby sensitive receiver locations. Noise levels from construction equipment and activities were modeled using the Federal Highway Administration's Roadway Construction Noise Model (RCNM).

Construction and Operational Vibration Standards

The FTA *Transit Noise and Vibration Impact Assessment Manual* identifies various vibration damage criteria for different building classes, as shown in Table 3. As the nearest sensitive receptor structure to Area of Proposed Improvements is a residential use, the architectural damage criterion for continuous vibrations at residential structures of 0.3 inch-per-second PPV for engineered concrete and masonry is applied in the analysis.

Stationary Noise Sources

The nearest sensitive use is the existing residential use to the east of the Area of Proposed Improvements, and therefore the City's residential exterior noise standards have been applied. A project would result in a significant impact if project-related operational (stationary-source) noise levels exceed the daytime exterior 55 dBA L_{eq} and nighttime exterior 50 dBA L_{eq} noise level standard at nearby sensitive receiver locations (based on the exterior noise level standards in Section 4610.3 of the Municipal Code; refer to Table 6 above).

Mobile Noise Sources

The mobile source noise associated with the operation of the Revised Project would be from vehicular trips. An off-site traffic noise impact typically occurs when there is a discernable increase in traffic and the resulting noise level exceeds an established noise standard. In community noise considerations, changes in noise levels greater than 3 dB are often identified as discernible, while changes less than 1 dB would not be discernible to local residents. A 5-dB change is generally recognized as a clearly discernable difference. Thus, the Revised Project would result in a significant noise impact if a permanent increase in ambient traffic noise levels of 3.0 dB occurs upon project implementation and the resulting noise level at the receiving sensitive receptor exceeds the applicable exterior standard at a noise sensitive use.

IMPACT ANALYSIS

NOI-1 WOULD THE PROJECT RESULT IN GENERATION OF A SUBSTANTIAL TEMPORARY OR PERMANENT INCREASE IN AMBIENT NOISE LEVELS IN THE VICINITY OF THE PROJECT IN EXCESS OF STANDARDS ESTABLISHED IN THE LOCAL GENERAL PLAN OR NOISE ORDINANCE, OR APPLICABLE STANDARDS OF OTHER AGENCIES?

Level of Significance: Less Than Significant Impact With Mitigation Incorporated.

The 2020 IS/MND Section 3.13 a) analyzed the Approved Project's construction noise impact. The 2020 IS/MND concluded that the Approved Project construction would comply with applicable noise regulations, and therefore construction noise impact would be less than significant. However, construction noise levels would be higher than existing ambient daytime noise levels, which could cause temporary annoyance at nearby residential land uses. Therefore, implementation of mitigation measure MM-NOI-1 is required, which includes best practices that would reduce the potential for annoyance from the temporary construction activities.

The 2020 IS/MND Section 3.13 a) also analyzed the Approved Project's noise impact during operation. Noise levels from operation of the Approved Project's stationary on-site sources would have the potential to exceed the City's noise standards, and therefore implementation of mitigation measure MM-NOI-2 would be required, which would reduce noise impacts from HVAC equipment and the emergency generator to a less than significant level. Therefore, noise impacts from on-site stationary noise sources during operation are considered less than significant with mitigation incorporated. In addition, traffic related to the Approved Project would not substantially increase the existing noise levels in the Approved Project vicinity, and operational traffic-related noise impacts would be less than significant.

Construction

Construction activities generally are temporary and have a short duration, resulting in periodic increases in the ambient noise environment. The Tempo Project involves construction activities associated with grading, building construction, paving, and architectural coating applications. The Tempo project would be constructed over a duration of approximately 16.5 months. Ground-borne noise and other types of construction-related noise impacts typically occur during the initial grading phase, which has the potential to create the highest levels of noise. Construction equipment produce maximum noise levels when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, or partial power. To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with each construction stage is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction stage. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on part power.

The estimated construction noise levels at the nearest noise-sensitive receptors are presented in Table 8, *Noise Levels Generated during Construction Phases*. Construction equipment was based on the *Tempo by Hilton Project – Air Quality Assessment Memorandum*, prepared by Michael Baker International, dated July 22, 2024. To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all heavy construction equipment were assumed to operate simultaneously (refer to Appendix A). Results from RCNM also assume a clear line-of-sight and no other machinery or equipment noise that would mask project construction noise. The shielding of buildings and other barriers that interrupt line-of-sight conditions would help further reduce noise levels below what is shown in Table 8. According to the General Noise Assessment methodology prescribed in the FTA *Transit Noise and Vibration Impact Assessment Manual*, noise can be considered as concentrated at the center of the site. In addition, construction activities would occur across the entire Area of Proposed Improvements and therefore the estimated noise levels were calculated from the geographic center of the Area of Proposed Improvements, which is approximately 140 feet from the closest sensitive receptor (residential use) to the east.

Table 8
Noise Levels Generated during Construction Phases

Phase	Estimated Exterior Construction Noise Level at 140 feet (Center of Area of Proposed Improvements) (dBA L_{eq})[1]
Grading	74.2
Building Construction	69.8
Paving	73.9
Architectural Coating	64.7

Notes:
1. These noise levels conservatively assume the simultaneous operation of all heavy construction equipment at the same precise location. Modeled heavy construction equipment includes grader, dozers, and backhoes during the grading phase, forklifts, crane, and backhoes during the building construction phase, paver, cement mixers, roller, and backhoe during the paving phase, and air compressor during the architectural coating phase.

Source: Federal Highway Administration, *Roadway Construction Noise Model (RCNM)*, 2006 (see Appendix A).

As shown in Table 8, the nearest receptors to the Area of Proposed Improvements could be exposed to temporary and intermittent construction noise levels ranging from approximately 64.7 to 74.2 dBA L_{eq} at the nearest residential use to the east. As such, construction noise would not have the potential to exceed the NIOSH significance of threshold of 85 dBA L_{eq}. In addition, according to Section 4261 of Article IV, Chapter 2 of the Municipal Code, construction activities are restricted to the daytime hours of 7:00 a.m. to 6:00 p.m. Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturday; construction activities are prohibited on Sunday and the following federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

Compliance with the Municipal Code would reduce impacts from construction noise, as construction would be limited to the permitted times. In addition, as the Area of Proposed Improvements is adjacent to residential uses, the Tempo Project is required to implement the 2020 IS/MND mitigation measure MM-NOI-1, which includes best practices that would reduce the potential for annoyance from the temporary construction activities.

It should be noted that construction of the Approved Project will be completed prior to the start of construction for the Tempo Project; therefore construction of the Tempo Project and Approved Project would not overlap. As such, the Revised Project, which includes the Approved Project and the Tempo Project, would result in similar and no greater impacts than those disclosed in the 2020 IS/MND, which were determined to be less than significant with mitigation incorporated.

Based on the above, the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project-specific mitigation measures.

Operation

OFF-SITE MOBILE NOISE

The operation of the Revised Project would result in some additional traffic on adjacent roadways, thereby potentially increasing vehicular noise in the vicinity of existing and proposed land uses. The most prominent source of mobile traffic noise in the vicinity of the Revised Project is along Colorado Place. According to the California Department of Transportation (Caltrans), a doubling of traffic (100 percent increase) on a roadway would result in a perceptible increase in traffic noise levels (3 dBA).[10] According to the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum* (Transportation Analysis) prepared by Linscott, Law and Greenspan Engineers (dated March 12, 2024), the Tempo Project would result in 1,113 daily trips on weekdays, and 915 daily trips on Saturdays. The existing traffic volume along Colorado Place near the Revised Project Site is 13,559 trips per day.[11] As such, the traffic volumes generated by the Tempo Project would not double the existing traffic volumes, and the project-related traffic noise impacts would be less than significant.

In addition, according to Section 3.17, Transportation of the 2020 IS/MND, the Approved Project would generate 2,442 trips per day. The Approved Project and Tempo Project in total would generate up to 3,555 trips per day, which would not double the existing traffic volumes along Colorado Place. As such, the traffic noise impacts from Revised Project, which is the Approved Project and Tempo Project combined, would be less than significant.

ON-SITE OPERATIONAL NOISE

On-site operational noise activities would include noise generated from mechanical equipment and outdoor gathering area. Although the nearest noise sensitive use (i.e., the residential use) is adjacent to the east of the Area of Proposed Improvements when measured from the property line, the distances to the nearest sensitive receptors would be greater when measured from the on-site stationary sources.

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10 California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, September 2013.

11 City of Arcadia, *Traffic Volume Map, Counts Taken February 2019*, https://cms9files.revize.com/arcadia/Shape%20Arcadia/Development%20Services/traffic%20and%20engineering/Traffic%20Volume%20Map%202019.pdf, accessed June 13, 2024.

Mechanical Equipment

HVAC units would be installed on the roof of the proposed building for the Tempo Project. Typically, mechanical equipment, such as HVAC units, generate noise levels of 60 dBA at 20 feet from the source.[12] Noise generated by stationary sources typically attenuates at a rate of 6 dBA per doubling of distance from the source. As previously discussed, the closest sensitive receptor is the existing residential use adjacent to the east of the Area of Proposed Improvements boundary. However, the closest HVAC units on the proposed hotel building would be located approximately 95 feet away from this sensitive receptor. At 95 feet, noise levels from HVAC units would be approximately 46.5 dBA. Therefore, noise from operation of the HVAC units would not exceed the City's daytime exterior (55 dBA) and nighttime exterior (50 dBA) noise standards at this sensitive receptor. Further, as shown in Table 2, existing ambient noise level near the residential use is approximately 62.0 dBA L_{eq}, which is higher than the projected noise levels from HVAC units at this sensitive receptor. As such, noise impacts from mechanical equipment for the Tempo Project would be less than significant.

Outdoor Gathering Area

Noise generated by groups of people (i.e., crowds) is dependent on several factors including vocal effort, impulsiveness, and the random orientation of the crowd members. According to Prediction of Crowd Noise, crowd noise is approximately 62 dBA at one meter (i.e., 3.28 feet) from the source. The Tempo Project proposes an outdoor patio area to the west of the proposed building. The nearest sensitive use (i.e., residential use) is located approximately 240 feet from the proposed outdoor patio. At this distance, crowd noise would be approximately 24 dBA. In addition, the proposed building would block the line-of-sight between the nearest sensitive receptor and the outdoor patio area. Therefore, noise from the outdoor patio would not exceed the City's daytime exterior (55 dBA) and nighttime exterior (50 dBA) noise standards at this sensitive receptor. Further, as shown in Table 2, existing ambient noise level near the residential use is approximately 62.0 dBA L_{eq}, which is higher than the projected noise levels from the outdoor patio area at this sensitive receptor. As such, noise impacts from the outdoor patio area for the Tempo Project would be less than significant.

Therefore, based on the above, operational impacts resulting from the Tempo Project would be less than significant. The Approved Project would potentially result in significant impact from HVAC units and emergency generator, and therefore requires implementation of mitigation measure MM-NOI-2 to reduce the impact to less than significant level. The Tempo Project combined with the Approved Project would potentially result in a significant operational noise impact, and therefore implementation of mitigation measure MM-NOI-2 would be required. With implementation of mitigation measure MM-NOI-2, the Revised Project, which is the Tempo Project and the Approved Project combined, would result in less than significant operational noise impacts.

Conclusion

In conclusion, the Revised Project's construction and operational noise impacts would be less than significant with mitigation incorporated. The Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis or project specific mitigation measures.

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[12] Elliot H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 26, 2015.

The following 2020 IS/MND mitigation measures apply to the Revised Project:

MM-NOI-1: Prior to the issuance of a grading permit, the Project Applicant shall provide a Construction Noise Control Plan (CNCP) to the City for review and approval. The CNCP shall include best management practices to reduce short-term construction noise. Enforcement of the CNCP shall be accomplished by field inspections during construction activities and/or documentation of compliance, to the satisfaction of the City's Development Services Department. Recommended best management practices may include, but not be limited to, the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers consistent with the manufacturers' specifications and standards.

- Construction noise reduction methods such as shutting off idling equipment, maximizing the distance between construction equipment staging areas and adjacent residences, and use of electric air compressors and similar power tools, rather than diesel equipment, should be used where feasible.

- Stationary equipment should be placed as far away from the adjacent residential property boundary as feasible and positioned such that emitted noise is directed away from or shielded from sensitive receptors. Acoustically attenuating shields, shrouds, or enclosures may be placed over stationary equipment.

- During all Project site construction, the construction contractor shall limit all construction-related activities, including maintenance of construction equipment and the staging of haul trucks, to between the hours of 7:00 a.m. to 6:00 p.m. Monday through Friday and 8:00 a.m. to 5:00 p.m. on Saturday.

- Construction hours, allowable workdays, and the phone number of the job superintendent should be clearly posted at all construction entrances to allow surrounding property owners to contact the job superintendent, if necessary. In the event the City receives a complaint, appropriate corrective actions should be implemented and a report of the action provided to the reporting party, the City's Development Services Department.

MM-NOI-2: The Project Applicant shall retain an acoustical specialist to review the Project's construction-level plans to ensure that the equipment specifications and plans for HVAC and emergency backup generator incorporate features to ensure that operational noise will not exceed relevant noise standards at nearby noise-sensitive land uses (e.g., residential). Such features could include, but not be limited to, the specification of quieter equipment, relocation of facilities to be of further distance from residential homes, and/or the provision of acoustical enclosures. The acoustical specialist shall certify in writing to the City that the equipment specifications and plans will achieve the City's relevant noise limits.

Mitigation Measures: Impacts related to Impact NOI-1 would be less than significant with implementation of 2020 IS/MND MM-NOI-1 and MM-NOI-2. Therefore, no new project-specific mitigation measures are required.

Level of Significance After Mitigation: Impacts related to Impact NOI-1 would be less than significant with implementation of 2020 IS/MND MM-NOI-1 and MM-NOI-2. Therefore, no new project-specific mitigation measures are required or included, and the impact level would remain less than significant.

NOI-2 WOULD THE PROJECT RESULT IN EXPOSURE OF PERSONS TO OR GENERATION OF EXCESSIVE GROUNDBORNE VIBRATION OR GROUNDBORNE NOISE LEVELS?

Level of Significance: Less Than Significant Impact.

The 2020 IS/MND Section 3.13 b) analyzed the Approved Project's vibration impact during construction and operation. The 2020 IS/MND concluded that construction vibration from the Approved Project would not result in structural building damage, and implementation of mitigation measure MM-NOI-1 would ensure that construction of the Approved Project would not result in human annoyance. In addition, ground-borne vibration would not be associated with the Approved Project during operation. Therefore, the 2020 IS/MND concluded that impacts related to ground-borne vibration are considered less than significant with mitigation incorporated.

Short-Term Construction Vibration Impacts

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels.

Construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. The vibration level at which human annoyance is perceived is 0.2 inch per second PPV; refer to Table 1. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 25 feet from most construction vibration sources. This distance can vary substantially depending on the soil composition and underground geological layer between the vibration source and the receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. Construction activities that may result under the Tempo Project have the potential to generate ground-borne vibration. This evaluation uses the FTA architectural damage criterion for continuous vibrations of 0.3 in/sec PPV for engineered concrete and masonry (refer to Table 3) because the closest structure to the Area of Proposed Improvements is a modern residential building. The nearest building with a sensitive receptor is located at approximately 50 feet to the east of the Tempo Project construction activities. As such, vibration impacts are analyzed at 50 feet to evaluate the architectural building damage criterion. Groundborne vibration decreases rapidly with distance. As a result, vibration velocities from the construction equipment would be barely perceptible at this distance. Typical vibration produced by construction equipment is illustrated in Table 9, *Typical Vibration Levels for Construction Equipment*.

Table 9
Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inch/sec)	Approximate peak particle velocity at 50 feet (inch/sec)[1]
Large bulldozer	0.089	0.0315
Loaded trucks	0.076	0.0269
Small bulldozer	0.003	0.0011
Vibratory roller	0.210	0.0742
Notes: 1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$ where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the FTA *Transit Noise and Vibration Impact Assessment Guidelines* D = the distance from the equipment to the receiver		
Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, September 2018.		

As shown in Table 9, vibration velocities from typical heavy construction equipment operation would range from 0.003 to 0.210 inch/second PPV at 25 feet from the source of activity. The nearest structure to the Tempo Project is the existing residential building located approximately 50 feet to the east of the Area of Proposed Improvements. Vibration level during the operation of construction equipment would be approximately 0.0011 inch/second PPV to 0.0742 inch/second PPV at 50 feet; refer to Table 9. As a result, construction groundborne vibration would not exceed the 0.2 inch per second PPV significance threshold for human annoyance or the 0.3 inch/second PPV significance threshold for building damage at the nearest structure. Therefore, vibration impacts would be less than significant impact during construction of the Tempo Project.

Long-Term Operational Vibration Impacts

The Tempo project would involve operation of a hotel that does not include uses that would generate groundborne vibration that could be felt by the nearest sensitive receptors. The Tempo Project would also not involve heavy-duty truck trips. As such, it can be reasonably inferred that operation of the Tempo Project would not create perceptible vibration impacts to the nearest sensitive receptors. Therefore, vibration impacts related to human annoyance and building damage during operation of the Tempo Project would be less than significant.

Conclusion

In conclusion, the Tempo Project's construction and operational vibration impacts would be less than significant. It should be noted that construction of the Approved Project will be completed prior to the start of construction for the Tempo Project, and therefore construction of the Tempo Project and Approved Project would not overlap. However, as the Approved Project is required to implement 2020 IS/MND mitigation measure MM-NOI-1 to ensure that the potential vibration during Approved Project construction would not result in human annoyance, the Revised Project, which includes the Approved Project, would also be required to implement 2020 IS/MND mitigation measure MM-NOI-1 to ensure that construction vibration impacts would remain less than significant. Due to the lack of operational vibration sources, the Revised Project, which is the Approved Project and Tempo Project combined, would not result in operational vibration impacts. As such, the Revised Project would not result in new significant impacts, and no substantial increase in the severity of previously identified impacts disclosed in the 2020

IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis, or project-specific mitigation measures.

Mitigation Measures: Impacts related to Impact NOI-2 would be less than significant. Therefore, no new project-specific mitigation measures are required.

Level of Significance After Mitigation: Impacts related to Impact NOI-2 would be less than significant. Therefore, no new project-specific mitigation measures are required or included, and the impact level would remain less than significant.

NOI-3 FOR A PROJECT LOCATED WITHIN THE VICINITY OF A PRIVATE AIRSTRIP OR AN AIRPORT LAND USE PLAN OR, WHERE SUCH A PLAN HAS NOT BEEN ADOPTED, WITHIN TWO MILES OF A PUBLIC AIRPORT OR PUBLIC USE AIRPORT, WOULD THE PROJECT EXPOSE PEOPLE RESIDING OR WORKING IN THE PROJECT AREA TO EXCESSIVE NOISE LEVELS?

Level of Significance: No Impact.

The 2020 IS/MND Section 3.13 c) analyzed the Approved Project's airport noise impact. The 2020 IS/MND concluded that the Approved Project is not located within the planning area for the nearest public airport located approximately 3.7 miles away, nor is it located within two miles of this airport or any other airport, and therefore no impact would occur.

As with the Approved Project, the Revised Project is not located within the vicinity of a private airstrip, and the nearest airport (El Monte Airport) is located approximately 3.5 miles south of the Revised Project Site. The Revised Project Site is not located within the planning area for the El Monte Airport.[13] Additionally, the Revised Project Site is not located within the vicinity of a private airstrip or related facilities. Therefore, implementation of the Revised Project would not expose people residing or working in the Revised Project area to excessive noise levels associated with aircraft. As such, no impact would occur.

Conclusion

In conclusion, impacts resulting from the airport noise would not occur and would be the same level of impacts disclosed in the 2020 IS/MND, which were determined to have no impact. Therefore, the Revised Project would not result in new significant impacts and no substantial increase in the severity of previously identified impacts disclosed in the 2020 IS/MND would occur. Likewise, there are no changed circumstances involving new or more severe impacts and no new information of substantial importance requiring new analysis, verification, or project-specific mitigation measures.

Mitigation Measures: No impacts would occur related to Impact NOI-3. Therefore, no mitigation measures are required.

Level of Significance After Mitigation: No impacts would occur related to Impact NOI-3. Therefore, no mitigation measures are required or included, and the impact level would remain no impact.

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[13] Los Angeles County Airport Land Use Commission, *Los Angeles County Airport Land Use Plan*, https://planning.lacounty.gov/wp-content/uploads/2022/10/Los-Angeles-County-Airport-Land-Use-Plan.pdf, accessed Juen 13, 2024.

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Documents

1. California Department of Transportation, *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, 2013.

2. City of Arcadia, *Arcadia General Plan Noise Element,* November 2010.

3. City of Arcadia, *Traffic Volume Map, Counts Taken February 2019*, https://cms9files.revize.com/arcadia/Shape%20Arcadia/Development%20Services/traffic%20and%20engineering/Traffic%20Volume%20Map%202019.pdf, accessed June 13, 2024.

4. Elliott H. Berger, Rick Neitzel, and Cynthia A. Kladden, *Noise Navigator Sound Level Database with Over 1700 Measurement Values*, July 6, 2010.

5. Environmental Health Perspectives, *Vehicle Motion Alarms: Necessity, Noise Pollution, or Both?* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3018517/, accessed June 13, 2024.

6. Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

7. Federal Transit Administration, *Noise and Vibration Impact Assessment Manual, Section 5.2, Sources of Transit Ground-borne Vibration and Noise*, September 2018.

8. Harris, Cyril, *Handbook of Noise Control,* 1979.

9. Linscott, Law, and Greenspan Engineers, *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project, City of Arcadia, California Memorandum*, March 12, 2024.

10. Los Angeles County Airport Land Use Commission, *Los Angeles County Airport Land Use Plan*, https://planning.lacounty.gov/wp-content/uploads/2022/10/Los-Angeles-County-Airport-Land-Use-Plan.pdf, accessed June 13, 2024.

11. Office of Planning and Research, *State of California General Plan Guidelines*, *Appendix D*, October 2017.

12. State Office of Planning and Research, *State of California General Plan Guidelines*, October 2017.

13. U.S. Environmental Protection Agency, *Noise Effects Handbook – A Desk Reference to Health and Welfare Effects of Noise*, October 1979 (revised July 1981).

14. U.S. EPA, *Summary of the Noise Control Act: 42 USC Section 4901 et seq.(1972)*, https://www.epa.gov/laws-regulations/summary-noise-control-act, accessed June 13, 2024.

15. U.S. EPA, *Clean Air Act Title IV – Noise Pollution*, https://www.epa.gov/clean-air-act-overview/clean-air-act-title-iv-noise-pollution, accessed June 13, 2024.

Websites / Programs

1. Google Earth, 2024.

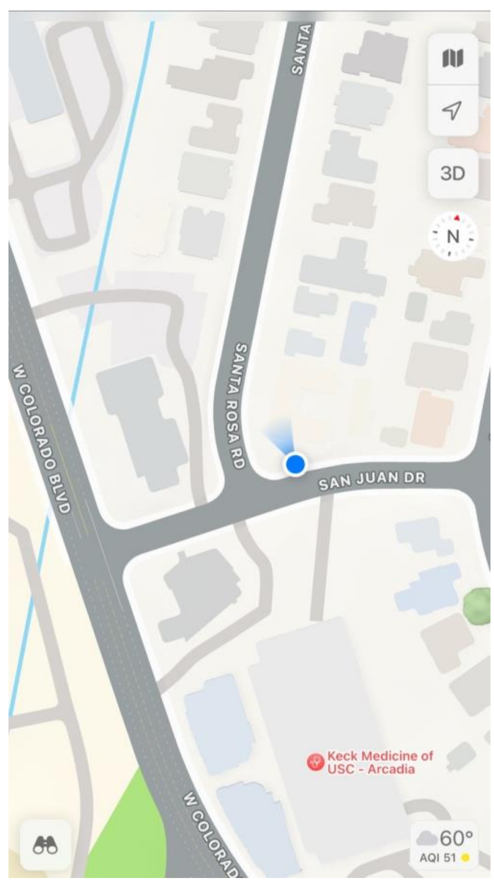
2. Federal Highway Administration, Roadway Construction Noise Model, Version 1.0, 2006.

Appendix A
Noise Data

Site Number: NM-1		
Recorded By: Dennis Dinh, Darshan Shivaiah		
Job Number: 201253		
Date: 5/15/2024		
Time: 10:58 a.m.		
Location: Northeast corner of Santa Rosa Road and San Juan Road intersection		
Source of Ambient Noise: Traffic along Santa Rosa Road and San Juan Road		
Noise Data		
L_{eq} (dB)	**L_{max}(dB)**	**L_{min} (dB)**
54.2	73.4	42.3

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**06/04/2023**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**06/04/2023**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**06/04/2023**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**06/04/2023**	
Weather Data						
Est.	**Duration:** 10 minutes		**Sky:** Cloudy			
	Note: dBA Offset = 0.05		**Sensor Height (ft):** 5 ft			
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**			
	4 mph	60	29.89			

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		05/15/2024 10:58:33
End Time:		05/15/2024 11:08:33
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.20

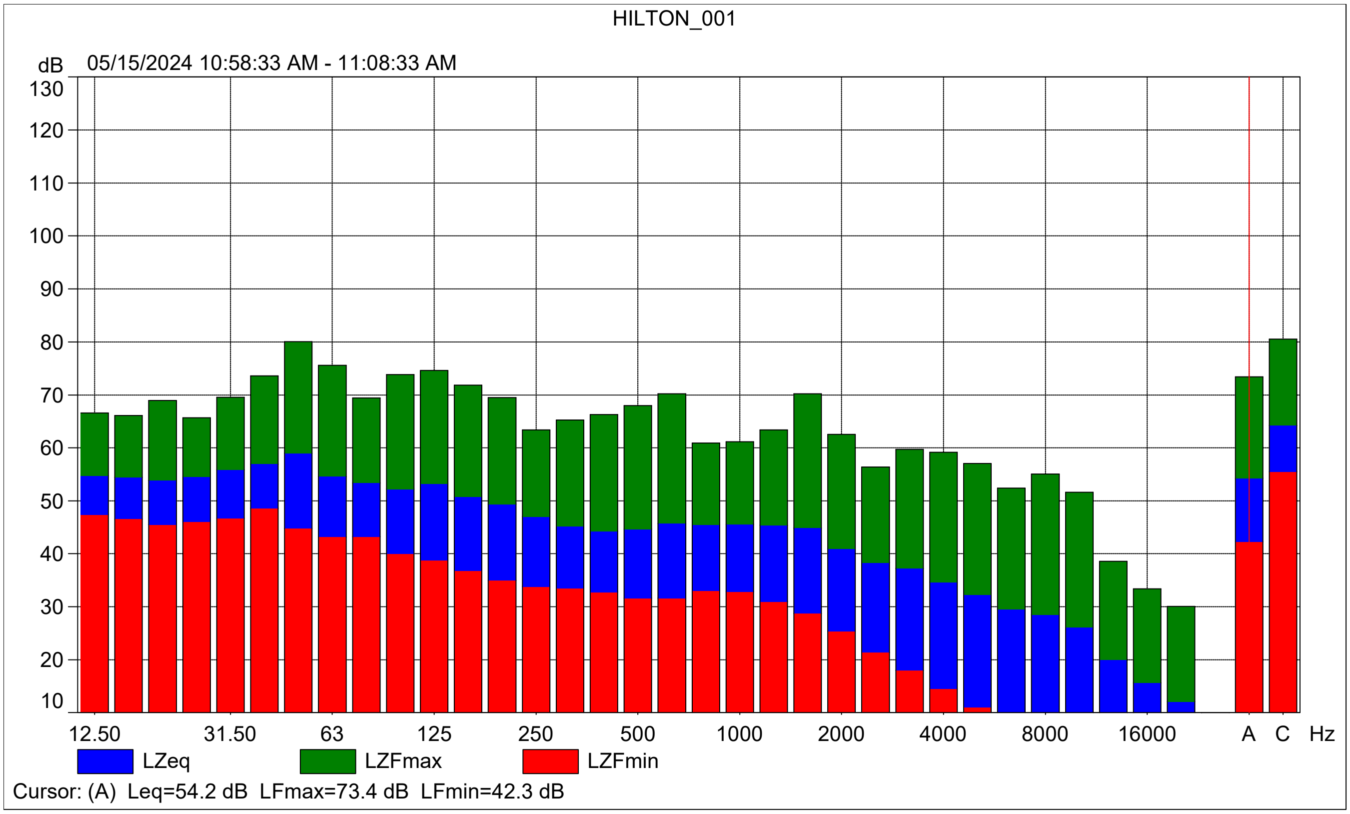
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

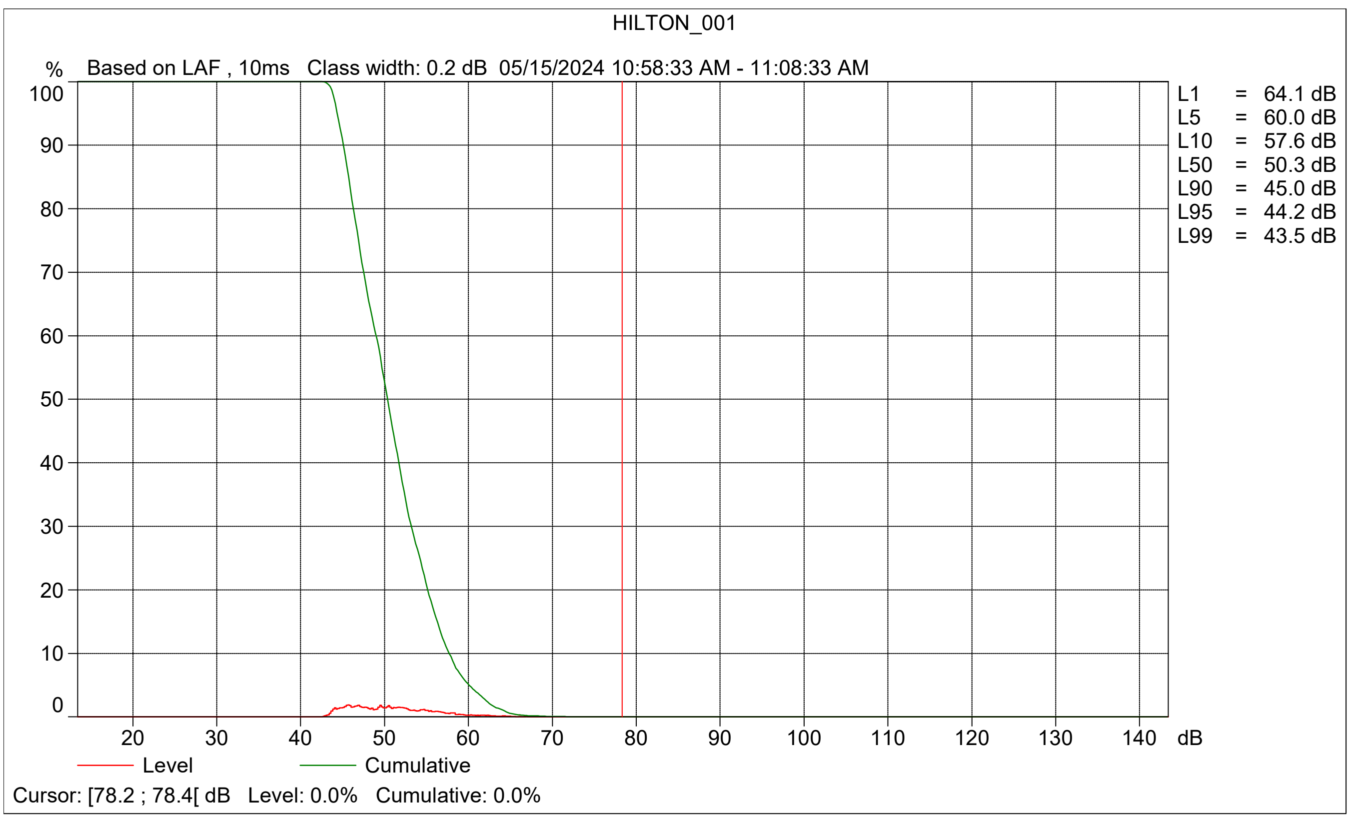
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

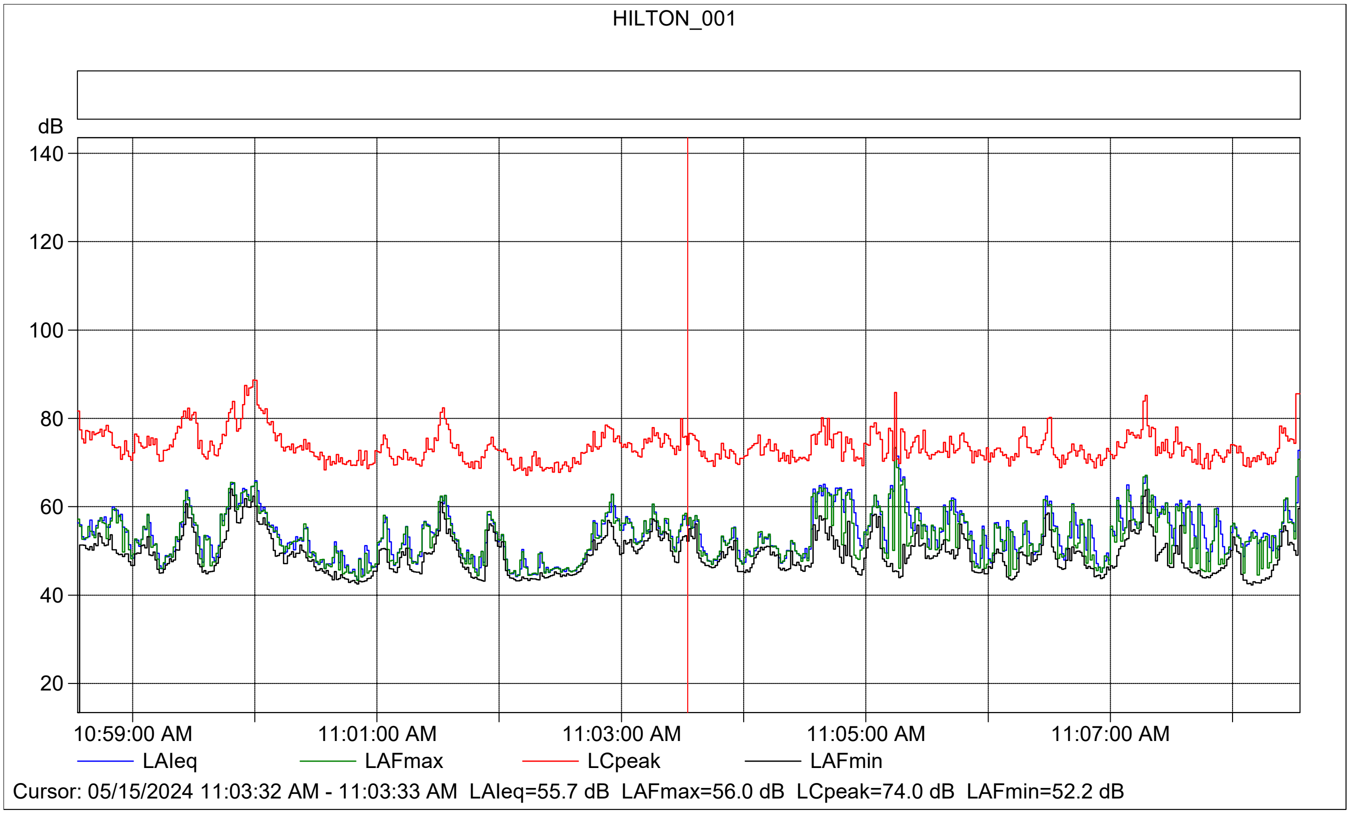
Calibration Time:		05/15/2024 10:56:12
Calibration Type:		External reference
Sensitivity:		43.2036072015762 mV/Pa

HILTON_001

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	54.2	73.4	42.3
Time	10:58:33 AM	11:08:33 AM	0:10:00				
Date	05/15/2024	05/15/2024					

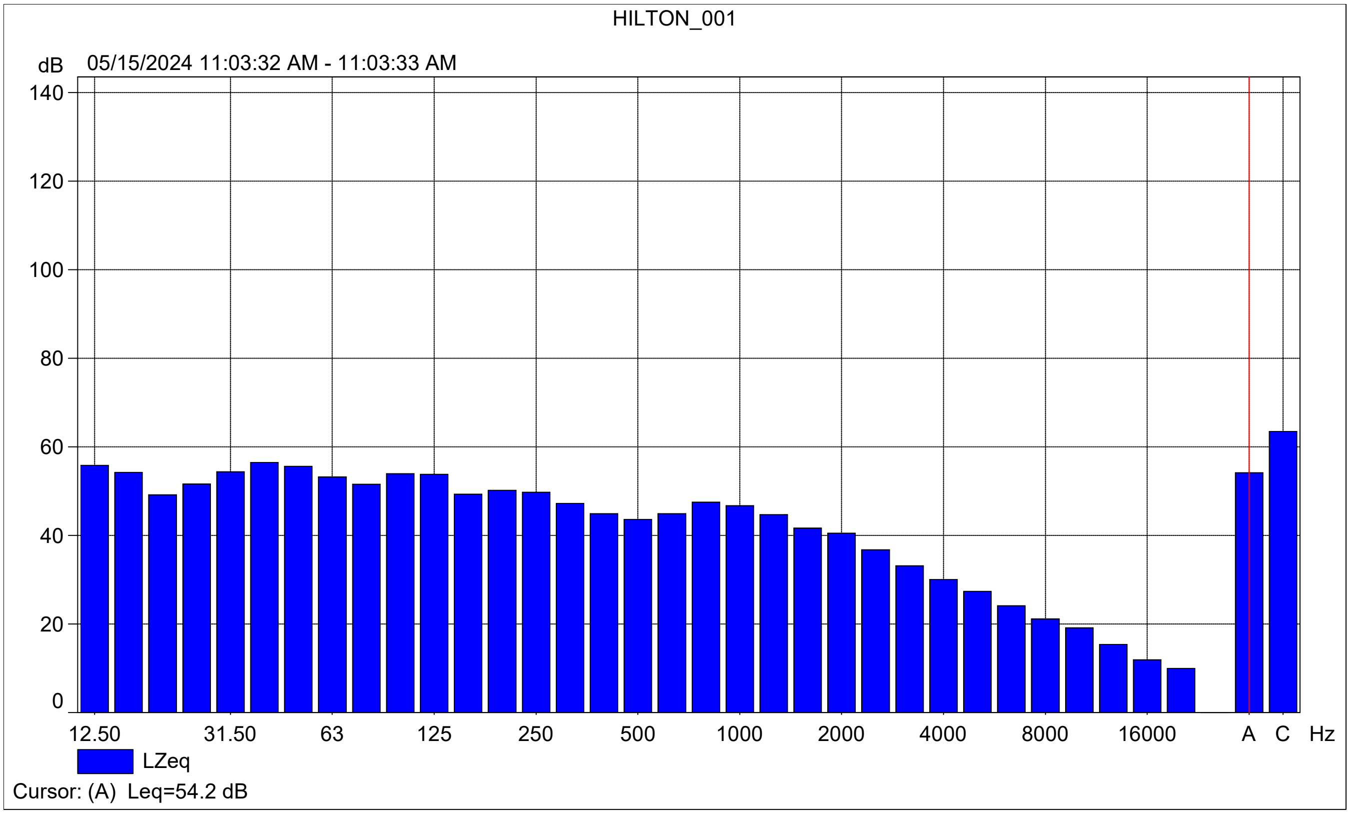

HILTON_001
dB 05/15/2024 10:58:33 AM - 11:08:33 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=54.2 dB LFmax=73.4 dB LFmin=42.3 dB

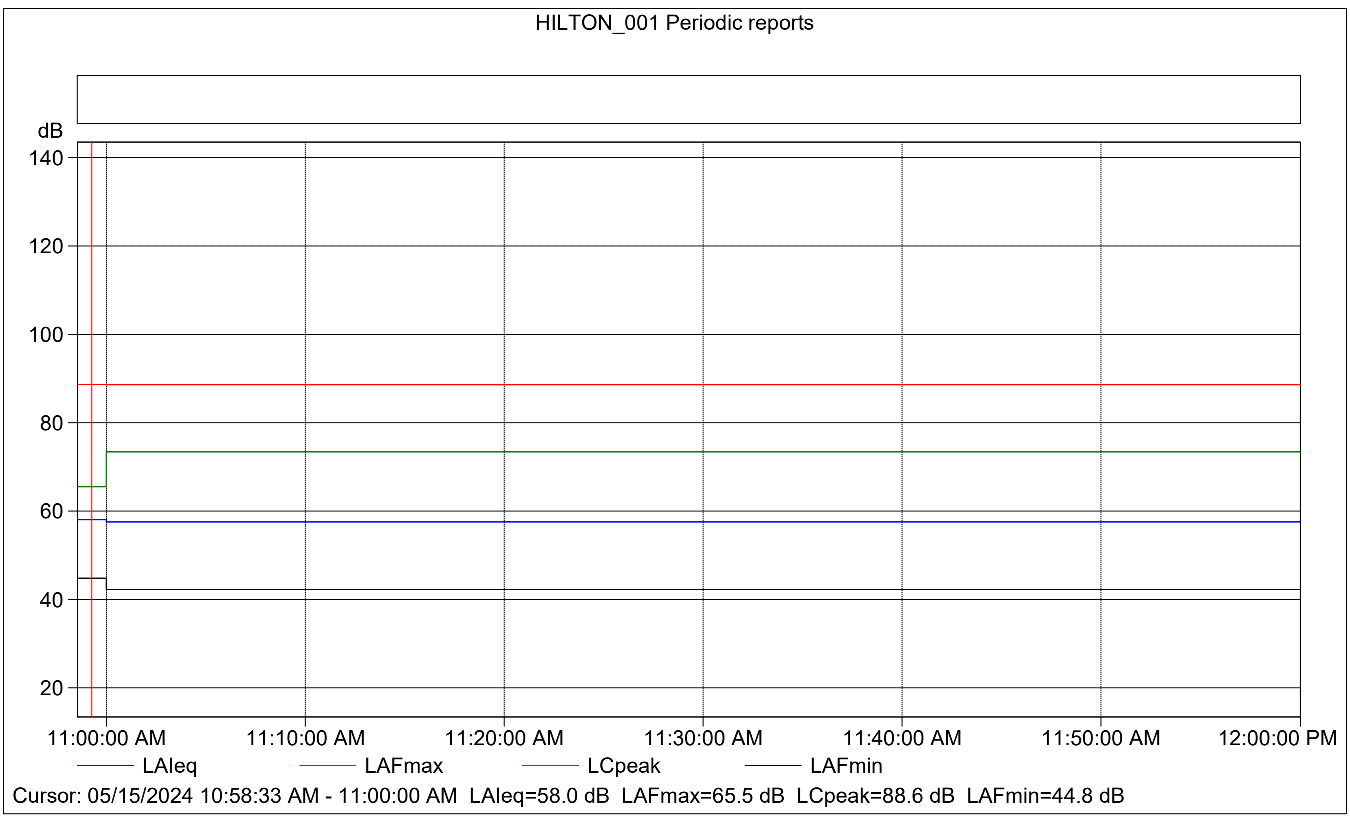

HILTON_001
% Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 10:58:33 AM - 11:08:33 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 64.1 dB
L5 = 60.0 dB
L10 = 57.6 dB
L50 = 50.3 dB
L90 = 45.0 dB
L95 = 44.2 dB
L99 = 43.5 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%



HILTON_001

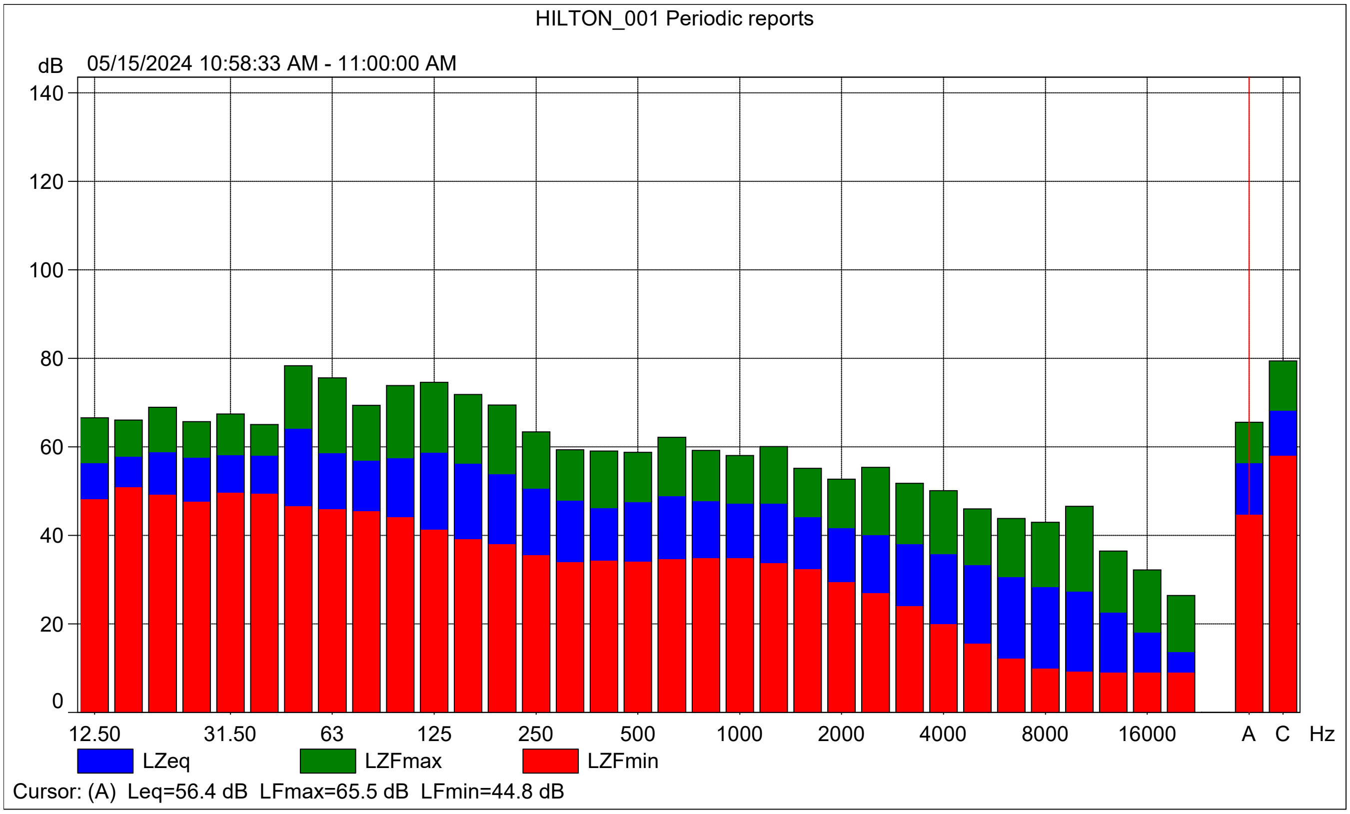
	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	55.7	56.0	52.2
Time	11:03:32 AM	0:00:01				
Date	05/15/2024					

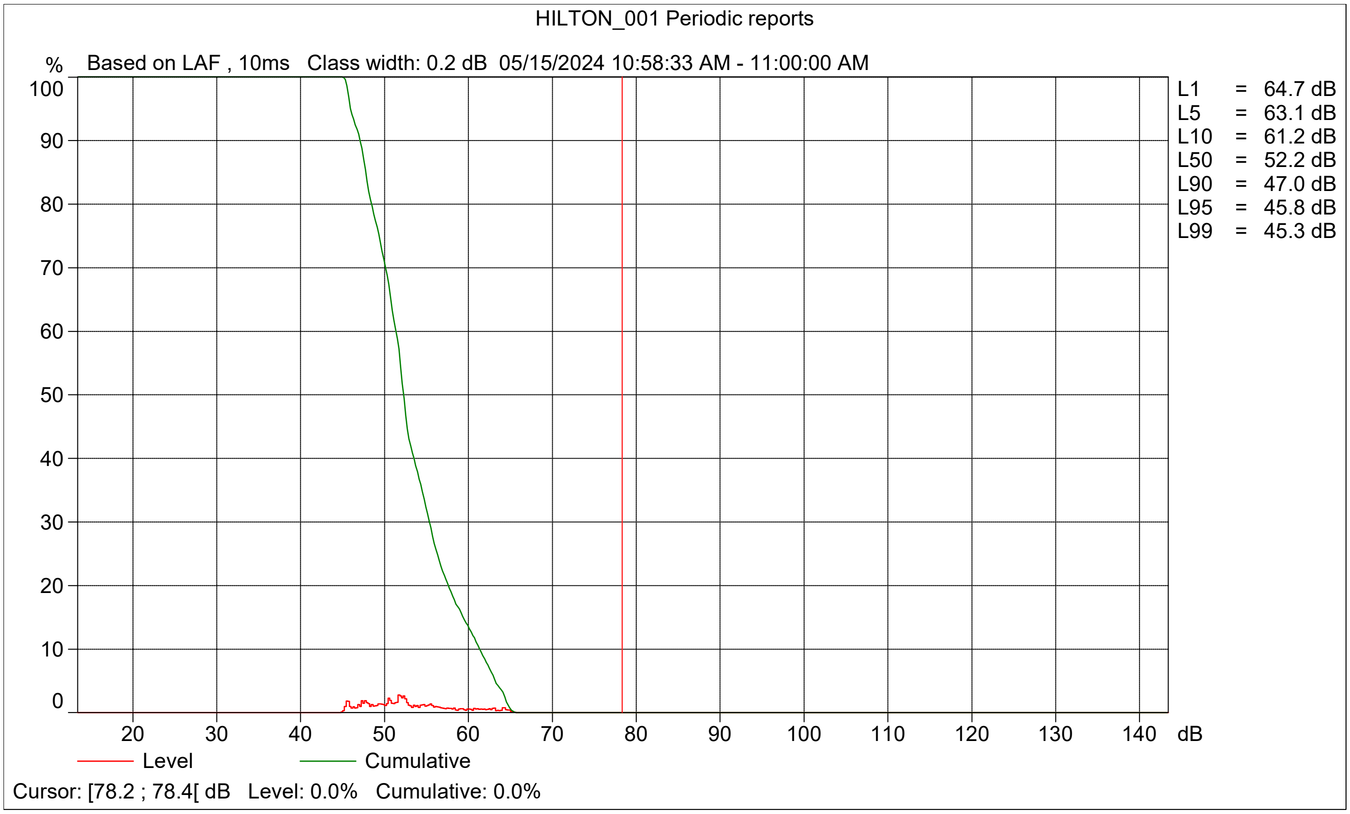

HILTON_001
dB
05/15/2024 11:03:32 AM - 11:03:33 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=54.2 dB


HILTON_001 Periodic reports
dB
140
120
100
80
60
40
20
11:00:00 AM
11:10:00 AM
11:20:00 AM
11:30:00 AM
11:40:00 AM
11:50:00 AM
12:00:00 PM
LAleq
LAFmax
LCpeak
LAFmin
Cursor: 05/15/2024 10:58:33 AM - 11:00:00 AM LAleq=58.0 dB LAFmax=65.5 dB LCpeak=88.6 dB LAFmin=44.8 dB

HILTON_001 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	58.0	65.5	44.8
Time	10:58:33 AM	0:01:27				
Date	05/15/2024					





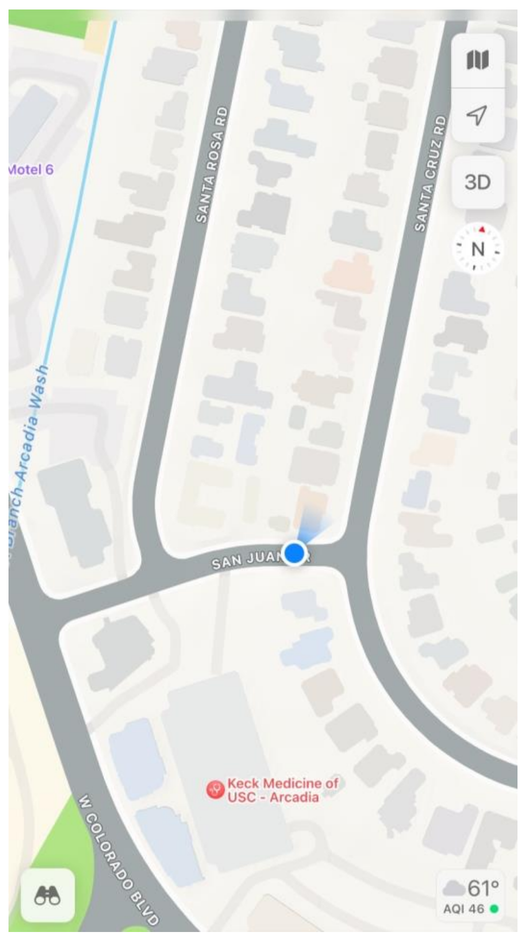
HILTON_001 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 10:58:33 AM - 11:00:00 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 64.7 dB
L5 = 63.1 dB
L10 = 61.2 dB
L50 = 52.2 dB
L90 = 47.0 dB
L95 = 45.8 dB
L99 = 45.3 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%

Site Number: NM-2		
Recorded By: Dennis Dinh, Darshan Shivaiah		
Job Number: 201253		
Date: 5/15/2024		
Time: 11:10 a.m.		
Location: In front of 143 Santa Cruz Road		
Source of Ambient Noise: Traffic along Santa Cruz Road; Peacock		
Noise Data		
L_{eq} (dB)	**L_{max}(dB)**	**L_{min} (dB)**
62.0	84.1	40.5

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**06/04/2023**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**06/04/2023**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**06/04/2023**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**06/04/2023**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Cloudy
	Note: dBA Offset = 0.05		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	4 mph	60	29.89

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		05/15/2024 11:10:53
End Time:		05/15/2024 11:20:53
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.20

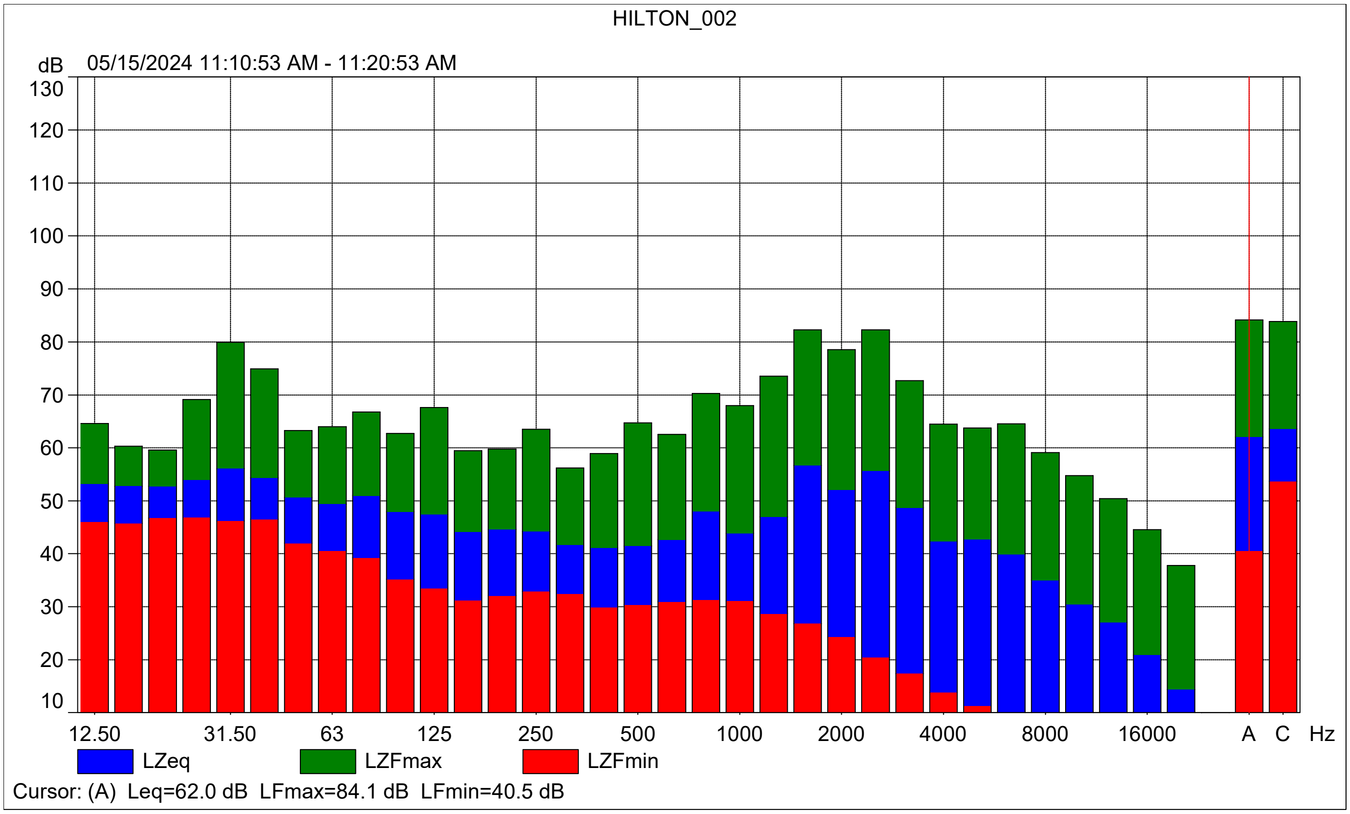
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

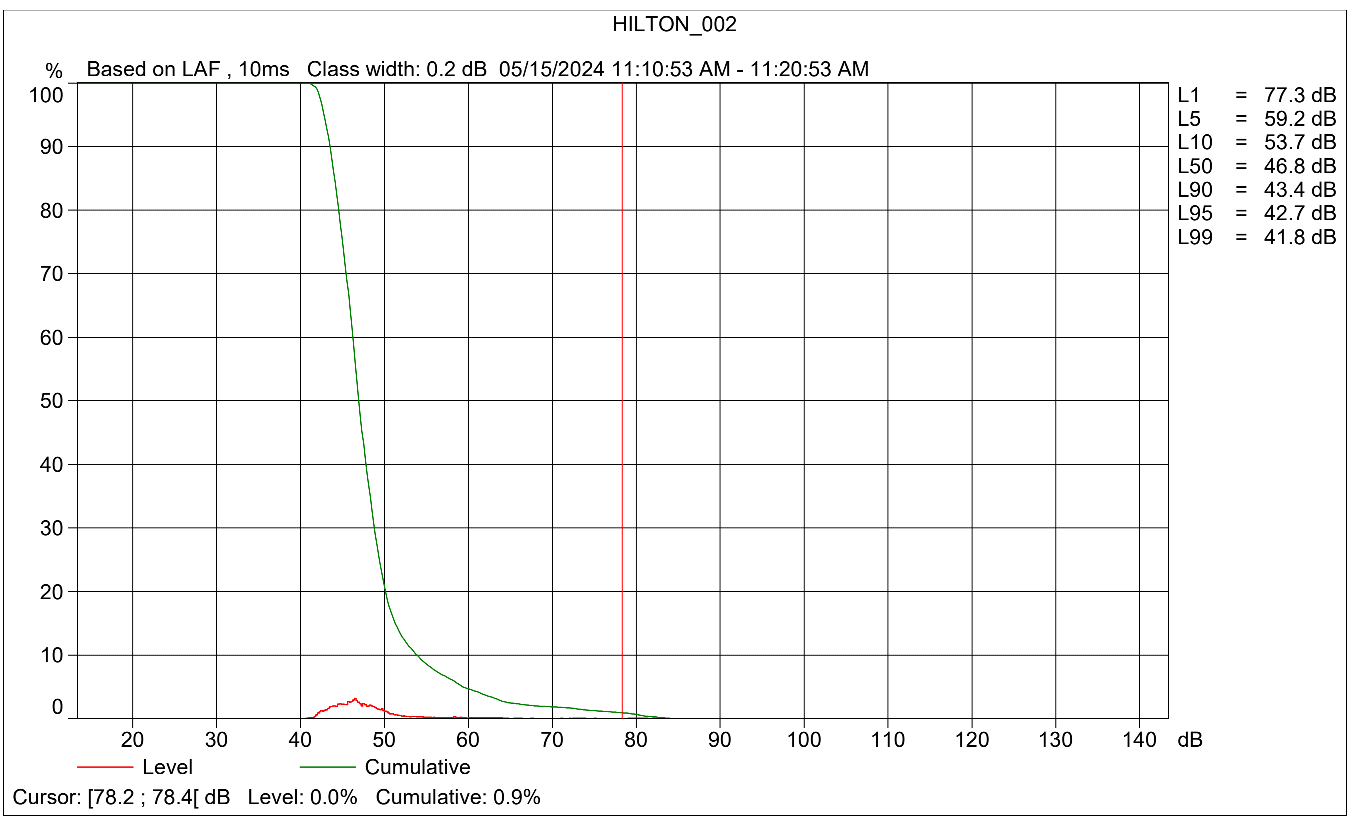
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

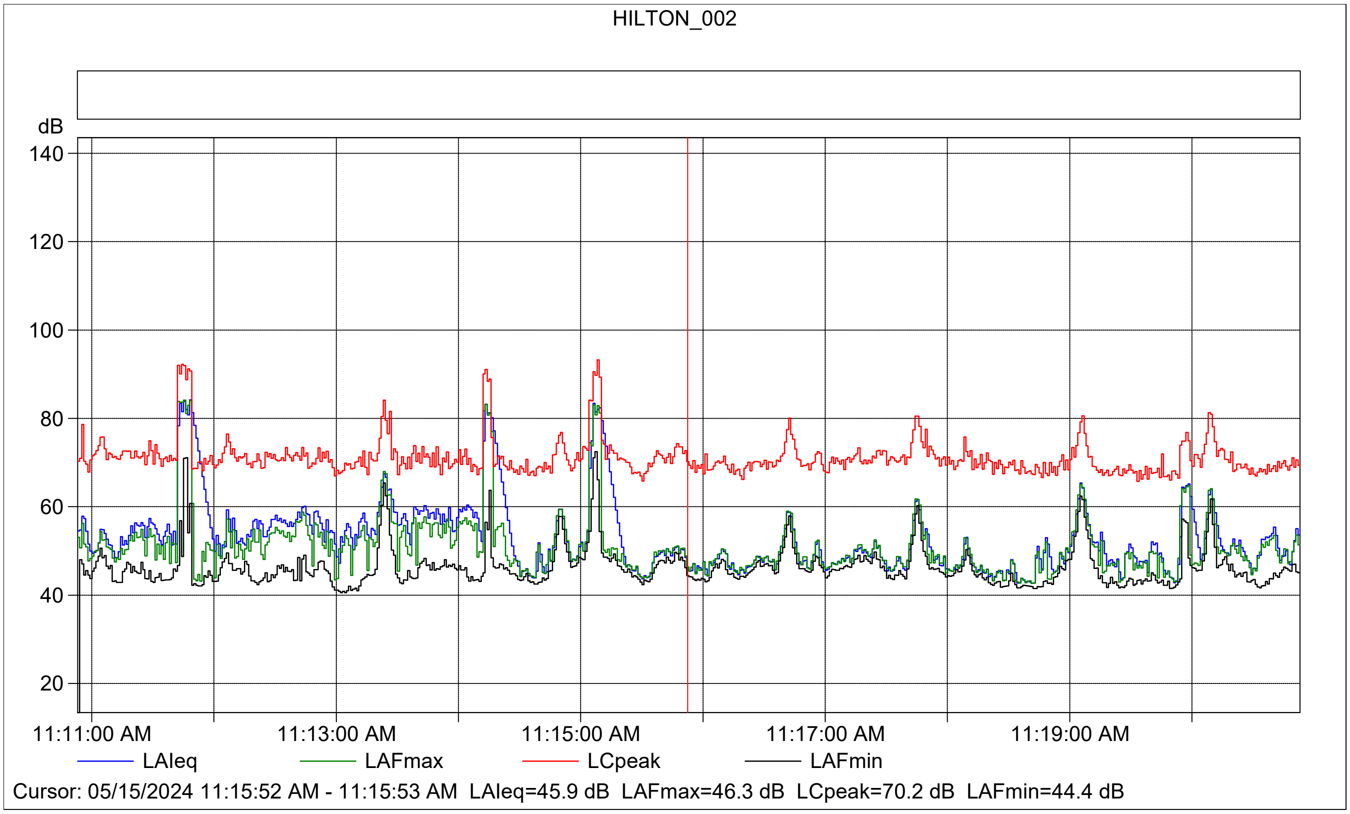
Calibration Time:		05/15/2024 10:56:12
Calibration Type:		External reference
Sensitivity:		43.2036072015762 mV/Pa

HILTON_002

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	62.0	84.1	40.5
Time	11:10:53 AM	11:20:53 AM	0:10:00				
Date	05/15/2024	05/15/2024					

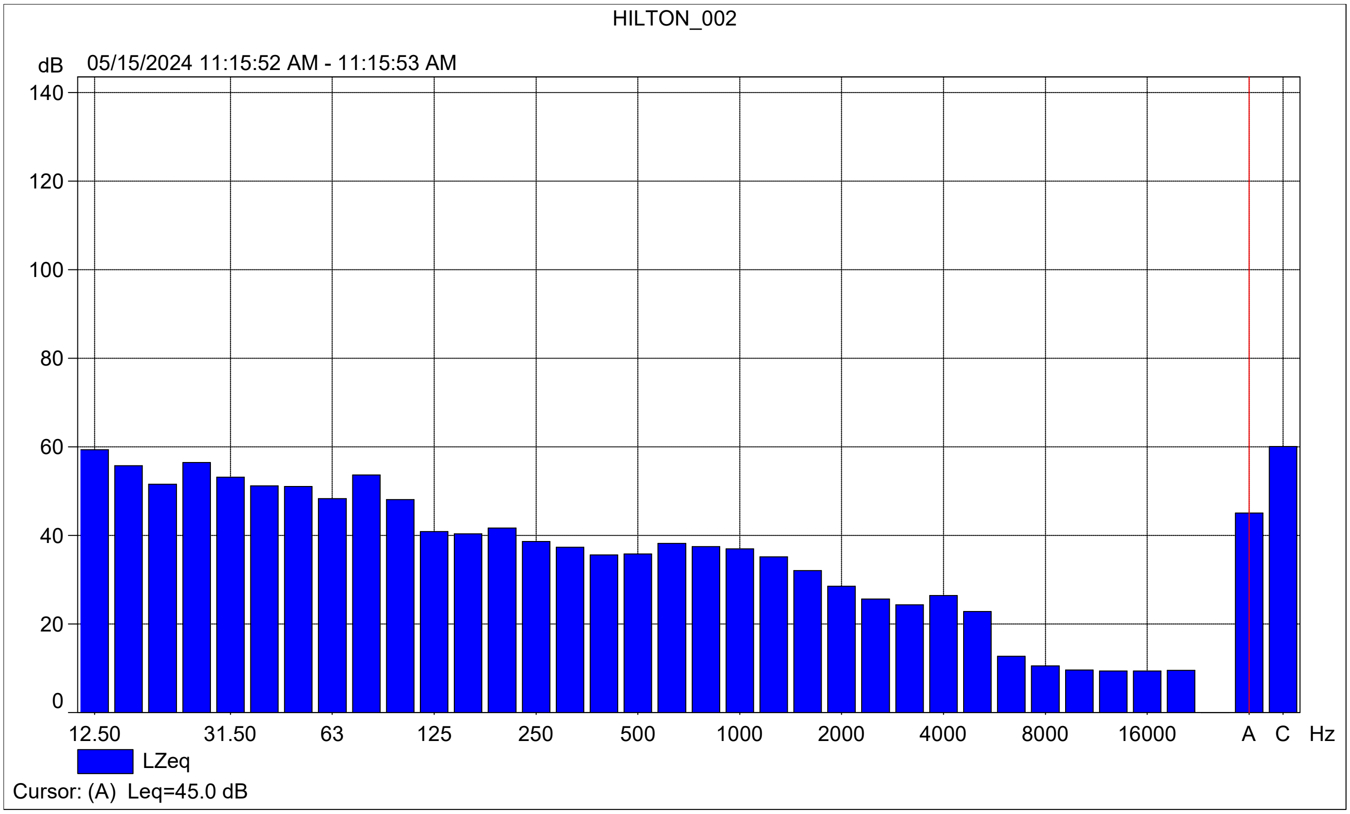

HILTON_002
dB 05/15/2024 11:10:53 AM - 11:20:53 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=62.0 dB LFmax=84.1 dB LFmin=40.5 dB

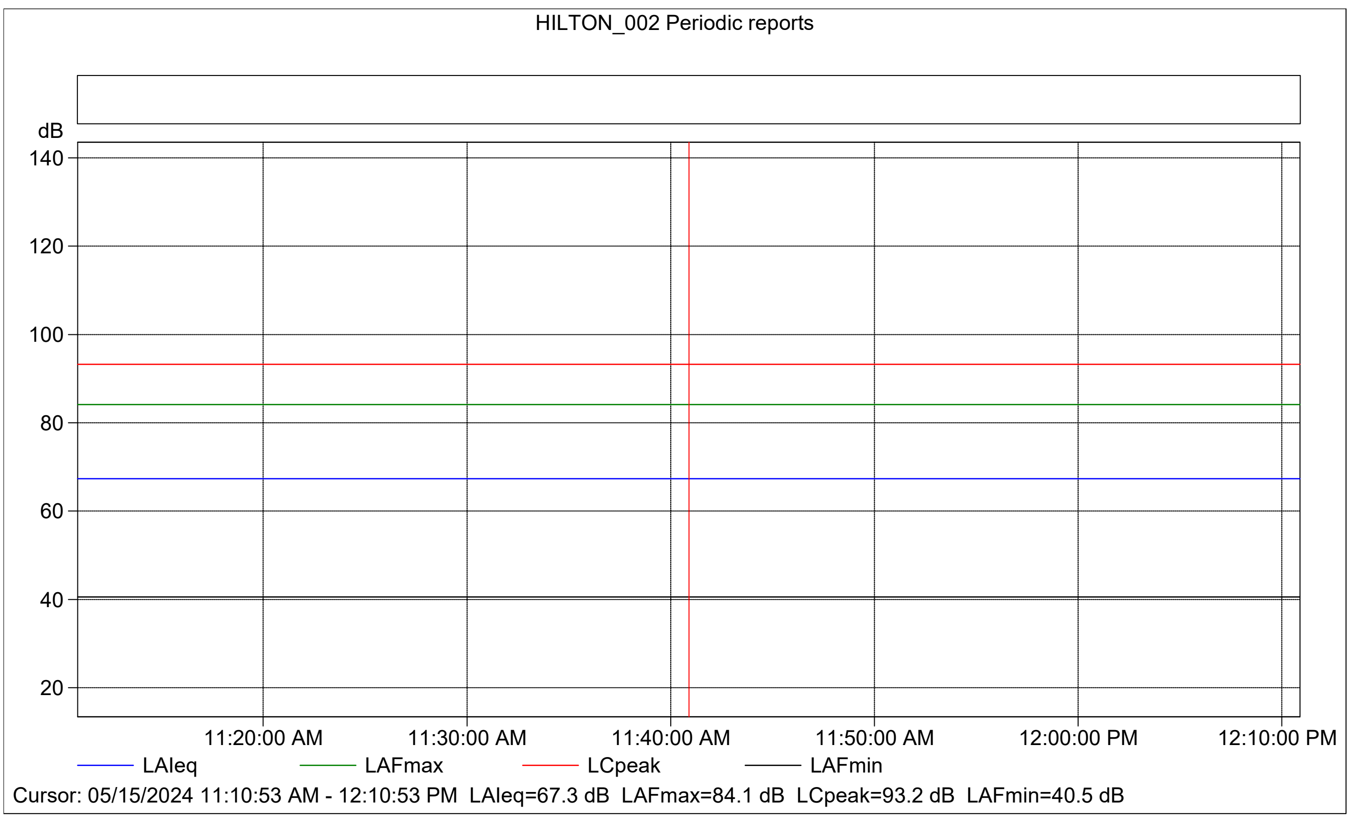

HILTON_002
% Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 11:10:53 AM - 11:20:53 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 77.3 dB
L5 = 59.2 dB
L10 = 53.7 dB
L50 = 46.8 dB
L90 = 43.4 dB
L95 = 42.7 dB
L99 = 41.8 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.9%



HILTON_002

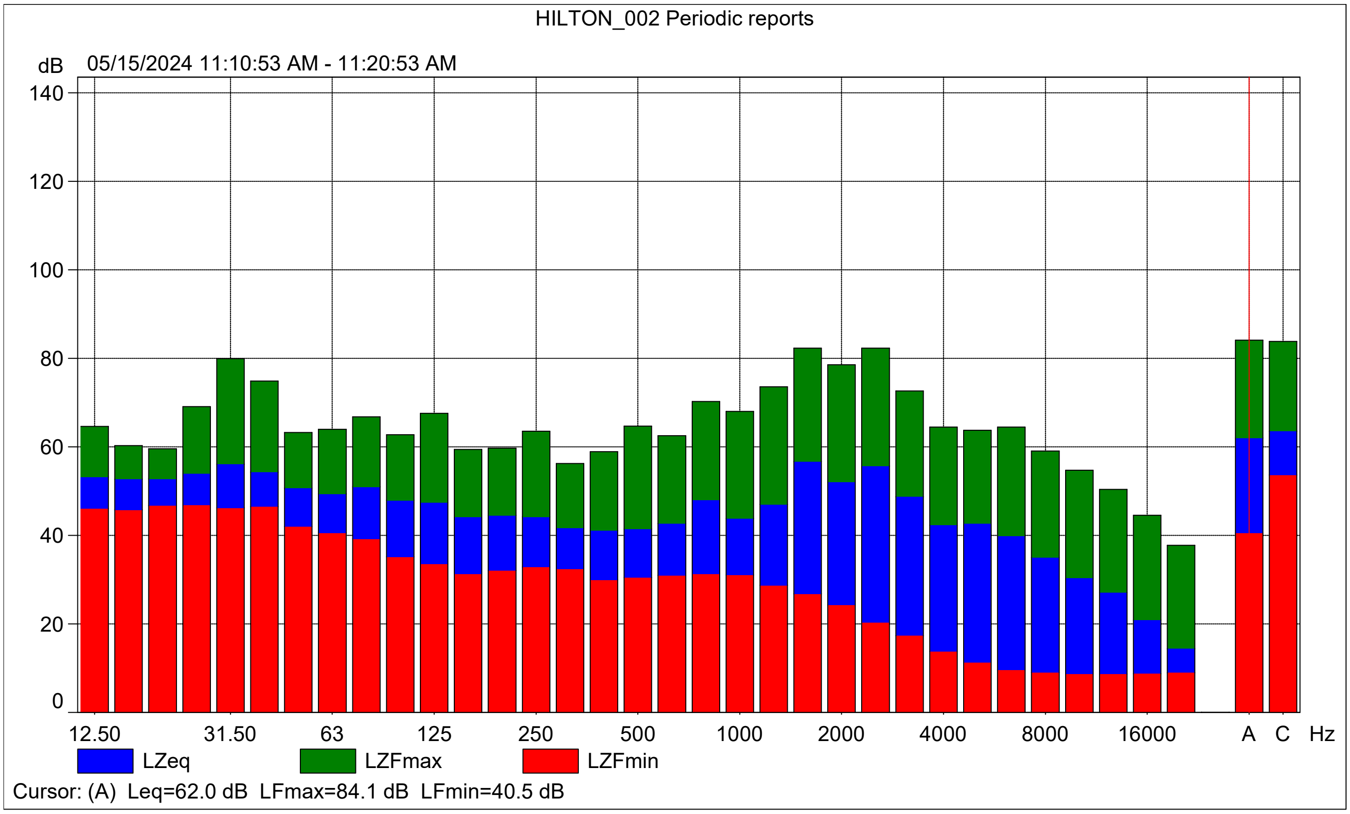
	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	45.9	46.3	44.4
Time	11:15:52 AM	0:00:01				
Date	05/15/2024					

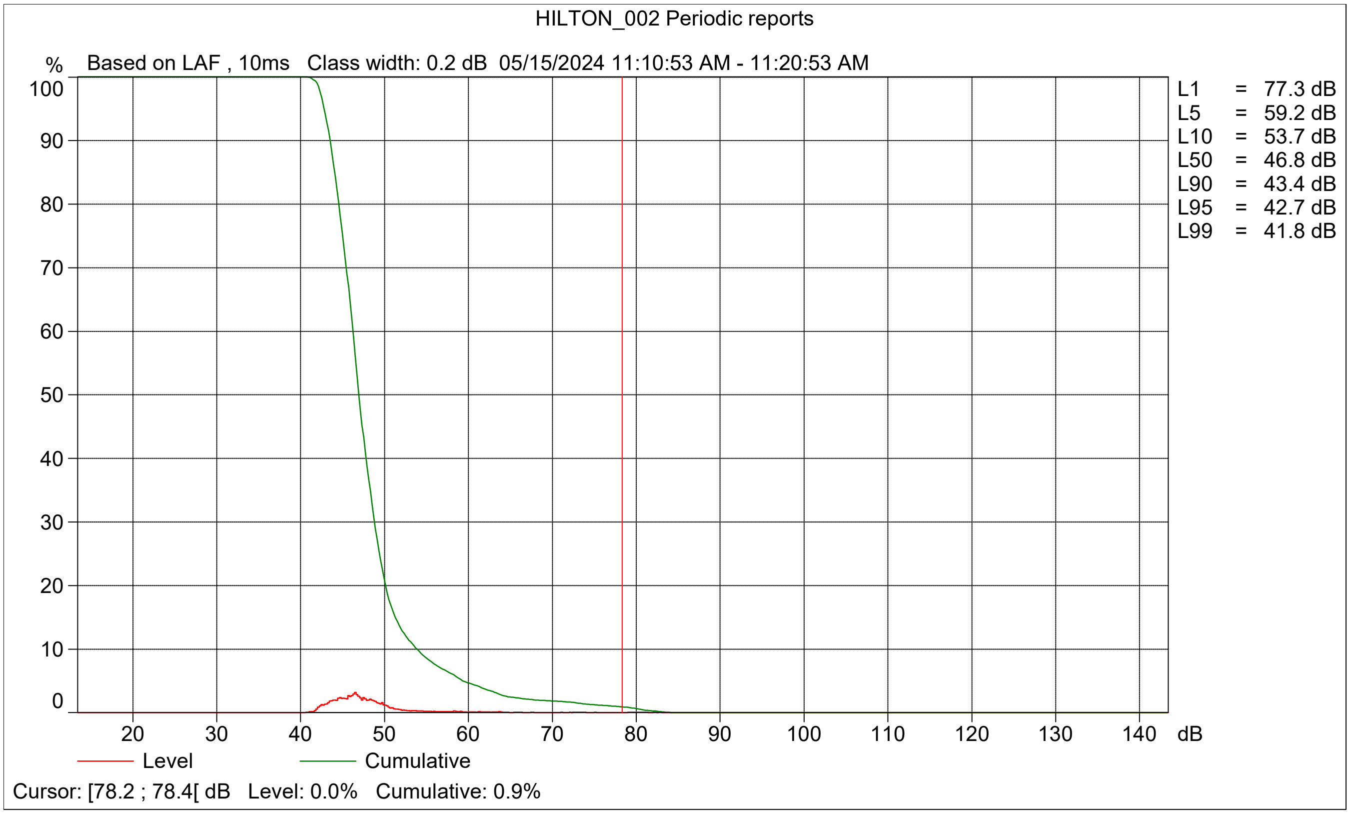

HILTON_002
dB 05/15/2024 11:15:52 AM - 11:15:53 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=45.0 dB


HILTON_002 Periodic reports
dB
140
120
100
80
60
40
20
11:20:00 AM
11:30:00 AM
11:40:00 AM
11:50:00 AM
12:00:00 PM
12:10:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 05/15/2024 11:10:53 AM - 12:10:53 PM LAIeq=67.3 dB LAFmax=84.1 dB LCpeak=93.2 dB LAFmin=40.5 dB

HILTON_002 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	67.3	84.1	40.5
Time	11:10:53 AM	0:10:00				
Date	05/15/2024					





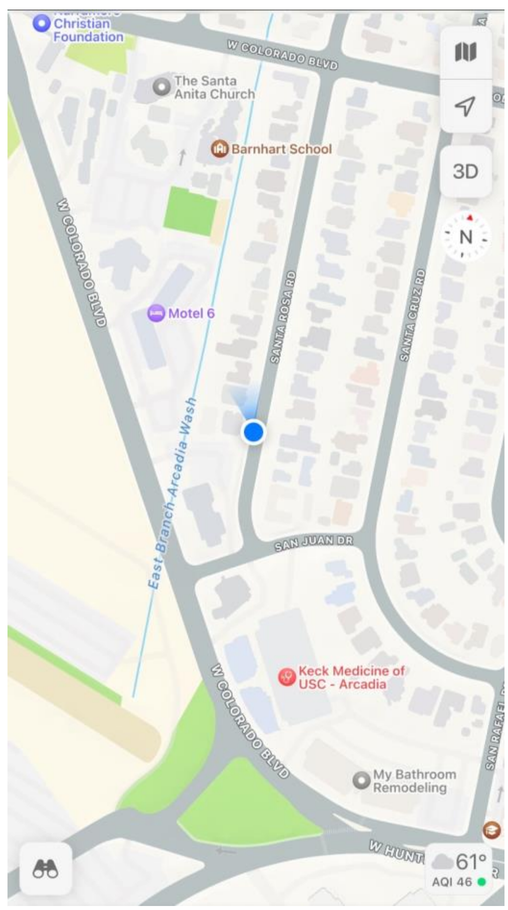
HILTON_002 Periodic reports
% Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 11:10:53 AM - 11:20:53 AM
100
90
80
70
60
50
40
30
20
10
0
20 30 40 50 60 70 80 90 100 110 120 130 140 dB
L1 = 77.3 dB
L5 = 59.2 dB
L10 = 53.7 dB
L50 = 46.8 dB
L90 = 43.4 dB
L95 = 42.7 dB
L99 = 41.8 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.9%

Site Number: NM-3		
Recorded By: Dennis Dinh, Darshan Shivaiah		
Job Number: 201253		
Date: 5/15/2024		
Time: 11:24 a.m.		
Location: Corner of 225 Santa Rosa Road		
Source of Ambient Noise: Traffic along Santa Rosa Road		
Noise Data		
L_{eq} (dB)	**L_{max}(dB)**	**L_{min} (dB)**
51.3	68.3	41.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**3011133**	**06/04/2023**	
	Microphone	**Brüel & Kjær**	**4189**	**3086765**	**06/04/2023**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**25380**	**06/04/2023**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**06/04/2023**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** Cloudy
	Note: dBA Offset = 0.05		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (inches)**
	4 mph	61	29.89

<u>Photo of Measurement Location</u>



2250

Instrument:		2250
Application:		BZ7225 Version 4.7.6
Start Time:		05/15/2024 11:24:20
End Time:		05/15/2024 11:34:20
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.20

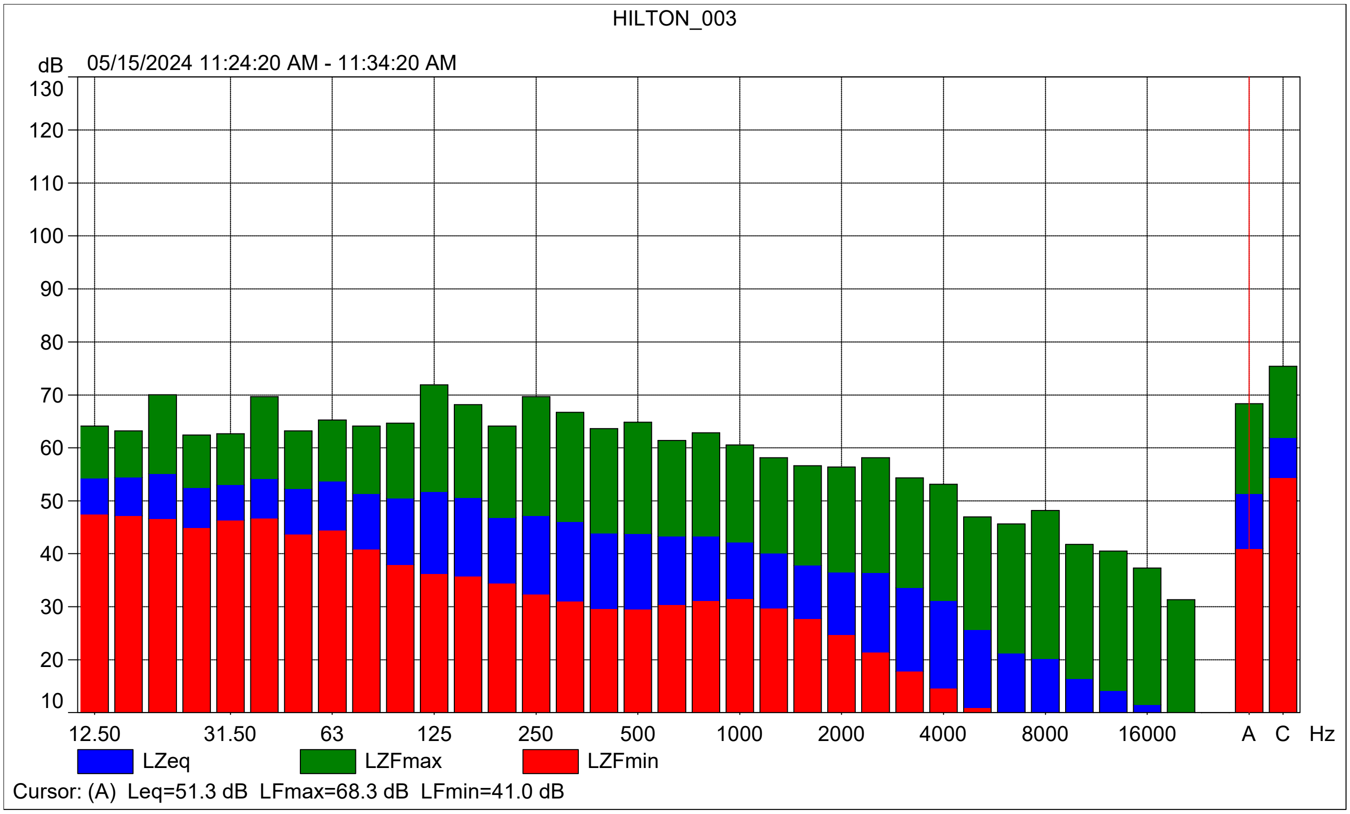
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

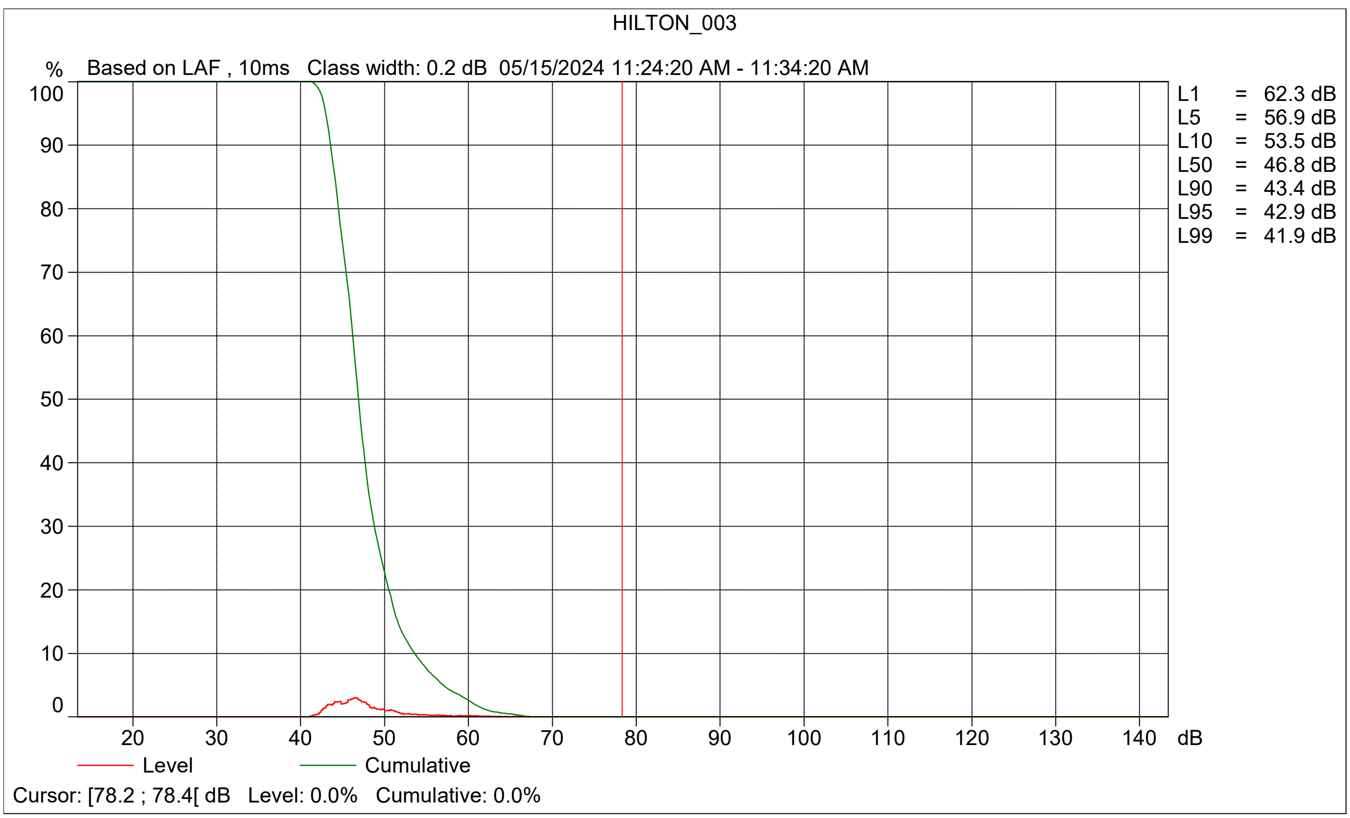
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		05/15/2024 10:56:12
Calibration Type:		External reference
Sensitivity:		43.2036072015762 mV/Pa

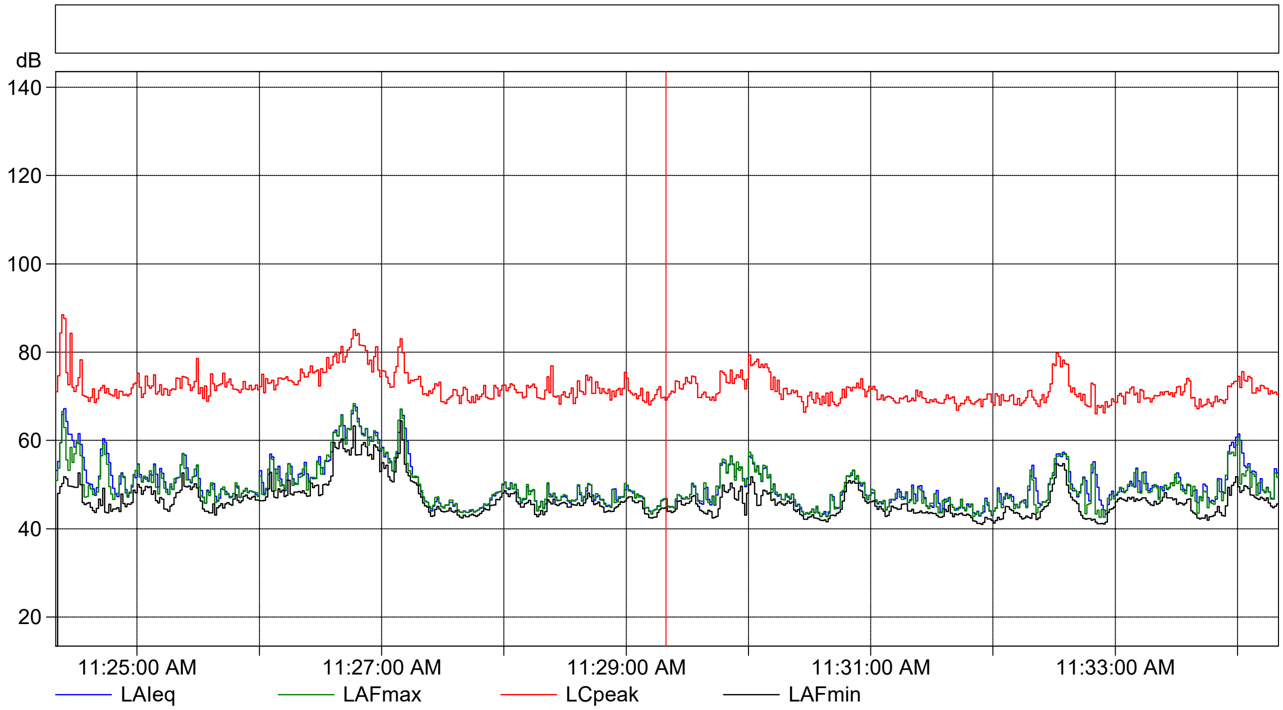
HILTON_003

	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	51.3	68.3	41.0
Time	11:24:20 AM	11:34:20 AM	0:10:00				
Date	05/15/2024	05/15/2024					


HILTON_003
dB 05/15/2024 11:24:20 AM - 11:34:20 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=51.3 dB LFmax=68.3 dB LFmin=41.0 dB


HILTON_003
% Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 11:24:20 AM - 11:34:20 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 62.3 dB
L5 = 56.9 dB
L10 = 53.5 dB
L50 = 46.8 dB
L90 = 43.4 dB
L95 = 42.9 dB
L99 = 41.9 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%

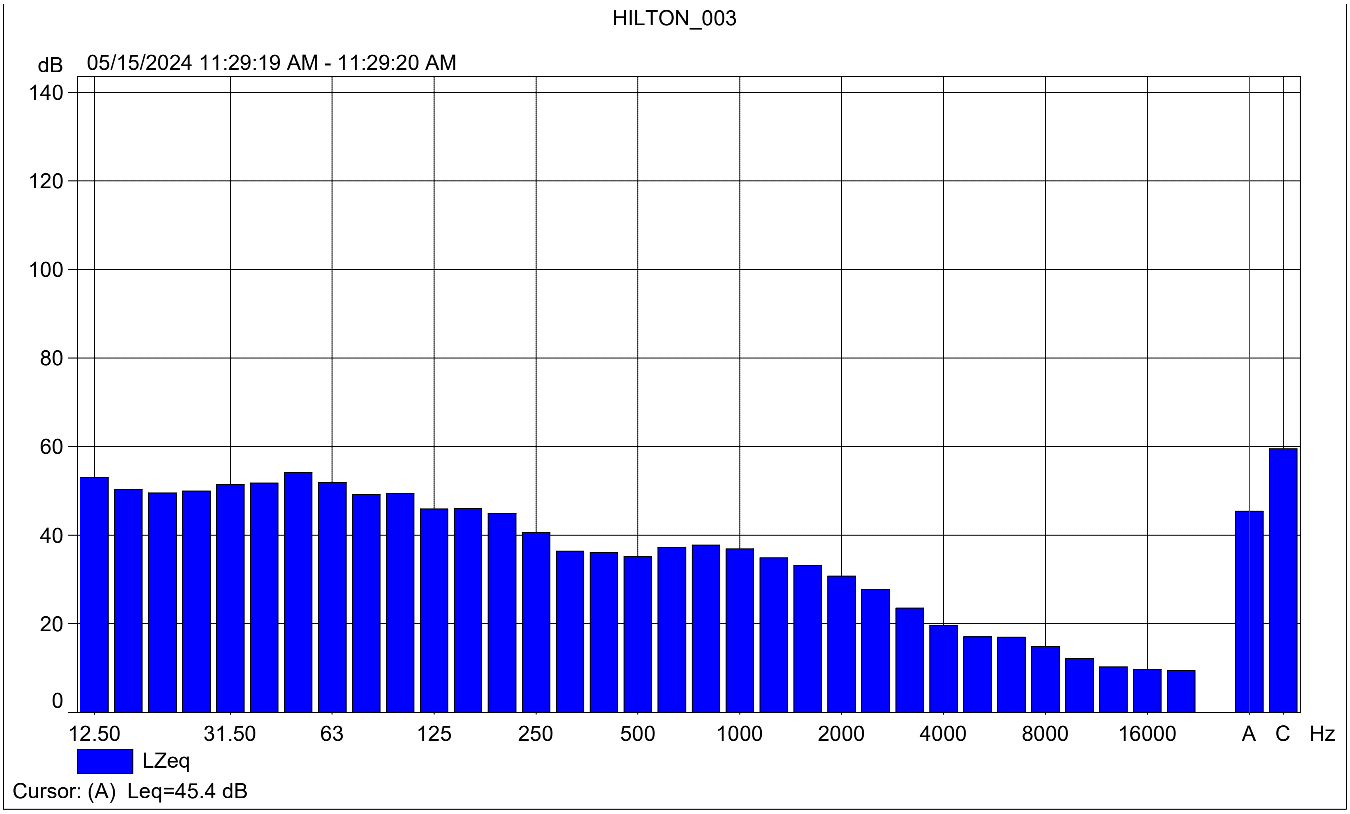
HILTON_003

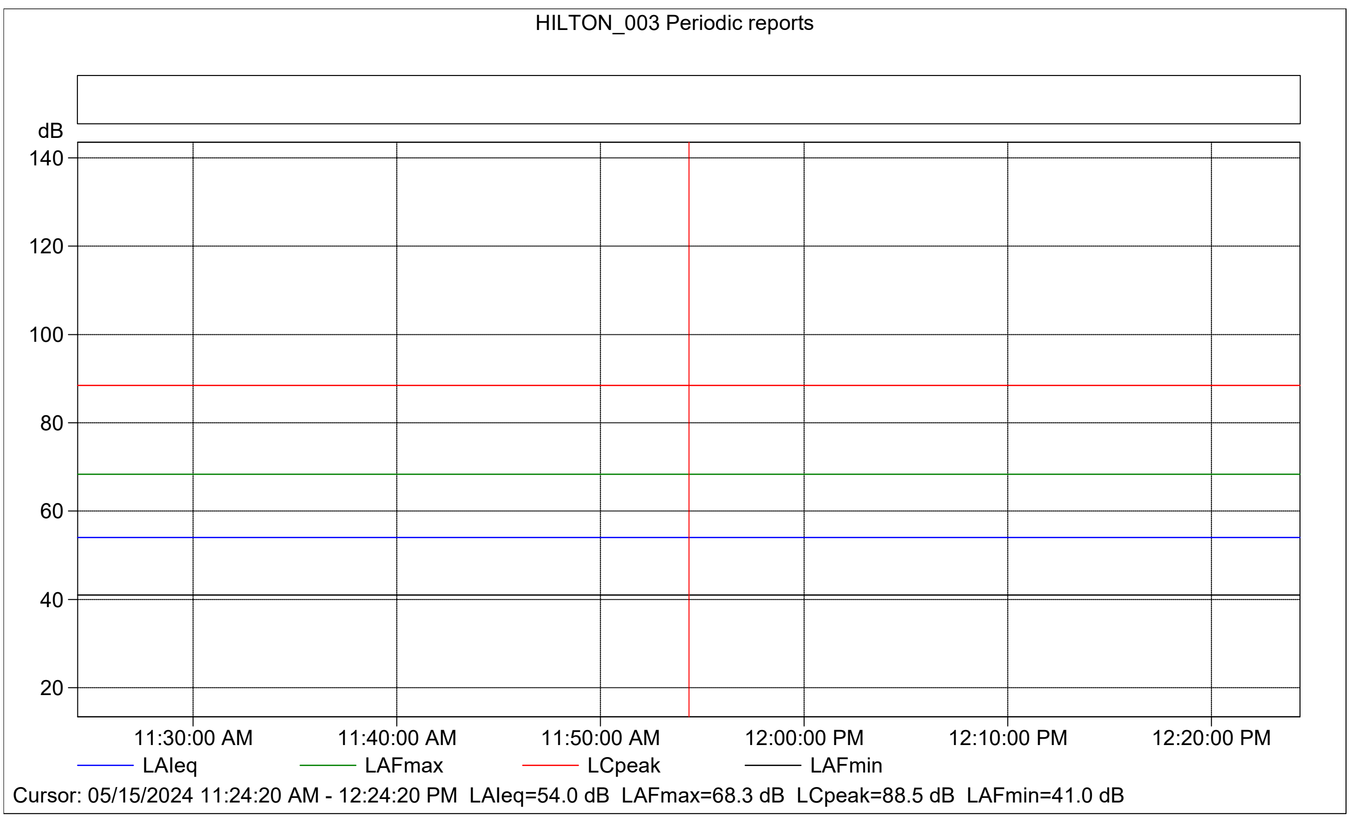


Cursor: 05/15/2024 11:29:19 AM - 11:29:20 AM LAIeq=46.9 dB LAFmax=46.7 dB LCpeak=69.1 dB LAFmin=44.8 dB

HILTON_003

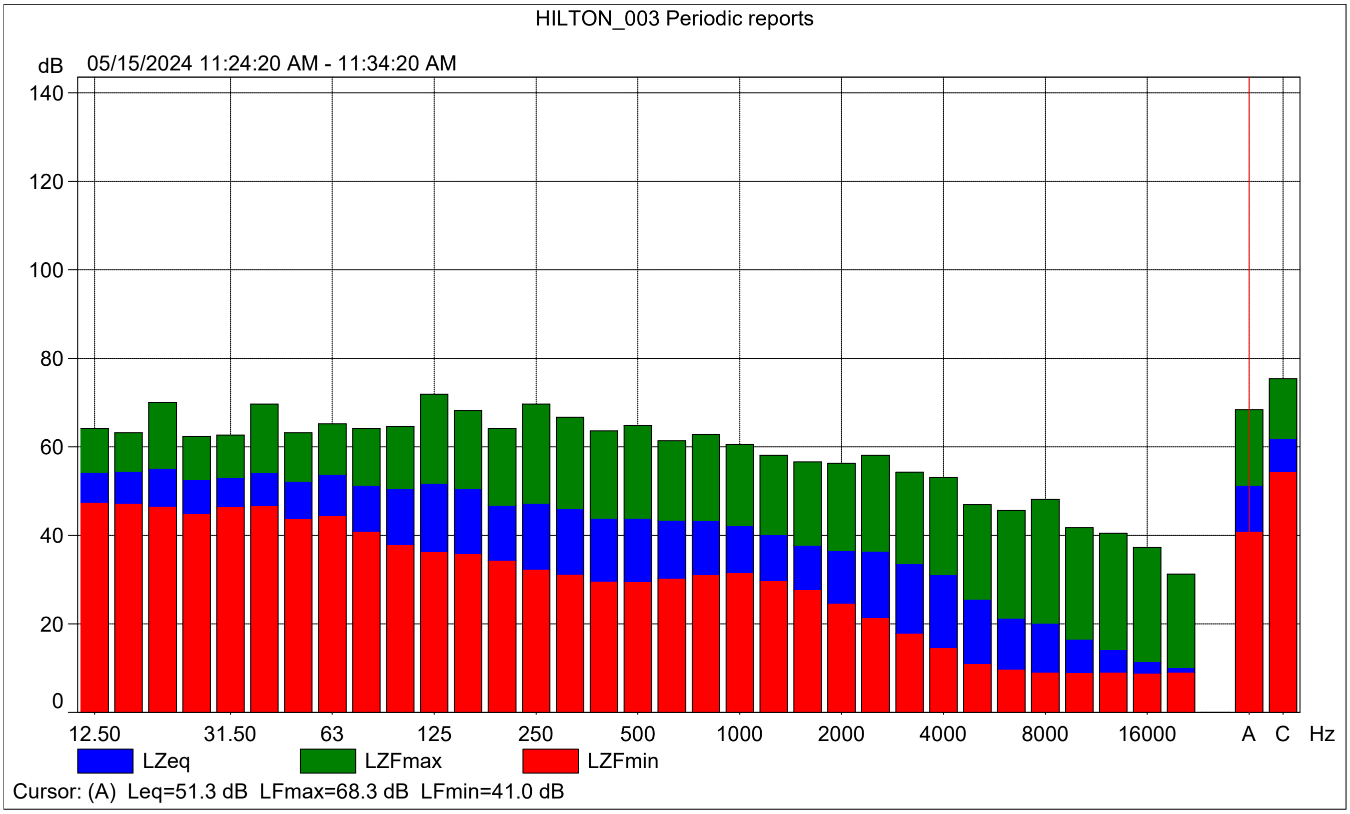
	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	46.9	46.7	44.8
Time	11:29:19 AM	0:00:01				
Date	05/15/2024					

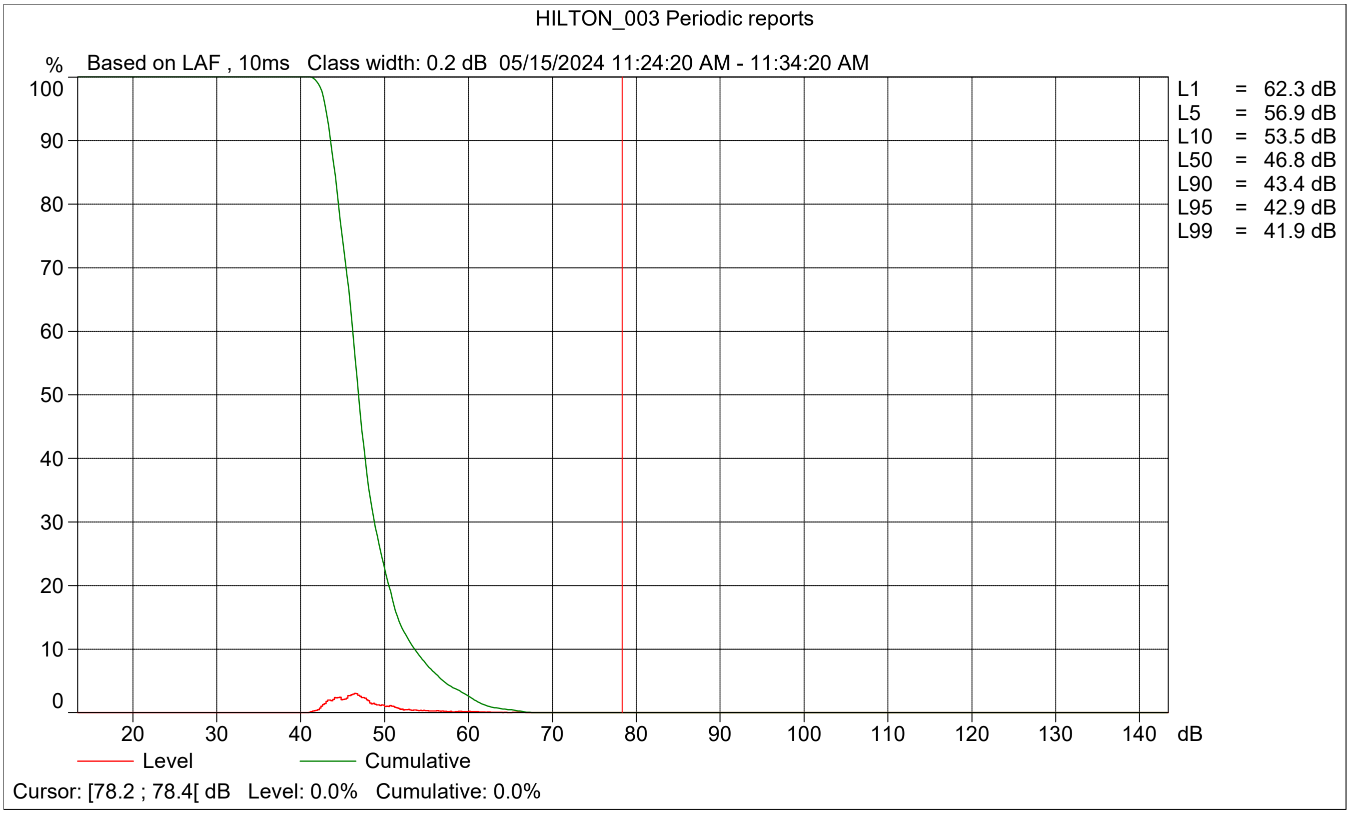

HILTON_003
dB 05/15/2024 11:29:19 AM - 11:29:20 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
Cursor: (A) Leq=45.4 dB


HILTON_003 Periodic reports
dB
140
120
100
80
60
40
20
11:30:00 AM
11:40:00 AM
11:50:00 AM
12:00:00 PM
12:10:00 PM
12:20:00 PM
LAIeq
LAFmax
LCpeak
LAFmin
Cursor: 05/15/2024 11:24:20 AM - 12:24:20 PM LAIeq=54.0 dB LAFmax=68.3 dB LCpeak=88.5 dB LAFmin=41.0 dB

HILTON_003 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	54.0	68.3	41.0
Time	11:24:20 AM	0:10:00				
Date	05/15/2024					




HILTON_003 Periodic reports
% Based on LAF , 10ms Class width: 0.2 dB 05/15/2024 11:24:20 AM - 11:34:20 AM
100
90
80
70
60
50
40
30
20
10
0
20 30 40 50 60 70 80 90 100 110 120 130 140 dB
L1 = 62.3 dB
L5 = 56.9 dB
L10 = 53.5 dB
L50 = 46.8 dB
L90 = 43.4 dB
L95 = 42.9 dB
L99 = 41.9 dB
Level
Cumulative
Cursor: [78.2 ; 78.4[dB Level: 0.0% Cumulative: 0.0%

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 6/6/2024
Case Desc Tempo by Hilton_Grading

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	62	62	62

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		140	0
Dozer	No	40		81.7	140	0
Backhoe	No	40		77.6	140	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	76.1	72.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	72.7	68.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	76.1	74.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 6/6/2024
Case Desc Tempo by Hilton_Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Residential	Residential	62	62	62

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	140	0
Man Lift	No	20		74.7	140	0
Man Lift	No	20		74.7	140	0
Backhoe	No	40		77.6	140	0
Backhoe	No	40		77.6	140	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	71.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	65.8	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Man Lift	65.8	58.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.6	69.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 6/6/2024
Case Desc Tempo by Hilton_Paving

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	62	62	62

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Concrete Mixer Truck	No	40		78.8	140	0
Concrete Mixer Truck	No	40		78.8	140	0
Concrete Mixer Truck	No	40		78.8	140	0
Concrete Mixer Truck	No	40		78.8	140	0
Paver	No	50		77.2	140	0
Roller	No	20		80	140	0
Backhoe	No	40		77.6	140	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	69.9	65.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	69.9	65.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	69.9	65.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	69.9	65.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	68.3	65.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	71.1	64.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	68.6	64.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.1	73.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 6/6/2024
Case Description:

---- Receptor #1 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
Residential	Residential	62	62	62

			Equipment			
			Spec	Actual	Receptor	Estimated
	Impact		Lmax	Lmax	Distance	Shielding
Description	Device	Usage(%)	(dBA)	(dBA)	(feet)	(dBA)
Compressor (air)	No	40		77.7	140	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	68.7	64.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

ATTACHMENT G: TRANSPORTATION IMPACT ANALYSIS

TRANSPORTATION IMPACT ANALYSIS

Tempo by Hilton

PREPARED FOR:

City of Arcadia
240 W. Huntington Drive
P.O. Box 60021
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September 24, 2024

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APPENDICES

1 EXECUTIVE SUMMARY

This study analyzes the forecast traffic conditions associated with the proposed development of the Tempo by Hilton (Project) located on the northeast corner of Colorado Place and San Juan Drive in the City of Arcadia. The Project proposes to construct a hotel comprised of 91 rooms on approximately 5-acre site. Vehicular access to the site will be provided via Colorado Place and San Juan Drive. The Project is anticipated to be completed in Year 2026. The Project is forecast to generate approximately 563 new daily trips with 38 new trips during the AM peak hour (21 inbound and 17 outbound) and 39 new trips during the PM peak hour (20 inbound and 19 outbound).

1.1 LEVEL OF SERVICE ANALYSIS RESULTS

This study evaluates traffic conditions that include AM and PM peak hour intersections level of service (LOS) analysis. According to the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Services Assessment,* dated August 2020, the City has identified LOS D as the threshold for acceptable operating conditions for intersections and roadway segments.

Existing Conditions - The results of the Existing conditions analysis show that all study intersections currently operate at acceptable LOS D or better.

Existing Plus Project Conditions – The results of the Existing Plus Project conditions analysis shows that all study intersections operate at acceptable LOS D or better.

Opening Year 2026 Without Project Conditions – The results of the Opening Year 2028 Without Project conditions analysis shows that all study intersections currently operate at acceptable LOS D or better with the exception of the following intersection:

- Santa Anita Avenue & Huntington Drive (Int. 5) LOS E in AM Peak Hour

Opening Year 2026 Plus Project Conditions - With the addition of project-related traffic, all study intersections continue to operate at acceptable LOS D or better for the Opening Year 2026 Plus Project conditions the exception of the following intersections:

- Santa Anita Avenue & Huntington Drive (Int. 5) LOS E in AM Peak Hour

Santa Anita Avenue and Huntington Drive continues to operate at LOS E during the AM peak hour with the addition of project-related traffic. However, the change in V/C ratio with Project traffic does not exceed the City's threshold. Therefore, improvements are **not** required at the signalized intersection of Santa Anita Avenue & Huntington Drive.

1.2 VEHICLE MILES TRAVELED

To satisfy California Environmental Quality Act (CEQA), a Vehicle Miles Traveled (VMT) screening assessment and analysis was prepared for the Project, refer to Chapter 7 in this report. Based on the City's guidelines, land use projects that meet certain vehicle miles traveled (VMT) screening threshold criteria based on size, location, proximity to transit or trip-making potential may be presumed to have a less than significant transportation impact under CEQA and does not require a full detailed VMT analysis. It was determined that the Project meets the "Project Type" screening criteria. Therefore, the Project is considered to have a less than significant VMT impact on the environment.

2 INTRODUCTION

This study analyzes the forecast traffic conditions associated with the proposed Project located on northeast corner of Colorado Place and San Juan Drive in the City of Arcadia, refer to **Exhibit 1**, *Regional Vicinity Map*. Surrounding cities include Sierra Madre to the north, Pasadena to the west, Monrovia to the east, and El Monte to the south.

The project site is bound by Colorado Place to the south, San Juan Drive to the west, and Santa Clara Street to the east; refer to **Exhibit 2** showing the Project Location Map. Regional access to the site is provided via Interstate 210. Local access is provided via Santa Anita Avenue and Huntington Drive. The Project plans to construct a four-story hotel project comprised of 91 rooms on approximately 5 acres. The Project is anticipated to be fully constructed in Year 2026. According to the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition), the proposed Project is forecast to generate approximately 563 new daily trips with 38 new trips during the AM peak hour (21 inbound and 17 outbound) and 39 new trips during the PM peak hour (20 inbound and 19 outbound).

2.1 STUDY AREA

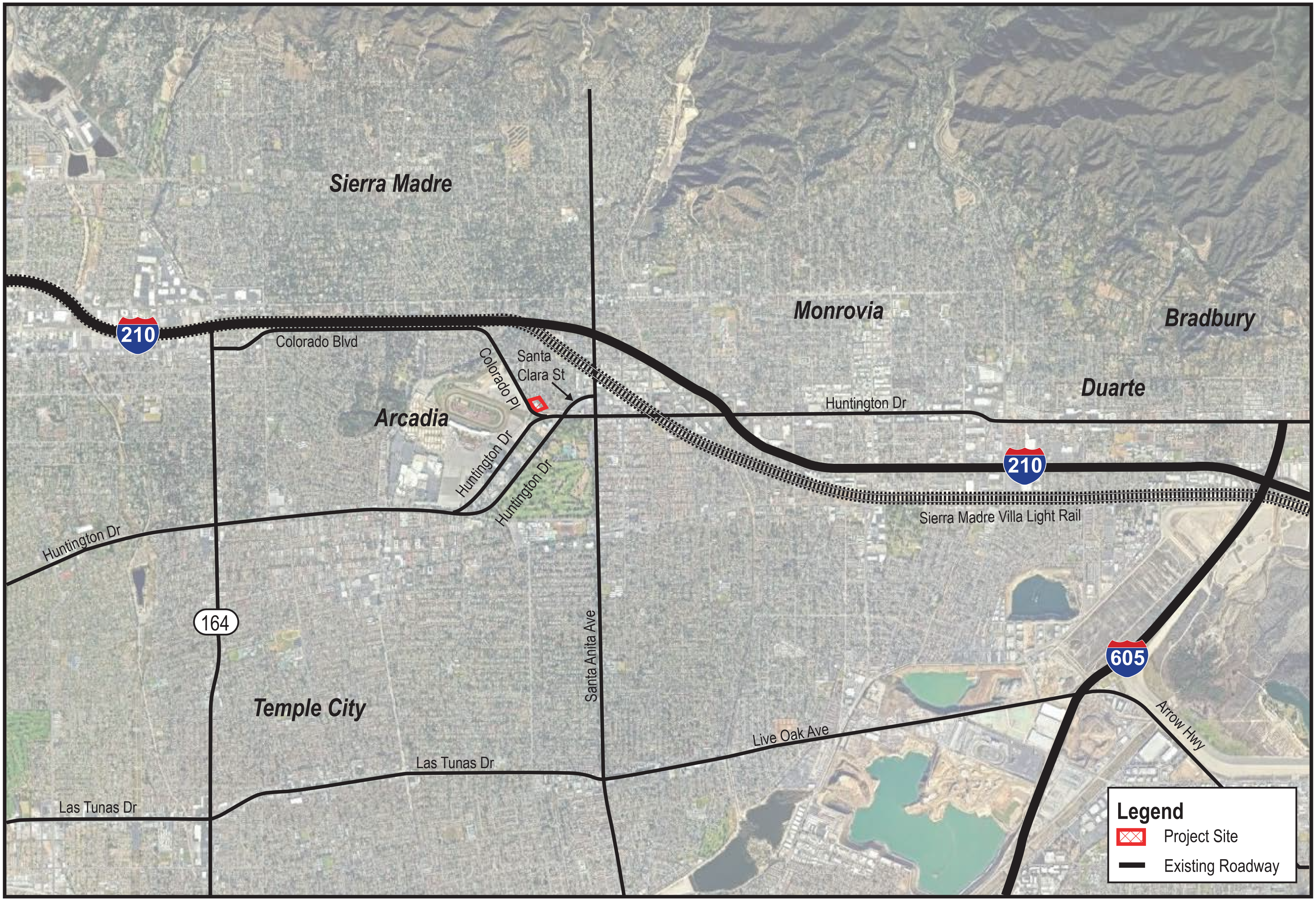
The study evaluates the following five (5) intersections during the AM and PM peak hours in the vicinity of the project site:

1. Colorado Place and San Juan Drive (One-Way Stop Control)
2. Project Driveway #1 & San Juan Drive (Planned One-Way Stop Control)
3. Project Driveway #2 & Colorado Place (Planned One-Way Stop Control)
4. Colorado Place & Project Driveway #3 (One-Way Stop Control)
5. Santa Anita Avenue and Huntington Drive (Signlaized Intersection)

Exhibit 3 shows the study locations. These five (5) study intersections have been identified in coordination with City staff as potential locations impacted by the proposed Project. These study locations are analyzed for the following conditions:

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year 2026 Without Project Conditions
- Opening Year 2026 Plus Project Condition

Michael Baker reviewed the study area, trip generation estimates, trip distribution, and other assumptions with City staff per the TIA Scoping Agreement contained in **Appendix A**.



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June 2024
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Regional Vicinity

Exhibit 1

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Project Location Map

June 2024
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Exhibit 2

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Not to Scale

Study Area

Exhibit 7

Sept. 2024

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3 PROJECT DESCRIPTION AND LOCATION

This study analyzes the forecast traffic conditions associated with the Project located on the northeast corner of Colorado Place and San Juan Drive in the City of Arcadia. The Project proposes to construct a hotel comprised of 91 rooms on approximately 5-acre site. Vehicular access to the site will be provided via a full access driveway on Colorado Place and a full access driveway on San Juan Drive. The majority of parking for the Project will be provided in the existing parking structure east of the site. The proposed hotel will share the existing driveway on San Juan Drive with the medical buildings, and will permanently close the diveway that was used for the previous restaurant use. The Project is anticipated to be completed in Year 2026. **Exhibit 4** shows the proposed site plan.

3.1 SURROUNDING ROADWAY NETWORK

The characteristics of the roadway system in the vicinity of the project site are described below:

Colorado Place is a four-lane undivided roadway trending in the east-west direction with left turn lanes provided at roadways and driveways along the corridor. Colorado Place is classified as a Primary Arterial within the study area per the City's General Plan. Within the study area, there are no bike lanes on either side of the road. Sidewalks are provided on the north side of the street. The posted speed limit is 40 MPH.

San Juan Drive is a two-lane undivided roadway trending in the north-south direction. San Juan Drive is classified as a local road per the City's General Plan. Sidewalks are provided on both sides of the street with no bicycle facilities within the study area. The posted speed limit is 25 MPH.

Huntington Drive: is classified as a one-way Major Arterial with three lanes going both directions. Huntington Drive goes one-way in the northbound direction and one-way in the southbound direction. Sidewalks are provided intermittently on both sides of the street and on-street parking is not permitted. The posted speed limit is 55 MPH. There are existing bike lanes on both sides of the street.

Santa Anita Avenue: is a four-lane divided roadway trending in the north-south direction. Santa Anita Avenue is classified as a Primary Arterial within the study area per the City's General Plan. Within the study area, there are no bike lanes on either side of the road. Sidewalks are provided on the north side of the street. The posted speed limit is 35 MPH.

Exhibit 5 shows the City's Roadway Network per the adopted General Plan.

Source: DesignCell Architecture 03/08/24

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Proposed Site Plan

Exhibit 4

June 2024

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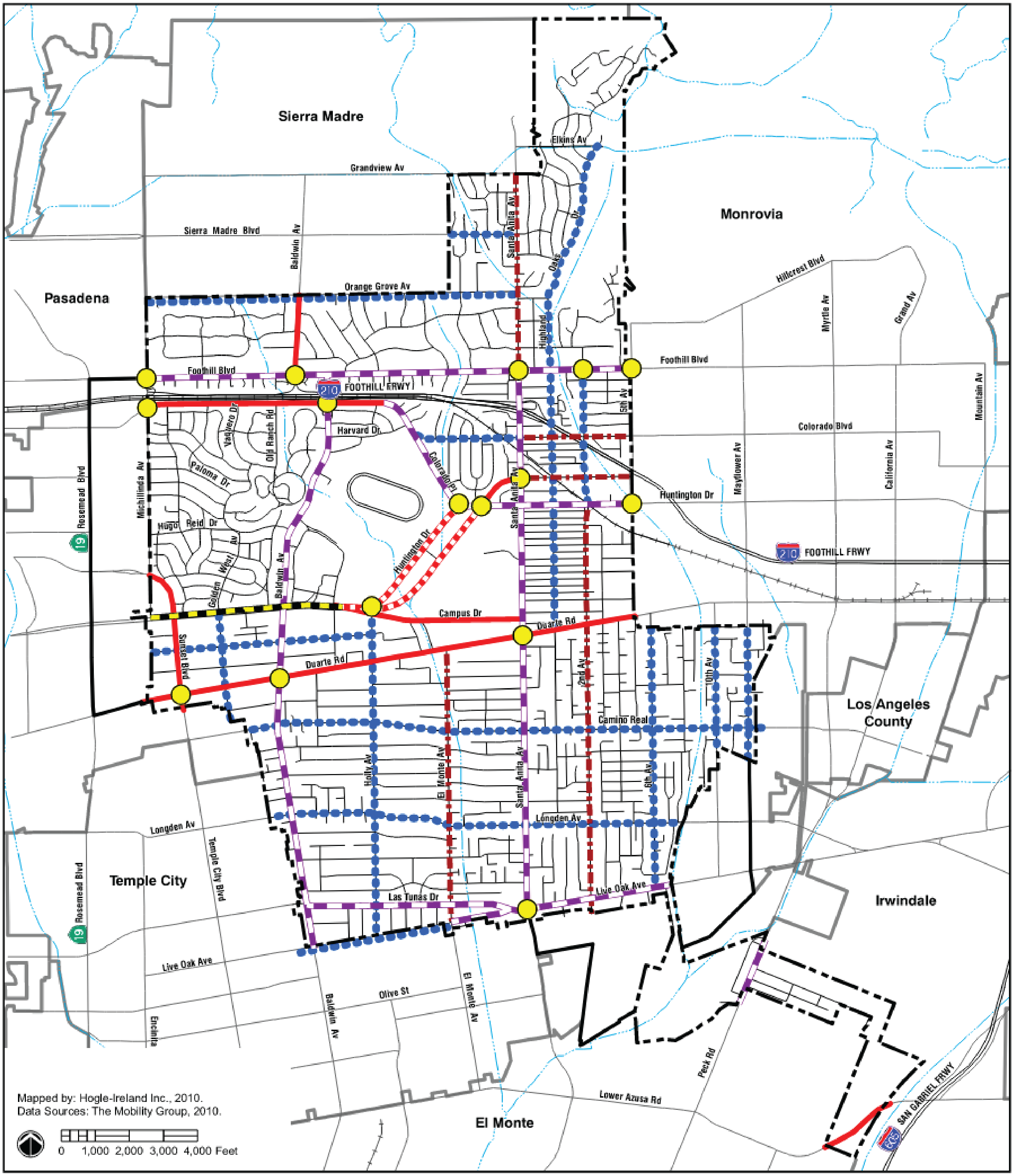

Roadway Plan

- Major Arterial
- Major Arterial 1-Way
- Primary Arterial
- Secondary Arterial
- Enhanced Collector
- Collector
- Enhanced Intersection Location

Base Map Features

- City Boundary
- Sphere of Influence
- Freeway
- Local Road
- Railroad
- Water Feature

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Circulation Element

Exhibit 5

June 2023
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4 METHODOLOGY AND THRESHOLDS

As required by the City of Arcadia, this Transportation Impact Analysis (TIA) has been prepared in accordance with the *City of Arcadia's Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment Guidelines revised August 2020* (City Guidelines).

4.1 INTERSECTION ANALYSIS METHODOLOGY

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on traffic control and experienced delay at the intersection. The intersection analysis conforms to the operational analysis methodology outlined the *Highway Capacity Manual (HCM 6th Edition)* and performed utilizing *Synchro 11* traffic analysis software.

The *HCM* analysis methodology describes the operation of an intersection using a range of level of service from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for study intersections as shown in **Table 1**.

For signalized intersections, the Intersection Capacity Utilization (ICU) methodology was used. The ICU technique is intended for signalized intersection analysis and estimates the volume to capacity (V/C) relationship for an intersection based on the individual V/C ratios for key conflicting traffic movements. The ICU value translates to a LOS estimate, which is a relative measure of the intersection performance. The ICU value is the sum of the critical V/C ratios at an intersection. Table 1 includes the ICU value range.

Unsignalized intersection LOS for all-way stops and roundabouts is based on the average vehicle delay for all approaches. Average vehicle delay for one-way or two-way stop-controlled intersections is influenced by available gaps in traffic flow on the non-controlled approaches and LOS is based on the approach with the worst delay.

TABLE 1 - LEVEL OF SERVICE, ICU & DELAY RANGE

Level of Service	ICU (v/c ratio)	Delay (sec/veh)	Description
	Signalized Intersections	Unsignalized Intersections	
A	≤0.600	≤10.0	EXCELLENT. Operations with very low delay and most vehicles do not stop.
B	>0.600 and ≤0.700	>10.0 and ≤15.0	VERY GOOD. Operations with good progression but with some restricted movements.
C	>0.700 and ≤0.800	>15.0 and ≤25.0	GOOD. Operations where a significant number ofvehicles are stopping with some backup and lightcongestion.
D	>0.800 and ≤0.900	>25.0 and ≤35.0	FAIR. Operations where congestion is noticeable,longer delays occur, and many vehicles stop. The proportion of vehicles not stopping declines.
E	>0.900 and ≤1.000	>35.0 and ≤50.0	POOR. Operations where there is high delay, extensive queueing, and poor progression
F	>1.000	>50.0	FAILURE. Operations that are unacceptable to mostdrivers, when the arrival rates exceed the capacityof the intersection.

Source: HCM 2000

4.2 LEVEL OF SERVICE ANALYSIS PERFORMANCE STANDARDS

The City of Arcadia has identified LOS “D” as the threshold for acceptable operating conditions for intersections as established in the City’s General Plan. LOS E is considered acceptable at intersections adjacent to freeway ramps; adjacent to Santa Anita Park during the racing season. Any intersection operating at an LOS grade worse than the acceptable condition is considered deficient. Signalized intersections will require improvements if one of the following conditions is met:

- LOS C - Project V/C increase 0.04 or more
- LOS D - Project V/C increase 0.02 or more
- LOS E/F - Project V/C increase 0.01 or more

Unsignalized intersections will require improvements if both of the following conditions is met:

- The addition of project traffic to an intersection results in the degradation of overall intersection operations from acceptable operations to unacceptable operations, and

- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on the latest California Manual on Uniform Traffic Control Devices (CA MUTCD).

The fair share cost for the proposed improvements in the cumulative condition should also be calculated.

Fees paid through the City of Arcadia Transportation Impact Fee Program (TIFP) will be considered sufficient if the intersection improvement is identified as a planned project in the General Plan.

5 LOS ANALYSIS

This chapter of the report documents the vehicle trips estimated to be generated by the Project and results of the intersection analysis under Existing, Existing Plus Project, Opening Year 2026 Without Project and Opening Year 2026 Plus Project conditions.

5.1 PROJECT FORECAST TRIP GENERATION

In order to calculate vehicle trips forecast to be generated by the proposed Project, the *Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition)* was used to calculate the trip generation rates as summarized in **Table 2** utilizing the fitted curve equations which are based on the proposed land use quantity. ITE's hotel trip generation rates align were used to estimate the Project's daily and peak hour trips during a typical weekday.

Table 3 summarizes the vehicular trip generation forecast to be generated by the Project using the rates shown in **Table 2**. The site is currently vacant and undeveloped, therefore, a trip generation credit has not been applied. As shown, the proposed Project is forecast to generate approximately 563 daily vehicle trips with 38 AM peak hour trips (21 in / 17 out) and 39 PM peak hour trips (20 in / 19 out).

TABLE 2- ITE TRIP GENERATION RATES

Land Use	ITE Code [1]	Daily Trip Rate	AM Peak Hour Rate		PM Peak Hour Rate	
			Total	In : Out	Total	In : Out
Hotel	310	T = 10.84(X) - 423.51	T = 0.50(X) - 7.45	56% : 44%	T = 0.74(X) - 27.89	51% : 49%

[1] Source: ITE Trip Generation Manual, 11th Edition. Rates shown are based on fitted curve equation.

TABLE 3 - PROPOSED PROJECT TRIP GENERATION

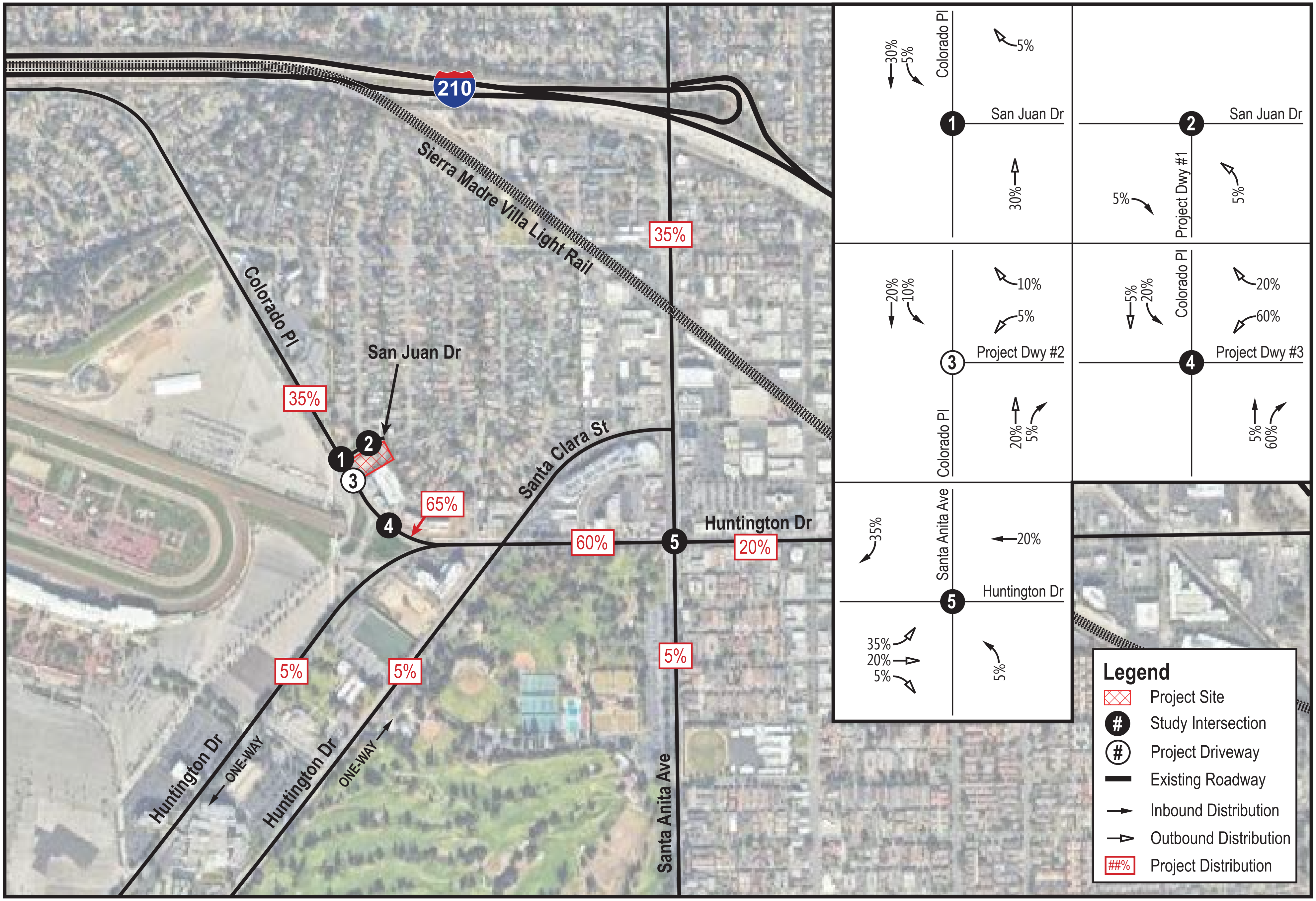
Land Use	Intensity		Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				Total	In	Out	Total	In	Out
Proposed Project									
Hotel	91	Rooms	563	38	21	17	39	20	19

5.2 TRIP DISTRIBUTION AND TRIP ASSIGNMENT OF PROPOSED PROJECT

Project trips were assigned onto the surrounding roadway network based on the location of the Project relative to the area transportation network such as access to freeway interchange and primary arterials.

Exhibit 6 shows the forecast trip percent distribution of the proposed Project within the study area. As shown, 65% of project-related traffic is expected to travel east via Colorado Place, 35% to the west via Colorado Place, 35% to the north via Santa Anita Avenue towards the I-210 interchange.

Exhibit 7 shows the corresponding forecast assignment of AM and PM peak hour project-generated trips assuming the trip percent distribution shown in Exhibit 8.



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Project Trip Distribution

Exhibit 6

Sept. 2024

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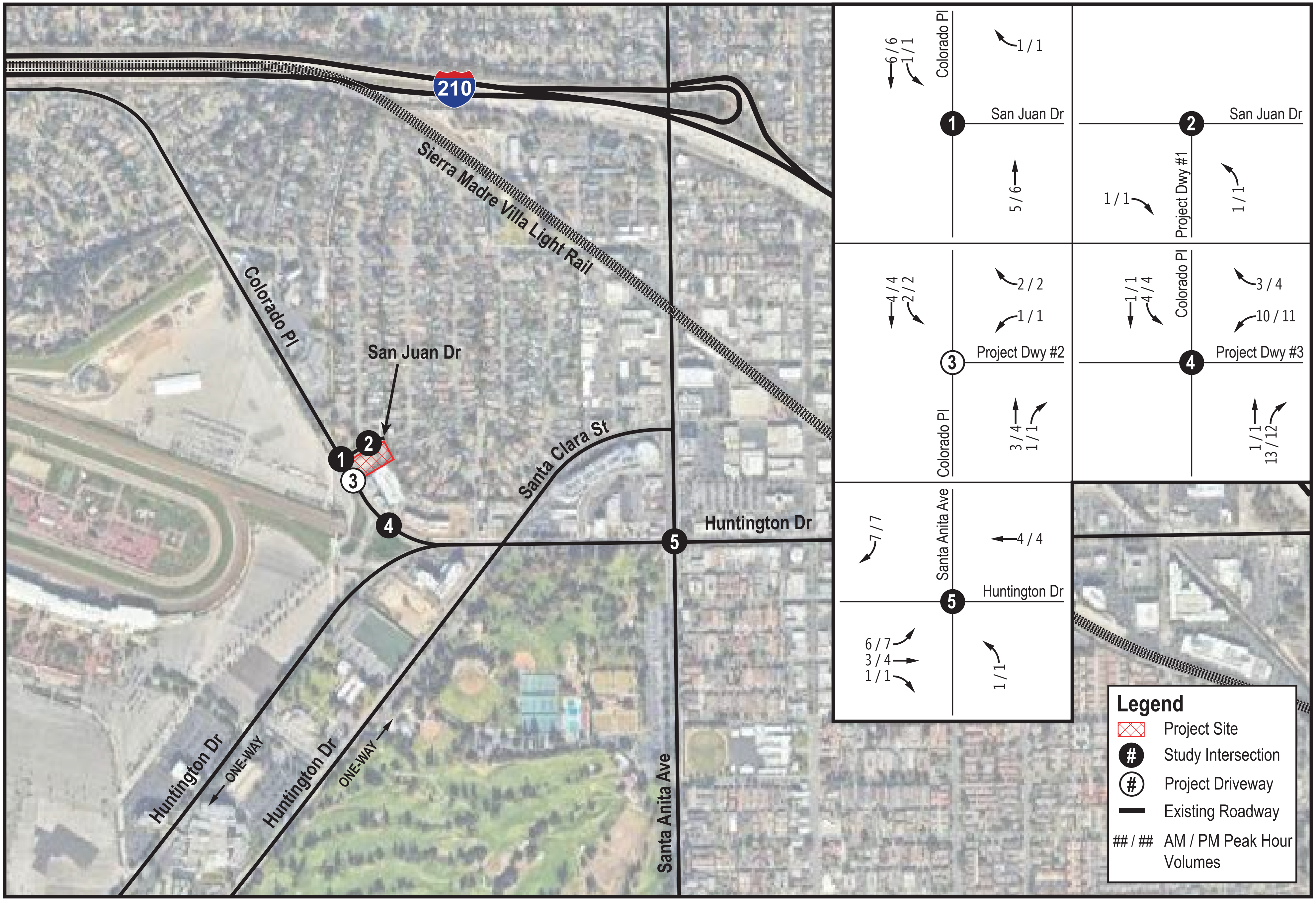

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Project Trip Assignment

Exhibit 7

Sept. 2024

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5.3 EXISTING CONDITIONS

5.3.1 Existing Public Transit Services

Public bus transit service in the project vicinity Is currently provided by the Metropolitan Transportation Authority (Metro), Foothill Transit, and Arcadia Transit.

Metro provides bus transit service near the project site along Hunitington Drive and Santa Anita Avenue. Metro currently operates two local Metro bus transit routes in the vicinity of the project site. Foothill Transit provides bus transit service along major roadways near the project study area along Huntington Drive and Santa Anita Avenue. Foothill Transit currently operates one transit route near the project site.

5.3.2 Existing Traffic Volumes

To determine the existing operations of the study intersections, peak hour intersection movement counts were collected onTuesday May 21st, 2024. Morning (AM) peak period counts were collected between 7:00 AM to 9:00 AM and evening (PM) peak period counts were collected from 4:00 PM – 6:00 PM. The counts used in this analysis represent the highest hour within the peak periods counted for each intersection. Detailed count data is contained in **Appendix B**.

Exhibit 8 shows the Existing study intersection lane geometry. **Exhibit 9** shows the Existing daily and AM/PM peak hour volumes at the study intersections.

5.3.3 Existing Peak Hour Study Intersection LOS

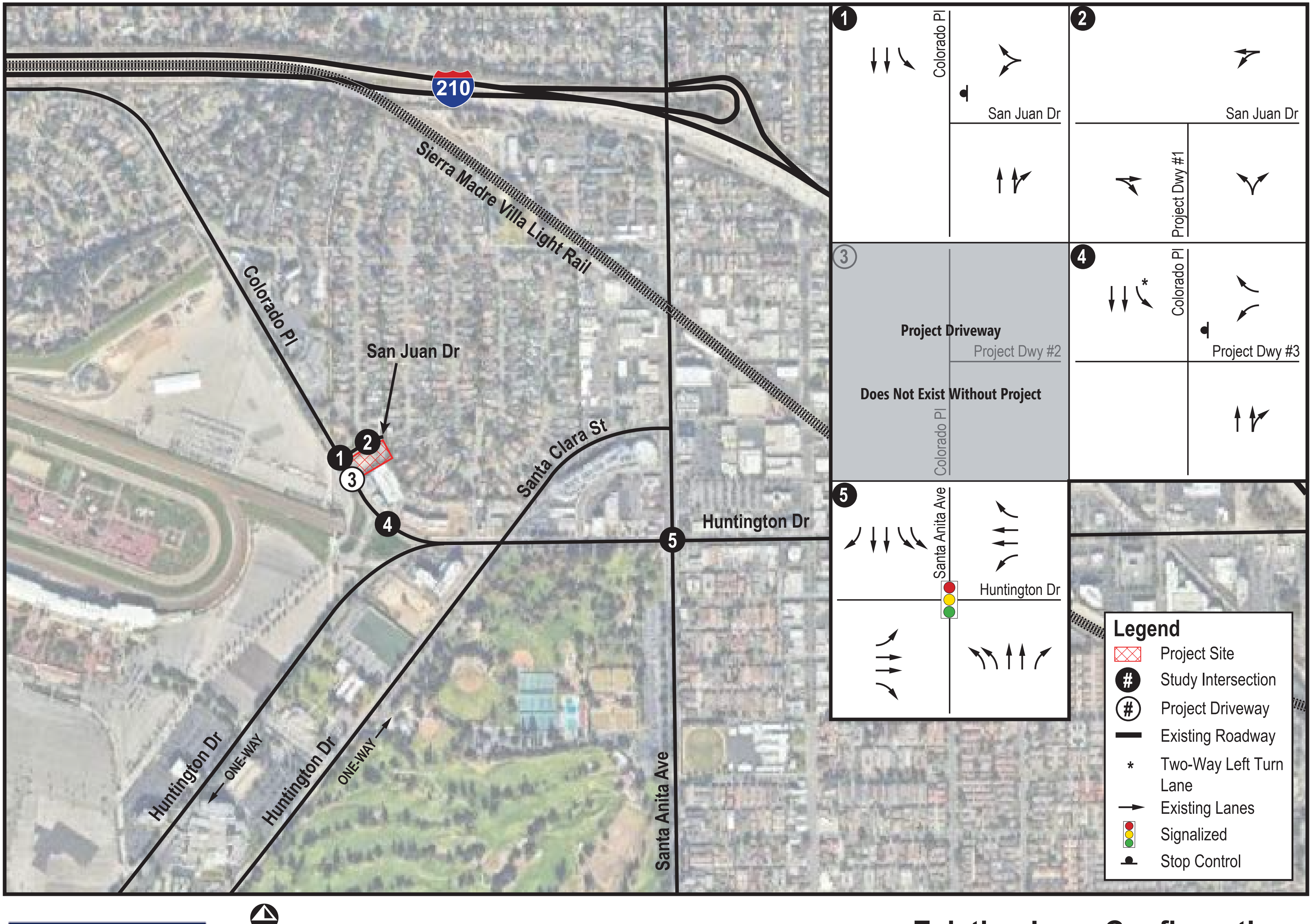
Table 3 summarizes Existing conditions AM/PM peak hour level of service for all study intersections. Detailed analysis sheets are contained in **Appendix C**.

TABLE 3 – EXISTING AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Existing Conditions	
		AM	PM
		Delay[1] - LOS	Delay[1] - LOS
1 - Colorado Place & San Juan Drive	OWSC	26.7 - D	12.6 - B
2 - Project Driveway #1 & San Juan Drive	OWSC	8.9 - A	8.7 - A
3 - Project Driveway #2 & Colorado Place	OWSC	*Does not existing without project*	
4 - Colorado Place & Project Driveway #3	OWSC	21.8 - C	13.1 - B
5 - Santa Anita Avenue and Huntington Drive[2]	Signal	0.818 - C	0.736 - C

Note: Deficient intersection operation indicated in **bold**.
[1] Delay is expressed in seconds per vehicle.
[2] Signalized intersections use ICU methodology and report volume-to-capacity ratios.
LOS = level of service.
OWSC = One Way Stop Control

As shown in **Table 3**, all study intersections are currently operating at an acceptable level of service (D or better under Existing conditions. At Santa Anita Avenue & Huntington Drive (Int. #5), the Intersection Capacity Utilization (ICU) methodology is used for analysis and the volume-to-capacity ratio is reported since this study location is signalized in accordance with the City's TIA Guidelines.



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Existing Lane Configuration

Exhibit 8

Sept. 2024
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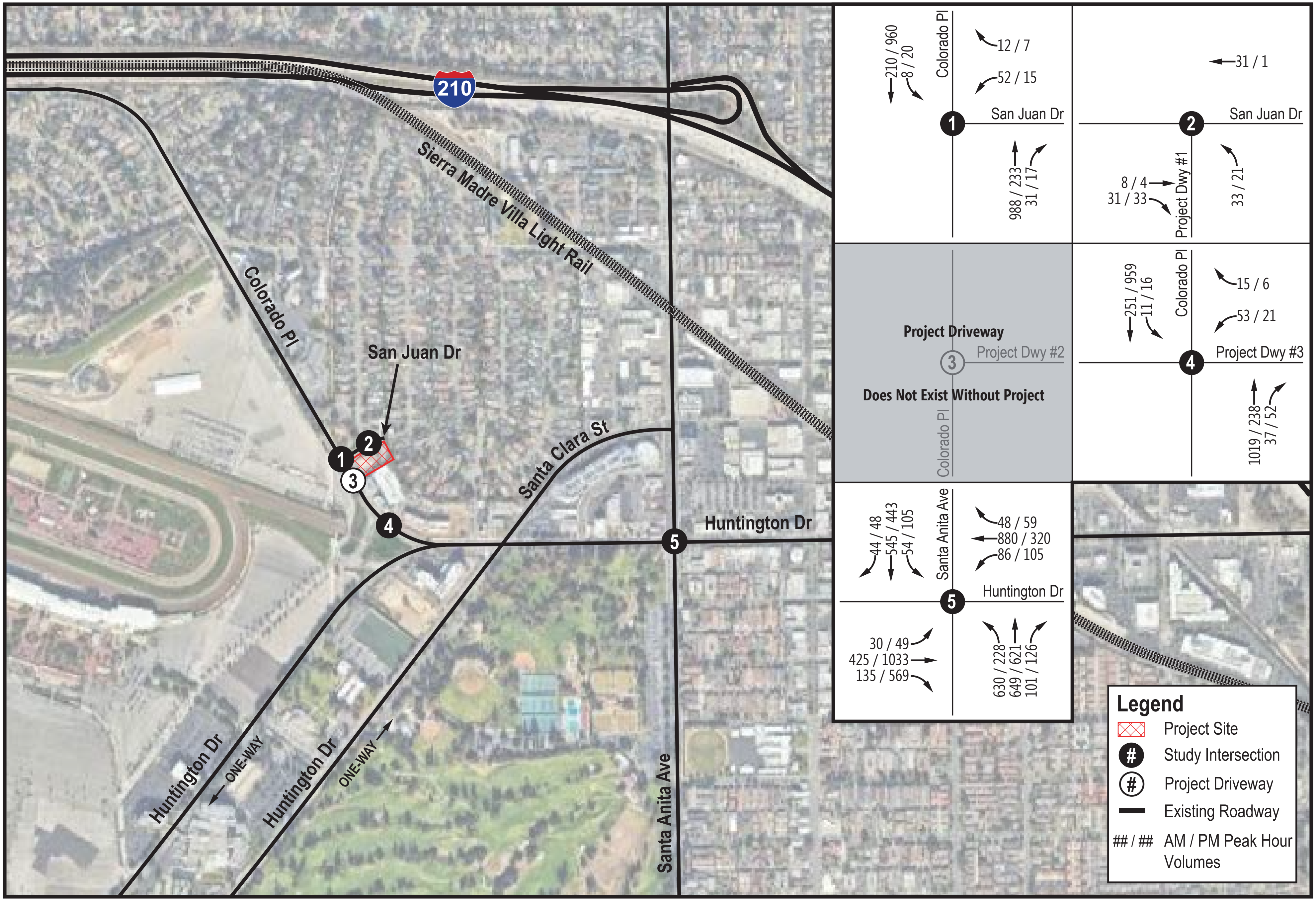

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Not to Scale

Existing AM/PM Peak Hour Volumes

Exhibit 9

Sept. 2024

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5.3.4 Existing Plus Project Conditions

This chapter of the report evaluates the Existing Plus Project conditions for the study intersections. Existing Plus Project traffic volumes were derived by adding Project only daily, AM and PM peak hour traffic volumes to Existing daily, AM and PM peak hour traffic volumes. **Exhibit 10** shows the Existing Plus Project lane configuration and **Exhibit 11** shows the Existing Plus Project daily and AM/PM peak hour volumes at the study intersections.

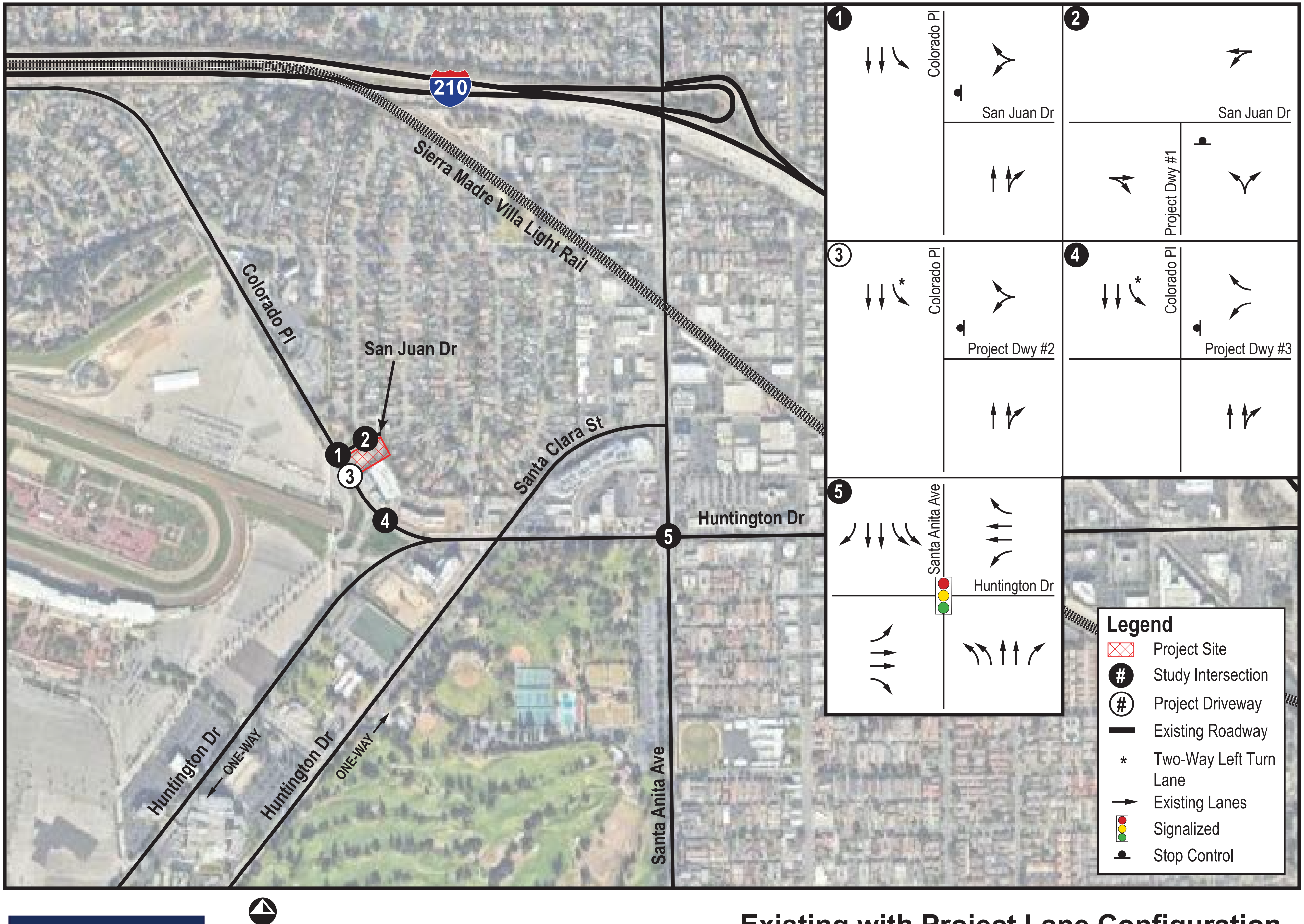
Table 4 compares the Existing Conditions AM/PM peak hour LOS to the Existing Plus Project AM/PM peak hour LOS for all study intersections. Detailed analysis sheets are contained in **Appendix D**.

TABLE 4 - EXISTING & EXISTING PLUS PROJECT AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Existing Conditions		Existing Plus Project Conditions		Change in V/C		Fair Share Required?
	AM	PM	AM	PM			
	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	AM	PM	
1 - Colorado Place & San Juan Drive	26.7 - D	12.6 - B	26.9 - D	12.6 - B	N/A	N/A	No
2 - Project Driveway #1 & San Juan	8.9 - A	8.7 - A	8.9 - A	8.7 - A	N/A	N/A	No
3 - Project Driveway #2 & Colorado Place	*Does not existing without project*		14.9 - B	10.5 - B	N/A	N/A	No
4 - Colorado Place & Project Driveway #3	21.8 - C	13.1 - B	23.0 - C	13.4 - B	N/A	N/A	No
5 - Santa Anita Avenue and Huntington Drive	.818 - C	.736 - C	.820 - C	.737 - A	.002	.001	No

Deficient intersection operation indicated in **bold**.
At Santa Anita Ave & Huntington Dr, the ICU Methology showing V/C ratio is presented.
[1] Delay is expressed in seconds per vehicle for unsignalized intersections.
LOS = level of service.

As shown in **Table 4**, all study intersections are forecast to operate at an acceptable level of service (D or better) under Existing Plus Project Conditions during the AM and PM peak hour. Therefore, no physical improvements to the study intersections are required.



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Existing with Project Lane Configuration

Exhibit 10

Sept. 2024

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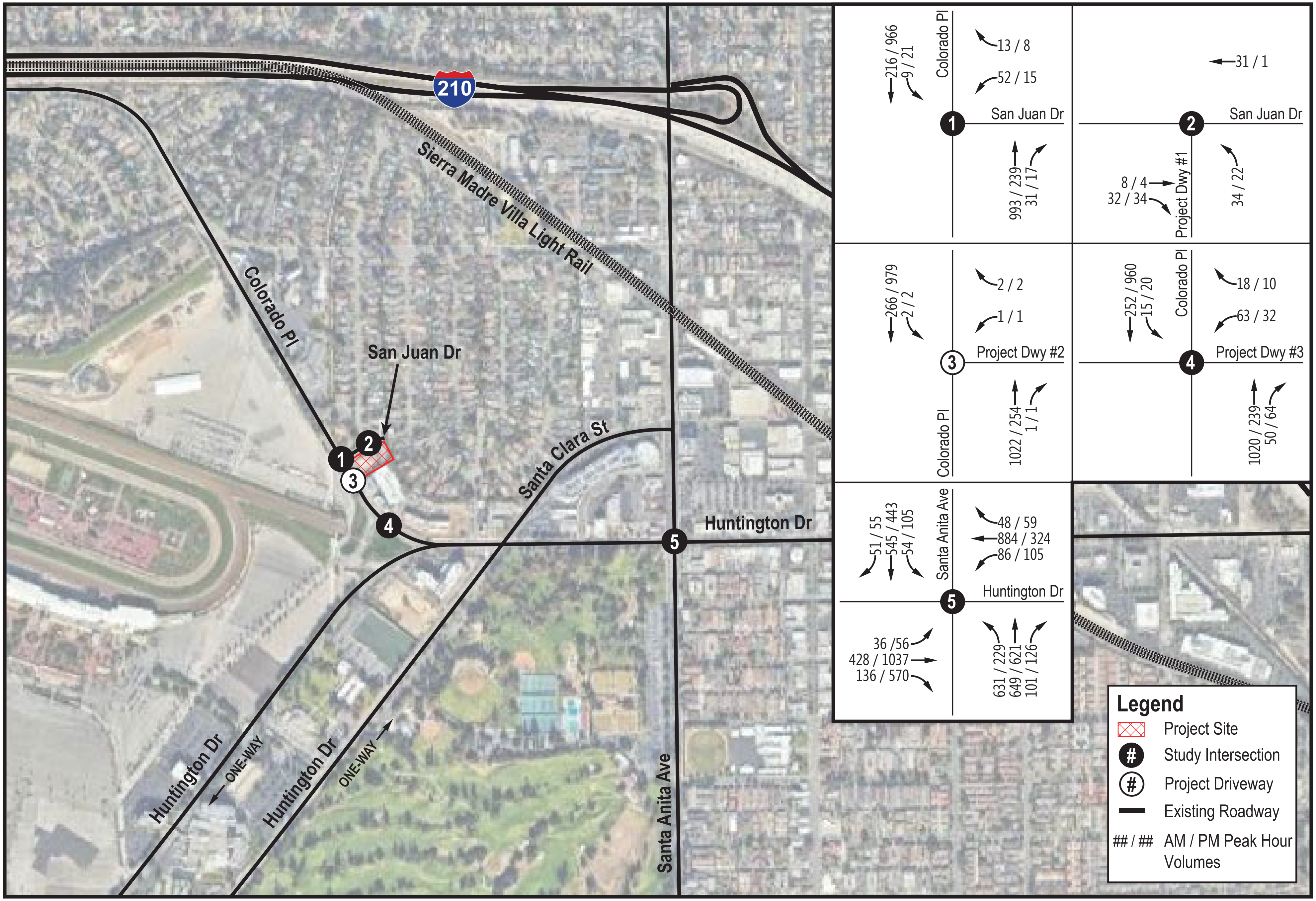

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Existing with Project AM/PM Peak Hour Volumes

Sept. 2024
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Exhibit 11

5.4 OPENING YEAR 2026 WITHOUT PROJECT CONDITIONS

5.4.1 Cumulative Projects

A forecast of on-street traffic conditions prior to the occupancy of the proposed Project was prepared by incorporating the potential trips associaterd with other known development projects (cumulative projects) in the area. With this information, the potential impact of the proposed Project can be evaluated within the context of the cumulative impact of all ongoing development.

Based on consultation with City staff and review of the *Transportation Impact Analysis for 125 W. Huntington Drive, Buildings C & D* dated December 2019, Michael Baker found six cumulative projects that are expected to add project-related traffic to the study intersections.

Table 5 presents the trip generation for the six cumulative projects using ITE's Trip Generation. As shown, the cumulative projects are expected to generate a total of 7,540 daily vehicle trips with 772 AM peak hour and 612 PM peak hour trips.

Traffic from these six cumulative projects were distributed onto the roadway network and the study intersections.

TABLE 5 - CUMULATIVE PROJECTS TRIP GENERATION SUMMARY

	Project	Status	Jurisdiction	Land Use	Intensity		ADT	AM Peak Hour			PM Peak Hour		
								Total	In	Out	Total	In	Out
1	323-325 N. 1st Avenue	Approved	Arcadia	Medical Office	5,420	SF	196	13	10	3	19	5	14
				Retail	1,806	SF	77	2	1	1	7	3	4
						Total:	273	15	11	4	26	8	18
2	117-129 E. Huntington Drive/124, 126 & 134 E. Wheeler Avenue	Approved	Arcadia	Apartment	139	DU	924	71	14	57	86	56	30
				Retail	11,150	SF	476	11	7	4	41	20	21
						Total:	1,400	82	21	61	127	76	51
3	405 S. 1st Avenue	Approved	Arcadia	Condominium	4	DU	23	2	0	2	2	1	1
				Retail	585	SF	25	1	1	0	2	1	1
						Total:	48	3	1	2	4	2	2
4	Derby Mixed Use Project 233 & 301 E. Huntington Drive	Pending	Arcadia	Restaruant (932)	3300	SF	354	32	17	15	30	18	12
				Dwelling Units (Multifamily 221)	214	DU	974	83	19	64	84	51	33
				Café (936)	1400	SF	374	130	66	64	45	23	22
						Total:	1,702	245	102	143	159	92	67
5	Alexan Mixed Use Project 150 N. Santa Anita Avenue	Pending	Arcadia	Multifamily residential (221)	319	DU	1,475	129	30	99	125	76	49
				Café (936)	750	SF	200	70	36	34	24	12	12
						Total:	1,675	199	66	133	149	88	61
6	125 Huntington Drive, Buildings C & D	Under Construction	Arcadia	(Trip Gen via LLG TIA)	-	-	2,442	178	73	105	147	104	43
Total Cumulative Project Trips							**7,540**	**722**	**274**	**448**	**612**	**370**	**242**

Note: All volumes are in passenger car equivalents (PCE's)

SF = Square Feet; DU=Dwelling Unit

ADT's for Café (ITE Tripgen Code:936) uses 1/2 of the ADT's from ITETrip Gen Code 937.

5.4.2 Opening Year 2026 Without Project Peak Hour Intersection LOS

Traffic volumes for the Opening Year 2026 Without Project scenario were derived by adding cumulative project traffic to existing plus ambient growth traffic. A 1.0% annual ambient growth rate to account for population, household and employment growth within the City of Arcadia was applied to the existing daily, AM and PM peak hour traffic volumes. Therefore, a total of 2% (2024 to 2026) was applied to existing traffic volumes.

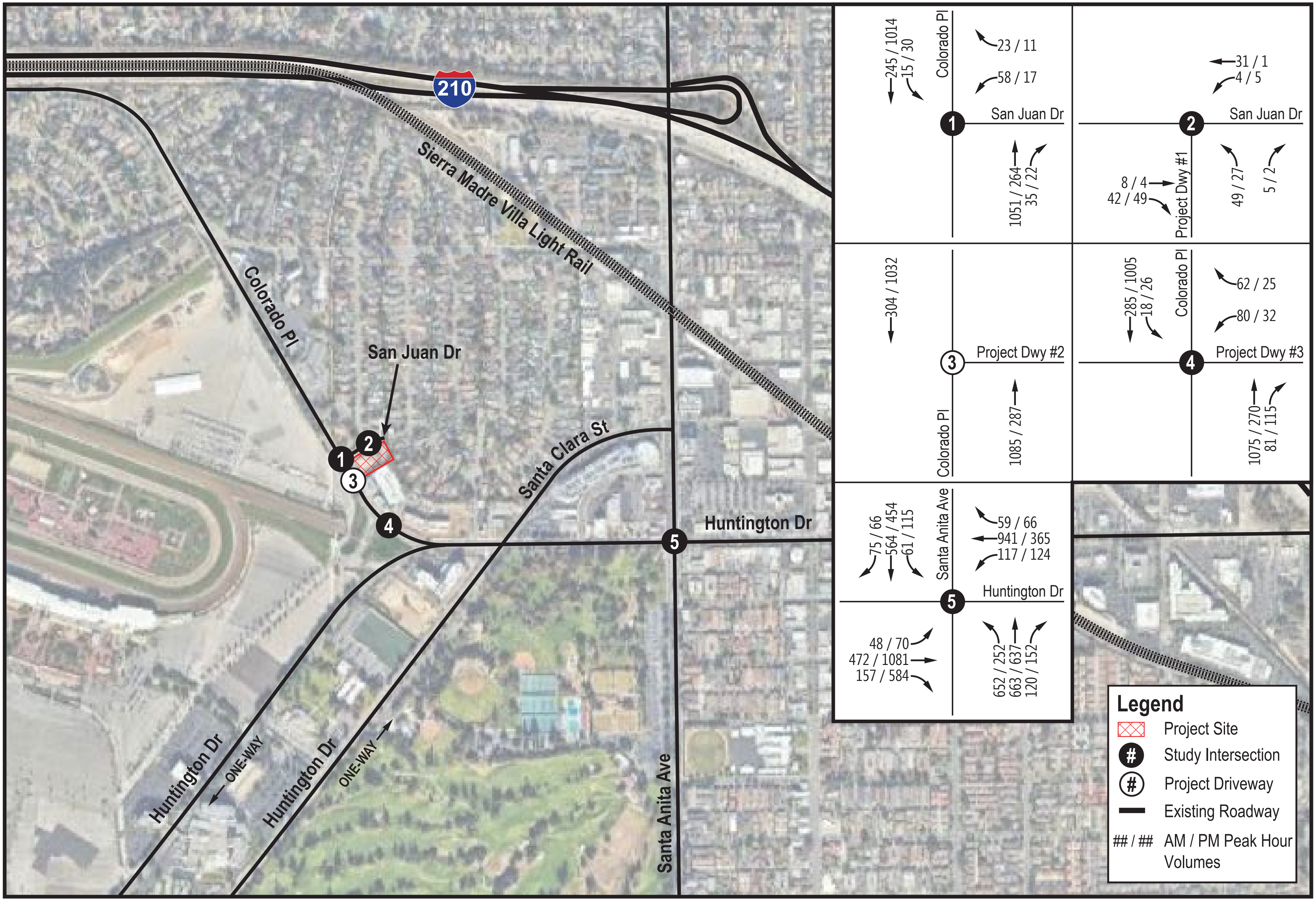
Exhibit 12 shows the Opening Year 2026 Without Project AM/PM peak hour traffic volumes at the study intersections. **Table 6** summarizes the Opening Year 2026 Without Project AM and PM peak hour levels of service for all study intersections. Detailed analysis sheets are contained in **Appendix E**.

TABLE 6 - OPENING YEAR 2026 WITHOUT PROJECT AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Opening Year 2026 Without Project	
		AM	PM
		Delay[1] - LOS	Delay[1] - LOS
1 - Colorado Place & San Juan Drive	OWSC	32.5 - D	13.5 - B
2 - Project Driveway #1 & San Juan Drive	OWSC	9.1 - A	8.8 - A
3 - Project Driveway #2 & Colorado Place	OWSC	*Does not exist without project*	
4 - Colorado Place & Project Driveway #3	OWSC	24.4 - D	13.0 - B
5 - Santa Anita Avenue & Huntington Drive	Signal	**0.849 - E**	0.765 - D

Note: Deficient intersection operation indicated in **bold**.
[1] Average seconds of delay per vehicle
LOS = level of servicel; OWSC = Owo Way Stop Control

According to **Table 6**, all study intersections are shown to operate at an acceptable level of service (D or better) under Opening Year 2026 Without Project conditions during the AM and PM peak hour except for the intersection of Santa Anita Avenue & Huntington Drive which is reported to operate at an LOS E during the AM peak hour.



Michael Baker INTERNATIONAL

Not to Scale

Opening Year 2026 AM/PM Peak Hour Volumes

Sept. 2024

H:\PDATA\201253_Home2Suites Hotel Arcadia\Traffic\Exhibits

Exhibit 12

5.5 OPENING YEAR 2026 PLUS PROJECT CONDITIONS

5.5.1 Opening Year 2026 Plus Project Intersection Analysis

Traffic volumes for the Opening Year 2026 Plus Project scenario were derived by adding Project traffic to Opening Year 2026 Without Project traffic. **Exhibit 13** shows the Opening Year 2026 Plus Project AM/PM peak hour traffic volumes at the study intersections.

The City of Arcadia adopted a Citywide Transportation Impact Fee Program to implement the improvements needed to address the cumulative impacts of the development currently proposed. The proposed Project, like other new development projects are subject to the payment of the Transportation Impact Fee as part of the Transportation Impact Fee Program. The fees collected by the City will be used to implement specific roadway improvement measures and are intented to fund on a fair-share basis the improvements to maintain LOS D conditions.

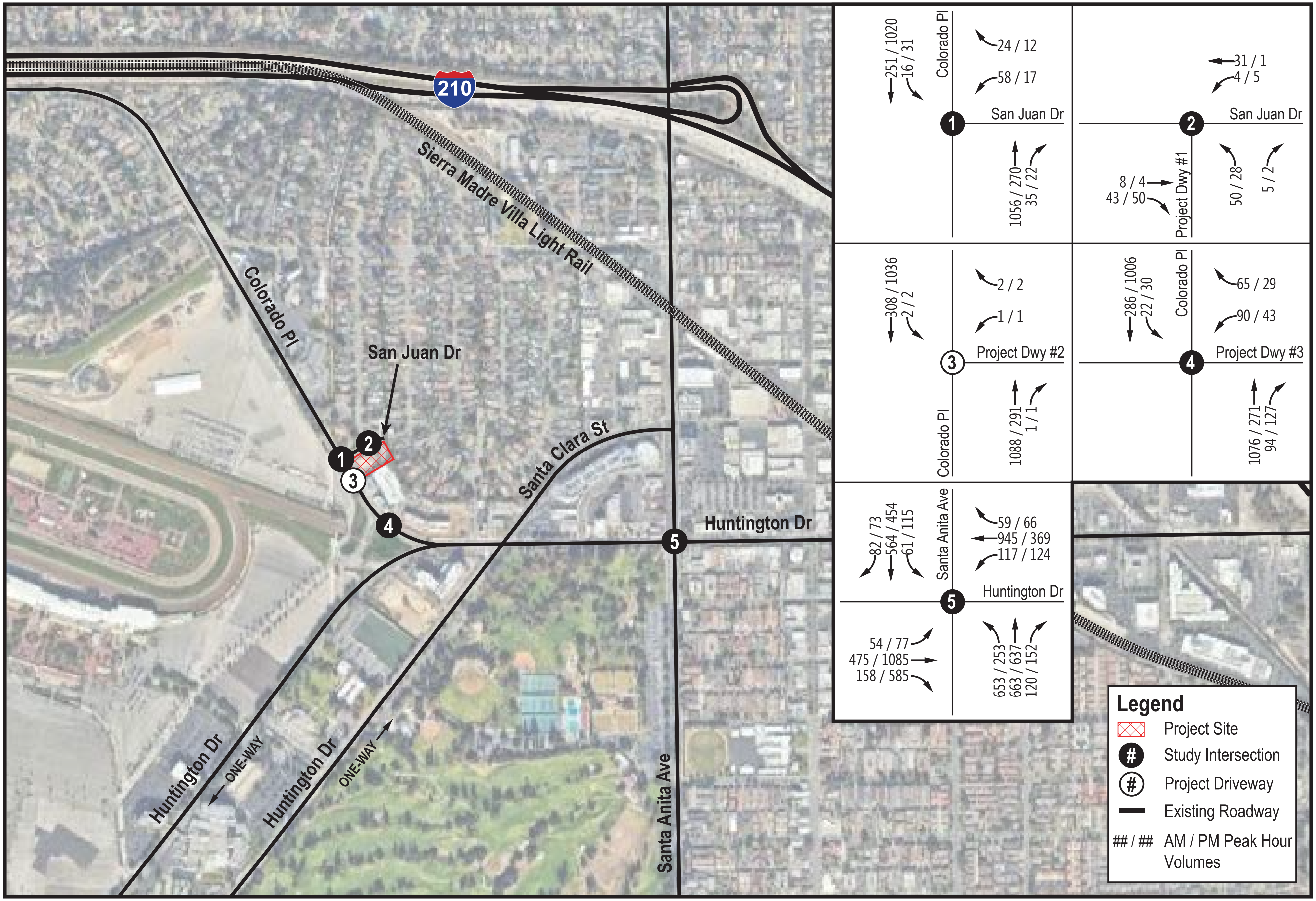
Table 7 compares the Opening Year 2026 Without Project LOS to the Opening Year 2026 Plus Project AM and PM peak hour LOS for all study intersections. Detailed analysis sheets are contained in **Appendix F**.

TABLE 7 - OPENING YEAR 2026 WITHOUT & PLUS PROJECT AM/PM PEAK HOUR INT LOS

Study Intersection	Opening Year 2026 Without Project Conditions		Opening Year 2026 Plus Project Conditions		Change in V/C		Fair Share Required?
	AM	PM	AM	PM			
	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	AM	PM	
1 - Colorado Place & San Juan Drive	32.5 - D	13.0 - B	32.2 - D	13.0 - B	N/A	N/A	No
2 - Project Driveway #1 & San Juan Drive	9.1 - A	8.8 - A	9.1 - A	8.8 - A	N/A	N/A	No
3 - Project Driveway #2 & Colorado Place	*Does not exist without project*		15.6 - C	10.7 - B	N/A	N/A	No
4 - Colorado Place & Project Driveway #3	24.4 - D	13.0 - B	27.2 - D	14.3 - B	N/A	N/A	No
5 - Santa Anita Avenue and Huntington Driveway	**0.849 - E**	0.765 - D	**0.850 - E**	0.767 - D	0.001	0.002	No

Note: Deficient intersection operation indicated in **bold**.
At Santa Anita Ave & Huntington Dr, the ICU Methology showing V/C ratio is presented.
[1] Average Seconds of Delay per Vehicle LOS = level of service.

As shown in **Table 7**, all study intersections are forecast to operate at an acceptable level of service (D or better) under Opening Year 2026 With Project conditions under the AM and PM peak hour except for the intersection of Santa Anita Avenue & Huntington Drive which is expected to operate at LOS E during the AM peak period. However, the change in V/C ratio with Project traffic does not exceed the City's change in v/c threshold of 0.01 for intersections operating at LOS E. Therefore, improvements are **not** required at the signalized intersection of Santa Anita Avenue & Huntington Drive.



Not to Scale

Michael Baker INTERNATIONAL

Opening Year 2026 with Project AM/PM Peak Hour Volumes

Sept. 2024
H:\PDATA\201253_Home2Suites Hotel Arcadia\Traffic\Exhibits

Exhibit 13

6 ON-SITE PARKING, ACCESS, AND CIRCULATION ANALYSIS

6.1 ON-SITE PARKING

The project site is situated on the northeast side of Colorado Place and is adjacent to two existing medical office buildings and their associated surface parking lot and parking structure. According to the City of Arcadia Municipal Code off-street parking requirements (Section 9103.07.060 Off-Street Parking for Non-Residential Uses), 1.2 parking spaces per guest room are required of the project. This calculates to a total of 110 spaces (91 guest rooms x 1.2 spaces/guest room).The parking structure, located adjacent to the project site comprised of four levels. The parking structure provides a total of 392 parking spaces. Additionally, the project site currently provides 40 surface parking spaces (38 standard and 2 accessible spaces) east and south of the footprint of the former building.

It is expected that parking for the proposed Project will be primarily shared with the adjacent medical office and hotel uses and will be located in the adjacent parking structure and surface parking lots. Based on the *Revised Parking Demand Analysis for the Tempo by Hilton Hotel Project* conducted by Linscott, Law and Greenspan dated March 12, 2024, the calculated forecast peak parking demand, assuming full occupancy of all of the uses combined, is expected to total 398 spaces during the weekend peak condition. When compared to the adjusted parking supply (i.e., at 90%) of 418 spaces, this results in a surplus of 20 parking spaces with greater surpluses throughout other time periods of a typical weekend day. The calculated future peak weekday parking demand, also assuming full occupancy of all uses, is only slightly less than the weekend period, and totals 396 spaces. When compared to the total parking adjusted parking supply of 418 spaces, a parking surplus of 22 spaces could be expected during the weekday peak hour, with even greater surpluses expected during other weekday morning and afternoon evening periods. Given the forecast peak weekday and weekend parking demands, the proposed parking supply is expected to be adequate to meet the weekday and weekend parking demands associated with the proposed Tempo by Hilton Hotel Project along with the existing parking demands of the adjacent USC Keck Medicine medical office buildings and future occupancy of the Hilton Hotel.

As part of the proposed hotel development, six new surface parking spaces are planned along the south side of the proposed hotel building east of the hotel drop off area with access via the Colorado Place driveway. The existing surface parking lot with 24 spaces north of the parking structure will be reconfigured to provide space for trash enclosures and to provide a connection down to the new surface parking along the south side of the hotel building, which would reduce the surface parking spaces from 72 spaces to 66 spaces. Altogether, the future planned parking supply is expected to total 464 spaces (6 new surface parking spaces, 66 surface parking spaces, and 392 parking structure spaces).

6.2 EXISTING SITE ACCESS

Vehicular access to the existing project site is currently provided via one driveway on Colorado Place. A two-way left turn lane is available on Colorado Place along the project frontage to allow vehicles to make a left-turn movement in the eastbound approach. The existing driveway currently accommodates full access (i.e., left-turn and right-turn ingress and egress movements).

6.3 PROJECT SITE ACCESS

Vehicle access to the project site will continue to be provided via the two existing driveway along Colorado Place and one driveway along San Juan Drive. Descriptions of the project site access points are provided in the following paragraphs.

- *Project Driveway #1 & San Juan Drive*
  The San Juan Drive project driveway will be located on the south side of San Juan Drive at the northeast quadrant of the project site. This project driveway will provide direct vehicular access to the existing parking structure as well as the on-site surface parking area located to the north of the parking structure. The San Juan Drive project driveway will continue to accommodate full access (i.e.; left turn and right turn ingress and egress movements).

- *Project Driveway #2 & Colorado Place*
  The proposed project driveway will be located to the east side of Colorado Place closer to San Juan Drive. The driveway will be accessibile using the existing two way left turn lane along Colorado Place.

- *Colorado Place & Project Driveway #3*
  The existing Colorado Place project driveway is located on the east side of Colorado Place approximately mid-way between San Juan Drive and San Rafael Road. This project driveway will continue providing vehicular access to the existing parking structure. The driveway will provide outbound left turn lane and right turn lane along with one inbound lane.

7 ACTIVE TRANSPORTATION AND PUBLIC TRANSIT ANALYSIS

7.1 BICYCLE AND PEDESTRIAN ANALYSIS

Sidewalks are provided along the north side of Colorado Place and sidewalks on both side of the street along San Juan Drive; however, the Project will provide a curb, gutter, and sidewalk along the Project frontage.

Existing bike lanes are not currently provided on either side of Colorado Place and San Juan Drive. An existing bike lane is provided along Santa Clara Street.

7.2 PUBLIC TRANSIT ANALYSIS

Public bus transit service in the Project vicinity Is currently provided by the Metropolitan Transportation Authority (Metro), Foothill Transit, and Arcadia Transit.

Metro provides bus transit service near the project site along Hunitington Drive and Santa Anita Avenue. Metro currently operates two local Metro bus transit routes in the vicinity of the project site.

Foothill Transit provides bus transit service along major roadways near the Project study area along Huntington Drive and Santa Anita Avenue. Foothill Transit currently operates one transit route near the project site.

8 VEHICLE MILES TRAVELED ANALYSIS

8.1 VEHICLE MILES TRAVELED (VMT) SCREENING CRITERIA

Based on the City's guidelines, land use projects that meet certain vehicle miles traveled (VMT) screening threshold criteria based on size, location, proximity to transit or trip-making potential may be presumed to have a less than significant transportation impact under CEQA and do not require a full detailed VMT analysis. The City of Arcadia utilizes three screening criteria as summarized in **Table 8**.

TABLE 8: VMT SCREENING CRITERIA FOR PROPOSED PROJECT

Screening Criteria	Screening Criteria Description	Project Evaluation	Result
TRANSIT PRIORITY AREA (TPA)[1]	Projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may NOT be appropriate if the project: • Has a Floor Area Ratio of less than 0.75; • Includes more parking for use by residents, customers, or employees of the project than required by the City. • Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG]); or • Replaces affordable residential units with a smaller number of moderate- or high-income residential units.	According to the SGVCOG VMT screening tool found in the City's Guidelines, the Project is not located within a Transit Priority Area	**Does Not Meet Criteria**
LOW VMT AREA	Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.	A review of the WRCOG screening tool shows the Project is not located in a low VMT Area. According to the screening tool, the Total VMT per Service Population baseline is 34.94, and the Project Generated VMT is 52.2, which is approximately 66.9% above the baseline. Therefore, the project cannot be screened out of a full VMT	**Does Not Meet Criteria**

[1] Transit Priority Areas (TPA) is defined as a half mile area around a well-serviced transit stop or a transit corridor with 15-minute or less service frequency during peak commute hours. TPA's are identified on SCAG's GIS-based High Quality Transit Area (HQTA) 2045 Maps.

Screening Criteria	Screening Criteria Description	Project Evaluation	Result
		analysis based Low VMT Area screening criterionown VMT screening analysis.	

PROJECT TYPE	Some project types have been identified as having the presumption of a less than significant impact. The following uses can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature:
	• Local-serving K-12 schools
	• Local parks
	• Day care centers
	• Local-serving retail uses less than 50,000 square feet, including:
	  ○ Gas stations
	  ○ Banks
	  ○ Restaurants
	  ○ Shopping Center
	• Local-serving hotels (e.g. non-destination hotels)
	• Local-serving assembly uses (places of worship, community organizations)
	• Community institutions (public libraries, fire stations, local government)
	• Affordable, supportive, or transitional housing
	• Assisted living facilities
	• Senior housing (as defined by HUD)
	• Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS
	• Student housing projects on or adjacent to a college campus
	• Other local-serving uses as approved by the City Traffic Engineer
	• Projects generating less than a net total of 110 daily vehicle trips
		The Tempo By Hilton is considered a “non-destination” hotel; therefore, the Project can be screened out under Criteria 3: Project Type Screening.	**Meets Criteria**

Since the Project is considered to have a less than significant impact based on Project Type screening criteria, a full VMT analysis is **not** required.

9 FINDING AND RECOMMENDATIONS

This study analyzes the forecast traffic conditions associated with the proposed development of a hotel with 91 rooms located on the northeast corner of Colorado Place and San Juan Drive in the City of Arcadia.

9.1 LEVEL OF SERVICE ANALYSIS RESULTS

This study evaluates traffic conditions that include AM and PM peak hour intersections level of service (LOS) analysis. According to the *City's LOS Transportation Study Guidelines* revised August 2020, the City has identified LOS D as the threshold for acceptable operating conditions for intersections and roadway segments, except at constrained located in close proximity to Interstate 210 (I-210), where LOS E is accepted during peak hours. The results of the LOS analysis is as follows:

Existing Conditions **-** The results of the Existing conditions analysis show that all study intersections currently operate at acceptable LOS D or better.

Existing Plus Project Conditions – The results of the Existing Plus Project conditions analysis shows that all study intersections operate at acceptable LOS D or better.

Opening Year 2026 Without Project Conditions – The results of the Opening Year 2028 Without Project conditions analysis shows that all study intersections currently operate at acceptable LOS D or better with the exception of the following intersection:

- Santa Anita Avenue & Huntington Drive (Int. 5) LOS E in AM Peak Hour

Opening Year 2026 Plus Project Conditions **-** With the addition of project-related traffic, all study intersections continue to operate at acceptable LOS D or better for the Opening Year 2026 Plus Project conditions the exception of the following intersections:

- Santa Anita Avenue & Huntington Drive (Int. 5) LOS E in AM Peak Hour

Santa Anita Avenue and Huntington Drive continues to operate at LOS E during the AM peak hour with the addition of project-related traffic. However, the change in V/C ratio with Project traffic does not exceed the City's threshold. Therefore, improvements are **not** required at the signalized intersection of Santa Anita Avenue & Huntington Drive.

9.2 VEHICLE MILES TRAVELED

To satisfy California Environmental Quality Act (CEQA), a Vehicle Miles Traveled (VMT) screening assessment and analysis was prepared for the Project under a separate memorandum.

Based on the City's guidelines, land use projects that meet certain vehicle miles traveled (VMT) screening threshold criteria based on size, location, proximity to transit or trip-making potential may be presumed to have a less than significant transportation impact under CEQA and does not require a full detailed VMT analysis. It was determined that the Project meets the "Project Type" screening criteria. Therefore, the Project is considered to have a less than significant VMT impact on the environment.

Appendix A:
TIA Scoping Agreement

Michael Baker
INTERNATIONAL

Traffic Study Scope of Work

June 11, 2024

To: Transportation Staff, City of Arcadia

From: Jacob Swim TE, Michael Baker International

Subject: Tempo By Hilton Project – Traffic Study Scoping Memorandum

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Introduction

Michael Baker International (Michael Baker) is pleased to submit this transportation study scope of work for the proposed Tempo By Hilton (Project) located at 181 Colorado Place in the City of Arcadia.

Attached to this letter are the following documents:

- *Attachment A - Project Site Plan*
- *Attachment B – Project Study Area*
- *Attachment C – Related Projects and Trip Generation*
- *Attachment D – VMT Evaluation Report*

Project Description

The Project includes the construction of a 4-story hotel with 91 rooms and parking on the north and east sides of the building. The site is currently vacant and undeveloped. **Attachment A** includes the Project Site Plan.

There will be two (2) main entrances to the Project site and both will be unsignalized full access driveways. One is located on the north-west side of the project site on San Juan Drive. The second entrance is located on the south side of the project site on Colorado Place (shown on Attachment A).

Trip Generation

The most recent version of the *Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition)* was used to estimate the number of vehicle trips generated by the Project. As shown in **Table 1**, the 91 rooms are expected to generate 563 new daily trips with 38 new trips during the AM peak hour (21 inbound and 17 outbound) and 39 new trips during the PM peak hour (20 inbound and 19 outbound).

TABLE 1 – TRIP GENERATION SUMMARY

ITE Land Use Code 310: Hotel		Daily Trips	AM Peak Hour		PM Peak Hour	
Intensity:	91 Rooms		Total	In : Out	Total	In : Out
Trip Generation Rates[1]		7.99 /Room	0.42 /Room	56% : 44%	0.43 /Room	51% : 49%
Trip Generation		**563**	**38**	**21 : 17**	**39**	**20 : 19**

Existing Conditions

Michael Baker reviewed the existing driveways providing access to/from the Project site. Based on our assessment, the traffic study should analyze two off-site intersections as shown in **Attachment B**. Daily, AM (7:00 to 9:00) peak hour and PM (4:00 to 6:00) peak hour traffic volumes will be collected at each of the study locations identified on the study area map by the City's consultant, LLG Engineers. Pedestrian and bicycle counts will also be collected during the AM and PM peak hour at each of the study locations. Using the traffic counts collected, Michael Baker will analyze each of the study intersections using a computer program Synchro, Version 11 to determine the delay and level of service (LOS) at each location during the peak hours.

Opening Year 2026 Without Project and Opening Year 2026 Plus Project

The Opening Year 2026 Without Project and Opening Year 2026 Plus Project Conditions will be analyzed at the study intersections. Opening Year 2026 Plus Project conditions refers to the timeframe when the Project is expected to be fully constructed and includes traffic growth in the area. For analysis purposes, Opening Year is assumed to be Year 2026. Michael Baker anticipates using a growth rate of 1% due to the 2015 to 2016 population growth in the City of Arcadia. Population rates from 2016 to 2020 has shown to have a negative growth rate per the U.S. Census Bureau. Opening Year 2026 Without Project traffic volumes will include approved and pending projects that add traffic to the study locations. Michael Baker requests the City provide a list of cumulative projects to be considered for the Opening Year 2026 Without Project scenario. Opening Year 2026 Plus Project traffic volumes will be derived by adding Project Only traffic volumes to Opening Year 2026 Without Project traffic volumes.

Vehicle Miles Traveled (VMT) Screening Criteria

Based on the City's guidelines, land use projects that meet certain vehicle miles traveled (VMT) screening threshold criteria based on size, location, proximity to transit or trip-making potential may be presumed to have a less than significant transportation impact under CEQA and do not require a full detailed VMT analysis. The City of Arcadia utilizes three screening criteria as summarized in **Table 2**.

Table 2 – Screening Criteria Summary

Screening Criteria	Criteria Met by Project?
1 Transit Priority Area (TPA) Screening	No
2 Low VMT Area Screening	No
3 Project Type Screening	**YES**

Criteria 1: Transit Priority Area (TPA) Screening

Projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may NOT be appropriate if the project:

1. *Has a Floor Area Ratio of less than 0.75;*
2. *Includes more parking for use by residents, customers, or employees of the project than required by the City.*
3. *Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG]); or*
4. *Replaces affordable residential units with a smaller number of moderate- or high-income residential units.*

Project Assessment:

According to the SGVCOG VMT screening tool found in the City's Guidelines, the Project is not located within a Transit Priority Area. Therefore, the Project does NOT meet this criterion.

Criteria 2: Low VMT Area Screening

Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area.

Project Assessment:

A review of the WRCOG screening tool shows the Project is not located in a low VMT Area. According to the screening tool, the Total VMT per Service Population baseline is 34.94, and the Project Generated VMT is 52.2, which is approximately 66.9% above the baseline. Therefore, the project cannot be screened out of a full VMT analysis based Low VMT Area screening criterion. See **Attachment D**.

Criteria 3: Project Type Screening

Some project types have been identified as having the presumption of a less than significant impact. The following uses can be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature:

- *Local-serving K-12 schools*
- *Local parks*
- *Day care centers*
- *Local-serving retail uses less than 50,000 square feet, including:*
    - *Gas stations*
    - *Banks*
    - *Restaurants*
    - *Shopping Center*

- *Local-serving hotels (e.g. non-destination hotels)*
- *Local-serving assembly uses (places of worship, community organizations)*
- *Community institutions (public libraries, fire stations, local government)*
- *Affordable, supportive, or transitional housing*
- *Assisted living facilities*
- *Senior housing (as defined by HUD)*
- *Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS*
- *Student housing projects on or adjacent to a college campus*
- *Other local-serving uses as approved by the City Traffic Engineer*
- *Projects generating less than a net total of 110 daily vehicle trips*

Project Assessment:

The Tempo By Hilton is considered a "non-destination" hotel; therefore, the Project can be screened out under Criteria 3: Project Type Screening.

Project Level VMT Assessment

Since the Project is considered to have a less than significant impact based on Project Type screening criteria, a full VMT analysis is not required. Michael Baker will document the VMT screening criteria in the traffic report.

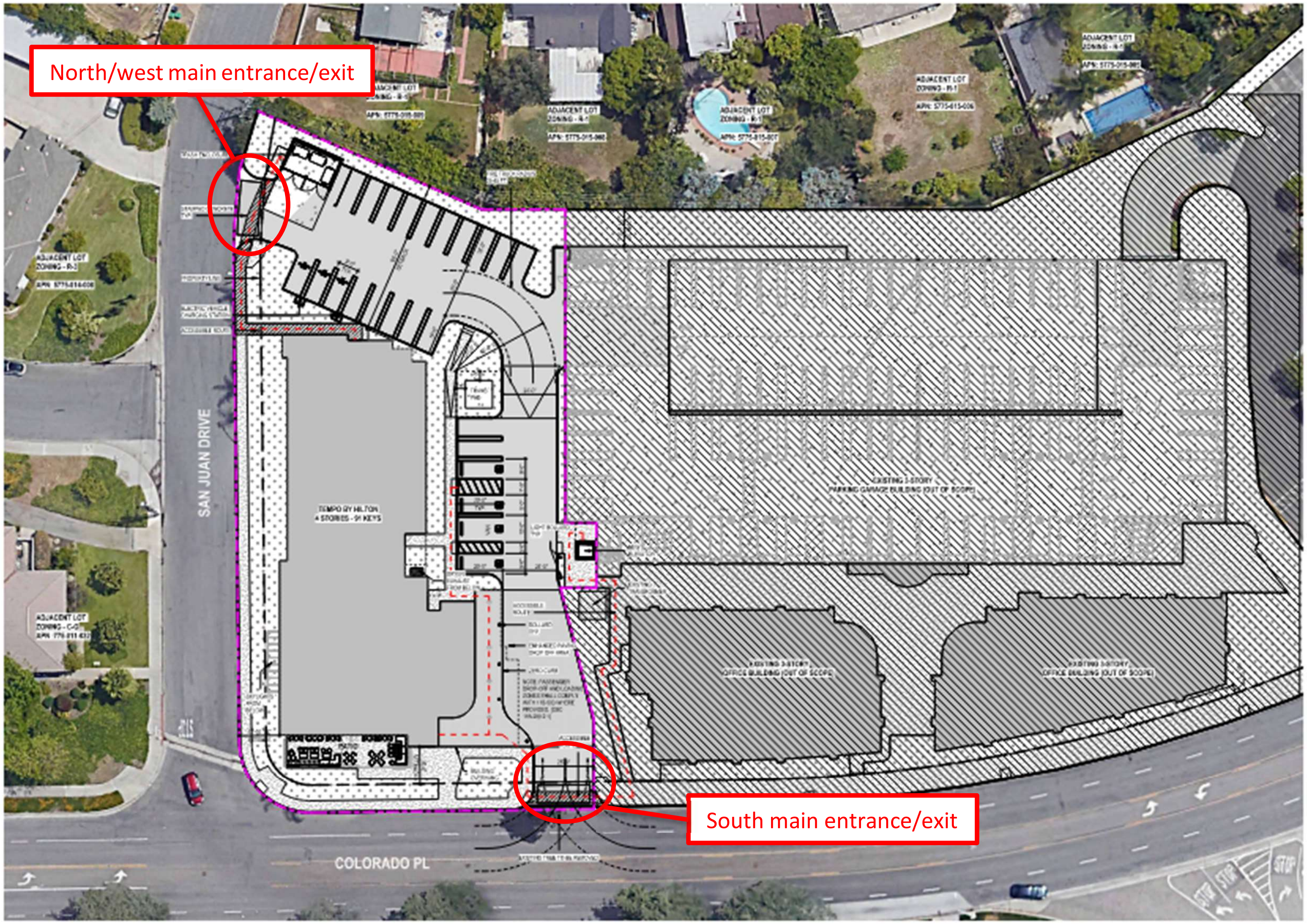
Cumulative Projects

<u>Approved & Pending Projects</u>: Michael Baker will work closely with the City of Arcadia in establishing the list of approved and pending projects in the study area. The study will identify the number of daily and peak hour trips forecast to be generated by all cumulative projects using trip generation rates contained in the ITE Trip Generation manual or other sources as directed by City staff. Michael Baker has reviewed a traffic study from LLG Engineers dated 2019 with a list of related projects and trip generation (**Attachment C**). Please notify Michael Baker of any edits to be made on the list of related projects. Approved and pending project trips will be assigned to the study intersections based on information provided in traffic studies (if available) for these projects. If traffic study data is not available, Michael Baker will manually distribute up to five approved/pending project trips on the roadway network using industry acceptable engineering principles.

Documentation

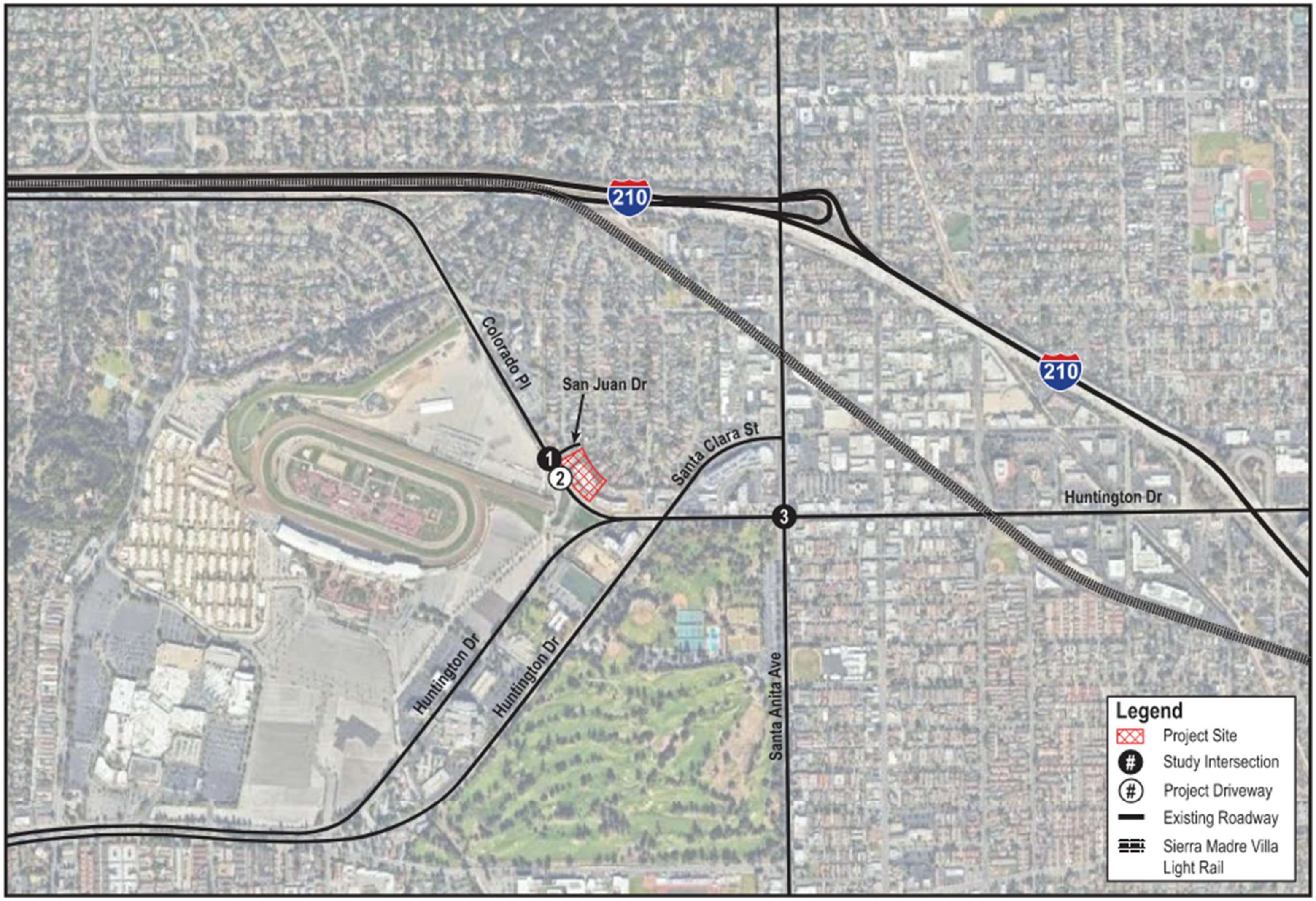
Michael Baker will prepare a comprehensive and concise report that discusses the results of the analysis with tables and figures. An electronic copy of the report will be submitted to the City for review comments. Michael Baker will address the City's comments and provide a final draft of the report for City staff.

Attachment A
Project Site Plan


North/west main entrance/exit
South main entrance/exit
SAN JUAN DRIVE
COLORADO PL
TEMPO BY HILTON
4 STORIES - 91 KEYS

SITE PLAN

Attachment B
Project Study Area Map



Michael Baker INTERNATIONAL

Not to Scale

Study Area

Exhibit #

June 2024

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Attachment C
Related Projects List and Trip Generation

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA LAND-USE	SIZE	PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL	PM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL	SAT. DAILY TRIP ENDS [2] VOLUMES	SAT. PM PEAK HOUR VOLUMES [2] IN	OUT	TOTAL
City of Arcadia																
A1	Proposed	323-325 N. 1st Avenue	Medical Office	5,420 GSF	[3]	196	10	3	13	5	14	19	49	11	9	20
			Retail	1,806 GLSF	[4]	77	1	1	2	3	4	7	90	5	4	9
A2	Pending	117-129 E. Huntington Drive	Apartment	139 DU	[5]	924	14	57	71	56	30	86	788	35	30	65
		124, 126 & 134 E. Wheeler Avenue	Retail	11,150 GLSF	[4]	476	7	4	11	20	21	41	557	28	26	54
A3	Under Construction	56 E. Duarte Road	Condominium	37 DU	[6]	215	3	13	16	13	6	19	210	9	8	17
			Retail	19,360 GLSF	[4]	827	12	7	19	35	37	72	967	48	45	93
A4	Under Construction	57 Wheeler Avenue	Apartment	38 DU	[7]	252	4	15	19	16	8	24	243	10	10	20
			Retail	10,730 GLSF	[7]	308	4	3	7	13	14	27	362	18	16	34
			Office	7,120 GSF	[7]	58	7	1	8	1	7	8	14	1	1	2
A5	Under Construction	501 N. Santa Anita Avenue	Condominium	20 DU	[6]	116	2	7	9	7	3	10	113	5	4	9
A6	Proposed	415 California Street	Condominium	20 DU	[6]	116	2	7	9	7	3	10	113	5	4	9
A7	Pending	Santa Anita Inn Redevelopment Project	Hotel	227 Rooms	[8]	2,774	65	64	129	114	109	223	2,792	141	120	261
		130 W. Huntington Drive	Condominium	96 DU												
			Retail	38,196 GLSF												
A8	Under Construction	22-26 E. Colorado Boulevard	Condominium	8 DU	[6]	46	1	3	4	3	1	4	45	2	2	4
A9	Proposed	288 N. Santa Anita Avenue	Medical Office	23,300 GSF	[3]	842	44	12	56	23	60	83	209	48	37	85
			Retail	7,050 GLSF	[4]	301	4	3	7	12	14	26	352	18	16	34
A10	Proposed	141-145 Alice Street	Condominium	8 DU	[6]	46	1	3	4	3	1	4	45	2	2	4
A11	Pending	230 California Street	Condominium	5 DU	[6]	29	0	2	2	2	1	3	28	1	1	2
A12	Pending	414 Fairview Avenue	Condominium	6 DU	[6]	35	1	2	3	2	1	3	34	2	1	3
A13	Pending	405 S. 1st Avenue	Condominium	4 DU	[6]	23	0	2	2	1	1	2	23	1	1	2
			Retail	585 GLSF	[4]	25	1	0	1	1	1	2	29	2	1	3
A14	Proposed	Santa Anita Park North Barn Project	Barn/Stables Expansion	816 Stalls	[9]	1,469	62	20	82	18	96	114	1,616	43	39	82
		285 W. Huntington Drive	Dormitories	104 Units	[9]	210	0	0	0	21	21	42	210	0	21	21
			Canteen	3,391 GSF	[9]	50	2	2	4	2	2	4	50	0	1	1
A15	Existing	125 W. Huntington Drive	Office	67,213 GSF	[10]	655	67	11	78	12	65	77	149	19	17	36
City of Monrovia																
M1	Under Construction	530 Fano Street	Condominium	12 DU	[6]	70	1	4	5	4	2	6	68	3	3	6
M2	In Planning	717-721 W. Duarte Road	Condominium	8 DU	[6]	46	1	3	4	3	1	4	45	2	2	4
TOTAL						**10,186**	**316**	**249**	**565**	**397**	**523**	**920**	**9,201**	**459**	**421**	**880**

Attachment D
VMT Evaluation Report

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: June 05, 2024, 04:45:30 PM

Project Name: Home2Suites

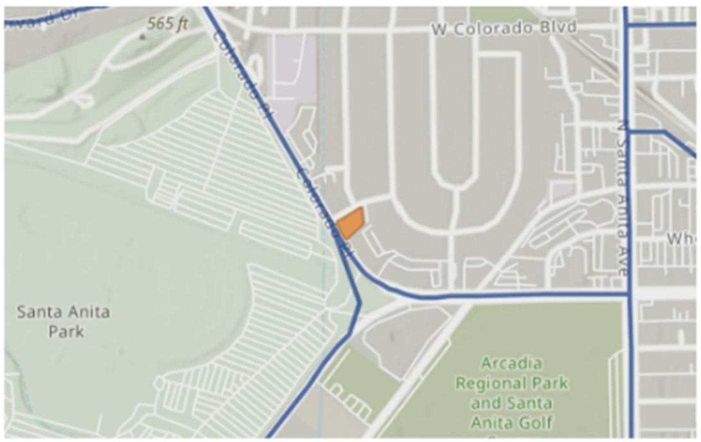
Project Description: Tempo By Hilton

Project Location

jurisdiction:
Arcadia

apn	TAZ
5775-015-011	22220100

Inside a TPA?
No (Fail)



Analysis Details

Data Version: SCAG Regional Travel Demand Model 2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2024

Project Land Use

Residential:

Single Family DU:

Multifamily DU:

Total DUs: 0

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 0 %

Parking:

Motor Vehicle Parking:

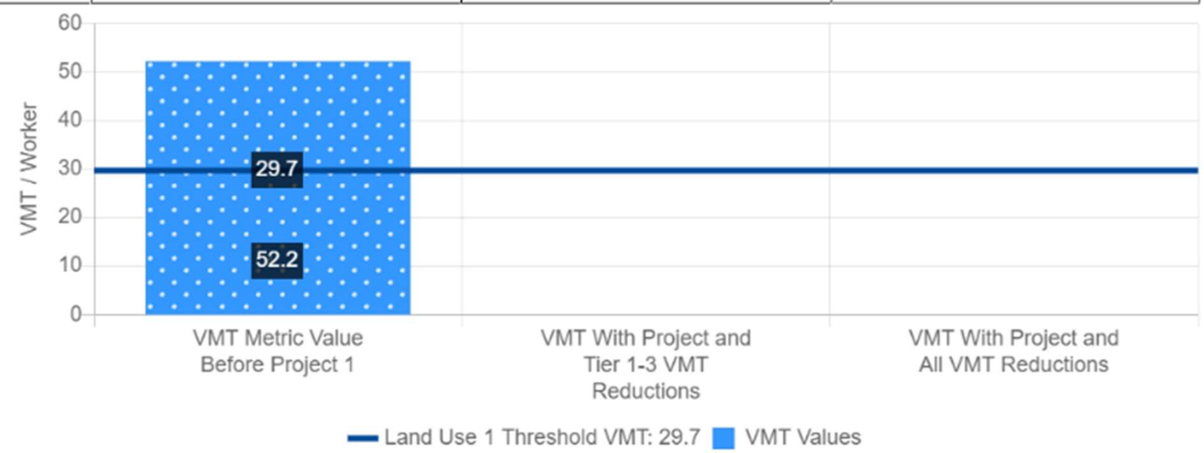
Bicycle Parking:

SGVCOG VMT Evaluation Tool Report

Commercial Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Commercial
VMT Without Project 1:	Total VMT per Service Population
VMT Baseline Description 1:	Subarea
VMT Baseline Value 1:	34.94
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	52.2	null	null
Low VMT Screening Analysis	No (Fail)	null	null



Appendix B: Traffic Count Data & Signal Timing

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		LLG - PASADENA
PROJECT:		CITY OF ARCADIA
DATE:		TUESDAY, MAY 21, 2024
PERIOD:		07:00 AM TO 09:00 AM
INTERSECTION:	N/S	SANTA ANITA AVENUE
	E/W	HUNTINGTON DRIVE
FILE NUMBER:		1_AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	5	55	3	11	176	17	14	128	173	6	32	2
0715-0730	12	81	7	11	224	12	22	132	170	12	48	3
0730-0745	6	94	15	6	246	12	19	189	188	23	60	3
0745-0800	10	122	11	8	218	20	13	124	156	33	119	6
0800-0815	9	168	9	9	250	25	20	182	158	36	92	6
0815-0830	11	128	15	16	200	21	29	159	155	37	113	6
0830-0845	14	127	19	15	212	20	39	184	161	29	101	12
0845-0900	16	95	12	10	161	16	28	118	123	27	111	10

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	33	352	36	36	864	61	68	573	687	74	259	14	3057
0715-0815	37	465	42	34	938	69	74	627	672	104	319	18	3399
0730-0830	36	512	50	39	914	78	81	654	657	129	384	21	3555
0745-0845	44	545	54	48	880	86	101	649	630	135	425	30	3627
0800-0900	50	518	55	50	823	82	116	643	597	129	417	34	3514
PHF	0.786	0.811	0.711	0.750	0.880	0.860	0.647	0.882	0.978	0.912	0.893	0.625	

A.M. PEAK HOUR
0745-0845

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

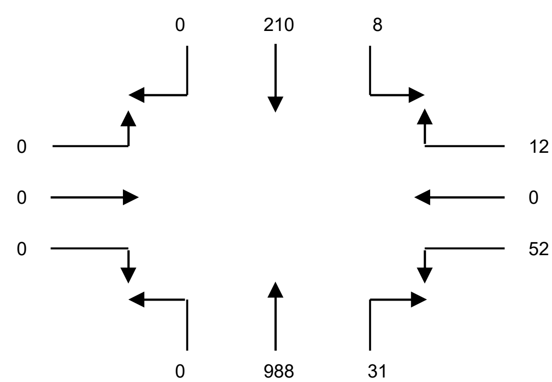
CLIENT:		LLG - PASADENA
PROJECT:		CITY OF ARCADIA
DATE:		TUESDAY, MAY 21, 2024
PERIOD:		07:00 AM TO 09:00 AM
INTERSECTION:	N/S	COLORADO PLACE
	E/W	SAN JUAN DRIVE
FILE NUMBER:		2_AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	0	18	0	4	0	3	5	160	0	0	0	0
0715-0730	0	29	1	2	0	8	5	268	0	0	0	0
0730-0745	0	43	2	3	0	11	10	244	0	0	0	0
0745-0800	0	76	3	5	0	13	10	264	0	0	0	0
0800-0815	0	62	2	2	0	20	6	212	0	0	0	0
0815-0830	0	63	4	5	0	19	8	204	0	0	0	0
0830-0845	0	55	1	3	0	10	5	143	0	0	0	0
0845-0900	0	37	1	2	0	17	3	166	0	0	0	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	0	166	6	14	0	35	30	936	0	0	0	0	1187
0715-0815	0	210	8	12	0	52	31	988	0	0	0	0	1301
0730-0830	0	244	11	15	0	63	34	924	0	0	0	0	1291
0745-0845	0	256	10	15	0	62	29	823	0	0	0	0	1195
0800-0900	0	217	8	12	0	66	22	725	0	0	0	0	1050
PHF	0.000	0.691	0.667	0.600	0.000	0.650	0.775	0.922	0.000	0.000	0.000	0.000	

A.M. PEAK HOUR
0715-0815

SAN JUAN DRIVE



COLORADO PLACE

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

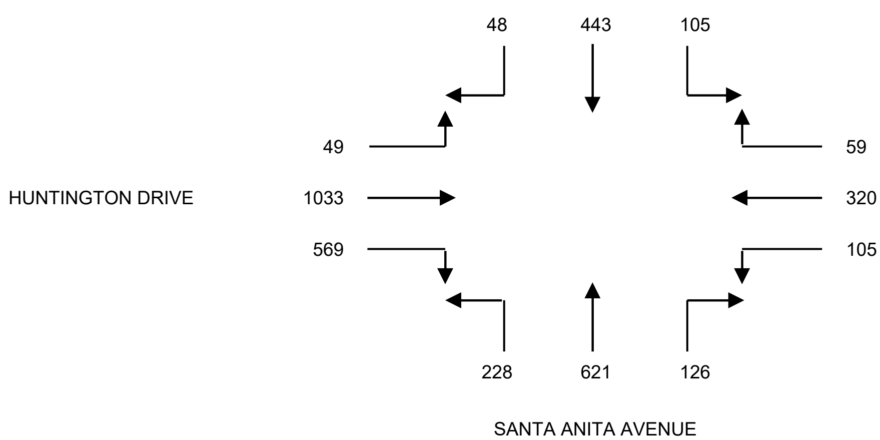
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT:		LLG - PASADENA
PROJECT:		CITY OF ARCADIA
DATE:		TUESDAY, MAY 21, 2024
PERIOD:		04:00 PM TO 06:00 PM
INTERSECTION:	N/S	SANTA ANITA AVENUE
	E/W	HUNTINGTON DRIVE
FILE NUMBER:		1_PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0400-0415	9	116	24	15	91	31	44	119	39	93	217	11
0415-0430	11	110	21	15	75	26	42	135	63	139	252	9
0430-0445	14	100	31	16	79	29	31	131	42	134	226	9
0445-0500	11	122	21	10	80	25	33	159	61	146	276	17
0500-0515	12	111	32	18	86	25	20	196	62	150	279	14
0515-0530	10	117	23	16	91	17	35	101	52	141	227	18
0530-0545	8	103	23	10	99	28	32	134	58	106	232	10
0545-0600	12	82	21	9	83	21	41	157	57	117	276	8

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0400-0500	45	448	97	56	325	111	150	544	205	512	971	46	3510
0415-0515	48	443	105	59	320	105	126	621	228	569	1033	49	3706
0430-0530	47	450	107	60	336	96	119	587	217	571	1008	58	3656
0445-0545	41	453	99	54	356	95	120	590	233	543	1014	59	3657
0500-0600	42	413	99	53	359	91	128	588	229	514	1014	50	3580
PHF	0.857	0.908	0.820	0.819	0.930	0.905	0.750	0.792	0.905	0.948	0.926	0.721	

P.M. PEAK HOUR
0415-0515



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

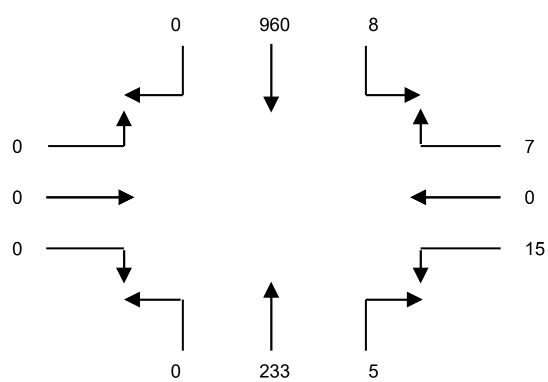
CLIENT: LLG - PASADENA
PROJECT: CITY OF ARCADIA
DATE: TUESDAY, MAY 21, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S COLORADO PLACE
E/W SAN JUAN DRIVE
FILE NUMBER: 2_PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0400-0415	0	198	2	4	0	2	3	59	0	0	0	0
0415-0430	0	190	2	2	0	4	1	54	0	0	0	0
0430-0445	0	215	0	1	0	9	1	59	0	0	0	0
0445-0500	0	267	1	3	0	6	0	52	0	0	0	0
0500-0515	0	220	3	3	0	3	0	60	0	0	0	0
0515-0530	0	245	1	1	0	2	3	62	0	0	0	0
0530-0545	0	228	3	0	0	4	2	59	0	0	0	0
0545-0600	0	249	2	2	0	3	1	48	0	0	0	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0400-0500	0	870	5	10	0	21	5	224	0	0	0	0	1135
0415-0515	0	892	6	9	0	22	2	225	0	0	0	0	1156
0430-0530	0	947	5	8	0	20	4	233	0	0	0	0	1217
0445-0545	0	960	8	7	0	15	5	233	0	0	0	0	1228
0500-0600	0	942	9	6	0	12	6	229	0	0	0	0	1204
PHF	0.000	0.899	0.667	0.583	0.000	0.625	0.417	0.940	0.000	0.000	0.000	0.000	

P.M. PEAK HOUR
0445-0545

SAN JUAN DRIVE



COLORADO PLACE

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF ARCADIA
DATE: TUESDAY, MAY 21, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: SANTA ANITA AVENUE / HUNTINGTON DRIVE

FILE: 1AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	4	0	9	2
0715-0730	0	2	3	2
0730-0745	0	1	1	0
0745-0800	0	1	2	2
0800-0815	1	2	5	2
0815-0830	1	3	2	4
0830-0845	1	1	3	0
0845-0900	0	1	6	2

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	1	1	0
0715-0730	0	0	0	0
0730-0745	0	1	1	0
0745-0800	0	0	0	1
0800-0815	4	0	1	4
0815-0830	0	0	1	3
0830-0845	0	0	1	1
0845-0900	1	0	0	1

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	4	4	15	6	29
0715-0815	1	6	11	6	24
0730-0830	2	7	10	8	27
0745-0845	3	7	12	8	30
0800-0900	3	7	16	8	34

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	2	2	1	5
0715-0815	4	1	2	5	12
0730-0830	4	1	3	8	16
0745-0845	4	0	3	9	16
0800-0900	5	0	3	9	17

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF ARCADIA
DATE: TUESDAY, MAY 21, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: SANTA ANITA AVENUE / HUNTINGTON DRIVE

FILE: 1PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	2	3	6	2
0415-0430	1	1	7	0
0430-0445	0	2	2	1
0445-0500	0	2	6	0
0500-0515	1	2	4	1
0515-0530	3	2	2	3
0530-0545	0	1	9	2
0545-0600	2	2	11	5

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	1	0	1	1
0415-0430	0	0	0	1
0430-0445	0	0	1	0
0445-0500	0	0	2	0
0500-0515	0	3	2	0
0515-0530	1	0	1	1
0530-0545	1	2	1	0
0545-0600	0	0	1	1

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	3	8	21	3	35
0415-0515	2	7	19	2	30
0430-0530	4	8	14	5	31
0445-0545	4	7	21	6	38
0500-0600	6	7	26	11	50

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	1	0	4	2	7
0415-0515	0	3	5	1	9
0430-0530	1	3	6	1	11
0445-0545	2	5	6	1	14
0500-0600	2	5	5	2	14

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: CITY OF ARCADIA

DATE: TUESDAY, MAY 21, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: COLORADO PLACE / SAN JUAN DRIVE

FILE: 2AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	1	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	0	0	0	0
0800-0815	0	2	0	0
0815-0830	0	1	0	0
0830-0845	0	3	0	0
0845-0900	0	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	0	0	0	0
0800-0815	0	1	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	1	0	0	1
0715-0815	0	2	0	0	2
0730-0830	0	3	0	0	3
0745-0845	0	6	0	0	6
0800-0900	0	6	0	0	6

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	0	0	0
0715-0815	0	1	0	0	1
0730-0830	0	1	0	0	1
0745-0845	0	1	0	0	1
0800-0900	0	1	0	0	1

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: CITY OF ARCADIA
DATE: TUESDAY, MAY 21, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: COLORADO PLACE / SAN JUAN DRIVE

FILE: 2PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	1	0	0
0415-0430	0	1	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	0	3	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	0	1	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	0	1	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	2	0	0	2
0415-0515	0	1	0	0	1
0430-0530	0	0	0	0	0
0445-0545	0	0	0	0	0
0500-0600	0	3	0	0	3

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	1	0	0	1
0415-0515	0	1	0	0	1
0430-0530	0	0	0	0	0
0445-0545	0	0	0	0	0
0500-0600	0	1	0	0	1

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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Appendix C: Existing Synchro Worksheets

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	12	988	31	8	210
Future Vol, veh/h	52	12	988	31	8	210
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	20	1074	40	12	304

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1272	559	0	0	1116	0
Stage 1	1096	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	159	472	-	-	622	-
Stage 1	282	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	156	471	-	-	621	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	281	-	-	-	-	-
Stage 2	821	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.7	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	264	621	-
HCM Lane V/C Ratio	-	-	0.379	0.019	-
HCM Control Delay (s)	-	-	26.7	10.9	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	31	0	31	33	0
Future Vol, veh/h	8	31	0	31	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	33	0	33	35	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	58	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1568	-	949	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1568	-	949	1051
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1568	-
HCM Lane V/C Ratio	0.037	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	53	15	1019	37	11	251
Future Vol, veh/h	53	15	1019	37	11	251
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	56	16	1073	39	12	264

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1249	556	0	0	1112	0
Stage 1	1093	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	165	475	-	-	624	-
Stage 1	283	-	-	-	-	-
Stage 2	856	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	161	475	-	-	624	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	283	-	-	-	-	-
Stage 2	836	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.8	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	241	475	624	-
HCM Lane V/C Ratio	-	-	0.231	0.033	0.019	-
HCM Control Delay (s)	-	-	24.4	12.8	10.9	-
HCM Lane LOS	-	-	C	B	B	-
HCM 95th %tile Q(veh)	-	-	0.9	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	30	425	135	86	880	48	630	649	101	54	545	44
Pedestrians			20			10			19			11
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	30	425	135	86	880	48	630	649	101	54	545	44
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	2.2	0.0	0.0	1.4
Pedestrian Frequency (%)		0.49			0.28			0.47			0.31	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	2.1	14.9	12.9	6.0	30.8	5.0	25.3	22.7	10.1	2.2	19.1	4.8
Adj Reference Time (s)	9.5	20.9	17.4	10.5	35.3	13.2	29.8	27.2	14.6	9.5	23.6	9.5
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	31.6	14.9		90.5	30.8		379.4	22.7		32.5	19.1	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		31.6			90.5			379.4			32.5	
Adj Reference Time (s)		36.1			95.0			383.9			37.0	
Split Option												
Ref Time Combined (s)	2.1	14.9		6.0	30.8		25.3	22.7		2.2	19.1	
Ref Time Seperate (s)	2.1	14.9		6.0	30.8		25.3	22.7		2.2	19.1	
Reference Time (s)	14.9	14.9		30.8	30.8		25.3	25.3		19.1	19.1	
Adj Reference Time (s)	20.9	20.9		35.3	35.3		29.8	29.8		23.6	23.6	

Summary	EB WB	NB SB	Combined
Protected Option (s)	44.8	53.4	
Permitted Option (s)	95.0	383.9	
Split Option (s)	56.2	53.4	
Minimum (s)	44.8	53.4	98.2

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	17.4	13.2	14.6	9.5
Cross Thru Ref Time (s)	23.6	27.2	20.9	35.3
Oncoming Left Ref Time (s)	10.5	9.5	9.5	29.8
Combined (s)	51.5	49.9	45.0	74.6

Intersection Summary			
Intersection Capacity Utilization	81.8%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	7	233	17	20	960
Future Vol, veh/h	15	7	233	17	20	960
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	12	248	40	30	1067

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	862	144	0	0	288	0
Stage 1	268	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	294	877	-	-	1271	-
Stage 1	753	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	287	877	-	-	1271	-
Mov Cap-2 Maneuver	396	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	502	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	486	1271	-
HCM Lane V/C Ratio	-	-	0.074	0.023	-
HCM Control Delay (s)	-	-	13	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection						
Int Delay, s/veh	3.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	33	0	1	21	0
Future Vol, veh/h	4	33	0	1	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	35	0	1	22	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	39	0	23	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1571	-	993	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1571	-	993	1055
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1571	-
HCM Lane V/C Ratio	0.022	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	21	6	238	52	16	959
Future Vol, veh/h	21	6	238	52	16	959
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	6	251	55	17	1009

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	818	153	0	0	306	0
Stage 1	279	-	-	-	-	-
Stage 2	539	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	314	866	-	-	1252	-
Stage 1	743	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	304	866	-	-	1252	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	743	-	-	-	-	-
Stage 2	532	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	414	866	1252	-
HCM Lane V/C Ratio	-	-	0.053	0.007	0.013	-
HCM Control Delay (s)	-	-	14.2	9.2	7.9	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	49	1033	569	105	320	59	228	621	126	105	443	48
Pedestrians			21			9			26			4
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	49	1033	569	105	320	59	228	621	126	105	443	48
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.4	0.0	0.0	1.1	0.0	0.0	2.9	0.0	0.0	0.5
Pedestrian Frequency (%)		0.50			0.26			0.58			0.12	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.4	36.2	47.0	7.4	11.2	5.8	9.2	21.7	12.8	4.2	15.5	4.3
Adj Reference Time (s)	9.5	40.7	51.5	11.9	17.5	13.4	13.7	26.2	17.3	9.5	20.3	9.5
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	51.6	36.2		110.5	11.2		137.3	21.7		63.2	15.5	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		51.6			110.5			137.3			63.2	
Adj Reference Time (s)		56.1			115.0			141.8			67.7	
Split Option												
Ref Time Combined (s)	3.4	36.2		7.4	11.2		9.2	21.7		4.2	15.5	
Ref Time Seperate (s)	3.4	36.2		7.4	11.2		9.2	21.7		4.2	15.5	
Reference Time (s)	36.2	36.2		11.2	11.2		21.7	21.7		15.5	15.5	
Adj Reference Time (s)	40.7	40.7		17.5	17.5		26.2	26.2		20.3	20.3	

Summary	EB WB	NB SB	Combined
Protected Option (s)	52.5	35.7	
Permitted Option (s)	115.0	141.8	
Split Option (s)	58.1	46.6	
Minimum (s)	52.5	35.7	88.3

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	51.5	13.4	17.3	9.5
Cross Thru Ref Time (s)	20.3	26.2	40.7	17.5
Oncoming Left Ref Time (s)	11.9	9.5	9.5	13.7
Combined (s)	83.7	49.2	67.4	40.6

Intersection Summary			
Intersection Capacity Utilization	73.6%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

Appendix D:
Existing Plus Project Synchro Worksheets

Michael Baker
INTERNATIONAL

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	993	31	9	216
Future Vol, veh/h	52	13	993	31	9	216
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	22	1079	40	13	313

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1284	562	0	0	1121	0
Stage 1	1101	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	157	470	-	-	619	-
Stage 1	280	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	153	469	-	-	618	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	279	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	26.9		0		0.5	
HCM LOS	D					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	264	618	-
HCM Lane V/C Ratio	-	-	0.385	0.022	-
HCM Control Delay (s)	-	-	26.9	11	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	32	0	31	34	0
Future Vol, veh/h	8	32	0	31	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	34	0	33	36	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	58	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1567	-	949	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1567	-	949	1051
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1567	-
HCM Lane V/C Ratio	0.038	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	1022	1	2	266
Future Vol, veh/h	1	2	1022	1	2	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1076	1	2	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1221	539	0	0	1077	0
Stage 1	1077	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	172	487	-	-	643	-
Stage 1	288	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	171	487	-	-	643	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	368	643	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	14.9	10.6	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	18	1020	50	15	252
Future Vol, veh/h	63	18	1020	50	15	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	19	1074	53	16	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1266	564	0	0	1127	0
Stage 1	1101	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	161	469	-	-	616	-
Stage 1	280	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	156	469	-	-	616	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	238	469	616	-
HCM Lane V/C Ratio	-	-	0.279	0.04	0.026	-
HCM Control Delay (s)	-	-	25.9	13	11	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	428	136	86	884	48	631	649	101	54	545	51
Pedestrians			20			10			19			11
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	36	428	136	86	884	48	631	649	101	54	545	51
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	2.2	0.0	0.0	1.4
Pedestrian Frequency (%)		0.49			0.28			0.47			0.31	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	2.5	15.0	13.0	6.0	31.0	5.0	25.3	22.7	10.1	2.2	19.1	5.4
Adj Reference Time (s)	9.5	21.0	17.5	10.5	35.5	13.2	29.8	27.2	14.6	9.5	23.6	9.9
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	37.9	15.0		90.5	31.0		380.0	22.7		32.5	19.1	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		37.9			90.5			380.0			32.5	
Adj Reference Time (s)		42.4			95.0			384.5			37.0	
Split Option												
Ref Time Combined (s)	2.5	15.0		6.0	31.0		25.3	22.7		2.2	19.1	
Ref Time Seperate (s)	2.5	15.0		6.0	31.0		25.3	22.7		2.2	19.1	
Reference Time (s)	15.0	15.0		31.0	31.0		25.3	25.3		19.1	19.1	
Adj Reference Time (s)	21.0	21.0		35.5	35.5		29.8	29.8		23.6	23.6	

Summary	EB WB	NB SB	Combined
Protected Option (s)	45.0	53.4	
Permitted Option (s)	95.0	384.5	
Split Option (s)	56.4	53.4	
Minimum (s)	45.0	53.4	98.4

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	17.5	13.2	14.6	9.9
Cross Thru Ref Time (s)	23.6	27.2	21.0	35.5
Oncoming Left Ref Time (s)	10.5	9.5	9.5	29.8
Combined (s)	51.6	49.9	45.1	75.1

Intersection Summary			
Intersection Capacity Utilization	82.0%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	8	239	17	21	966
Future Vol, veh/h	15	8	239	17	21	966
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	14	254	40	31	1073

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	873	147	0	0	294	0
Stage 1	274	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	289	873	-	-	1264	-
Stage 1	747	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	873	-	-	1264	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	491	1264	-
HCM Lane V/C Ratio	-	-	0.077	0.025	-
HCM Control Delay (s)	-	-	12.9	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	34	0	1	22	0
Future Vol, veh/h	4	34	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	36	0	1	23	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	40	0	23	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1570	-	993	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1570	-	993	1055
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1570	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	254	1	2	979
Future Vol, veh/h	1	2	254	1	2	979
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	267	1	2	1031

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	788	134	0	0	268	0
Stage 1	268	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	328	890	-	-	1293	-
Stage 1	753	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	327	890	-	-	1293	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	559	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	661	1293	-
HCM Lane V/C Ratio	-	-	0.005	0.002	-
HCM Control Delay (s)	-	-	10.5	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	10	239	64	20	960
Future Vol, veh/h	32	10	239	64	20	960
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	11	252	67	21	1011

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	834	160	0	0	319	0
Stage 1	286	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	307	857	-	-	1238	-
Stage 1	737	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	857	-	-	1238	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	406	857	1238	-
HCM Lane V/C Ratio	-	-	0.083	0.012	0.017	-
HCM Control Delay (s)	-	-	14.7	9.3	8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	56	1037	570	105	324	59	229	621	126	105	443	55
Pedestrians			21			9			26			4
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	56	1037	570	105	324	59	229	621	126	105	443	55
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.4	0.0	0.0	1.1	0.0	0.0	2.9	0.0	0.0	0.5
Pedestrian Frequency (%)		0.50			0.26			0.58			0.12	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.9	36.3	47.1	7.4	11.3	5.8	9.2	21.7	12.8	4.2	15.5	4.8
Adj Reference Time (s)	9.5	40.8	51.6	11.9	17.6	13.4	13.7	26.2	17.3	9.5	20.3	9.5
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	58.9	36.3		110.5	11.3		137.9	21.7		63.2	15.5	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		58.9			110.5			137.9			63.2	
Adj Reference Time (s)		63.4			115.0			142.4			67.7	
Split Option												
Ref Time Combined (s)	3.9	36.3		7.4	11.3		9.2	21.7		4.2	15.5	
Ref Time Seperate (s)	3.9	36.3		7.4	11.3		9.2	21.7		4.2	15.5	
Reference Time (s)	36.3	36.3		11.3	11.3		21.7	21.7		15.5	15.5	
Adj Reference Time (s)	40.8	40.8		17.6	17.6		26.2	26.2		20.3	20.3	

Summary	EB WB	NB SB	Combined
Protected Option (s)	52.7	35.7	
Permitted Option (s)	115.0	142.4	
Split Option (s)	58.4	46.6	
Minimum (s)	52.7	35.7	88.4

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	51.6	13.4	17.3	9.5
Cross Thru Ref Time (s)	20.3	26.2	40.8	17.6
Oncoming Left Ref Time (s)	11.9	9.5	9.5	13.7
Combined (s)	83.8	49.2	67.6	40.8

Intersection Summary			
Intersection Capacity Utilization	73.7%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

Appendix E: Opening Year 2026 Without Project Synchro Worksheets

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	23	1051	35	15	245
Future Vol, veh/h	58	23	1051	35	15	245
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	38	1142	45	22	355

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1389	596	0	0	1189	0
Stage 1	1167	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	134	447	-	-	583	-
Stage 1	258	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	129	446	-	-	582	-
Mov Cap-2 Maneuver	215	-	-	-	-	-
Stage 1	257	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.5	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	255	582	-
HCM Lane V/C Ratio	-	-	0.5	0.038	-
HCM Control Delay (s)	-	-	32.5	11.4	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	2.6	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	42	4	31	49	5
Future Vol, veh/h	8	42	4	31	49	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	44	4	33	52	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	71	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1554	-	933	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1554	-	930	1044
Mov Cap-2 Maneuver	-	-	-	-	930	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	939	-	-	1554	-
HCM Lane V/C Ratio	0.061	-	-	0.003	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	1085	0	0	304
Future Vol, veh/h	0	0	1085	0	0	304
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	1142	0	0	320

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1302	571	0	0	-	-
Stage 1	1142	-	-	-	-	-
Stage 2	160	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	152	464	-	-	0	-
Stage 1	266	-	-	-	0	-
Stage 2	852	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	464	-	-	-	-
Mov Cap-2 Maneuver	228	-	-	-	-	-
Stage 1	266	-	-	-	-	-
Stage 2	852	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	80	62	1075	81	18	285
Future Vol, veh/h	80	62	1075	81	18	285
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	65	1132	85	19	300

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1363	609	0	0	1217	0
Stage 1	1175	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	139	438	-	-	569	-
Stage 1	256	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	438	-	-	569	-
Mov Cap-2 Maneuver	216	-	-	-	-	-
Stage 1	256	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	24.4	0	0.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	216	438	569	-
HCM Lane V/C Ratio	-	-	0.39	0.149	0.033	-
HCM Control Delay (s)	-	-	31.9	14.7	11.5	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.5	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	472	157	117	941	59	652	663	120	61	564	75
Pedestrians			20			10			19			11
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	48	472	157	117	941	59	652	663	120	61	564	75
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	2.2	0.0	0.0	1.4
Pedestrian Frequency (%)		0.49			0.28			0.47			0.31	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.4	16.5	14.6	8.2	32.9	5.9	26.2	23.2	11.6	2.4	19.7	7.2
Adj Reference Time (s)	9.5	21.7	19.1	12.7	37.4	13.8	30.7	27.7	16.1	9.5	24.2	11.7
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	50.5	16.5		123.2	32.9		392.7	23.2		36.7	19.7	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		50.5			123.2			392.7			36.7	
Adj Reference Time (s)		55.0			127.7			397.2			41.2	
Split Option												
Ref Time Combined (s)	3.4	16.5		8.2	32.9		26.2	23.2		2.4	19.7	
Ref Time Seperate (s)	3.4	16.5		8.2	32.9		26.2	23.2		2.4	19.7	
Reference Time (s)	16.5	16.5		32.9	32.9		26.2	26.2		19.7	19.7	
Adj Reference Time (s)	21.7	21.7		37.4	37.4		30.7	30.7		24.2	24.2	

Summary	EB WB	NB SB	Combined
Protected Option (s)	46.9	54.9	
Permitted Option (s)	127.7	397.2	
Split Option (s)	59.2	54.9	
Minimum (s)	46.9	54.9	101.9

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	19.1	13.8	16.1	11.7
Cross Thru Ref Time (s)	24.2	27.7	21.7	37.4
Oncoming Left Ref Time (s)	12.7	9.5	9.5	30.7
Combined (s)	56.1	51.0	47.4	79.9

Intersection Summary			
Intersection Capacity Utilization	84.9%	ICU Level of Service	E

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	11	264	22	30	1014
Future Vol, veh/h	17	11	264	22	30	1014
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	19	281	52	45	1127

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	961	167	0	0	333	0
Stage 1	307	-	-	-	-	-
Stage 2	654	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	254	848	-	-	1223	-
Stage 1	719	-	-	-	-	-
Stage 2	479	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	245	848	-	-	1223	-
Mov Cap-2 Maneuver	359	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	461	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	471	1223	-
HCM Lane V/C Ratio	-	-	0.098	0.037	-
HCM Control Delay (s)	-	-	13.5	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	49	5	1	27	2
Future Vol, veh/h	4	49	5	1	27	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	52	5	1	28	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	56	0	41	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1549	-	970	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1549	-	967	1044
Mov Cap-2 Maneuver	-	-	-	-	967	-
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	972	-	-	1549	-
HCM Lane V/C Ratio	0.031	-	-	0.003	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	287	0	0	1032
Future Vol, veh/h	0	0	287	0	0	1032
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	302	0	0	1086

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	845	151	0	0	-	-
Stage 1	302	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	-	-
Pot Cap-1 Maneuver	302	868	-	-	0	-
Stage 1	724	-	-	-	0	-
Stage 2	546	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	302	868	-	-	-	-
Mov Cap-2 Maneuver	417	-	-	-	-	-
Stage 1	724	-	-	-	-	-
Stage 2	546	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	-
HCM Lane LOS	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	32	25	270	115	26	1005
Future Vol, veh/h	32	25	270	115	26	1005
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	26	284	121	27	1058

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	928	203	0	0	405	0
Stage 1	345	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	267	804	-	-	1150	-
Stage 1	688	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	252	804	-	-	1150	-
Mov Cap-2 Maneuver	371	-	-	-	-	-
Stage 1	688	-	-	-	-	-
Stage 2	491	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	371	804	1150	-
HCM Lane V/C Ratio	-	-	0.091	0.033	0.024	-
HCM Control Delay (s)	-	-	15.7	9.6	8.2	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	70	1081	584	124	365	66	252	637	152	115	454	66
Pedestrians			21			9			26			4
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	70	1081	584	124	365	66	252	637	152	115	454	66
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.4	0.0	0.0	1.1	0.0	0.0	2.9	0.0	0.0	0.5
Pedestrian Frequency (%)		0.50			0.26			0.58			0.12	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	4.9	37.9	48.2	8.7	12.8	6.3	10.1	22.3	14.8	4.6	15.9	5.7
Adj Reference Time (s)	9.5	42.4	52.7	13.2	18.6	13.8	14.6	26.8	19.3	9.5	20.7	10.2
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	73.7	37.9		130.5	12.8		151.8	22.3		69.3	15.9	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		73.7			130.5			151.8			69.3	
Adj Reference Time (s)		78.2			135.0			156.3			73.8	
Split Option												
Ref Time Combined (s)	4.9	37.9		8.7	12.8		10.1	22.3		4.6	15.9	
Ref Time Seperate (s)	4.9	37.9		8.7	12.8		10.1	22.3		4.6	15.9	
Reference Time (s)	37.9	37.9		12.8	12.8		22.3	22.3		15.9	15.9	
Adj Reference Time (s)	42.4	42.4		18.6	18.6		26.8	26.8		20.7	20.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	55.6	36.3	
Permitted Option (s)	135.0	156.3	
Split Option (s)	61.0	47.5	
Minimum (s)	55.6	36.3	91.9

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	52.7	13.8	19.3	10.2
Cross Thru Ref Time (s)	20.7	26.8	42.4	18.6
Oncoming Left Ref Time (s)	13.2	9.5	9.5	14.6
Combined (s)	86.6	50.1	71.2	43.4

Intersection Summary			
Intersection Capacity Utilization	76.5%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

Appendix F:
Opening Year 2026 Plus Project Synchro Worksheets

Michael Baker
INTERNATIONAL

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	24	1056	35	16	251
Future Vol, veh/h	58	24	1056	35	16	251
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	40	1148	45	24	364

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1403	599	0	0	1195	0
Stage 1	1173	-	-	-	-	-
Stage 2	230	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	131	445	-	-	580	-
Stage 1	256	-	-	-	-	-
Stage 2	786	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	444	-	-	579	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	754	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	33.2	0	0.7
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	253	579	-
HCM Lane V/C Ratio	-	-	0.511	0.041	-
HCM Control Delay (s)	-	-	33.2	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	2.7	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	43	4	31	50	5
Future Vol, veh/h	8	43	4	31	50	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	45	4	33	53	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	72	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1553	-	932	1043
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1553	-	929	1043
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	938	-	-	1553	-
HCM Lane V/C Ratio	0.062	-	-	0.003	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	1088	1	2	308
Future Vol, veh/h	1	2	1088	1	2	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1145	1	2	324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1312	573	0	0	1146	0
Stage 1	1146	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	150	463	-	-	605	-
Stage 1	265	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	149	463	-	-	605	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	344	605	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	15.6	11	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	90	65	1076	94	22	286
Future Vol, veh/h	90	65	1076	94	22	286
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	68	1133	99	23	301

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1380	616	0	0	1232	0
Stage 1	1183	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	135	433	-	-	561	-
Stage 1	253	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	433	-	-	561	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	253	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.5	0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	213	433	561	-
HCM Lane V/C Ratio	-	-	0.445	0.158	0.041	-
HCM Control Delay (s)	-	-	34.8	14.9	11.7	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	2.1	0.6	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	475	158	117	945	59	653	663	120	61	564	82
Pedestrians			20			10			19			11
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	54	475	158	117	945	59	653	663	120	61	564	82
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	2.2	0.0	0.0	1.4
Pedestrian Frequency (%)		0.49			0.28			0.47			0.31	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	3.8	16.6	14.7	8.2	33.1	5.9	26.2	23.2	11.6	2.4	19.7	7.8
Adj Reference Time (s)	9.5	21.8	19.2	12.7	37.6	13.8	30.7	27.7	16.1	9.5	24.2	12.3
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	56.8	16.6		123.2	33.1		393.3	23.2		36.7	19.7	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		56.8			123.2			393.3			36.7	
Adj Reference Time (s)		61.3			127.7			397.8			41.2	
Split Option												
Ref Time Combined (s)	3.8	16.6		8.2	33.1		26.2	23.2		2.4	19.7	
Ref Time Seperate (s)	3.8	16.6		8.2	33.1		26.2	23.2		2.4	19.7	
Reference Time (s)	16.6	16.6		33.1	33.1		26.2	26.2		19.7	19.7	
Adj Reference Time (s)	21.8	21.8		37.6	37.6		30.7	30.7		24.2	24.2	

Summary	EB WB	NB SB	Combined
Protected Option (s)	47.1	55.0	
Permitted Option (s)	127.7	397.8	
Split Option (s)	59.4	55.0	
Minimum (s)	47.1	55.0	102.1

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	19.2	13.8	16.1	12.3
Cross Thru Ref Time (s)	24.2	27.7	21.8	37.6
Oncoming Left Ref Time (s)	12.7	9.5	9.5	30.7
Combined (s)	56.2	51.0	47.4	80.6

Intersection Summary			
Intersection Capacity Utilization	85.0%	ICU Level of Service	E

Reference Times and Phasing Options do not represent an optimized timing plan.

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	12	270	22	31	1020
Future Vol, veh/h	17	12	270	22	31	1020
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	21	287	52	46	1133

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	972	170	0	0	339	0
Stage 1	313	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	250	844	-	-	1217	-
Stage 1	715	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	844	-	-	1217	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	1217	-
HCM Lane V/C Ratio	-	-	0.1	0.038	-
HCM Control Delay (s)	-	-	13.4	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	50	5	1	28	2
Future Vol, veh/h	4	50	5	1	28	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	53	5	1	29	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	57	0	42	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1547	-	969	1043
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1547	-	966	1043
Mov Cap-2 Maneuver	-	-	-	-	966	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	971	-	-	1547	-
HCM Lane V/C Ratio	0.033	-	-	0.003	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	291	1	2	1036
Future Vol, veh/h	1	2	291	1	2	1036
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	306	1	2	1091

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	857	154	0	0	307	0
Stage 1	307	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	296	864	-	-	1250	-
Stage 1	719	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	864	-	-	1250	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	632	1250	-
HCM Lane V/C Ratio	-	-	0.005	0.002	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	43	29	271	127	30	1006
Future Vol, veh/h	43	29	271	127	30	1006
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	31	285	134	32	1059

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	946	210	0	0	419	0
Stage 1	352	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	260	796	-	-	1137	-
Stage 1	683	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	242	796	-	-	1137	-
Mov Cap-2 Maneuver	362	-	-	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	479	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.7	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	362	796	1137	-
HCM Lane V/C Ratio	-	-	0.125	0.038	0.028	-
HCM Control Delay (s)	-	-	16.4	9.7	8.3	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	77	1085	585	124	369	66	253	637	152	115	454	73
Pedestrians			21			9			26			4
Ped Button		Yes			Yes			Yes			Yes	
Pedestrian Timing (s)		18.0			18.0			18.0			18.0	
Free Right			No			No			No			No
Ideal Flow	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Minimum Green (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Refr Cycle Length (s)	120	120	120	120	120	120	120	120	120	120	120	120
Volume Combined (vph)	77	1085	585	124	369	66	253	637	152	115	454	73
Lane Utilization Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Turning Factor (vph)	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Saturated Flow (vph)	1710	3427	1530	1710	3427	1530	2989	3427	1530	2989	3427	1530
Ped Intf Time (s)	0.0	0.0	2.4	0.0	0.0	1.1	0.0	0.0	2.9	0.0	0.0	0.5
Pedestrian Frequency (%)		0.50			0.26			0.58			0.12	
Protected Option Allowed		Yes			Yes			Yes			Yes	
Reference Time (s)	5.4	38.0	48.3	8.7	12.9	6.3	10.2	22.3	14.8	4.6	15.9	6.2
Adj Reference Time (s)	9.9	42.5	52.8	13.2	18.7	13.8	14.7	26.8	19.3	9.5	20.7	10.7
Permitted Option												
Adj Saturation A (vph)	114	1714		114	1714		100	1714		100	1714	
Reference Time A (s)	81.1	38.0		130.5	12.9		152.4	22.3		69.3	15.9	
Adj Saturation B (vph	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time B (s)	NA	NA		NA	NA		NA	NA		NA	NA	
Reference Time (s)		81.1			130.5			152.4			69.3	
Adj Reference Time (s)		85.6			135.0			156.9			73.8	
Split Option												
Ref Time Combined (s)	5.4	38.0		8.7	12.9		10.2	22.3		4.6	15.9	
Ref Time Seperate (s)	5.4	38.0		8.7	12.9		10.2	22.3		4.6	15.9	
Reference Time (s)	38.0	38.0		12.9	12.9		22.3	22.3		15.9	15.9	
Adj Reference Time (s)	42.5	42.5		18.7	18.7		26.8	26.8		20.7	20.7	

Summary	EB WB	NB SB	Combined
Protected Option (s)	55.7	36.3	
Permitted Option (s)	135.0	156.9	
Split Option (s)	61.2	47.5	
Minimum (s)	55.7	36.3	92.0

Right Turns	EBR	WBR	NBR	SBR
Adj Reference Time (s)	52.8	13.8	19.3	10.7
Cross Thru Ref Time (s)	20.7	26.8	42.5	18.7
Oncoming Left Ref Time (s)	13.2	9.9	9.5	14.7
Combined (s)	86.7	50.5	71.3	44.1

Intersection Summary			
Intersection Capacity Utilization	76.7%	ICU Level of Service	D

Reference Times and Phasing Options do not represent an optimized timing plan.

ATTACHMENT G-1: TRANSPORTATION EVALUATION (93 ROOMS)

Technical Memorandum

Date: October 11, 2024

To: City of Arcadia

From: Jacob Swim, TE, Michael Baker International

CC: Pei-Ming Chou, Michael Baker International
John Bellas, Michael Baker International

Subject: Tempo By Hilton – Transportation Evaluation (93 Rooms)

Michael Baker International (Michael Baker) evaluated the potential impacts associated with the increase of two hotel rooms (from 91 rooms to 93 rooms) at the proposed Tempo by Hilton (Project). The purpose of this technical memorandum is to determine if the two additional hotel rooms would require additional improvements beyond what has been identified in the Transportation Impact Analysis (TIA) dated September 24, 2024.

A trip generation comparison table was prepared to show the increase in vehicular daily and peak hour trips associated with the increase in two hotel rooms. The *Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition)* was used to calculate the trip generation rates as summarized in **Table 1** utilizing the fitted curve equations which are based on the proposed land use quantity. **Table 2** summarizes the vehicular trip generation forecast comparison which shows the two additional rooms generate 22 more daily trips with one more AM peak hour trip and two more PM peak hour trips.

TABLE 1- ITE TRIP GENERATION RATES

Land Use	ITE Code [1]	Daily Trip Rate	AM Peak Hour Rate		PM Peak Hour Rate	
			Total	In : Out	Total	In : Out
Hotel	310	T = 10.84(X) - 423.51	T = 0.50(X) - 7.45	56% : 44%	T = 0.74(X) - 27.89	51% : 49%

[1] Source: ITE Trip Generation Manual, 11th Edition. Rates shown are based on fitted curve equation.

TABLE 2 - PROJECT TRIP GENERATION COMPARISON

Land Use	Intensity		Daily Trips	AM Peak Hour Trips				PM Peak Hour Trips			
				Total	In	:	Out	Total	In	:	Out
Proposed Project											
Hotel	91	Rooms	563	38	21	:	17	39	20	:	19
	93	Rooms	585	39	22	:	17	41	21	:	20
Difference in Trips			22	1	1	:	0	2	1	:	1

Table 3 compares the Existing Plus Project Conditions AM/PM peak hour LOS for all study intersections assuming 91 rooms and 93 rooms. Detailed analysis sheets are contained in **Appendix A**.

As shown in **Table 3**, all study intersections are forecast to operate at an acceptable level of service (D or better) under Existing Plus Project Conditions during the AM and PM peak hour with 91 rooms and 93 rooms. At Colorado Place and San Juan Drive, the change in delay increased from 12.6 seconds (LOS B) with 91 rooms to 12.9 seconds (LOS B) with 93 rooms. However, the LOS remains "B" which is considered acceptable operating conditions. The increase in two hotel rooms did not change the delay or LOS at the other study intersections. Therefore, no physical improvements to the study intersections are required under Existing Plus Project conditions.

TABLE 3 - EXISTING PLUS PROJECT AM/PM PEAK HOUR INTERSECTION LOS COMPARISON

Study Intersection	Existing Plus Project (91 Rooms)		Existing Plus Project (93 Rooms)		Change in V/C		Fair Share Required?
	AM	PM	AM	PM			
	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	AM	PM	
1 - Colorado Place & San Juan Drive	26.9 - D	12.6 - B	26.9 - D	12.9 - B	0.0	0.3	No
2 - Project Driveway #1 & San Juan Drive	8.9 - A	8.7 - A	8.9 - A	8.7 - A	0.0	0.0	No
3 - Project Driveway #2 & Colorado Place	14.9 - B	10.5 - B	14.9 - B	10.5 - B	0.0	0.0	No
4 - Colorado Place & Project Driveway #3	23.0 - C	13.4 - B	23.0 - C	13.4 - B	0.0	0.0	No
5 - Santa Anita Avenue and Huntington Drive	.820 - D	.737 - C	.820 - D	.737 - C	0.0	0.0	No

Deficient intersection operation indicated in **bold**.
At Santa Anita Ave & Huntington Dr, the ICU Methodology showing V/C ratio is presented.
[1] Delay is expressed in seconds per vehicle for unsignalized intersections.
LOS = level of service.

Table 4 compares the Opening Year 2026 Plus Project AM and PM peak hour LOS for all study intersections assuming 91 rooms and 93 rooms. Detailed analysis sheets are contained in **Appendix A**. As shown in **Table 4**, all study intersections are forecast to operate at an acceptable level of service (D or better) under Opening Year 2026 Plus Project conditions under the AM and PM peak hour except for the intersection of Santa Anita Avenue & Huntington Drive which is expected to operate at LOS E during the AM peak period. However, as analyzed in the *Transportation Impact Analysis for Tempo by Hilton* (TIA) prepared by Michael Baker, dated September 24, 2024, the change in V/C ratio with Project traffic (assuming 91 rooms) does not exceed the City's change in v/c threshold of 0.01 for intersections operating at LOS E. As shown in **Table 4**, the change in V/C ratio with the addition of 2 rooms to a total of 93 rooms would not increase. Therefore, improvements are **not** required at the signalized intersection of Santa Anita Avenue & Huntington Drive.

TABLE 4 - OPENING YEAR 2026 PLUS PROJECT AM/PM PEAK HOUR INTERSECTION LOS COMPARISON

Study Intersection	Opening Year 2026 Plus Project Conditions (91 Rooms)		Opening Year 2026 Plus Project Conditions (93 Rooms)		Change in V/C		Fair Share Required?
	AM	PM	AM	PM			
	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	Delay[1] - LOS	AM	PM	
1 - Colorado Place & San Juan Drive	32.2 - D	13.0 - B	32.2 - D	13.4 - B	0.0	0.4	No
2 - Project Driveway #1 & San Juan Drive	9.1 - A	8.8 - A	9.1 - A	8.8 - A	0.0	0.0	No
3 - Project Driveway #2 & Colorado Place	15.6 - C	10.7 - B	15.6 - C	10.7 - B	0.0	0.0	No
4 - Colorado Place & Project Driveway #3	27.2 - D	14.3 - B	27.2 - D	14.3 - B	0.0	0.0	No
5 - Santa Anita Avenue and Huntington Driveway	**0.850 - E**	0.767 - D	**0.850 - E**	0.767 - D	0.000	0.000	No

Note: Deficient intersection operation indicated in **bold**.
At Santa Anita Ave & Huntington Dr, the ICU Methodology showing V/C ratio is presented.
[1] Average Seconds of Delay per Vehicle
LOS = level of service.

The results of this analysis assuming 93 hotel rooms show that a fair share contribution at any of the study intersections is NOT required. Further, the analysis shows that adding two additional rooms to the hotel does not change the results or conclusions found in the TIA dated September 24, 2024.

Appendix A

Existing Plus Project & Opening Year 2026 Plus Project HCM Worksheets (Assuming 93 Rooms)

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	52	13	993	31	9	217
Future Vol, veh/h	52	13	993	31	9	217
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	22	1079	40	13	314

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1284	562	0	0	1121	0
Stage 1	1101	-	-	-	-	-
Stage 2	183	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	157	470	-	-	619	-
Stage 1	280	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	153	469	-	-	618	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	279	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.9	0	0.4
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	264	618	-
HCM Lane V/C Ratio	-	-	0.385	0.022	-
HCM Control Delay (s)	-	-	26.9	11	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	32	0	31	34	0
Future Vol, veh/h	8	32	0	31	34	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	34	0	33	36	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	58	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	33	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1567	-	949	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1567	-	949	1051
Mov Cap-2 Maneuver	-	-	-	-	949	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	989	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1567	-
HCM Lane V/C Ratio	0.038	-	-	-	-
HCM Control Delay (s)	8.9	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.1					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	1022	1	2	266
Future Vol, veh/h	1	2	1022	1	2	266
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1076	1	2	280

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1221	539	0	0	1077	0
Stage 1	1077	-	-	-	-	-
Stage 2	144	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	172	487	-	-	643	-
Stage 1	288	-	-	-	-	-
Stage 2	868	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	171	487	-	-	643	-
Mov Cap-2 Maneuver	247	-	-	-	-	-
Stage 1	288	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.9	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	368	643	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	14.9	10.6	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	18	1020	50	15	252
Future Vol, veh/h	63	18	1020	50	15	252
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	19	1074	53	16	265

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1266	564	0	0	1127	0
Stage 1	1101	-	-	-	-	-
Stage 2	165	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	161	469	-	-	616	-
Stage 1	280	-	-	-	-	-
Stage 2	847	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	156	469	-	-	616	-
Mov Cap-2 Maneuver	238	-	-	-	-	-
Stage 1	280	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	238	469	616	-
HCM Lane V/C Ratio	-	-	0.279	0.04	0.026	-
HCM Control Delay (s)	-	-	25.9	13	11	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	1.1	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	428	136	86	884	48	631	649	101	54	545	52
Future Volume (vph)	36	428	136	86	884	48	631	649	101	54	545	52
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1676	3353	1462	1676	3353	1460	2927	3353	1447	2927	3353	1461
Flt Permitted	0.16	1.00	1.00	0.34	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	276	3353	1462	597	3353	1460	2927	3353	1447	2927	3353	1461
Peak-hour factor, PHF	0.63	0.89	0.91	0.86	0.88	0.75	0.98	0.88	0.65	0.71	0.81	0.79
Adj. Flow (vph)	57	481	149	100	1005	64	644	738	155	76	673	66
RTOR Reduction (vph)	0	0	58	0	0	44	0	0	62	0	0	48
Lane Group Flow (vph)	57	481	91	100	1005	20	644	738	93	76	673	18
Confl. Peds. (#/hr)			20			10			19			11
Confl. Bikes (#/hr)			9						3			4
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	29.5	25.6	46.1	33.5	27.6	27.6	20.5	36.6	42.5	3.9	20.0	23.9
Effective Green, g (s)	29.5	25.6	46.1	33.5	27.6	27.6	20.5	36.6	42.5	3.9	20.0	23.9
Actuated g/C Ratio	0.33	0.28	0.51	0.37	0.31	0.31	0.23	0.41	0.47	0.04	0.22	0.27
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	151	953	821	292	1028	447	666	1363	755	126	745	461
v/s Ratio Prot	0.02	0.14	0.03	c0.02	c0.30		c0.22	0.22	0.01	0.03	c0.20	0.00
v/s Ratio Perm	0.11		0.04	0.10		0.01			0.06			0.01
v/c Ratio	0.38	0.50	0.11	0.34	0.98	0.04	0.97	0.54	0.12	0.60	0.90	0.04
Uniform Delay, d1	23.3	26.9	11.4	19.3	30.9	21.9	34.4	20.3	13.3	42.3	34.1	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.4	0.1	0.7	22.5	0.0	26.6	0.4	0.1	7.9	14.3	0.0
Delay (s)	24.8	27.3	11.4	20.0	53.4	22.0	61.0	20.8	13.4	50.2	48.3	24.6
Level of Service	C	C	B	B	D	C	E	C	B	D	D	C
Approach Delay (s)		23.7			48.8			36.9			46.6	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	15	8	239	17	21	966
Future Vol, veh/h	15	8	239	17	21	966
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	14	254	40	31	1073

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	873	147	0	0	294	0
Stage 1	274	-	-	-	-	-
Stage 2	599	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	289	873	-	-	1264	-
Stage 1	747	-	-	-	-	-
Stage 2	511	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	282	873	-	-	1264	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	747	-	-	-	-	-
Stage 2	498	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	491	1264	-
HCM Lane V/C Ratio	-	-	0.077	0.025	-
HCM Control Delay (s)	-	-	12.9	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	34	0	1	22	0
Future Vol, veh/h	4	34	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	36	0	1	23	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	40	0	23	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	1	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1570	-	993	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1570	-	993	1055
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	1022	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	993	-	-	1570	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	8.7	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	254	1	2	979
Future Vol, veh/h	1	2	254	1	2	979
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	267	1	2	1031

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	788	134	0	0	268	0
Stage 1	268	-	-	-	-	-
Stage 2	520	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	328	890	-	-	1293	-
Stage 1	753	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	327	890	-	-	1293	-
Mov Cap-2 Maneuver	436	-	-	-	-	-
Stage 1	753	-	-	-	-	-
Stage 2	559	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	661	1293	-
HCM Lane V/C Ratio	-	-	0.005	0.002	-
HCM Control Delay (s)	-	-	10.5	7.8	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	10	239	65	20	960
Future Vol, veh/h	33	10	239	65	20	960
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	11	252	68	21	1011

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	834	160	0	0	320	0
Stage 1	286	-	-	-	-	-
Stage 2	548	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	307	857	-	-	1237	-
Stage 1	737	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	857	-	-	1237	-
Mov Cap-2 Maneuver	406	-	-	-	-	-
Stage 1	737	-	-	-	-	-
Stage 2	522	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	406	857	1237	-
HCM Lane V/C Ratio	-	-	0.086	0.012	0.017	-
HCM Control Delay (s)	-	-	14.7	9.3	8	-
HCM Lane LOS	-	-	B	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	1037	570	105	324	59	229	621	126	105	443	55
Future Volume (vph)	56	1037	570	105	324	59	229	621	126	105	443	55
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1676	3353	1459	1676	3353	1461	2927	3353	1439	2927	3353	1479
Flt Permitted	0.54	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	958	3353	1459	238	3353	1461	2927	3353	1439	2927	3353	1479
Peak-hour factor, PHF	0.72	0.93	0.95	0.91	0.93	0.82	0.91	0.79	0.75	0.82	0.91	0.86
Adj. Flow (vph)	78	1115	600	115	348	72	252	786	168	128	487	64
RTOR Reduction (vph)	0	0	47	0	0	46	0	0	45	0	0	48
Lane Group Flow (vph)	78	1115	553	115	348	26	252	786	123	128	487	16
Confl. Peds. (#/hr)			21			9			26			4
Confl. Bikes (#/hr)			1			3			5			
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	31.6	27.7	41.4	35.6	29.7	29.7	13.7	26.1	32.0	5.0	17.4	21.3
Effective Green, g (s)	31.6	27.7	41.4	35.6	29.7	29.7	13.7	26.1	32.0	5.0	17.4	21.3
Actuated g/C Ratio	0.38	0.33	0.50	0.43	0.36	0.36	0.17	0.32	0.39	0.06	0.21	0.26
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	399	1123	809	205	1204	524	484	1058	635	176	705	461
v/s Ratio Prot	0.01	c0.33	c0.11	c0.04	0.10		0.09	c0.23	0.01	0.04	0.15	0.00
v/s Ratio Perm	0.07		0.27	0.20		0.02			0.07			0.01
v/c Ratio	0.20	0.99	0.68	0.56	0.29	0.05	0.52	0.74	0.19	0.73	0.69	0.04
Uniform Delay, d1	16.6	27.4	15.7	18.3	19.0	17.3	31.5	25.3	16.8	38.2	30.2	23.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	25.0	2.4	3.5	0.1	0.0	1.0	2.9	0.2	13.9	2.9	0.0
Delay (s)	16.8	52.4	18.1	21.7	19.1	17.3	32.5	28.2	17.0	52.1	33.1	23.0
Level of Service	B	D	B	C	B	B	C	C	B	D	C	C
Approach Delay (s)		39.4			19.4			27.5			35.7	
Approach LOS		D			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	82.7	Sum of lost time (s)	18.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	2.7					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	58	24	1056	35	16	252
Future Vol, veh/h	58	24	1056	35	16	252
Conflicting Peds, #/hr	0	0	0	2	2	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	65	60	92	78	67	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	40	1148	45	24	365

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1404	599	0	0	1195	0
Stage 1	1173	-	-	-	-	-
Stage 2	231	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	131	445	-	-	580	-
Stage 1	256	-	-	-	-	-
Stage 2	785	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	125	444	-	-	579	-
Mov Cap-2 Maneuver	212	-	-	-	-	-
Stage 1	255	-	-	-	-	-
Stage 2	753	-	-	-	-	-

Approach	WB		NB		SB	
HCM Control Delay, s	32.2		0		0.7	
HCM LOS	D					

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	253	579	-
HCM Lane V/C Ratio	-	-	0.511	0.041	-
HCM Control Delay (s)	-	-	33.2	11.5	-
HCM Lane LOS	-	-	D	B	-
HCM 95th %tile Q(veh)	-	-	2.7	0.1	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	8	43	4	31	50	5
Future Vol, veh/h	8	43	4	31	50	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	45	4	33	53	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	53	0	72	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1553	-	932	1043
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1553	-	929	1043
Mov Cap-2 Maneuver	-	-	-	-	929	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	978	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	938	-	-	1553	-
HCM Lane V/C Ratio	0.062	-	-	0.003	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	1088	1	2	308
Future Vol, veh/h	1	2	1088	1	2	308
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	1145	1	2	324

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1312	573	0	0	1146	0
Stage 1	1146	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	150	463	-	-	605	-
Stage 1	265	-	-	-	-	-
Stage 2	846	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	149	463	-	-	605	-
Mov Cap-2 Maneuver	227	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	344	605	-
HCM Lane V/C Ratio	-	-	0.009	0.003	-
HCM Control Delay (s)	-	-	15.6	11	-
HCM Lane LOS	-	-	C	B	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	90	65	1076	94	22	286
Future Vol, veh/h	90	65	1076	94	22	286
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	95	68	1133	99	23	301

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1380	616	0	0	1232	0
Stage 1	1183	-	-	-	-	-
Stage 2	197	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	135	433	-	-	561	-
Stage 1	253	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	128	433	-	-	561	-
Mov Cap-2 Maneuver	213	-	-	-	-	-
Stage 1	253	-	-	-	-	-
Stage 2	777	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.2	22.0	0.8
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	213	433	561	-
HCM Lane V/C Ratio	-	-	0.445	0.158	0.041	-
HCM Control Delay (s)	-	-	34.8	14.9	11.7	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	2.1	0.6	0.1	-

HCM Signalized Intersection Capacity Analysis Opening Year 2026 + Project AM Peak Hour (ICU)
5: Santa Anita Ave & Huntington Dr 10/03/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	475	158	117	945	59	653	663	120	61	564	83
Future Volume (vph)	54	475	158	117	945	59	653	663	120	61	564	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1676	3353	1462	1676	3353	1460	2927	3353	1446	2927	3353	1462
Flt Permitted	0.15	1.00	1.00	0.32	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	265	3353	1462	559	3353	1460	2927	3353	1446	2927	3353	1462
Peak-hour factor, PHF	0.63	0.89	0.91	0.86	0.88	0.75	0.98	0.88	0.65	0.71	0.81	0.79
Adj. Flow (vph)	86	534	174	136	1074	79	666	753	185	86	696	105
RTOR Reduction (vph)	0	0	42	0	0	55	0	0	49	0	0	76
Lane Group Flow (vph)	86	534	132	136	1074	24	666	753	136	86	696	29
Confl. Peds. (#/hr)			20			10			19			11
Confl. Bikes (#/hr)			9						3			4
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	31.6	26.6	47.1	33.4	27.5	27.5	20.5	36.4	42.3	4.0	19.9	24.9
Effective Green, g (s)	31.6	26.6	47.1	33.4	27.5	27.5	20.5	36.4	42.3	4.0	19.9	24.9
Actuated g/C Ratio	0.35	0.29	0.52	0.37	0.30	0.30	0.23	0.40	0.47	0.04	0.22	0.27
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	981	829	277	1014	441	660	1342	744	128	734	472
v/s Ratio Prot	0.03	0.16	0.04	c0.03	c0.32		c0.23	0.22	0.01	0.03	c0.21	0.00
v/s Ratio Perm	0.15		0.05	0.15		0.02			0.08			0.02
v/c Ratio	0.51	0.54	0.16	0.49	1.06	0.05	1.01	0.56	0.18	0.67	0.95	0.06
Uniform Delay, d1	23.3	27.1	11.5	20.2	31.7	22.5	35.2	21.1	14.2	42.8	35.0	24.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.6	0.1	1.4	45.3	0.1	37.3	0.5	0.1	13.0	21.2	0.1
Delay (s)	25.7	27.7	11.6	21.6	77.0	22.5	72.5	21.6	14.3	55.8	56.2	24.4
Level of Service	C	C	B	C	E	C	E	C	B	E	E	C
Approach Delay (s)		23.9			67.8			41.9			52.4	
Approach LOS		C			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	48.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	90.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	12	270	22	31	1020
Future Vol, veh/h	17	12	270	22	31	1020
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	65	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	63	58	94	42	67	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	21	287	52	46	1133

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	972	170	0	0	339	0
Stage 1	313	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	250	844	-	-	1217	-
Stage 1	715	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	844	-	-	1217	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	715	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	475	1217	-
HCM Lane V/C Ratio	-	-	0.1	0.038	-
HCM Control Delay (s)	-	-	13.4	8.1	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection						
Int Delay, s/veh	3.3					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	4	50	5	1	28	2
Future Vol, veh/h	4	50	5	1	28	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	53	5	1	29	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	57	0	42	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1547	-	969	1043
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1547	-	966	1043
Mov Cap-2 Maneuver	-	-	-	-	966	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	971	-	-	1547	-
HCM Lane V/C Ratio	0.033	-	-	0.003	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	2	291	1	2	1036
Future Vol, veh/h	1	2	291	1	2	1036
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	2	306	1	2	1091

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	857	154	0	0	307	0
Stage 1	307	-	-	-	-	-
Stage 2	550	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	296	864	-	-	1250	-
Stage 1	719	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	295	864	-	-	1250	-
Mov Cap-2 Maneuver	411	-	-	-	-	-
Stage 1	719	-	-	-	-	-
Stage 2	540	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	632	1250	-
HCM Lane V/C Ratio	-	-	0.005	0.002	-
HCM Control Delay (s)	-	-	10.7	7.9	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection						
Int Delay, s/veh	0.8					

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	44	29	271	128	30	1006
Future Vol, veh/h	44	29	271	128	30	1006
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	65	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	31	285	135	32	1059

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	947	210	0	0	420	0
Stage 1	353	-	-	-	-	-
Stage 2	594	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	259	796	-	-	1136	-
Stage 1	682	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	796	-	-	1136	-
Mov Cap-2 Maneuver	361	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	479	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	361	796	1136	-
HCM Lane V/C Ratio	-	-	0.128	0.038	0.028	-
HCM Control Delay (s)	-	-	16.4	9.7	8.3	-
HCM Lane LOS	-	-	C	A	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	0.1	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1085	585	124	369	66	253	637	152	115	454	73
Future Volume (vph)	77	1085	585	124	369	66	253	637	152	115	454	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1620	1800	1800	1620	1800	1800
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1676	3353	1460	1676	3353	1461	2927	3353	1438	2927	3353	1479
Flt Permitted	0.51	1.00	1.00	0.13	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	896	3353	1460	237	3353	1461	2927	3353	1438	2927	3353	1479
Peak-hour factor, PHF	0.72	0.93	0.95	0.91	0.93	0.82	0.91	0.79	0.75	0.82	0.91	0.86
Adj. Flow (vph)	107	1167	616	136	397	80	278	806	203	140	499	85
RTOR Reduction (vph)	0	0	38	0	0	51	0	0	44	0	0	63
Lane Group Flow (vph)	107	1167	578	136	397	29	278	806	159	140	499	22
Confl. Peds. (#/hr)			21			9			26			4
Confl. Bikes (#/hr)			1			3			5			
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	Prot	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	7	4	5	3	8		5	2	3	1	6	7
Permitted Phases	4		4	8		8			2			6
Actuated Green, G (s)	31.7	27.8	42.3	35.7	29.8	29.8	14.5	26.8	32.7	5.0	17.3	21.2
Effective Green, g (s)	31.7	27.8	42.3	35.7	29.8	29.8	14.5	26.8	32.7	5.0	17.3	21.2
Actuated g/C Ratio	0.38	0.33	0.51	0.43	0.36	0.36	0.17	0.32	0.39	0.06	0.21	0.25
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	376	1116	818	203	1196	521	508	1076	640	175	694	455
v/s Ratio Prot	0.01	c0.35	c0.12	c0.05	0.12		0.09	c0.24	0.02	0.05	0.15	0.00
v/s Ratio Perm	0.09		0.27	0.24		0.02			0.09			0.01
v/c Ratio	0.28	1.05	0.71	0.67	0.33	0.05	0.55	0.75	0.25	0.80	0.72	0.05
Uniform Delay, d1	17.2	27.9	15.8	19.2	19.6	17.6	31.5	25.3	17.1	38.8	30.8	23.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	39.7	2.8	8.1	0.2	0.0	1.2	2.9	0.2	22.4	3.6	0.0
Delay (s)	17.6	67.5	18.6	27.3	19.8	17.7	32.7	28.2	17.3	61.2	34.4	23.6
Level of Service	B	E	B	C	B	B	C	C	B	E	C	C
Approach Delay (s)		48.8			21.2			27.5			38.3	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	37.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	83.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group