



STAFF REPORT

DATE: 08/25/2025
TO: Honorable Chair and Commissioners
FROM: Planning and Development Department

2025-325

APPLICATION REQUEST:

CUP2024-0003: Conditional Use Permit for the construction of 57 townhouse condominium units on 2.87 acres, located at 1717 Via Del Rio (APN 103-200-088 and 103-200-089) in the R-3 (Multiple-Family Residential) Zone. (Applicant: Louisa Feletto, Meritage Homes of California, Inc., 5 Peters Canyon Road, No. 310, Irvine, CA 92606)

RECOMMENDED ACTION:

That the Planning and Housing Commission adopt Resolution No. 2670, GRANTING CUP2024-0003 based on the findings contained in the staff report and conditions of approval.

PROJECT SITE SUMMARY:

Area of Property: 2.87 Acres

Existing Zoning: R3 (Multiple-Family Residential)

Existing General Plan: High Density Residential (HDR, 15-36 du/ac)

Existing Land Use: Church

Proposed Land Use: Townhouse Condominiums

Surrounding Zoning/Land Uses:

N: S (School) / School

E: R3 (Multiple-Family Residential) / Multiple Family Residential

S: R-1-7.2 (Single Family Residential) / Single Family Residential

W: R-1-9.6 (Single Family Residential) / Single Family Residential

EXHIBIT 3

BACKGROUND

The project site is 2.87 acres and contains a church and two existing telecommunications towers designed as monopines. The property is zoned R-3 (Multiple-Family Residential) and has a General Plan land use designation of High Density Residential (HDR) which permits a density range of 15 to 36 dwelling units per acre (du/ac). The site is surrounded by single family and multiple family residential developments, with Coronita Elementary School bordering the site to the northwest.

The applicant, Meritage Homes of California Inc., is pursuing a housing development consisting of 57 townhouse condominium units on the project site. Of the 57 units, three are proposed as affordable units to be sold to very low-income qualifying individuals or households. The project yields a density of 19.8 du/ac. The proposal requires approval of a conditional use permit to allow for the construction of the townhouse condominiums in the R-3 zone, which is the reason for CUP2024-0003. In conjunction with CUP2024-0003, the applicant is processing Tentative Tract Map (TTM) 38934 to subdivide the property for residential condominium purposes, and an Affordable Housing Density Bonus Agreement (AHDB2024-0001) to accommodate the proposed affordable housing units within the development. The church will be demolished upon the development of the project. The two telecommunications towers will remain on the project site.

State Density Bonus Law

The subject project proposes to utilize State Density Bonus Law (SDBL) [Government Code § 65915 – 65918], a California statute that allows eligible housing development projects to receive increased density and/or incentives in the form of concessions, waivers and modified parking requirements in order to facilitate the construction and dedication of the proposed units as affordable to individuals or households at prescribed income levels. The project is providing five percent (5%) of the total units to very low income households (31 – 50% Area Median Income). Per the SDBL, the applicant is allowed to request one concession and an unlimited number of waivers from the city's development standards.

The project's on-site design is being developed per the city's R-3 zone development standards for condominium developments. The applicant is not seeking an increase in the project's density under the General Plan because the project's total density is 19.8 du/ac, which is within the HDR density range of 15-36 du/ac. The applicant's request per AHDB2024-0001 is for one concession and four waivers from the city's development standards to support the development of the affordable housing units within the project. The applicant is also proposing to utilize the parking standards under the SDBL rather than the CMC's parking standards for multiple family residential development. The affordable housing density bonus agreement with the City is a mechanism that ensures the affordable housing units set aside within the development remain affordable during the term of the agreement. These requests are discussed in greater detail in the Waivers And Concessions Of Development Standards section of this report.

Public Outreach

The applicant mailed out flyers to Coronita Elementary School and residences immediately adjacent to the project site in Fall of 2024. The flyer is attached as Exhibit 16. The applicant has stated to staff that Meritage did not receive any calls from the residents in response to the flyer, but Meritage continued to have consistent communication with the Corona Norco Unified School District regarding the project’s interface with the elementary school.

PROJECT DESCRIPTION

The project proposes to redevelop a 2.87-acre site with 57 townhouse condominium units, in conjunction with a surface parking lot and drive ways, common open space, landscaping and drainage infrastructure. The project is subject to the development standards established in Title 17 of the Corona Municipal Code (CMC) for the R-3, Multiple Family Residential zone (Chapter 17.24) and for residential condominium developments (Chapter 17.82).

Site Plan

The project’s site plan includes six, detached, three-story buildings. Two buildings (containing 10 dwelling units each) face Avenida Del Vista (street), three buildings (containing nine dwelling units each) are situated within the interior of the lot (surrounding a central open space area), and one building (containing 10 dwelling units) face Via Del Rio (street). Guest parking spaces and the existing telecommunications towers are located along the site’s northeasterly perimeter. The existing towers are presently enclosed by a block wall and currently accessible from within the church’s parking lot. With the development of this project, a new and separate gated driveway will be provided at the northeasterly corner of the property to allow cell tower maintenance personnel to access the towers directly from Avenida Del Vista.

The project complies with the R-3 zone’s minimum yard setback requirement along the northwest and northeast perimeters; however, per AHDB2024-0001, the applicant requested waivers to reduce the project’s front and street side yard setbacks. Table A summarizes the project’s setbacks.

Table A – Setbacks

| Yard Location | Required Yard | Proposed Yard Setback | Meet Condominium Standard? | Waiver Requested by Density Bonus Agreement |
|---------------------------------|----------------------|------------------------------|-----------------------------------|--|
| Front (Via Del Rio) | 20’ | 18’ | No | Yes |
| Interior Side (Northwest P/L) | 15’ | 22’ | Yes | No |
| Street Side (Avenida Del Vista) | 15’ | 13’ | No | Yes |
| Rear (Northeast P/L) | 10’ | 49’ | Yes | No |

Floor Plans

Different floor plans are proposed and, to ensure variety, would be interspersed throughout the various buildings. All floor plans are over the R-3's minimum unit size requirement of 600 square feet, exclusive of garages, porches and decks. The floor plans are summarized in Table B.

Table B – Floor Plans

| Unit Type | Unit Size (Exclusive of garage, porch, and deck) | Number of Bedrooms | Number of Units |
|------------------|---|-------------------------------|----------------------------|
| Unit 2531 | 1,300 | 2 | 9 |
| Unit 2531X | 1,268 | 2 | 9 |
| Unit 1633 | 1,496 | 3 | 21 |
| Unit 1638 | 1,765 | 4 | 18 |
| Total | | | 57 |

All floorplans would provide direct access to private two-car garages that include 100 cubic feet of enclosed storage space as well as ground-floor patios enclosed by a CMU slump stone wall standing three-feet in height and surfaced with a white stucco finish. All floor plans would comprise three levels and include various rooms as offices, kitchens, decks and great rooms. Plan types 2531, 2531X, and 1633 include a tandem garage measuring nine feet wide by 40 feet deep; Plan type 1638 provides a side-by-side garage measuring 20 feet wide by 20 feet deep, with an additional bedroom and bathroom located on the first floor. The floor plans are attached as Exhibit 6.

The affordable units are dispersed throughout the development which is a requirement of the City's Density Bonus Agreement Ordinance (Chapter 17.87 of the CMC). The affordable units are identified on the applicant's construction phasing plan in Exhibit 11.

Common and Private Outdoor Space

Per the R-3 development standards, multifamily residential projects are required to provide both private and common outdoor space for residents at a ratio of 200 SF per unit, with 25 percent of the total area apportioned as private outdoor space. As applied to the project, this results in a requirement to provide at least 11,400 SF of total open space and at least 2,850 SF of combined private open space. As designed, the project provides a total of 17,793 SF of combined common outdoor space, including 10,935 SF of common outdoor spaces in the form of landscaped pathways and various amenities (seating areas, shade structures, BBQs and a tot lot), and 6,858 SF of combined private outdoor space in the form of patios and decks. Per AHDB2024-0001, the applicant is requesting a waiver to omit an indoor recreation facility that is required for multiple family residential projects that have 20 or more units. Table C summarizes the project's outdoor space and amenities.

Table C – Common and Private Outdoor Space Requirement

| Outdoor Space Requirement Per R-3 Zone | Minimum Requirement Per R-3 Zone | Proposed Outdoor Space or Amenity | Meet the R-3 Standard? | Waiver Requested by Density Bonus Agreement |
|---|---|--|-------------------------------|--|
| Common Outdoor Space | 11,400 SF total | 17,793SF | Yes | No |
| Private Outdoor Space (balconies, porches) | 2,850 SF total (50 SF per Unit) | 6,858 SF total (75 to 107 SF per Unit) | Yes | No |
| Tot Lot | 1 Tot Lot | Yes | Yes | No |
| Indoor Recreation Facility | 1 Indoor Recreation Facility | No | No | Yes |
| Outdoor Recreation Facility | 1 Outdoor Recreation Facility | Yes | Yes | No |

Architecture

The architectural design of all proposed buildings would incorporate colors, materials, and a general style inspired by traditional Spanish architecture and would complement the eclectic mix of styles present in surrounding neighborhoods. Roofs would feature concrete tiles designed and colored to resemble classic Spanish tiles, and building facades would incorporate decorative tiles surrounding entryways, painted with a white stucco sand finish. To ensure the buildings offer articulation and depth, proposed designs would include architectural pop-outs and recessed elements, in conjunction with gridded vinyl windows and navy-blue shutters. The architecture complies with the City’s Residential Development Design Guidelines. The building height is 37 feet, which complies with the R-3 zone’s maximum building height limit of 40 feet. The elevations are attached as Exhibit 7.

Trash Receptacles

The applicant has provided a will-serve letter from refuse hauler Waste Management confirming provision of solid waste collection on a weekly basis. As all units are proposed to be individually owned, no communal trash facilities are provided (as would be typical with a “for rent” multifamily development), rather the project proposes to include two, 64-gallon trash bins and one 32-gallon organic/green waste bin within the garage for each unit. On specified days, each resident would be required to place their bins on their respective driveway for pickup/disposal. The bins cannot be placed in the alleys which must maintain a clear, unobstructed fire lane width of 28 feet for fire access. The project’s Conceptual Trash Staging Plan is attached as Exhibit 12.

Landscaping

The project’s conceptual landscape plan encompasses 26,217 SF of landscaping, covering 16 percent of the site, and will feature a total of 86 new trees in addition to varied shrubs and ground cover chosen for compliance with Water Use Classification of Landscape Species (WUCOLS) Region 4 (South Inland Valley) guidelines. Trees will be planted at intervals of no

less than 20 linear feet, including 15 to be located along Avenida Del Vista and 13 along Via Del Rio to provide a buffer between the street and Buildings 1, 2 and 3.

All new landscaping would be required to be drought tolerant, and irrigation is required to meet the City's Landscape Design Guidelines for residential projects. Formal landscape and irrigation plans will be subject to final review and approval by city staff. The Conceptual Landscape Plan is attached as Exhibit 8.

Perimeter Walls and Fencing:

The fence and wall plan is attached as Exhibit 9. The project proposes the construction of the following:

- A six-foot-tall CMU block wall located along the project's northeasterly property-line and constructed of slump stone, gray in color, and topped with a two-inch slump CMU cap.
- Along the northwesterly property line, a combined retaining wall and wrought iron fence standing a maximum of six feet in height.
- Located in front of each residential unit, a front porch enclosed by a three-foot-tall slump CMU block wall finished with white stucco.
- New tubular steel fencing and gates along the easterly perimeter of the cell tower compound to enclose and secure the compound. The new fence will be tied to the existing block enclosure wall.

The design of the retaining wall and wrought iron fence proposed on the northwesterly property line is influenced by the adjacent Coronita Elementary School's existing wall and fencing, itself situated two feet from the shared property line. In order to ensure soil and site stability, the proposed wall/fence must be located four feet, eight inches inland from the property line, resulting in a gap of six feet, nine inches between the two fences. A gate is proposed to be installed between the structures (preventing unauthorized access to the gap area) and nine trees and various shrubs will be planted within the space to improve aesthetic and provide buffering. Maintenance of the gap area would be the responsibility of the project's future homeowners' association (HOA) pursuant to a dedicated maintenance easement proposed by associated TTM 38934. A letter of support for the project from Corona Norco Unified School District (including acknowledgement of the proposed fence design and location) is attached as Exhibit 15.

Lighting

Outdoor lighting would consist of wall and pole-mounted fixtures, as well as ground-mounted path lights along proposed driveways and throughout common areas. All lighting would be directed downward and shielded to minimize offsite spillover. The location of all

exterior lighting would comply with standards for glare established in CMC § 17.84.070. The lighting plan is attached as Exhibit 10.

Access and Circulation

Vehicular access to the project site will be provided by two new driveways, located on Avenida Del Vista and Via Del Rio and leading to internal private alleys (drive aisles) circulating within the development. The alleys would provide entry to individual garages and guest parking spaces (the latter located at the north end of the project site).

Parking

The project is subject to the city’s multiple family residential parking ratio in CMC Chapter 17.76. According to the city’s parking ratio, the project requires 164 parking spaces. Instead, the applicant is electing to utilize the SDBL parking requirement in Government Code § 65915(p)(1), which allows the project to provide a parking ratio of 2 spaces for each 2-bedroom unit, and 2.5 spaces for each 3 or more-bedroom unit. As applied to the project, these standards would require a total of 104 parking spaces. The project’s design proposes 129 parking spaces, which include 114 garage spaces and 15 uncovered guest spaces, resulting in a surplus of 25 parking spaces from the minimum required under the SDBL (Exhibit 4 – Revised Parking Plan). Table D shows the parking comparison of the city’s parking requirement and SDBL parking requirement, and the parking spaces provided in the project.

A condition of approval has been placed on the project to ensure that the project provides the 129 parking spaces.

Table D – Parking

| Unit Type | No. of Units | Parking Ratio Per CMC Chapter 17.76 | Required Parking | Parking Ratio Per Gov’t Code Section 65915(p)(1) | Required Parking |
|--------------------------------------|---------------------|--|--|---|-------------------------|
| 2 BR | 18 | 2 covered spaces/unit | 36 covered spaces | 1.5 spaces/unit | 27 |
| 3 BR | 21 | 2 covered spaces/unit, & 1 uncovered spaces/unit | 42 covered spaces 21 uncovered spaces | 1.5 spaces/unit | 32 (rounded up) |
| 4BR | 18 | 2 covered spaces/unit, & 1 uncovered spaces/unit | 36 covered spaces 18 uncovered spaces | 2.5 spaces/unit | 45 |
| Guest | 57 | 1 uncovered space/ 5 units | 11 | -- | -- |
| Total Required Parking Spaces | | | 164 | | 104 |
| Total Parking Spaces Provided | | | | | 129* |

*114 garage spaces and 15 uncovered spaces

Public Improvements

The General Plan classifies Via Del Rio as a secondary four-lane road which has an ultimate right-of-way width of 88 feet. Avenida Del Vista is classified as a collector street which has

an overall right-of-way width of 68 feet. Both streets have existing roadway pavement, curb and gutter and a 12-foot-wide landscape parkway which includes a five-foot sidewalk along both project frontages.

No widening is required along Avenida Del Vista; however, the applicant is required to dedicate one foot of the property's frontage to the right-of-way for Avenida Del Vista as well as install missing landscaping within the adjacent parkway. The street dedication will occur with the recordation of the associated tentative tract map. Via Del Rio is currently fully improved to its ultimate right-of-way width and thus, no dedication or widening is warranted; however, the applicant is required to install missing landscaping within the adjacent parkway.

Per AHDB2024-0001, the applicant is requesting a concession from Section 15.60.080 of the Corona Municipal Code (CMC) regarding the requirement to underground existing overhead utilities when that service to a structure is enlarged or an addition is made thereto. Existing overhead utilities exist along Via Del Rio, adjacent to the project site's frontage and beyond (Exhibit 14a). The overhead utility in front of the project site also extends across Via Del Rio to a pole located in the backyard of 1801 Bern Drive. The cost of undergrounding the overhead utilities that supply power from SCE, which would also require the relocation of existing transformers, is approximately \$815,000. This cost would deter the project from constructing the three affordable housing units.

Due to construction conflict, the lower overhead lines for telecommunications along Via Del Rio will be placed underground in addition to the streetlight power lines along Avenida Del Vista (Exhibit 14b).

Onsite Utility and Drainage Improvements

Water and sewer service to the project site will be provided by the City of Corona. The project will connect to an 8-inch diameter water line and 8-inch diameter sewer line in the proposed private drive aisle located within a public utility easement within the project site. To treat stormwater runoff from the project site, three underground bio-retention basins and one modular wetland system would capture, treat, and slow stormwater runoff before discharging into the City's storm drain system. Electricity would be provided to the project by SCE.

Concession and Waivers of Development Standards

In accordance with allowances of SDBL, the applicant is requesting the City's approval of the following concession, waivers and use of the SDBL parking ratio:

1. Election to use the parking standard in Government Code Section 65915(p)(1), which requires 104 parking spaces for the project instead of the 164 parking spaces required by CMC Section 17.76.030(A)(5). The project will have 129 parking spaces, a surplus of 25 parking spaces from the minimum requirement using Government Code Section 65915(p)(1).

Justification: The city's multiple family parking ratio would only yield about 52 units, resulting in 5 less units from the proposed project. Based on construction costs to build the project, a lower density project would prevent the development of affordable housing units.

2. Waivers from the following CMC code sections:

- a. **CMC Section 17.24.200(B).** Waiver of the indoor recreational facility requirement in its entirety for residential projects consisting of 20 or more dwellings.

Justification: Providing square footage on the project site to accommodate indoor recreational space would require the removal of dwelling units from the proposed project, making the development of the project cost-prohibitive to build at a lower density.

- b. **CMC Section 17.24.100(A).** Waiver of the required minimum front yard setback requirement from 20 feet to 18 feet along Via Del Rio.

Justification: Separate water meters are required for each dwelling unit, which are proposed to be installed at the garage drive aprons between the units. Reducing the minimum front yard setback requirement along Via Del Rio, the project would be able to provide larger garage drive aprons that can accommodate the water meters while maintaining the number of units proposed for the project to accommodate the three affordable housing units.

- c. **CMC Section 17.82.030(A).** Waiver of the required minimum street (collector) side yard setback from 15 feet to 13 feet along Avenida Del Vista.

Justification: Separate water meters are required for each dwelling unit, which are proposed to be installed at the garage drive aprons between the units. Reducing the minimum street side yard setback requirement along Avenida Del Vista, the project would be able to provide larger garage drive aprons that can accommodate the water meters while maintaining the number of units proposed for the project to accommodate the three affordable housing units.

- d. **CMC Section 17.82.030(A)(2)(a)(5).** Waiver of the required minimum building separation of 25 feet for three-story buildings to 18 feet and 22 feet between Buildings 4 and 5, and Buildings 4 and 6, respectively.

Justification: Reducing the minimum required building separation between the subject buildings, the project would be able to maintain the number of

units proposed for the project to accommodate the three affordable housing units. The reduced building separation occurs only at the “pinch point” areas between buildings. The buildings would still meet the building separation requirements of the California Building Code.

3. Concession from Section 15.60.080 of the Corona Municipal Code (CMC) regarding the requirement to underground existing overhead utilities when that service to a structure is enlarged or an addition is made thereto for the overhead utilities located along Via Del Rio, adjacent to the project site’s frontage (Southern California Edison overhead lines).

Justification: The cost of undergrounding the overhead utilities that supply power from SCE, which would also require the relocation of existing transformers, is approximately \$815,000. This cost would deter the project from constructing the three affordable housing units. Also, the overhead lines would continue to exist beyond the project site along Via Del Rio.

Waivers can be denied if they will potentially result in a specific, adverse impact upon public health, safety, or the environment. [Gov. Code § 65915(e)(1)]. Concessions can also be denied if they: (1) do not result in identifiable and actual cost reductions; (2) would result in a specific, adverse impact to the public’s health and safety or environment; or (3) conflict with state law. [Gov. Code §65915(d)(1)]. However, the burden falls on the city in providing a preponderance of evidence that would support the findings to deny the requested waivers or concession. The requested waivers and concession have been reviewed by City staff and determined that they will not result in an adverse impact to public health, safety or the environment.

Vehicle Trip Generation

A Focused Traffic Impact Analysis (dated June 28, 2024) was prepared by Urban Crossroads, a licensed traffic engineer, to compare the residential project’s trip generation to the existing 300-seat church use on the project site. Table E shows the trip generation comparison between the two uses. As shown, the project is expected to generate an additional 258 vehicle trips per day, 13 more trips in the morning peak hours, 27 fewer trips in the midday peak hours, and 25 more trips in the evening peak hours compared to the existing church use. The added traffic that this project would generate would not be significant because the surrounding roadways have the capacity to support the additional traffic. The City Traffic Engineer has reviewed and approved the traffic study.

Table E – Trip Generation Comparison

| Land Use | Daily Trip Number for AM Peak Hour | Daily Trip Number for MD Peak Hour | Daily Trip Number for PM Peak Hour | Daily Total |
|------------------------------------|---|---|---|--------------------|
| Existing Church | 9 | 51 | 4 | 120 |
| Proposed Residential Project | 22 | 24 | 29 | 378 |
| Net Change in Vehicle Trips | 13 | -27 | 25 | 258 |

The following six surrounding street intersections were analyzed for level of service conditions:

1. Via Del Rio at Paseo Grande (within the jurisdiction of Riverside County)
2. Via Del Rio at Kirkwood Drive
3. Via Del Rio at Driveway 1
4. Via Del Rio at Avenida Del Vista
5. Driveway 2 at Avenia Del Vista

All street intersections are projected to operate at an acceptable level of service “D” or above with the proposed project in operation, except for the intersection of Via Del Rio at Paseo Grande which is projected to operate at an unacceptable level of service “F” in the AM and MD peak hours. This intersection is located approximately 1,030 feet northwest of the project site, within the jurisdiction of Riverside County. The deficiency is due to heavier traffic flows that occur over a 20 to 30-minute period with morning drop-offs and afternoon pick-ups occurring at the surrounding existing schools (Coronita Elementary, Cesar Chavez Elementary, and Corona High School) in conjunction with morning commute traffic. As mitigation, the study recommends the installation of a traffic signal or other alternative traffic controls (e.g., roundabout) acceptable to Riverside County Transportation Department.

Riverside County Transportation staff has reviewed the traffic study and does not support the installation of a roundabout at the intersection but favors having the applicant pay a fair share percentage of the cost of constructing a future traffic signal at the intersection. The traffic study identifies the applicant’s responsibility to be 5.8%. Accordingly, the project is conditioned to pay Riverside County a fair share cost of 5.8% towards a future signal at the intersection prior to the recordation of TTM 38934.

ENVIRONMENTAL ANALYSIS

Per Section 15332 of the State Guidelines for Implementing the California Environmental Quality Act (CEQA) and Section 3.31 of the City’s Local CEQA Guidelines, a Notice of Exemption has been prepared as the project qualifies as a Class 32 (Infill Development Projects) categorical exemption. The project site is less than five acres, is consistent with the site’s General Plan land use designation of HDR and applicable General Plan Policies,

and the property's R-3 zoning designation, which indicates residential development is imminent on the site. The project would not result in significant impacts relating to traffic, noise, air quality, or water quality. Moreover, none of the six exceptions to exemptions cited in Guidelines Section 15300.2 (a-f) are applicable to the proposed project. The Notice of Exemption is attached as Exhibit 20 for reference.

FISCAL IMPACT

The applicant has paid the applicable application processing fees for the project.

PUBLIC NOTICE AND COMMENTS

A 10-day public notice was mailed to all property owners and occupants within a 500-foot radius of the project site, as well as advertised in the Sentinel Weekly News and posted at the project site. As of the preparation of this report, the Planning and Development Department has not received a response from the public in response to the public notice.

STAFF ANALYSIS

The proposed townhomes are permitted in the R-3 Zone with approval of a CUP. The project's proposed density of 19.86 du/ac is consistent with the General Plan's HDR designation. The project is designed according to applicable development standards of the CMC, but as allowed by SDBL certain concessions and waivers are proposed by AHDB2024-0001 to support the development of affordable housing units within the project.

The subject project will redevelop a property with new above moderate income units and very low income housing units, facilitating State mandates and local City goals to provide a diversity of options at all income levels, and in a manner that is compatible in form and density with existing vicinity residential development. Based on the analysis herein, staff accordingly recommends that the Planning and Housing Commission approve CUP2024-0003, based on the findings below and the recommended conditions of approval attached as Exhibit 5.

FINDINGS OF APPROVAL FOR CUP2024-0003

1. Per Section 15332 of the State Guidelines for Implementing the California Environmental Quality Act (CEQA) and Section 3.31 of the City's Local CEQA Guidelines, a Notice of Exemption has been prepared as the project qualifies as a Class 32 (Infill Development Projects) categorical exemption. The project site is less than five acres, is consistent with the site's General Plan land use designation of HDR and applicable General Plan Policies, and the property's R-3 zoning designation, which indicates residential development is imminent on the site. The project would not result in significant impacts relating to traffic, noise, air quality, or water quality. Moreover, none of the six exceptions to exemptions cited in Guidelines Section 15300.2 (a-f) are applicable to the proposed project.

2. Pursuant to Section 17.92.110(a) of the CMC, the proposed use will not be detrimental to the public health, safety, convenience and general welfare and will be in harmony with the various elements and objectives in the City's General Plan for the following reasons:
 - a. *The project complies with the applicable provisions of the CMC, and as allowed by the state density bonus law and the applicant's companion density bonus agreement, certain waivers and a concession have been applied to certain development standards to support the development of the affordable housing units entirely on the site, and maintains consistency with the intended use of the property under the General Plan's High Density Residential designation and R-3 zone.*
 - b. *The project's density of 19.8 du/ac is consistent with the General Plan's High Density Residential designation which permits a density range of 15-36 du/ac. The project is also consistent with the General Plan's policies related to the City's housing needs for a variety of housing types and at different affordability levels.*
3. Pursuant to Section 17.92.110(b) of the CMC, the proposed use is not detrimental to the other existing and permitted uses in the general area of the project site, and it relates properly to the surrounding roadways for the following reasons:
 - a. *The project's site plan demonstrates that parking, landscaping, water quality facilities, trash facilities, and access and circulation can be contained entirely on the project site in conjunction with the application of waivers and a concession of certain development standards.*
 - b. *The proposed project is located in a residential neighborhood comprising of other multiple family residential developments as well as single family developments. Therefore, the project's proposed multiple family residential use is not detrimental to the surrounding residential land uses because the uses are similar in nature.*
 - c. *The project has adequate access from Avenida Del Vista and Via Del Rio which are constructed per the city's collector and secondary street standards, respectively, and capable of accommodating the residential traffic from the proposed project.*
4. Pursuant to Section 17.92.110(c) of the CMC, reasonable conditions of approval have been imposed on the proposed use to protect public health, safety, and welfare and to ensure compliance with the applicable rules and regulations for the proposed condominium development to ensure compliance of the project with the R-3 zoning regulations set forth in Chapter 17.24 of the CMC, development standard for

condominium developments within Chapter 17.82 of the CMC, and the Residential Development Design Guidelines. Additionally, the project will submit construction documents to the Building Division for review and issuance of building permit, a process that will further ensure safety compliance for all new construction.

5. Pursuant to Section 17.92.110(d) of the CMC, the exercise of the proposed use adheres to all the property development standards of the zone in which said use is permitted by a conditional use permit for the following reasons:
 - a. *The project complies with all applicable development standards as required for a condominium development within the R-3 zone and as allowed by State Density Bonus Law, certain waivers have been applied to certain development standards to support the development of affordable housing.*
 - b. *The 57 townhouse condominiums is consistent with the requirements of Title 17 in that CMC Section 17.82.020 (B) allows for townhouses with approval of a conditional use permit.*

PREPARED BY: BRENDAN DALDE, ASSOCIATE PLANNER

REVIEWED BY: EVAN LANGAN, AICP, SENIOR PLANNER

REVIEWED BY: SANDRA VANIAN, PLANNING MANAGER

SUBMITTED BY: JOANNE COLETTA, PLANNING AND DEVELOPMENT DIRECTOR

Exhibits:

1. Resolution No. 2670
2. Locational and Zoning Map
3. Site Plan
4. Site Plan 2 (Revised Parking Plan)
5. Conditions of Approval
6. Floor Plans
7. Colored Elevations
8. Landscape Plans
9. Wall and Fence
10. Conceptual Lighting Plan
11. Affordable Unit Plan
12. Trash Staging Plan
13. Conceptual Grading and Utility Plans
- 14a. Utility Line Plan (Via Del Rio)

- 14b. Utility Line Plan (Via Del Rio & Avenida Del Vista)
15. Letter of Support from Corona Norco School District, dated May 9, 2025
16. Public Outreach Flyer
17. Applicant's Project Overview, dated August 12, 2025
18. Concession/Waiver Request, dated August 12, 2025
19. Focused Traffic Impact Study dated June 28, 2024
20. Notice of Exemption

Case Planner: Brendan Dalde (951) 739-4918



RESOLUTION NO. 2670

APPLICATION NUMBER: CUP2024-0003

A RESOLUTION OF THE PLANNING AND HOUSING COMMISSION OF THE CITY OF CORONA, CALIFORNIA, GRANTING A CONDITIONAL USE PERMIT FOR THE CONSTRUCTION OF 57 TOWNHOUSE CONDOMINIUM UNITS ON 2.87 ACRES, LOCATED AT 1717 VIA DEL RIO (APN 103-200-088 AND 103-200-089) IN THE R-3 (MULTIPLE-FAMILY RESIDENTIAL) ZONE. (APPLICANT: LOUISA FELETTA, MERITAGE HOMES OF CALIFORNIA)

WHEREAS, the application to the City of Corona, California, for a Conditional Use Permit, under the provisions of Chapter 17.92, in the Corona Municipal Code, has been duly submitted to said City's Planning and Housing Commission for the construction of 57 townhouse condominium units on 2.87 acres, located at 1717 Via Del Rio (APN 103-200-088 and 103-200-089) in the R-3 (Multiple-Family Residential) Zone

WHEREAS, the Conditional Use Permit was submitted in conjunction with Affordable Housing Density Bonus Agreement (AHDB2024-0001) and Tentative Tract Map 38934 (TTM 38934),

WHEREAS, the Planning and Housing Commission held a noticed public hearing for Conditional Use Permit 2024-0003 on August 25, 2025, as required by law; and

WHEREAS, the Planning and Housing Commission finds that this project is exempt from CEQA pursuant to Section 15332 of the State CEQA Guidelines and Section 3.31 of the City of Corona Local Guidelines for Implementing CEQA because there is no possibility that the activity may have a significant effect on the environment.

WHEREAS, after close of said hearing, the Commission by formal action, found that all the conditions necessary to granting a Conditional Use Permit as set forth in Corona Municipal Code Section 17.92.110 do exist in reference to Conditional Use Permit 2024-0003 based on the evidence presented to the Commission during said hearing; and

WHEREAS, the Planning and Housing Commission based its recommendation to approve Conditional Use Permit 2024-0003 on certain conditions of approval and the findings set forth below.

NOW, THEREFORE, THE PLANNING AND HOUSING COMMISSION OF THE CITY OF CORONA, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1. CEQA Findings. As the decision-making body for this Conditional Use Permit 2024-0003, the Planning and Housing Commission has determined that this project does not require further environmental assessment because the project qualifies as an exemption under CEQA per Section 15332 of the State Guidelines and Section 3.31 of the City of Corona adopted Local Guidelines for implementing CEQA. There is no evidence presented to the city that the project will have any significant effects on the environment.

SECTION 2. Conditional Use Permit Findings. Pursuant to Corona Municipal Code (“CMC”) section 17.92.110 and based on the entire record before the Planning and Housing Commission, including all written and oral evidence presented to the Commission, the Commission hereby makes and adopts the following findings:

1. Per Section 15332 of the State Guidelines for Implementing the California Environmental Quality Act (CEQA) and Section 3.31 of the City’s Local CEQA Guidelines, a Notice of Exemption has been prepared as the project qualifies as a Class 32 (Infill Development Projects) categorical exemption. The project site is less than five acres, is consistent with the site’s General Plan land use designation of HDR and applicable General Plan Policies, and the property’s R-3 zoning designation, which indicates residential development is imminent on the site. The project would not result in significant impacts relating to traffic, noise, air quality, or water quality. Moreover, none of the six exceptions to exemptions cited in Guidelines Section 15300.2 (a–f) are applicable to the proposed project.
2. Pursuant to Section 17.92.110(a) of the CMC, the proposed use will not be detrimental to the public health, safety, convenience and general welfare and will be in harmony with the various elements and objectives in the City’s General Plan for the following reasons:
 - a. *The project complies with the applicable provisions of the CMC, and as allowed by the state density bonus law and the applicant’s companion density bonus agreement, certain waivers and a concession have been applied to certain development standards to support the development of the affordable housing units entirely on the site, and maintains consistency with the intended use of the property under the General Plan’s High Density Residential designation and R-3 zone.*
 - b. *The project’s density of 19.8 du/ac is consistent with the General Plan’s High Density Residential designation which permits a density range of 15-36 du/ac. The project is also consistent with the General Plan’s policies related to the*

City's housing needs for a variety of housing types and at different affordability levels.

3. Pursuant to Section 17.92.110(b) of the CMC, the proposed use is not detrimental to the other existing and permitted uses in the general area of the project site, and it relates properly to the surrounding roadways for the following reasons:
 - a. *The project's site plan demonstrates that parking, landscaping, water quality facilities, trash facilities, and access and circulation can be contained entirely on the project site in conjunction with the application of waivers and a concession of certain development standards.*
 - b. *The proposed project is located in a residential neighborhood comprising of other multiple family residential developments as well as single family developments. Therefore, the project's proposed multiple family residential use is not detrimental to the surrounding residential land uses because the uses are similar in nature.*
 - c. *The project has adequate access from Avenida Del Vista and Via Del Rio which are constructed per the city's collector and secondary street standards, respectively, and capable of accommodating the residential traffic from the proposed project.*
4. Pursuant to Section 17.92.110(c) of the CMC, reasonable conditions of approval have been imposed on the proposed use to protect public health, safety, and welfare and to ensure compliance with the applicable rules and regulations for the proposed condominium development to ensure compliance of the project with the R-3 zoning regulations set forth in Chapter 17.24 of the CMC, development standard for condominium developments within Chapter 17.82 of the CMC, and the Residential Development Design Guidelines. Additionally, the project will submit construction documents to the Building Division for review and issuance of building permit, a process that will further ensure safety compliance for all new construction.
5. Pursuant to Section 17.92.110(d) of the CMC, the exercise of the proposed use adheres to all the property development standards of the zone in which said use is permitted by a conditional use permit for the following reasons:
 - a. *The project complies with all applicable development standards as required for a condominium development within the R-3 zone and as allowed by State Density Bonus Law, certain waivers have been applied to certain development standards to support the development of affordable housing.*
 - b. *The 57 townhouse condominiums is consistent with the requirements of Title 17 in that CMC Section 17.82.020 (B) allows for townhouses with approval of a conditional use permit.*

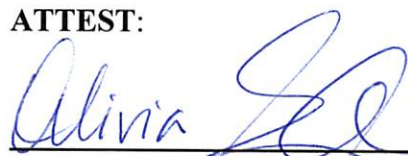
SECTION 3. Effective Date. CUP2024-0003 will not become effective until the City Council either takes no action on the report or otherwise makes a decision after a City Council initiated review.

BE IT FURTHER RESOLVED that a copy of this Resolution be delivered to the City Clerk of said City and a copy thereof be sent to the applicant therefore at the address of said applicant as set forth in the application for said Conditional Use Permit.

Adopted this 25th day of August 2025.

^{Vice}
_____, Chair
Planning and Housing Commission
City of Corona, California

ATTEST:



Olivia Sanchez
Secretary, Planning and Housing Commission
City of Corona, California

I, Olivia Sanchez, Secretary to the Planning and Housing Commission of the City of Corona, California, do hereby certify that the foregoing Resolution was regularly introduced and adopted in a regular session of said Planning and Housing Commission duly called and held on the 25th day of August, 2025, and was duly passed and adopted by the following vote, to wit:

AYES: Alexander, Siqueland & Woody

NOES: None

ABSENT: None

ABSTAINED: None



Olivia Sanchez
Secretary, Planning and Housing Commission
City of Corona, California

LOCATIONAL MAP

Zoning Legend:

- R1-9.6 - Single-Family Residential
- R1-7.2 - Single-Family Residential
- R3 - Multiple-Family Residential
- S - School



CUP2024-0003
1717 Via Del Rio



EXHIBIT 2



Project Summary

Site Area: 2.87 Acres (161,956 SF)

No. of Units: 57 Homes¹

- (18) Plan 2531: 1268 SF, 2 bed., 2.5 bath
- (21) Plan 1633: 1496 SF, 3 bed, 3 bath
- (18) Plan 1638: 1765 SF, 4 bed, 4 bath

Density: 19.86 du/ac

Building Coverage: 45,648 SF (28.2% of site)

Proposed Setbacks²:

- Front: 18' minimum (Via Del Rio)
- Street Side: 13' minimum (Avenida Del Vista)
- Side & Rear: 15' minimum
- Building to Building: 18' minimum separation

Parking Required³: 104 Spaces total

- 2-3 Bedroom: 39 homes x 1.5 sp/du = 58.5 spaces
- 4+ Bedroom: 18 homes x 2.5 sp/du = 45 spaces

Parking Provided: 127 Spaces total (2.23 sp/du)

- Resident: Private 2-car garage per unit
- Guest Spaces: 13 spaces (9' x 17/5' w/ 2.5' overhang)

Open Space Provided: 17,793 SF

- Common Open Space: 10,935 SF⁴ (10' min. dim.)
- Private Open Space: 6,858 SF⁵ (6' min. dim.)

Notes:

1. Type VB construction with NFPA 13D automatic sprinkler system.
2. Affordable waiver used to reduce front and street side setback and building separation requirements.
3. Required parking based on affordable parking standards.
4. Affordable waivers used to reduce common open space requirement and indoor common open space requirement.
5. See floor plans for private open space per plan details.
6. Existing General Plan: High Density Residential
7. Existing Land Use: Church
8. Existing Zoning: R3
9. Proposed General Plan: High Density Residential
10. Proposed Zoning: R3
11. Assessor's Parcel Numbers: 103-200-088 & -089
12. Site Address: 1717 Via Del Rio, Corona, CA 92882

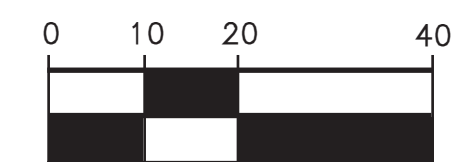
DIMENSIONED SITE PLAN

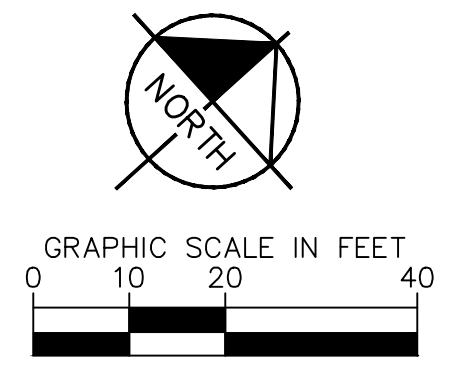
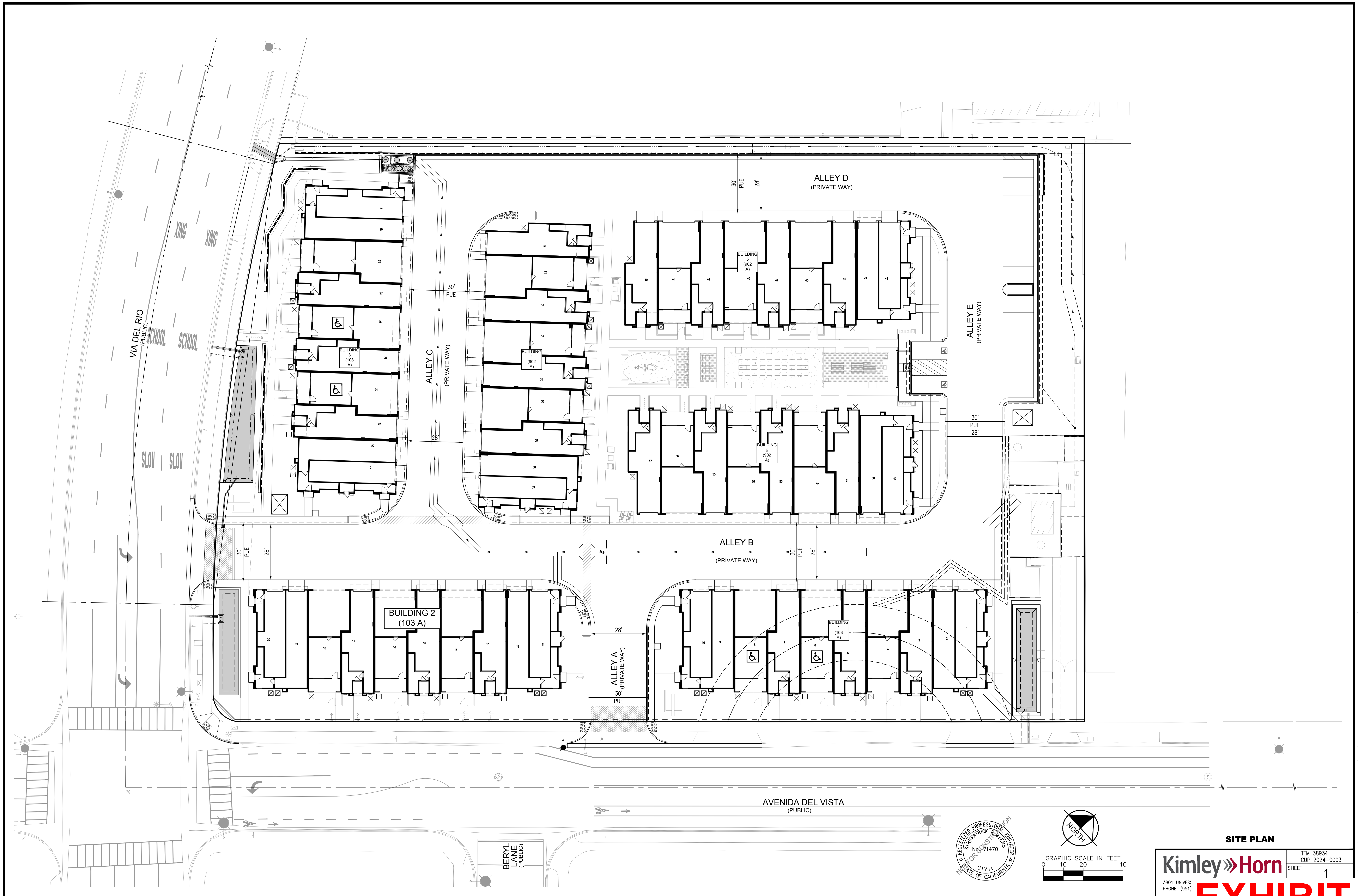
VIA DEL RIO
CORONA, CALIFORNIA

05/01/2025
SP-2

Kevin L. Crook
Architect

EXHIBIT 3





SITE PLAN
Kimley»Horn
 3801 UNIVER...
 PHONE: (951)
 TTM 38934
 CUP 2024-0003
 SHEET 1

EXHIBIT 4

K:\RVL\DEVA\195261016 - MLC CORONA\CAD\EXHIBITS\SITE PLAN-ALT PARKING.DWG 8/13/2023 7:55:40 AM



Project Conditions

City of Corona

Project Number: CUP2024-0003

Description:

Applied: **7/11/2024**

Approved:

Site Address: **1717 VIA DEL RIO CORONA, CA 91720**

Closed:

Expired:

Status: **COMPLETE**

Applicant: **Louisa Feletto**

Parent Project:

230 Progress Irvine CA, 92618

Details: **Conditional Use Permit for the development of 57 residential condominium units including three affordable units on 2.87 acres, located at 1717 Via Del Rio, in the R-3 (Multiple-Family Residential) zone (Assessor's Parcel Number 103-200-088, -089).**

LIST OF CONDITIONS

| DEPARTMENT | CONTACT |
|--|----------------|
| BUILDING | Anthony Hurley |
| <ol style="list-style-type: none"> 1. Construction activity shall not occur between the hours of 8:00 pm to 7:00 am, Monday thru Saturday and 6:00 pm to 10:00 am on Sundays and Federal Holidays. 2. Roofing material shall be Class A. 3. The Project shall be designed to show compliance with the latest adopted edition of the following codes as applicable: <ol style="list-style-type: none"> A. California Building Code B. California Residential Code C. California Electrical Code D. California Mechanical Code E. California Plumbing Code F. California Energy Code G. California Fire Code H. California Green Building Standards Code I. Including local amendments, and the Corona Municipal Code. 4. Project plans can be submitted electronically online. If hard copy plans are submitted for plan review, the applicant shall submit five (5) complete sets of plans including the following - * Plot Plan * Foundation Plan * Floor Plan * Ceiling and roof framing plan * Electrical Plans (electrical service shall be underground per Corona Municipal Code Section 15.06), including size of main switch, number and size of service entrance conductors, circuit schedule and demand load. * Plumbing and sewer plan, isometric, including underground diagram, water piping diagram, sewer or septic tank location, fixture units, gas piping and vents, heating and air conditioning diagram. * Landscape and Irrigation plans; Submit four (4) complete sets detached from building plans. Landscape Maintenance District plans shall be submitted directly to the Planning and Development Department, Development Services Division. Landscape plans shall be approved prior to the issuance of any Building Permits. If hard copy plans are submitted for plan review, the applicant shall submit two (2) sets of structural calculations, energy conservation calculations and soils reports. Architects/Engineers stamp and wet signature is required prior to submittal of plan check. 5. Separate permits are required for all fences, walls, signs, and PV systems. 6. Project shall comply with the Corona Burglary Ordinance contained in CMC chapter 15.52. Copies are available at the Building Division counter or online at www.CoronaCA.gov/Building. 7. Buildings shall not be occupied prior to posting of Certificate of Occupancy issued by the Building Division. 8. Project entitlement approvals shall be obtained prior to plan approval and issuance of Building permits. The Tract or Parcel map shall record prior to the issuance of any Building permits. Final Conditions of Approval shall be made part of set of plans [Conditions of approval shall be pasted on plans] | |



Project Conditions

City of Corona

| BUILDING | Anthony Hurley |
|---|-----------------------|
| <ol style="list-style-type: none"> 9. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of nonhazardous materials for recycling. (CGBSC sect. 4.410.2) 10. An approved Construction Waste Management Plan and Recycling Worksheets shall be kept on site and maintained by the applicant and made available for inspection by City representatives at all times in accordance with the California Green Building Standards Code. Documentation which demonstrates compliance with the minimum recycling of waste materials required by CAL Green shall be provided to the building inspector prior to issuance of Certificate of Occupancy or Final Approval. Please contact Miguel Corral with Waste Management at (818) 266-1117 or mcorral@wm.com for documentation requirements. 11. All fees, including but not limited to, occupancy fees, property development tax, and school fees must be paid in full prior to issuance of building permits. Any development impact fees that apply to the project must be paid in full prior to NIC or CofO issuance. 12. Project shall comply with 2022 CBC Chapter 11A and/or 11B requirements for accessibility. Provide an accessibility site plan for all private recreational amenities, common use areas and site circulation. 13. Project plans shall show a parking summary to include the following: <ol style="list-style-type: none"> a) Number of parking spaces required/provided. b) Handicap parking spaces required/provided. (CBC 11A or 11B) c) Number of van accessible parking spaces required/provided. d) Number of EV and EVCS parking spaces required/provided. (CGBSC) e) Bicycle parking facilities required/provided. (CGBSC) f) Include number of unassigned and visitor parking spaces. 14. In order to submit building plans for plan review, a permanent or temporary address must be issued for the project by the Development Services Division. Please apply for the address at least 3 weeks prior to submittal to allow for processing. 15. Grading plans shall be approved and pads certified prior to Building permit issuance. 16. Utilities shall meet the utility authority's service requirements. Applicant shall coordinate the utility locations and design with the respective utility provider. 17. The on-site electrical service feeding the building shall be underground per CMC chapter 15.60. 18. Project shall be designed to conform to the applicable edition of the California Building Standards Code including local amendments, and the Corona Municipal Code. 19. Prior to beginning construction, obtain demolition permit for existing building, foundation, and utilities. 20. Project site shall be kept clean, secure, safe, and BMPs installed and maintained, and follow all city, state, and county requirements and due standard of care. 21. Playground plans shall be submitted for review and construction shall not begin until permit has been issued. 22. Models and/or sales office shall not open for business until approved by the Board of Zoning Adjustment and a CofO or TCO has been issued for model home and/or sales office use. Homes shall not be occupied for residential habitation until a CofO or TCO has been issued for dwelling use. | |
| FIRE | Xente Baker |
| <ol style="list-style-type: none"> 1. Any revised site plan shall be submitted to the Fire Department for screen check approval prior to building plan submittal. 2. Plans shall show a minimum drive width of 28 feet. 3. All projects shall comply with the City of Corona Fire Department Site Construction Standard. A copy of which is available at the coronaca.gov. Projects shall have approved all weather access from two (2) directions and fire hydrants providing the required fire flow tested and accepted prior to combustible construction. 4. Meet with Corona Fire Department to determine locations of red curbing and signage by fire hydrants, fire department connections, and designated fire lanes on site. 5. A minimum fire flow of 2500 gallons per minute at 20 psi shall be provided for multi-family dwellings. | |



Project Conditions

City of Corona

| FIRE | Xente Baker |
|-----------------|---|
| | <p>6. If over 500 lineal feet the fire service waterline shall be looped and provided with two (2) separate points of connection.</p> <p>7. Fire hydrants are to be spaced a maximum 300 feet apart, one- and two-family dwellings only</p> <p>8. Provide Class A roofing material on all structures per the Corona Municipal Code.</p> <p>9. A specific address, assigned by the City of Corona, Public Works Department, shall be provided for each building as specified by the fire department address standard which can be obtained at coronaca.gov/fire. Addresses must be illuminated during all hours of darkness.</p> <p>10. Smoke detectors and/or carbon monoxide detectors shall be installed per the California Building, Fire, and Residential Code prior to occupancy of the dwelling units.</p> <p>11. At no time shall fire hydrants or fire lanes be blocked by building materials, storage, equipment, and/or vehicles.</p> <p>12. In structures of undetermined use, the minimum fire sprinkler design density required shall be for an Ordinary Hazard, Group 2, and not be less than .20 gpm/1500 sf. Buildings intending to house high-piled combustible storage shall be provided with a fire sprinkler system designed to protect the potential hazard.</p> <p>13. Multiple unit buildings shall have suite number identification assigned by the Fire Department. Submit an exhibit for review and approval to the Fire Department. A copy of the Premise Identification Standard is available at coronaca.gov/fire</p> <p>14. Residential Fire Sprinklers shall be installed per California Fire and Residential Code, and NFPA 13.</p> |
| PLANNING | Brendan Dalde |
| | <p>1. To the fullest extent permitted by law, the applicant shall defend, indemnify and hold the City of Corona and its directors, officials, officers, employees, volunteers and agents free and harmless from any and all claims, demands, causes of action, proceedings, costs, expenses, liabilities, losses, damages or injuries of any kind, in law or equity, in any manner arising out of, pertaining to, or incident to any attack against or attempt to challenge, set aside, void or annul any approval, decision or other action of the City of Corona, whether such approval, decision or other action was by its City Council, Planning and Housing Commission or other board, director, official, officer, employee, volunteer or agent. To the extent that Government Code Section 66474.9 applies, the City will promptly notify the applicant of any claim, action or proceeding made known to the City to which Government Code Section 66474.9 applies and the City will fully cooperate in the defense. The Applicant's obligations hereunder shall include, without limitation, the payment of any and all damages, consultant and expert fees, and attorney's fees and other related costs and expenses. The City shall have the right to retain such legal counsel as the City deems necessary and appropriate.</p> <p>2. Nothing herein shall be construed to require City to defend any attack against or attempt to challenge, set aside, void or annul any such City approval, decision or other action. If at any time Applicant chooses not to defend (or continue to defend) any attack against or attempt to challenge, set aside, void or annul any such City approval, decision or other action, the City may choose, in its sole discretion, to defend or not defend any such action. In the event that the City decides not to defend or continue the defense, Applicant shall be obligated to reimburse City for any and all costs, fees, penalties or damages associated with dismissing the action or proceeding. If at any time both the Applicant and the City choose not to defend (or continue to defend) any action noted herein, all subject City approvals, decisions or other actions shall be null and void. The Applicant shall be required to enter into any reimbursement agreement deemed necessary by the City to effectuate the terms of this condition.</p> <p>3. In accordance with Section 17.92.140 of the CMC, the time limit of CUP2024-0003 shall be concurrent with the life TTM 38934. If TTM 38934 expires, CUP2024-0003 shall also expire. If TTM 38934 is approved as a final map, the new time limit on CUP2024-0003 shall be two years from the date of the map recordation. Construction of the project under this conditional use permit must commence and be carried on diligently to completion of at least one usable unit, prior to the expiration of the time limit. If the time limit expires, any privilege or permit granted shall be deemed to have lapsed.</p> <p>4. The project shall comply with all applicable requirements of the Corona Municipal Code (CMC) and ordinances and the relevant Specific Plan, if any, including the payment of all required fees.</p> <p>5. All signage shall be architecturally integrated with the overall project and constructed in accordance with Chapter 17.74 of the Corona Municipal Code requirements. A separate sign permit shall be obtained from the Planning and Building Divisions prior to the installation of any signs.</p> |



Project Conditions

City of Corona

| PLANNING | |
|-----------------|--|
| | <p>6. All landscape plans shall be prepared by a licensed professional. Plans shall be prepared in accordance with the city's Landscape Design Guidelines for Residential Developments and the requirements of the CMC, Chapter 17.70 (available on the city's website at: https://www.coronaca.gov/government/departments/community-development/planning-division); and the State of California Model Water Efficiency Landscape Ordinance (MWEL0).</p> <p>7. Landscape plans are required for the project and shall be submitted as a separate submittal for plan check to the Building Division. Landscape plans must also be submitted prior to issuance of a building permit. At time of plan check submittal, the developer shall also submit a landscape deposit in the amount of \$5,000 to the Planning Division for landscape plan check and inspection services which will be completed by a landscape consultant. The deposit will cover on-site landscaping and landscaping within parkways. This fee is separate from the Building Division's landscape plan check submittal fee. Any unused deposit funds will be reimbursed to the developer upon completion of the project.</p> <p>8. All landscaping (on-site and off-site) and perimeter walls/fencing shall be installed per the approved plans prior to issuance of a Certificate of Occupancy.</p> <p>9. This project is subject to the Western Riverside County Multiple Species Habitat Conservation Plan (MHSCP) fee under the category of Residential. This fee shall be paid at the time of building permit issuance.</p> <p>10. The fence and wall plan shall include anti-graffiti coating or protection for the exterior side of all perimeter walls. The owner, or his/her successor, shall remove any graffiti on the property as soon as possible. In addition, if the applicant or future HOA was notified by the City, the applicant or future HOA shall remove the graffiti within seven (7) days of the City's notice.</p> <p>11. CUP2024-0003 is contingent upon the approval of AHDB2024-0001 and TTM38934.</p> <p>12. The applicant shall provide a decorative screen wall and shrubs around each HVAC unit to screen the units from public view.</p> <p>13. The applicant shall adhere to the requirements and development standards of the underlying zone or as specified by the CMC for condominium developments and Conditions of Approval, as well as be in substantial conformance with the respective application materials presented before the Planning and Housing Commission, including but not limited to the site plan, architectural elevations, landscape plans, etc.</p> <p>14. Prior to the issuance of a building permit for a model home complex, the applicant shall be required to submit an application for a model home permit pursuant to Section 17.98.040 of the Corona Municipal Code (CMC). This permit must be obtained prior to the commencement of any construction activities related to the model home complex</p> <p>15. Prior to earthwork on the project site, the developer shall send grading and construction notice to the nearby residents closest to the project site. The notice shall provide contact information for construction concerns involving noise and dust.</p> <p>16. The CC&R's shall include language requiring garages to be used and remain available for parking at all times, and neither garage parking space shall be used for storage.</p> <p>17. The applicant shall provide 129 parking spaces for the project per Exhibit 4 of the staff report.</p> |

| PUBLIC WORKS | Carolina Rodriguez |
|---------------------|---------------------------|
|---------------------|---------------------------|

| | |
|--|--|
| | <p>1. The Public Works, Planning and Development, and Utilities Department Conditions of Approval for the subject application shall be completed at no cost to any government agency. All questions regarding the intent of the Conditions of Approval shall be referred to the Planning and Development Department, Development Services Division. Should a conflict arise between City of Corona standards and design criteria and any other standards and design criteria, City of Corona standards and design criteria shall prevail.</p> <p>2. The developer shall comply with the State of California Subdivision Map Act and all applicable City ordinances and resolutions.</p> <p>3. Prior to issuance of grading permit, the applicant shall demonstrate to the satisfaction of the City Engineer that the proposed project will not unreasonably interfere with the use of any easement holder of the property.</p> <p>4. All improvement and grading plans shall be drawn on twenty-four (24) inch by thirty-six (36) inch Mylar and signed by a registered civil engineer or other registered/licensed professional as required.</p> <p>5. The submitted site plan shall correctly show all existing easements, traveled ways, and drainage courses. Any omission or misrepresentation of these documents may require said site plan to be resubmitted for further consideration.</p> <p>6. In the event that off-site right-of-way or easements are required for the City of Corona master plan facilities to comply with these conditions of approval, the developer is required to secure such right-of-way or easements at no cost to the City.</p> |
|--|--|



Project Conditions

City of Corona

PUBLIC WORKS

7. All existing and new utilities on-site shall be placed underground in accordance with City of Corona ordinances.
8. Prior to issuance of a Certificate of Occupancy, the developer shall cause the engineer of record to submit project base line work for all layers in AutoCAD DXF format on Compact Disc (CD) to the Planning and Development Department, Development Services Division. If the required files are unavailable, the developer shall pay a scanning fee to cover the cost of scanning the as-built plans.
9. The developer shall monitor, supervise and control all construction and construction related activities to prevent them from causing a public nuisance including, but not limited to, insuring strict adherence to the following:
 - a) Removal of dirt, debris or other construction material deposited on any public street no later than the end of each working day.
 - b) Construction operations, including building related activities and deliveries, shall be restricted to Monday through Saturday from 7:00 a.m. to 8:00 p.m., excluding holidays, and from 10:00 a.m. to 6:00 p.m. on Sundays and holidays, in accordance with City Municipal Code 15.04.060, unless otherwise extended or shortened by the City Engineer or Building Official.
 - c) The construction site shall accommodate the parking of all motor vehicles used by persons working at or providing deliveries to the site. Violation of any condition or restriction or prohibition set forth in these conditions shall subject the owner, applicant, developer or contractor(s) to remedies as noted in the City Municipal Code. In addition, the City Engineer or Building Official may suspend all construction related activities for violation of any condition, restriction or prohibition set forth in these conditions until such time as it has been determined that all operations and activities are in conformance with these conditions.
10. Prior to building permit issuance, a condo map shall be filed unless otherwise approved by the City Engineer.
11. Prior to issuance of a building permit, the developer shall finish the construction or post security guaranteeing the construction of all public improvements. Said improvements shall include, but are not limited to, the following:
 - a) All street facilities along Avenida Del Vista and Via Del Rio.
 - b) All ADA improvements at intersection of Via Del Rio and Avenida Del Vista, shall include but not limited to curb ramps, audible pedestrian warning system, and count down pedestrian signals. The applicant shall submit a Traffic Signal Modification Plan for review and approval by the City Traffic Engineer.
 - c) All drainage facilities along Avenida Del Vista and Via Del Rio.
 - d) All required grading, including erosion control.
 - e) All required sewer and water facilities.
 - f) All required landscaping and/or park facilities.
 - g) All under grounding of overhead utilities, except for cables greater than 32k volts, or as otherwise approved by Affordable Housing Density Bonus Agreement 2024-0001.
12. All the grading design criteria shall be per City of Corona standards, Corona Municipal Code Title 15 Chapter 15.36 and City Council Ordinance Number 2568, unless otherwise approved by the City Engineer.
13. Prior to approval of grading plans, the applicant shall submit two (2) copies of a soils and geologic report prepared by a Registered Engineer to the Planning and Development Department, Development Services Division. The report shall address the soil's stability and geological conditions of the site. If applicable, the report shall also address: deep seated and surficial stability of existing natural slopes; modified natural slopes which are subject to fuel zones; manufactured slopes and stability along proposed daylight lines; minimum required setbacks from structures; locations and length of proposed bench drains, sub-drains or french drains; and any other applicable data necessary to adequately analyze the proposed development.
14. Prior to approval of grading plans, erosion control plans and notes shall be submitted and approved by the Planning and Development Department, Development Services Division.
15. Prior to approval of grading plans, the applicant shall obtain a General Construction Activity Storm Water Permit from the State Water Resources Control Board in compliance with National Pollutant Discharge Elimination System (NPDES) requirements. Proof of filing a Notice of Intent (NOI) will be required by the City. The WDID # shall be displayed on the title sheet of the grading plans.
16. Prior to approval of grading plans, the applicant shall comply with the Federal Clean Water Act and shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall be available at the project site for review.
17. Prior to issuance of grading permit or construction of any improvements, a letter will be required from a qualified botanist, plant taxonomist or field biologist specializing in native plants, stating that an investigation and/or eradication of scale broom weed (*Lepidospartum Squamatum*) has been completed.



Project Conditions

City of Corona

PUBLIC WORKS

18. Prior to the issuance of a grading permit the developer shall submit recorded slope easements or written letters of permission from adjacent landowners in all areas where grading is proposed to take place outside of the project boundaries.
19. Prior to issuance of building permits, the developer shall cause the civil engineer of record and soils engineer of record for the approved grading plans to submit pad certifications and compaction test reports for the subject lots where building permits are requested.
20. Prior to release of grading security, the developer shall cause the civil engineer of record for the approved grading plans to submit a set of as-built grading plans with respect to Water Quality Control facilities.
21. Prior to issuance of any grading permit, any environmental Phase I and Phase II findings and recommended actions to remove contamination resulting from previous use of the subject site shall be implemented.
22. All City of Corona NPDES permit requirements for NPDES and Water Quality Management Plans (WQMP) shall be met per Corona Municipal Code Title 13 Chapter 13.27 and City Council Ordinance Numbers 2291 and 2828 unless otherwise approved by the City Engineer.
23. Prior to the issuance of a grading permit, a Final WQMP, prepared in substantial conformance with the approved Preliminary WQMP, shall be submitted to the Planning and Development Department, Development Services Division for approval. Upon its final approval, the applicant shall submit one copy on a CD-ROM in PDF format. Prior to approval of the final WQMP, the applicant shall ensure that DMAs D-2, E-1, and E-2 comply with the approved guidance document.
24. Prior to the issuance of the first Certificate of Occupancy, the applicant shall record Covenants, Conditions and Restrictions (CC&R's) or enter into an acceptable maintenance agreement with the City to inform future property owners to implement the approved WQMP.
25. Prior to issuance of the first Certificate of Occupancy, the applicant shall provide proof of notification to the future homeowners and/or occupants of all non-structural BMPs and educational and training requirements for said BMPs as directed in the approved WQMP.
26. Prior to issuance of Certificate of Occupancy, the applicant shall ensure all structural post construction BMPs identified in the approved project specific Final WQMP are constructed and operational.
27. All the drainage design criteria shall be per City of Corona standards and the Riverside County Flood Control and Water Conservation District standards unless otherwise approved by the City Engineer.
28. Prior to approval of any improvement plans, the applicant shall submit a detailed hydrology study. Said study shall include the existing, interim and the ultimate proposed hydrologic conditions including key elevations, drainage patterns and proposed locations and sizes of all existing and proposed drainage devices. The hydrology study shall present a full breakdown of all the runoff generated on- and off-site.
29. Prior to approval of improvement plans, the improvement plans submitted by the applicant shall address the following: The project drainage design shall be designed to accept and properly convey all on- and off-site drainage flowing on or through the site. The project drainage system design shall protect downstream properties from any damage caused by alteration of drainage patterns such as concentration or diversion of flow. All residential lots shall drain toward the street or alley. Lot drainage to the street or alley shall be by side yard swales or by an underground piping system. All areas requiring treatment shall drain toward an approved water quality or drainage facility. Once onsite drainage has been treated it may continue into an approved public drainage facility or diverted through under-sidewalk parkway drains.
30. Street design criteria and cross sections shall be per City of Corona standards, approved Specific Plan design guidelines and the State of California Department of Transportation Highway Design Manual unless otherwise approved by the City Engineer.
31. Prior to issuance of a building permit, the applicant shall offer dedication all required street right-of-way along Avenida Del Vista per the collector street standard (34-foot half width) and Via Del Rio per the secondary street standard (44-foot half width). Said dedication shall continue in force until the City accepts or abandons such offers. All dedications shall be free of all encumbrances and approved by the City Engineer.



Project Conditions

City of Corona

PUBLIC WORKS

32. Prior to recordation or approval of improvement plans, the improvement plans submitted by the applicant shall include the following:
 - a) All driveways and driveway spacing shall conform to the applicable City of Corona standards and shall be shown on the street improvement plans.
 - b) Under grounding of existing and proposed utility lines, other than overhead utility lines.
 - c) Installation of street lights as required per City of Corona standards and undergrounding of street light conduit.
 - d) All other public improvements shall conform to City of Corona standards.
33. Prior to approval of improvement plans, the improvement plans shall show all the streets, along Avenida Del Vista and Via Del Rio, to be improved to half width plus ten (10) additional feet unless otherwise approved by the City Engineer. At the discretion of the applicant, the existing pavement maybe cored to confirm adequate section and R values during the design process and any findings shall be incorporated into the project design. Therefore improvements may include full pavement reconstruction, grind and overlay, or slurry seal. All striping shall be replaced in kind.
34. Prior to release of public improvement security, the developer shall cause the civil engineer of record for the approved improvement plans to submit a set of as-built plans for review and approval by the Planning and Development Department, Development Services Division.
35. Prior to acceptance of improvements, the City Engineer may determine that aggregate slurry, as defined in the Standard Specifications for Public Works Construction, may be required one year after acceptance of street(s) by the City if the condition of the street(s) warrant its application. All striping shall be replaced in kind. The applicant is the sole responsible party for the maintenance of all the improvements until said acceptance takes place.
36. Prior to approval of improvement plans, the developer shall comply with the approved traffic study recommendations.
37. Prior to the improvement plan approval, the applicant shall demonstrate that the proposed driveway on Via del Rio shall be limited to right-in/right-out access only.
38. Prior to the issuance of a Certificate of Occupancy, any damage to existing landscape easement areas due to project construction shall be repaired or replaced by the developer, or developer's successors in interest, at no cost to the City of Corona.
39. Prior to issuance of a building permit and/or issuance of a Certificate of Occupancy, the applicant shall pay all development fees, including but not limited to Development Impact Fees (DIF) per City Municipal Code 16.23 and Transportation Uniform Mitigation Fees (TUMF) per City Municipal Code 16.21. Said fees shall be collected at the rate in effect at the time of fee collection as specified by the current City Council fee resolutions and ordinances.
40. All the potable water and sewer design criteria shall be per City of Corona Utilities Department standards and Riverside County Department of Health Services Standards unless otherwise approved by the City Engineer and Utilities Director.
41. Prior to issuance of any building permits, including model home permits, a domestic water and fire flow system shall be approved by the Utilities Department and constructed by the developer, to the satisfaction of the Utilities Director and Fire Chief.
42. Prior to improvement plans approval, the applicant shall ensure that all water meters, fire hydrants or other water appurtenances shall not be located within a drive aisle or path of travel.
43. Prior to issuance of any building permits, the developer shall pay all water and sewer fees, including but not limited to connection fees, wastewater treatment fees, sewer capacity fees and all other appropriate water and sewer fees.
44. Prior to approval of improvement plans, when applicable, the applicant shall submit detailed potable water and sewer studies, prepared by a registered civil engineer, which shall be submitted to the Planning and Development Department, Development Services Division for review and approval. The study shall analyze the existing and proposed sewer and water facilities. Results of the system analysis may require special construction for the potable water and sewer systems, such as upsizing downstream sewer lines, installing pressure regulators, booster pumps, special material for pipeline construction, backwater valves and construction of other appurtenances as necessary to serve the proposed development. Effects of the proposed development, engineering analysis and special construction requirements shall be submitted for review and approval by the Planning and Development Department, Development Services Division and the Utilities Department.

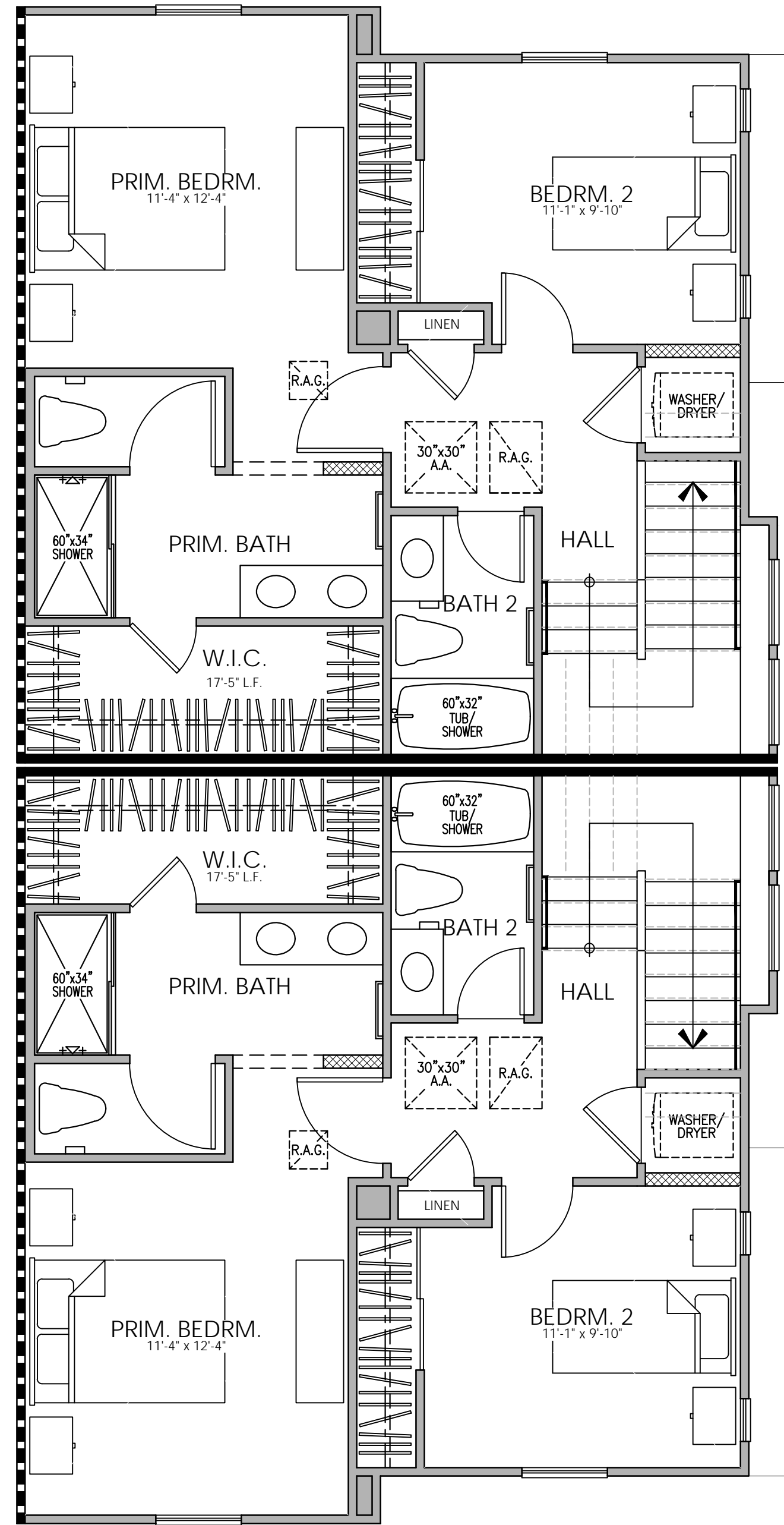


Project Conditions

City of Corona

| PUBLIC WORKS | |
|--|--|
| <ol style="list-style-type: none">45. Prior to building permit issuance, the applicant shall construct or guarantee the construction of all required public improvements including but not limited to, the potable water line, sewer line, potable water services, sewer laterals, double detector check assemblies and reduced pressure principle assemblies within the public right of way and-or easements.46. Prior to building permit issuance, the applicant shall construct or guarantee the construction of 8-inch extra strength VCP or PVC sewer in alleys A, B, C, and D and connections to street Avenida Del Vista.47. Prior to building permit issuance, the applicant shall construct or guarantee the construction of 8-inch ductile iron class 350 water in alleys A, B, C, D, and E and connections to streets Via Del Rio and Avenida Del Vista.48. The applicant shall dedicate easements for all public water and sewer facilities needed to serve the project in accordance with the Utilities Department standards. The minimum easement width shall be 20 feet for one utility and 30 feet for more than one public utility facility. All public water and sewer facilities shall be provided a minimum 20 foot wide paved access road unless otherwise approved by the Utilities Director. Structures and trees shall not be constructed or installed within a public utility easement.49. Prior to final map recordation or building permit issuance, whichever comes first, the applicant shall construct or guarantee the construction of public water systems with all public fire services to the satisfaction of the Utilities Department and Fire Chief.50. Fire Hydrants shall be a maximum 250-300 feet apart or as directed by the Fire Department.51. Manhole rim elevations shall be lower than all pad elevations immediately downstream. Otherwise a back flow prevention valve will be required.52. Static pressures exceeding 80 psi require an individual pressure regulator.53. Reclaimed water shall be used for any construction activity, unless otherwise approved by the Utilities Director or their designee. Prior to obtaining a reclaimed construction meter from the City, a Reclaimed Water Application shall be submitted for the contractor to receive certification to handle reclaimed water.54. The applicant shall provide a separate irrigation water service for all HOA-CFD landscaped lots or easements.55. Decorative pavers shall not be located within the public right-of-way. Decorative pavement within utility easement limits is subject to review and approval by our Utilities Department. | |

UNIT 2531X.1



UNIT 2531.1

THIRD FLOOR

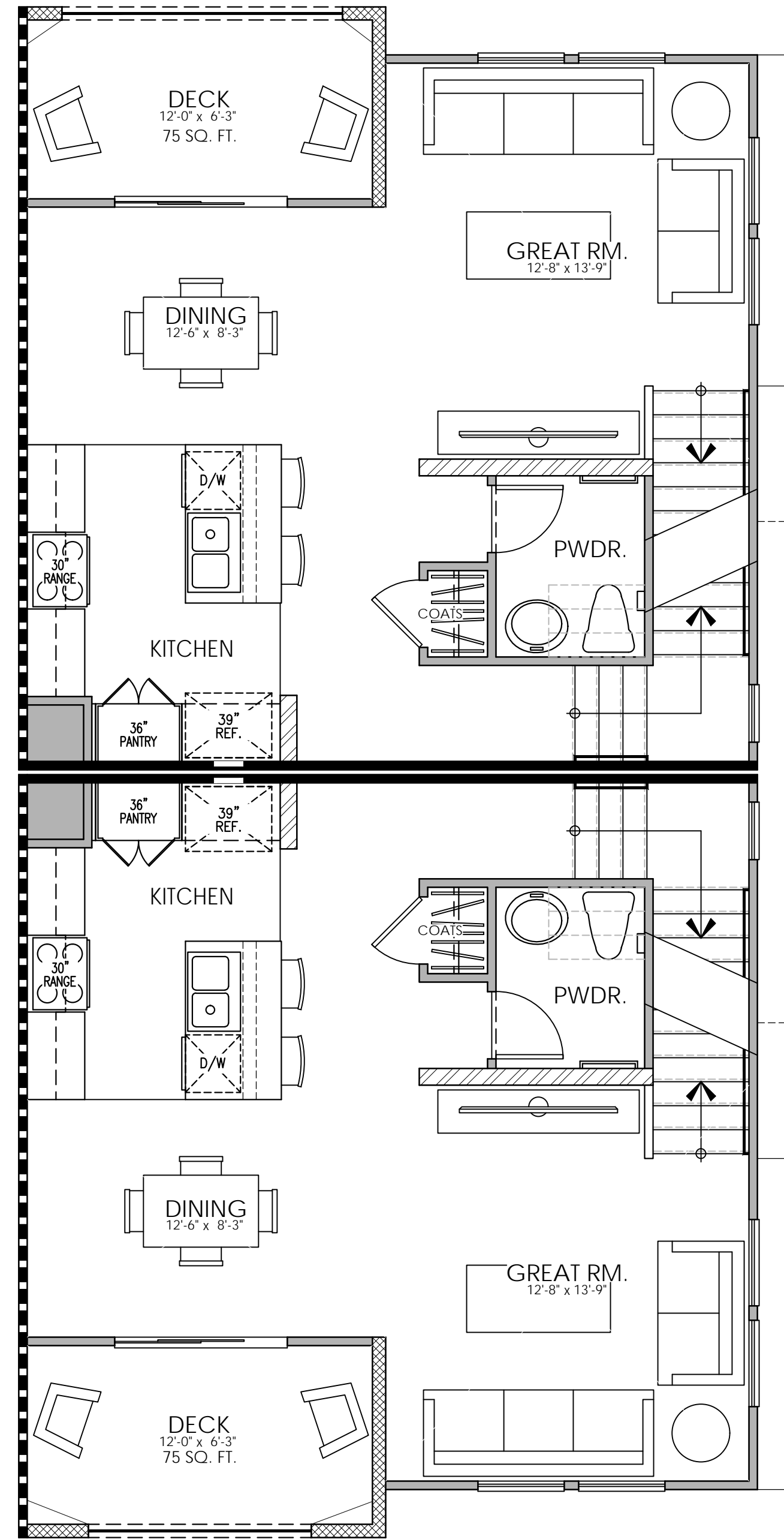
PLAN 2531.1
AREA TABULATION

| CONDITIONED SPACE | |
|---------------------|---------------|
| FIRST FLOOR AREA | 122 SQ. FT. |
| SECOND FLOOR AREA | 518 SQ. FT. |
| THIRD FLOOR AREA | 659 SQ. FT. |
| TOTAL DWELLING | 1,300 SQ. FT. |
| UNCONDITIONED SPACE | |
| GARAGE | 577 SQ. FT. |
| SECOND FLOOR DECK | 83 SQ. FT. |

PLAN 2531X.1
AREA TABULATION

| CONDITIONED SPACE | |
|---------------------|---------------|
| FIRST FLOOR AREA | 95 SQ. FT. |
| SECOND FLOOR AREA | 518 SQ. FT. |
| THIRD FLOOR AREA | 659 SQ. FT. |
| TOTAL DWELLING | 1,268 SQ. FT. |
| UNCONDITIONED SPACE | |
| GARAGE | 507 SQ. FT. |
| SECOND FLOOR DECK | 83 SQ. FT. |

UNIT 2531X.1

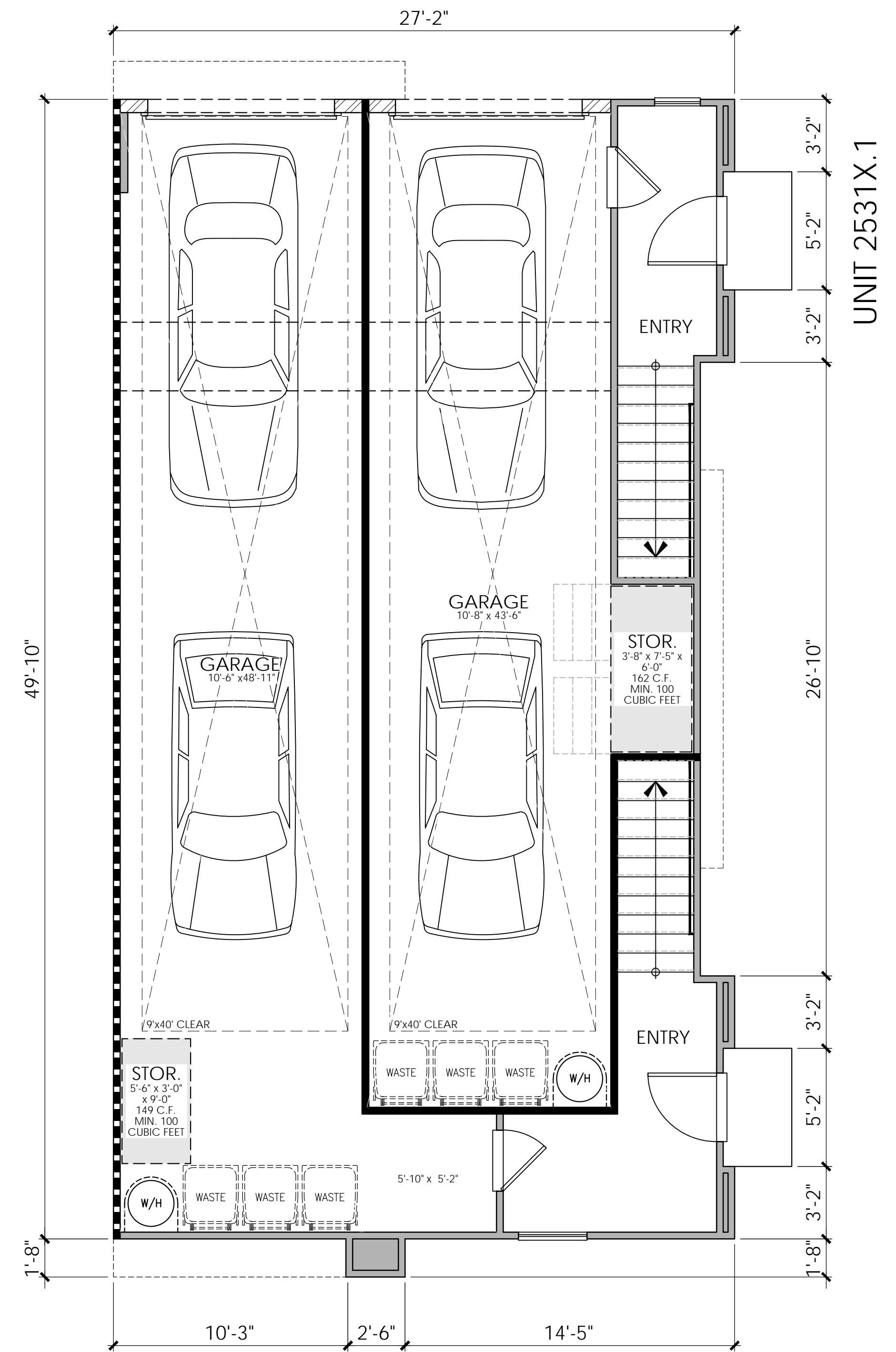


UNIT 2531.1

SECOND FLOOR

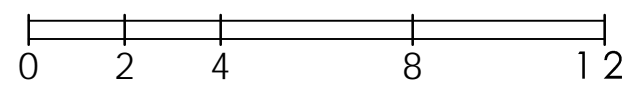
UNIT 2531.1 & 2531X.1
2 BEDROOM, 2.5 BATH
FLOOR PLAN

27'-2"



UNIT 2531.1

FIRST FLOOR



OCCUPANCY: R3 TOWNHOME/U
SPRINKLER SYSTEM: NFPA 13D
CONSTRUCTION: VB
SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS

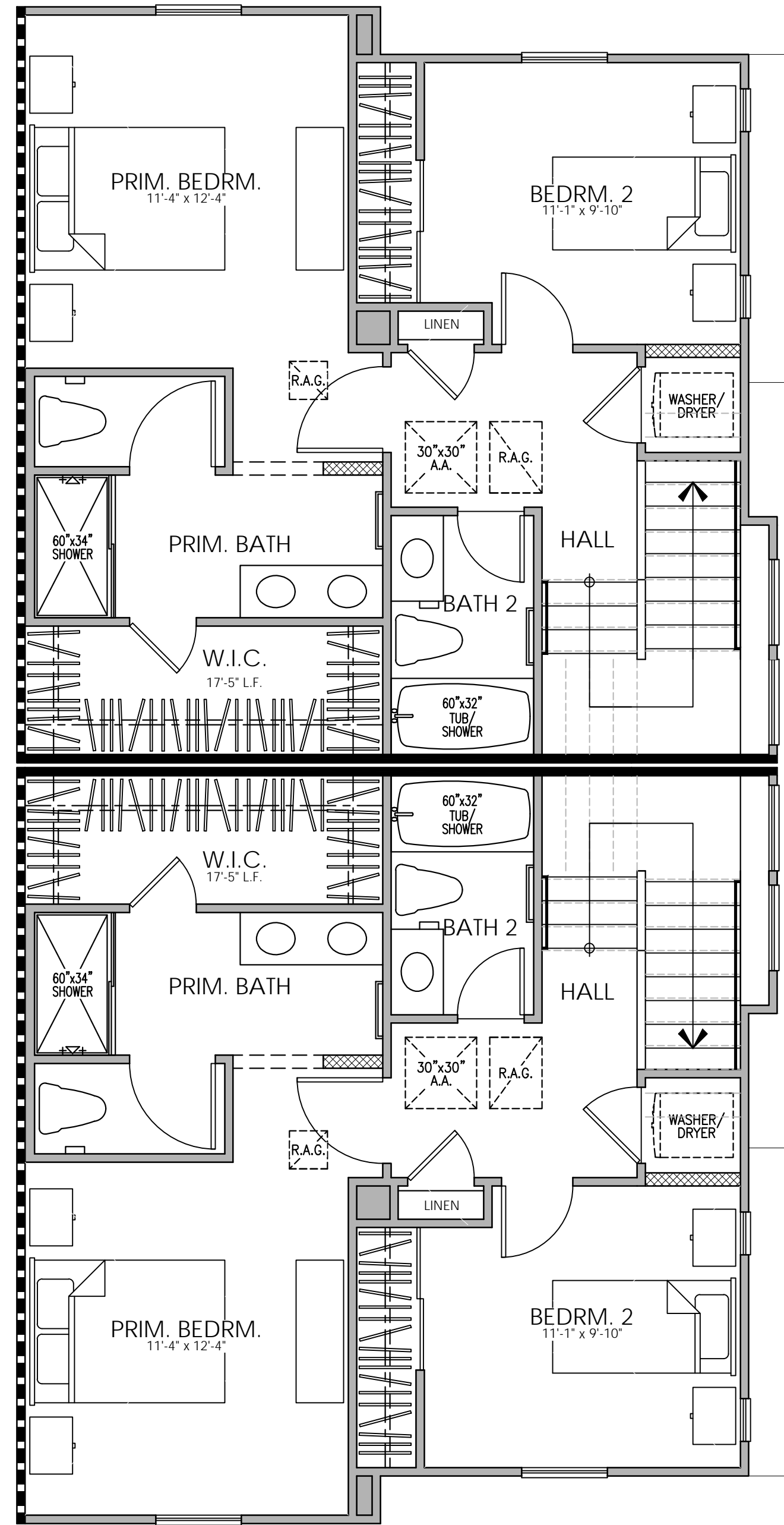


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Kevin L. Crook
Architect 3095

EXHIBIT 6

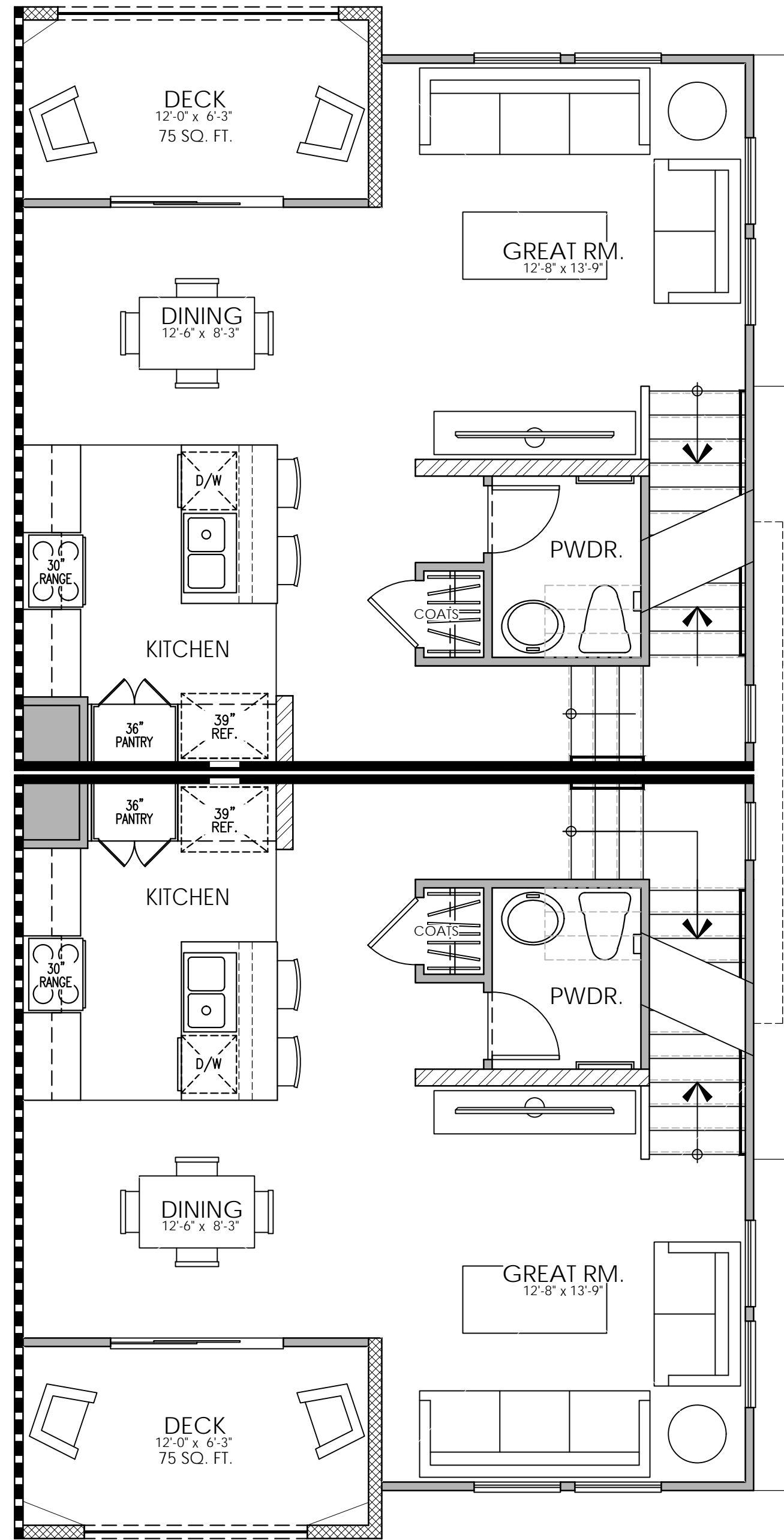
UNIT 2531X.2



UNIT 2531.2

THIRD FLOOR

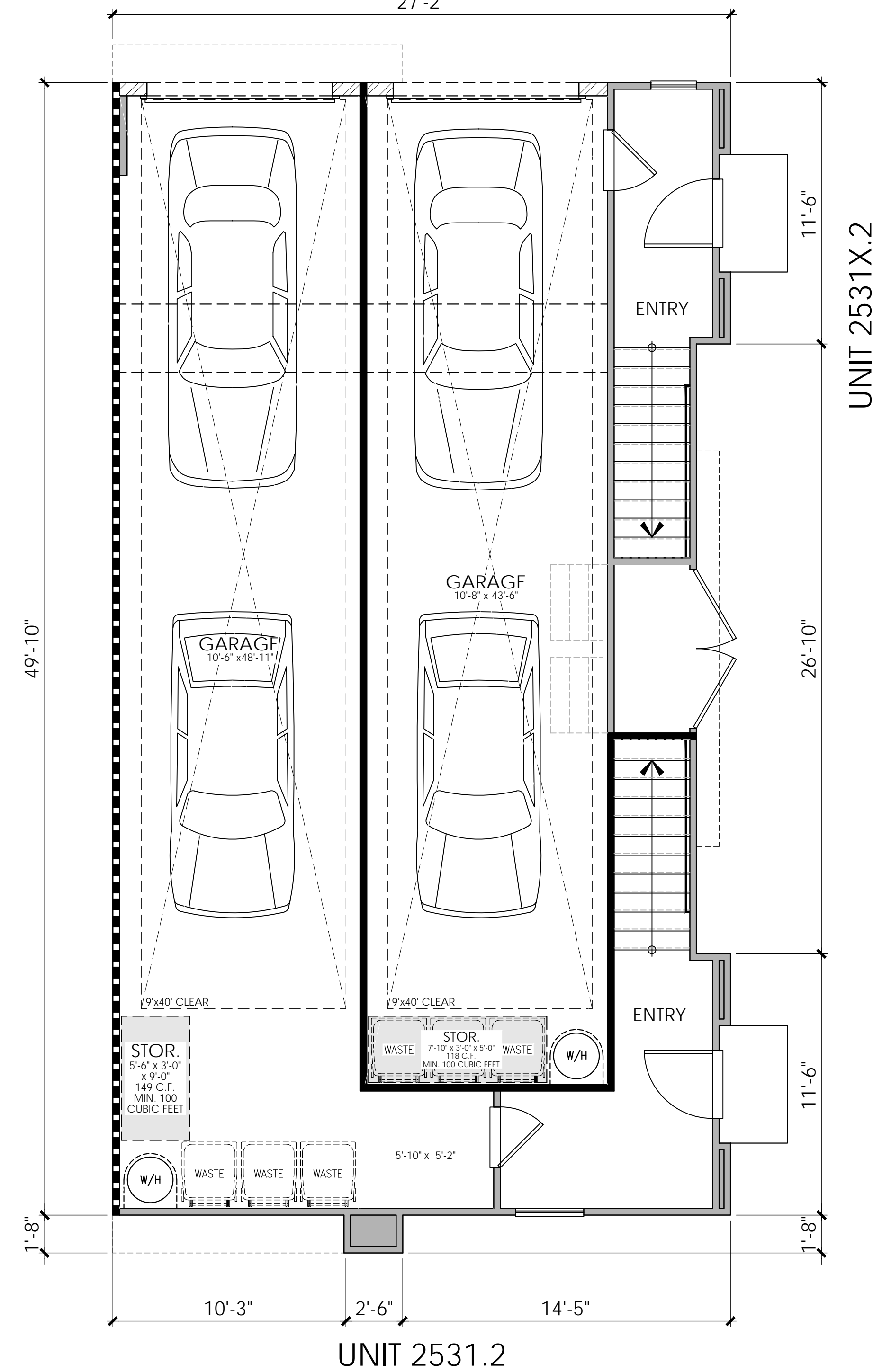
UNIT 2531X.2



UNIT 2531.2

SECOND FLOOR

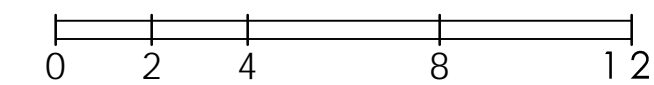
27'-2"



UNIT 2531.2

FIRST FLOOR

UNIT 2531.2 & 2531X.2
2 BEDROOM, 2.5 BATH
FLOOR PLAN

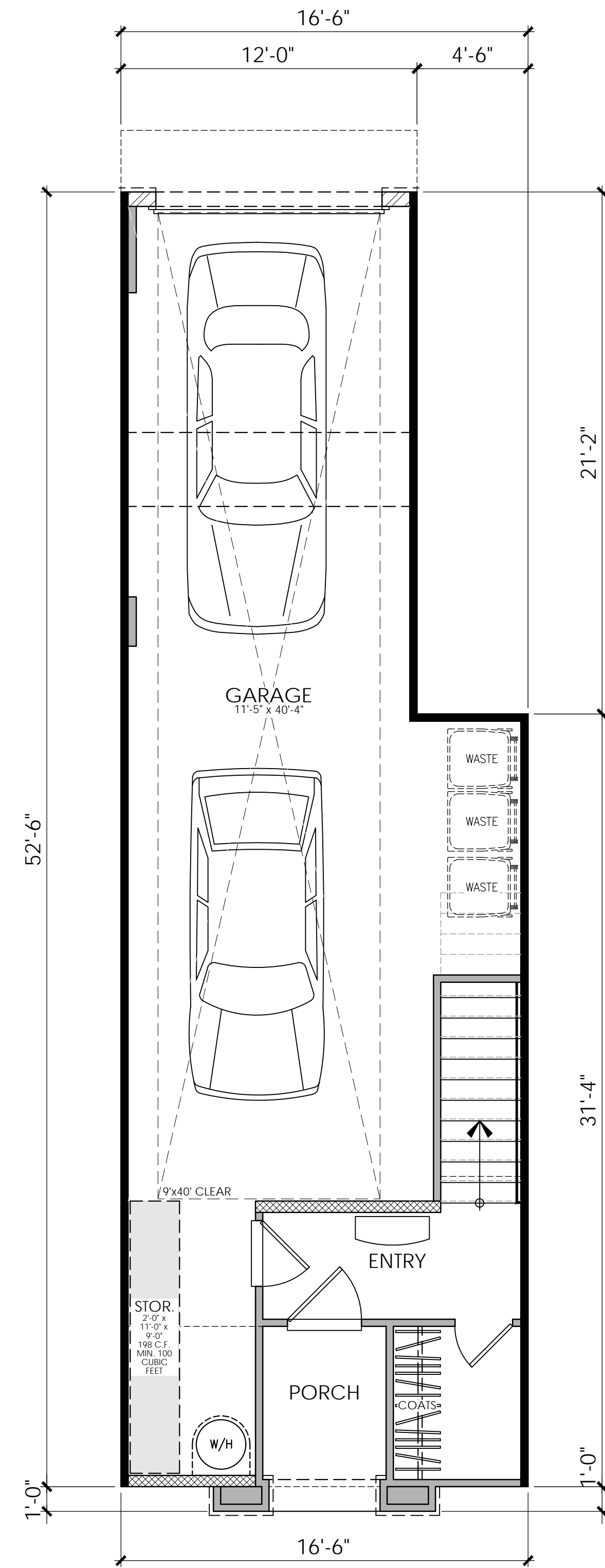
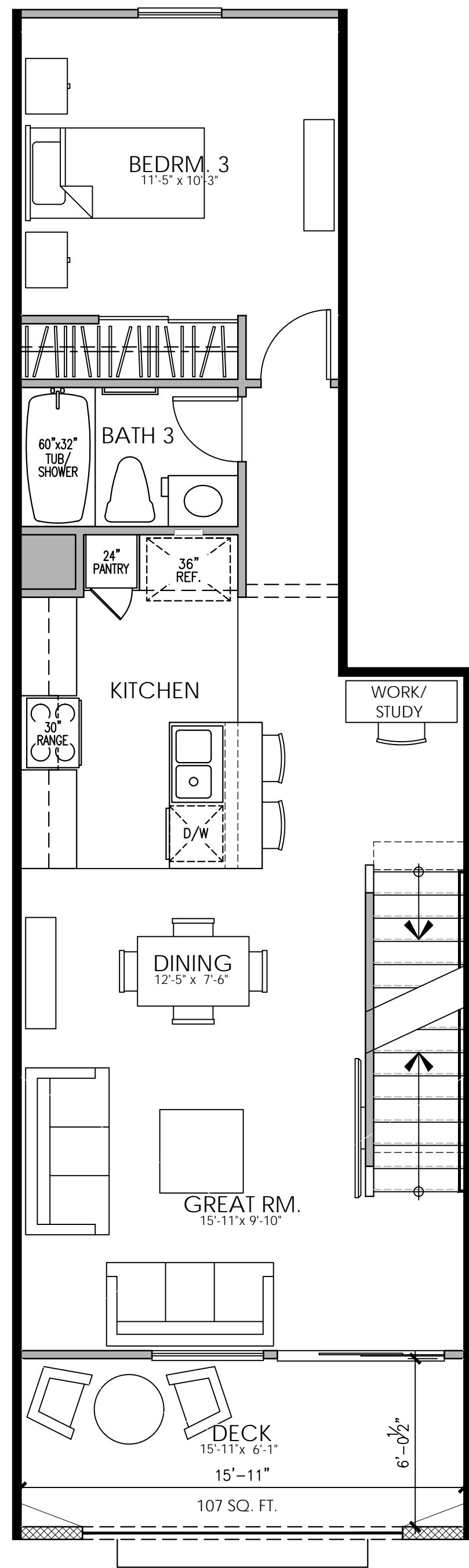
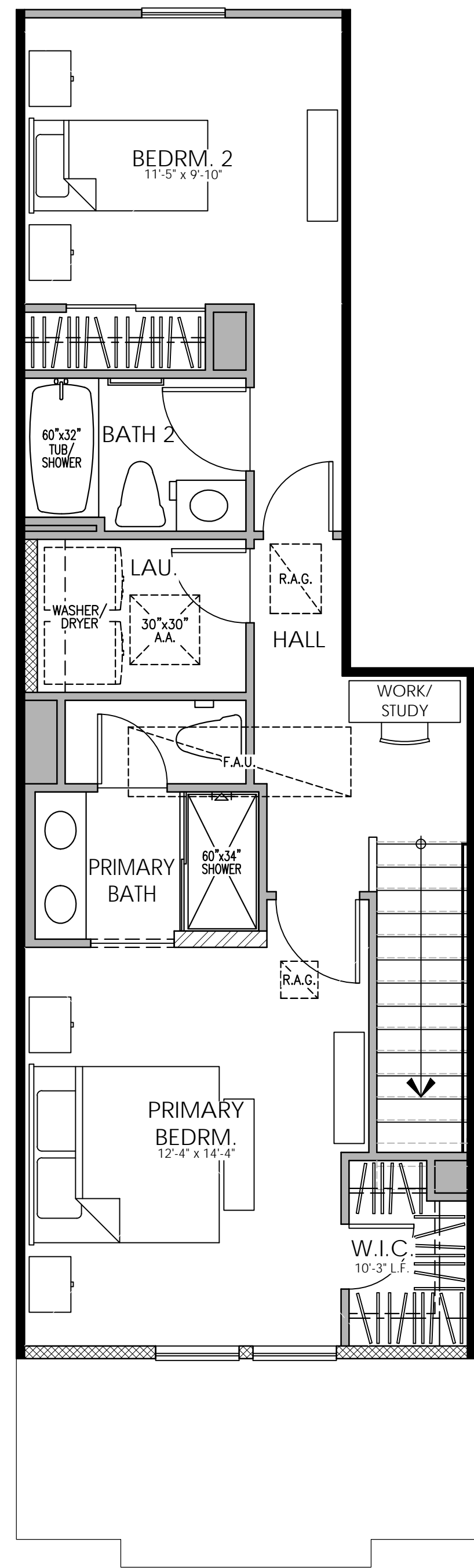


OCCUPANCY: R3 TOWNHOME/U
SPRINKLER SYSTEM: NFPA 13D
CONSTRUCTION: VB
SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS



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UNIT 1633
AREA TABULATION

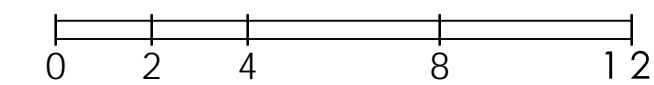
| CONDITIONED SPACE | |
|---------------------|---------------|
| FIRST FLOOR AREA | 160 SQ. FT. |
| SECOND FLOOR AREA | 688 SQ. FT. |
| THIRD FLOOR AREA | 648 SQ. FT. |
| TOTAL DWELLING | 1,496 SQ. FT. |
| UNCONDITIONED SPACE | |
| GARAGE | 610 SQ. FT. |
| PORCH | 37 SQ. FT. |
| DECK | 107 SQ. FT. |

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR

UNIT 1633.1
3 BEDROOM, 3 BATH
FLOOR PLAN

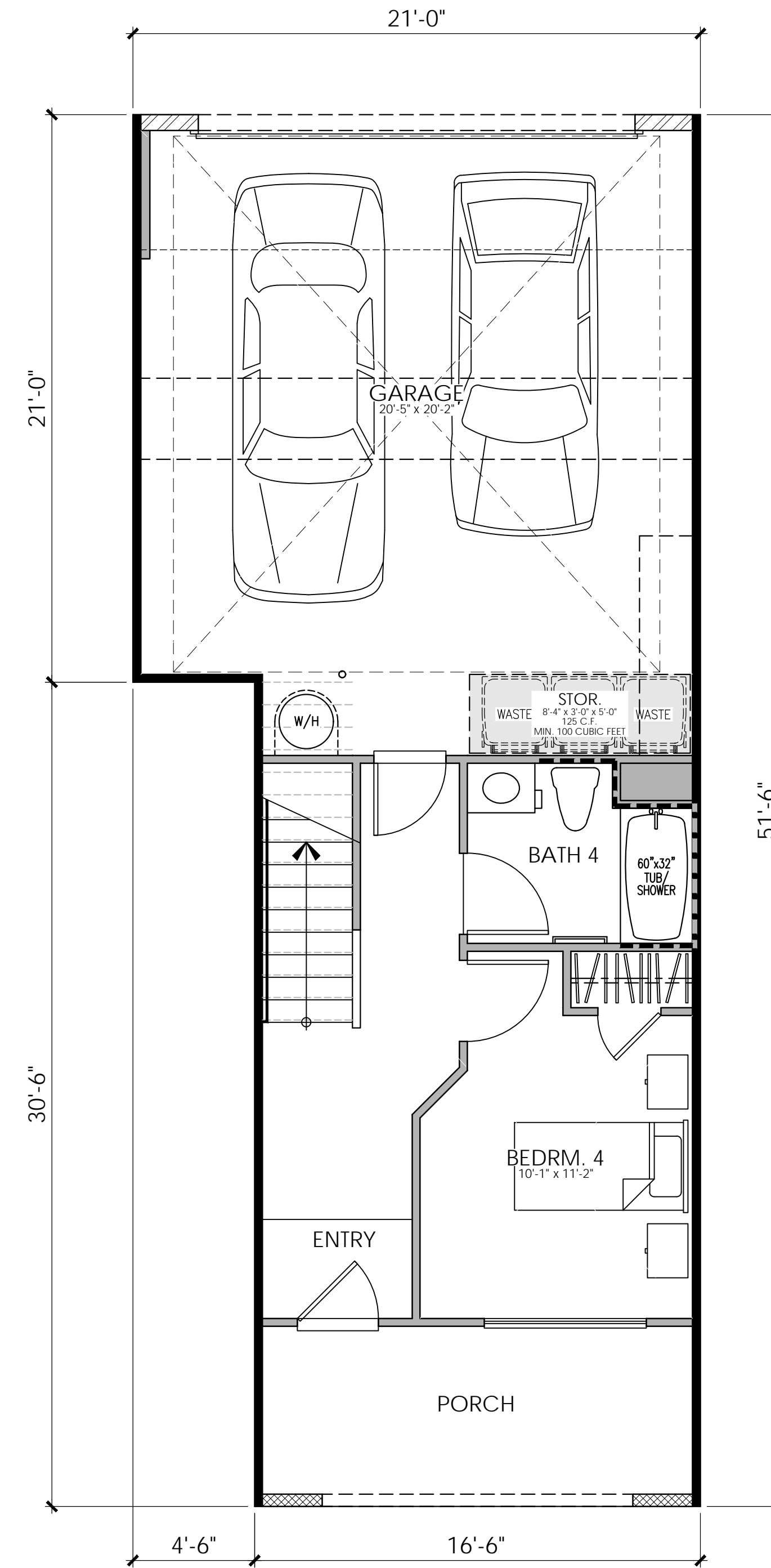
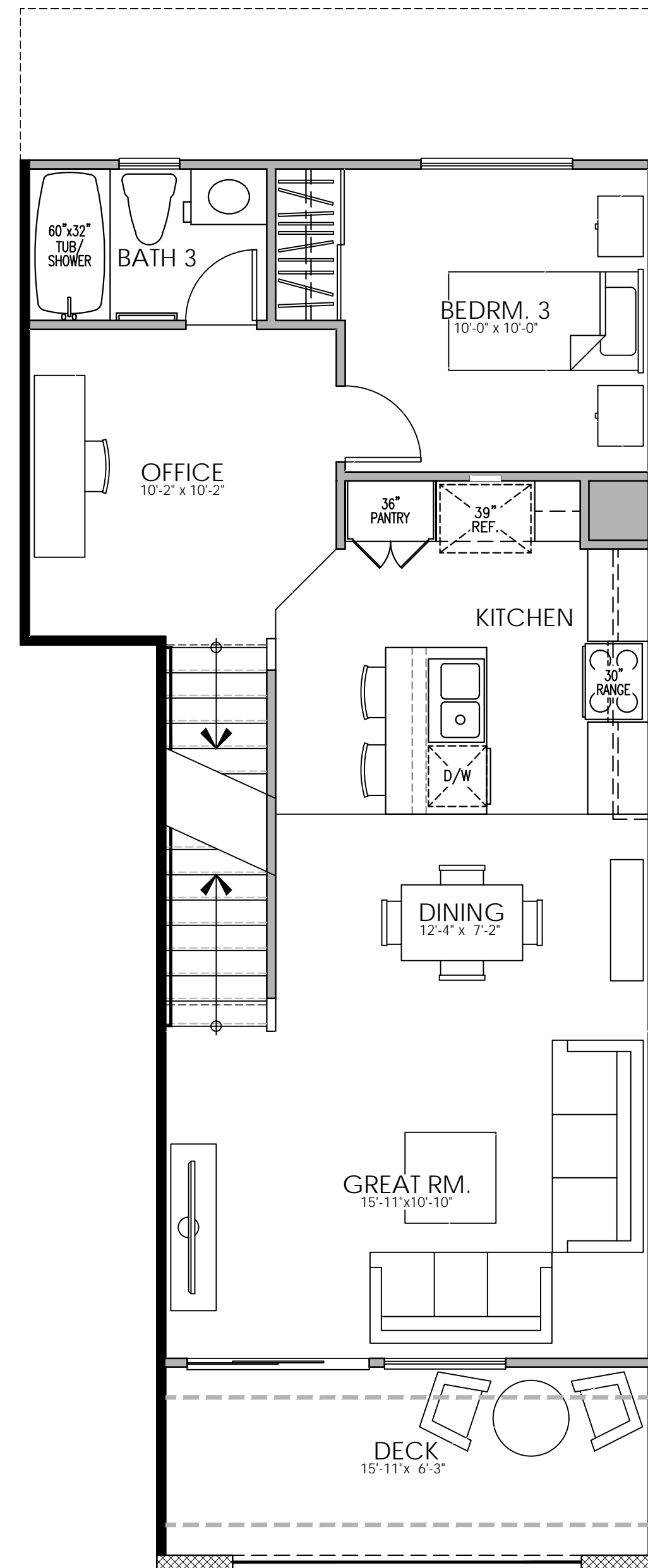
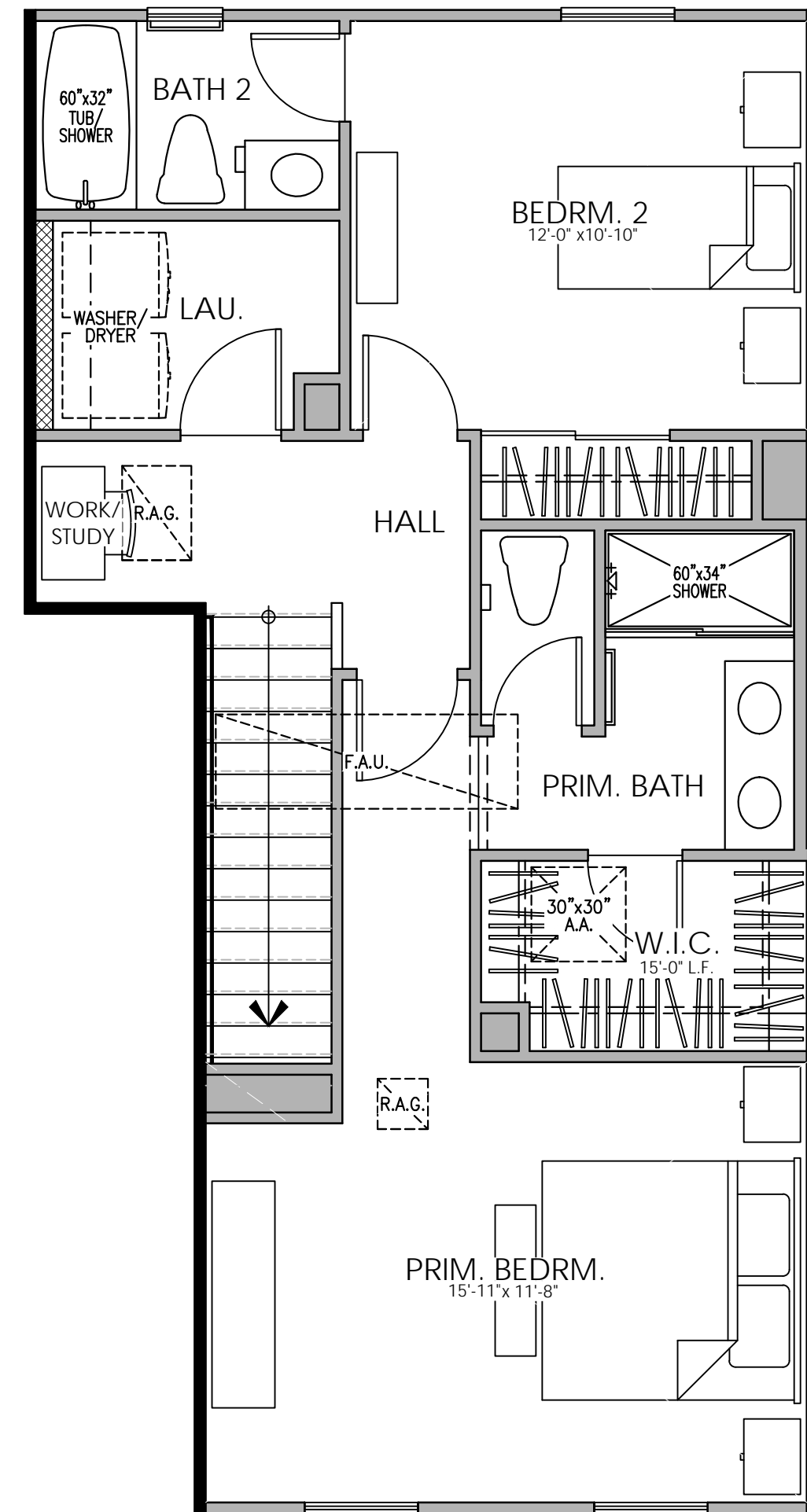


OCCUPANCY: R3 TOWNHOME/U
 SPRINKLER SYSTEM: NFPA 13D
 CONSTRUCTION: VB
 SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS



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UNIT 1638.1
 AREA TABULATION

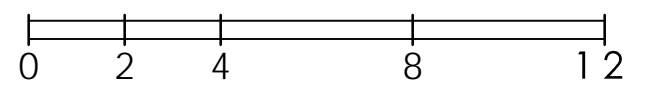
| CONDITIONED SPACE | |
|---------------------|---------------|
| FIRST FLOOR AREA | 349 SQ. FT. |
| SECOND FLOOR AREA | 729 SQ. FT. |
| THIRD FLOOR AREA | 687 SQ. FT. |
| TOTAL DWELLING | 1,765 SQ. FT. |
| UNCONDITIONED SPACE | |
| GARAGE | 485 SQ. FT. |
| PORCH | 110 SQ. FT. |
| DECK | 110 SQ. FT. |

THIRD FLOOR

SECOND FLOOR

FIRST FLOOR

UNIT 1638.1
 4 BEDROOM, 4 BATH
 FLOOR PLAN



OCCUPANCY: R3 TOWNHOME/U
 SPRINKLER SYSTEM: NFPA 13D
 CONSTRUCTION: VB
 SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS



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UNIT 1633X.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 2531.2

FRONT



UNIT 2531.2 UNIT 2531X.2R

RIGHT

MATERIALS LEGEND

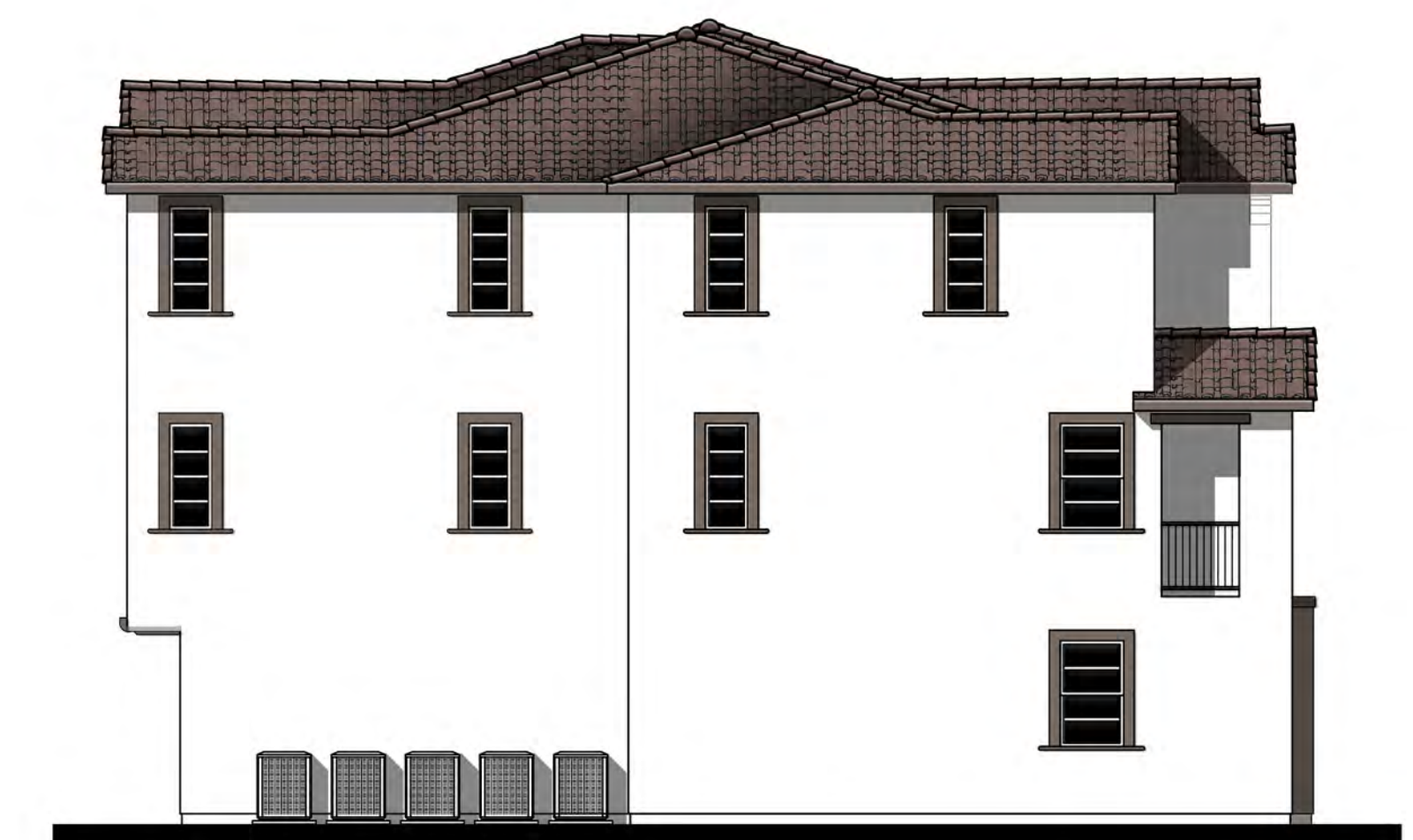
(WHERE OCCURS)

- FRONT DOOR: FIBERGLASS
- GARAGE DOOR: METAL SECTIONAL
- ROOF: CONCRETE "S" TILE
- FASCIA: 2x6 WOOD
- BARGE: 2x6 WOOD
- GABLE END: SIMULATED CLAY TILE
- WALL: STUCCO
- WINDOWS: VINYL W/ GRIDS
- SHUTTERS: SIMULATED WOOD
- POT SHELF: SIMULATED WOOD
- TRIM: STUCCO OVER RIGID FOAM
- ENTRY SURROUND: CERAMIC TILE
- RAILING: TUBULAR STEEL



UNIT 2531X.2R UNIT 2531.2R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633X.1R

REAR

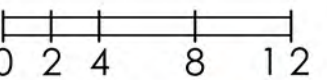


UNIT 1638X.1R
LEFT

COLOR SCHEME 1

902A BUILDING COMPOSITE (9-PLEX)- BUILDINGS 4,5&6
SPANISH ECLECTIC "A" ELEVATIONS

OCCUPANCY: R3 TOWNHOME/U
SPRINKLER SYSTEM: NFPA 13D
CONSTRUCTION: VB
SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS





UNIT 2531.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 2531.2

FRONT



UNIT 2531.2 UNIT 2531X.2R

RIGHT

MATERIALS LEGEND

(WHERE OCCURS)

- FRONT DOOR: FIBERGLASS
- GARAGE DOOR: METAL SECTIONAL
- ROOF: CONCRETE "S" TILE
- FASCIA: 2x6 WOOD
- BARGE: 2x6 WOOD
- GABLE END: SIMULATED CLAY TILE
- WALL: STUCCO
- WINDOWS: VINYL W/ GRIDS
- SHUTTERS: SIMULATED WOOD
- POT SHELF: SIMULATED WOOD
- TRIM: STUCCO OVER RIGID FOAM
- ENTRY SURROUND: CERAMIC TILE
- RAILING: TUBULAR STEEL



UNIT 2531X.2R UNIT 2531.2R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 1633.1R UNIT 1638.1R UNIT 2531.1R

REAR

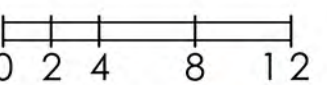


UNIT 2531X.1R UNIT 2531.1R

LEFT

COLOR SCHEME 1

1003A BUILDING COMPOSITE (10-PLEX)- BUILDINGS 1, 2 & 3
SPANISH ECLECTIC "A" ELEVATIONS



OCCUPANCY: R3 TOWNHOME/U
SPRINKLER SYSTEM: NFPA 13D
CONSTRUCTION: VB
SQUARE FOOTAGE MEASUREMENT TAKEN FROM OUTSIDE WALLS



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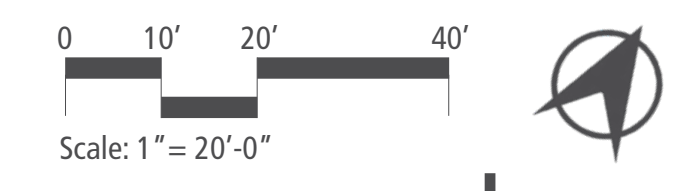


LEGEND

■ Landscaping Area - 26,217 sqft

TREE CALCULATION

| | |
|--|-----------|
| ○ Tree for every 15 linear feet | 38 |
| ○ Tree for every 200 sqft area | 27 |
| ○ Other Trees | 21 |
| Total | 86 |



PROPOSED PLANTING LIST

TREES

- Botanical Name / Common Name (WUCOLS)
- Cercidium 'Desert Museum' / Desert Museum Palo Verde (VL)
 - Chionanthus retusus / Chinese Fringe Tree (M)
 - Geijera parviflora/Australian Willow (M)
 - Jacaranda mimosifolia / Jacaranda (M)
 - Koelreuteria bipinnata/Chinese Flame Tree (M)
 - Lagerstroemia indica / Crape Myrtle(M)
 - Laurus nobilis/Bay Laurel (L)
 - Magnolia spp. / Magnolia (M)
 - Melaleuca alternifolia/Narrow-leaved paperbark (L)
 - Olea europea / Olive (L)
 - Platanus acerifolia / London Plane Tree (M)
 - Platanus racemose/ California Sycamore (M)
 - Prunus caroliniana/Carolina Cherry Laurel (M)
 - Pyrus calleryana / Bradford Pear (M)
 - Tristania conferta / Brisbane Box (M)

GROUNDCOVER

- Botanical Name / Common Name (WUCOLS)
- Bougainvillea sp./ NCN (L)
 - Carex divulsa/ Berkeley Sedge (L)
 - Carissa m. 'Green Carpet'/ Natal Plum (L)
 - Dianella revoluta 'Little Rev'/ Dianella(L)
 - Festuca sp./ Fescue (L)
 - Lantana sp./ Lantana(L)
 - Lonicera j. 'Halliana'/ Honeysuckle (L)
 - Rosmarinus o. 'Prostratus'/ Prostrate Rosemary (L)
 - Senecio spp./ NCN (M)
 - Trachelospermum jasminoides/ Star Jasmine (M)

VINES / ESPALIERS

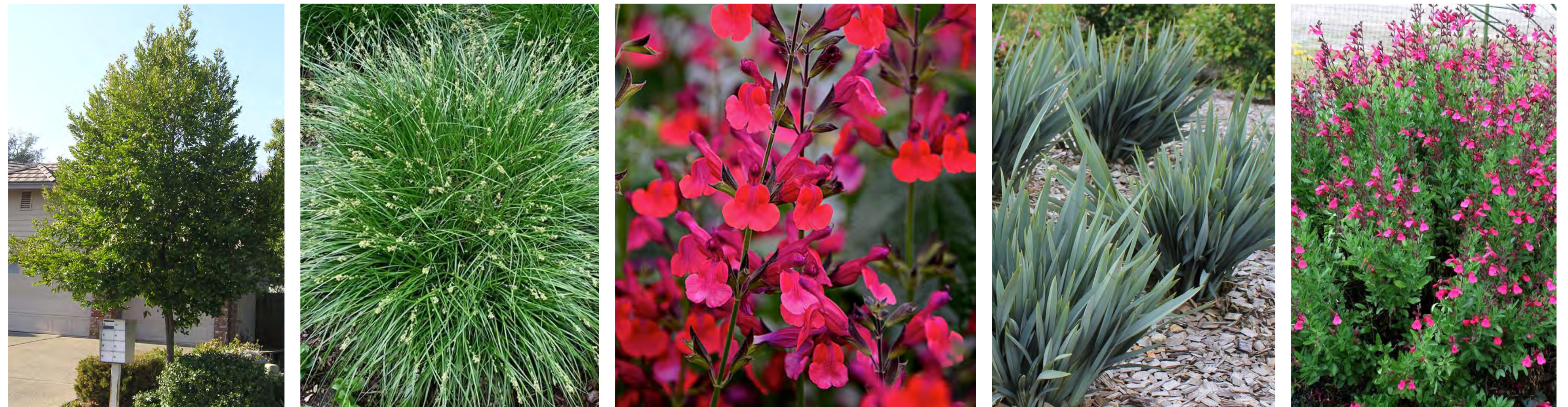
- Botanical Name / Common Name (WUCOLS)
- Bougainvillea spp./ NCN (L)
 - Macfadyena unguis-cati/Cat's Claw Creeper (L)
 - Parthenocissus tricuspidata/Boston Ivy (M)
 - Trachelospermum jasminoides/ Star Jasmine (M)

NOTE:

WUCOLS Region 4 (South Inland Valley)

SHRUBS

- Botanical Name / Common Name (WUCOLS)
- Agapanthus spp./ Lily of the Nile (M)
 - Agave spp./ Agave (VL)
 - Aloe spp./ Aloe (L)
 - Anigozanthos spp./ Kangaroo Paw (M)
 - Bougainvillea spp./Bougainvillea (L)
 - Buxus sp./ Boxwood (M)
 - Callistemon viminalis 'Little John'/ Dwarf Callistemon (L)
 - Carissa macrocarpa 'Tuttle'/ Dwarf Natal Plum (L)
 - Ceanothus 'Frosty Blue'/ California Lilac (L)
 - Chondropetalum tectorum/ Cape Reed (M)
 - Cistus x. purpureus/ Orchid Rockrose (L)
 - Cordyline spp./ NCN (M/L)
 - Dianella spp./ Flax Lily (L)
 - Dietes sp./ Fortnight Lily (L)
 - Dodonaea v. purpurea/ Purple Hopseed Bush (L)
 - Euonymus spp./ Euonymus (M)
 - Euphorbia spp./ Candelilla (L)
 - Festuca mairei/ Atlas Fescue (L)
 - Grevillea spp. / Grevillea (L)
 - Hemerocallis spp./ Daylily (M)
 - Hesperaloe parviflora/ Red Yucca (VL)
 - Heteromeles arbutifolia/ Toyon (VL)
 - Ilex vomitoria/ Yaupon holly (L)
 - Juncus spp./ Gray Rush (L)
 - Lavandula spp./ Lavender (L)
 - Leucophyllum spp./ Purple Sage (L)
 - Ligustrum j. 'Texanum' / Texas Privet (M)
 - Lomandra spp./ NCN (M/L)
 - Muhlenbergia spp./ Deer Grass (M/L)
 - Olea europaea 'Little Ollie'/ Little Ollie Olive (L)
 - Osmanthus fragrans/ Osmanthus (M)
 - Philodendron spp./ Philodendron (M)
 - Phormium spp./ New Zealand Flax (L)
 - Photinia x. fraseri/ Fraser's Photinia (M)
 - Pittosporum spp./ Mock Orange (M)
 - Podocarpus macrophyllus/ Yew Pine (M)
 - Rhaphiolepis spp./ Indian Hawthorne (L)
 - Rosa floribunda 'Iceberg'/ Iceberg Rose (M)
 - Rosmarinus spp./ Rosemary (L)
 - Salvia greggii/Autumn Sage (L)
 - Westringia spp./ Rosemary (L)
 - Xylosma congestum/ Shiny Xylosma (L)
 - Yucca spp./ Yucca (L/VL)





- ### LEGEND
- Entry Monument Wall
 - Perimeter Fence on Low Retaining Wall
 - Perimeter Wall
 - Patio Wall and Stair Cheek Wall
 - ★ Patio Gate
 - ★ Facilities' Access Gate / Maintenance Access Gate

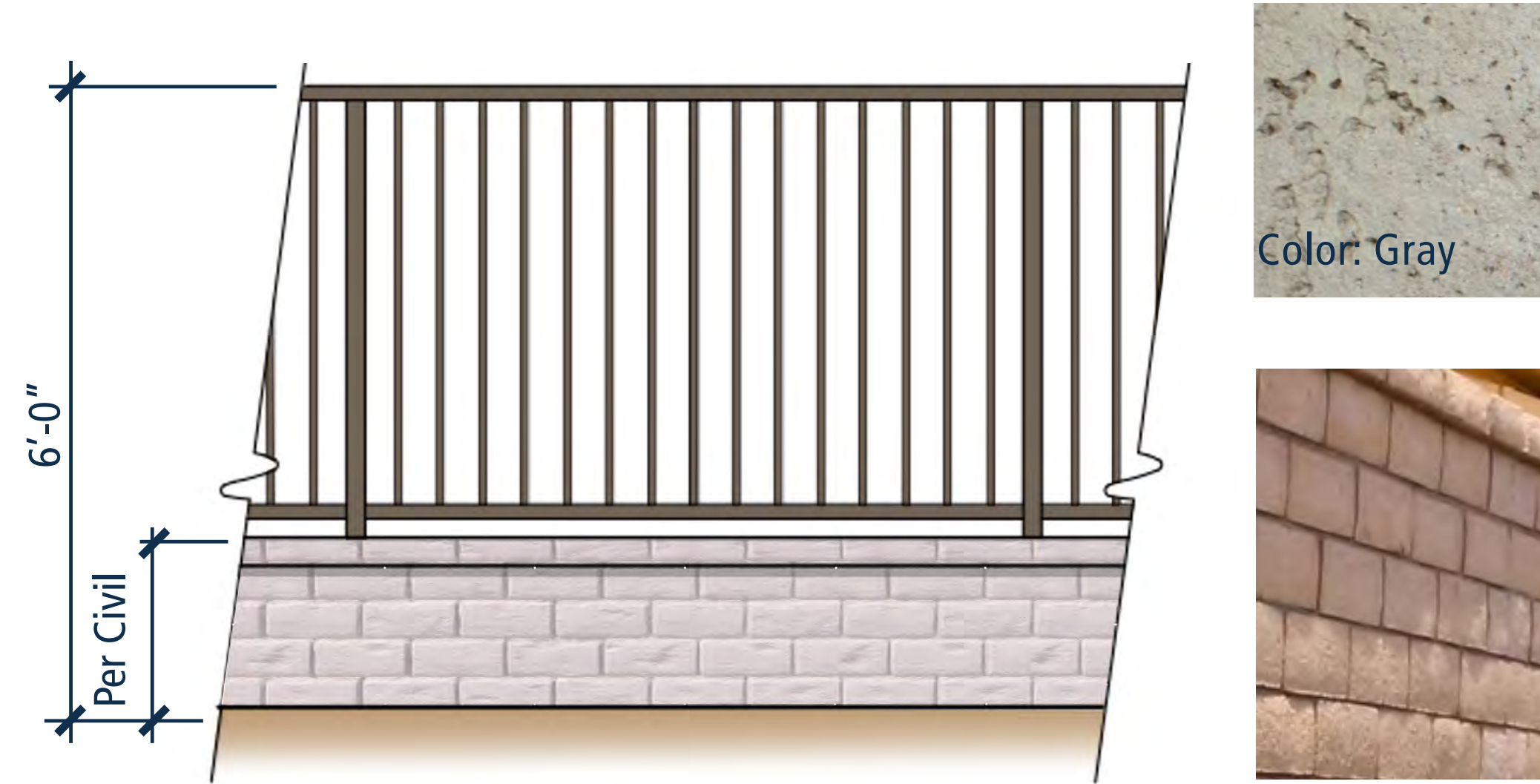
Entry Monument Wall

- 5' ht.
- Slump CMU with White Stucco finish in Running Bond Pattern
- Double-side Corten Steel Cut-out Community I.D. Signage



Perimeter Fence on Low Retaining Wall

- Retaining Wall Height per Civil Engineer's Plan (3'ht. Max within 20' setback zone)
- Slump CMU Block in Running Bond Pattern with 2" Slump Block Cap
- Color: Gray
- Tubular Steel Fence - 6'ht.
- Paint Color: SW7048 Urbane Bronze or Equal



Perimeter Wall

- Perimeter Wall 6'-0" ht.
- Slump CMU Block in Running Bond Pattern
- Color: Gray
- 2" Slump CMU Cap



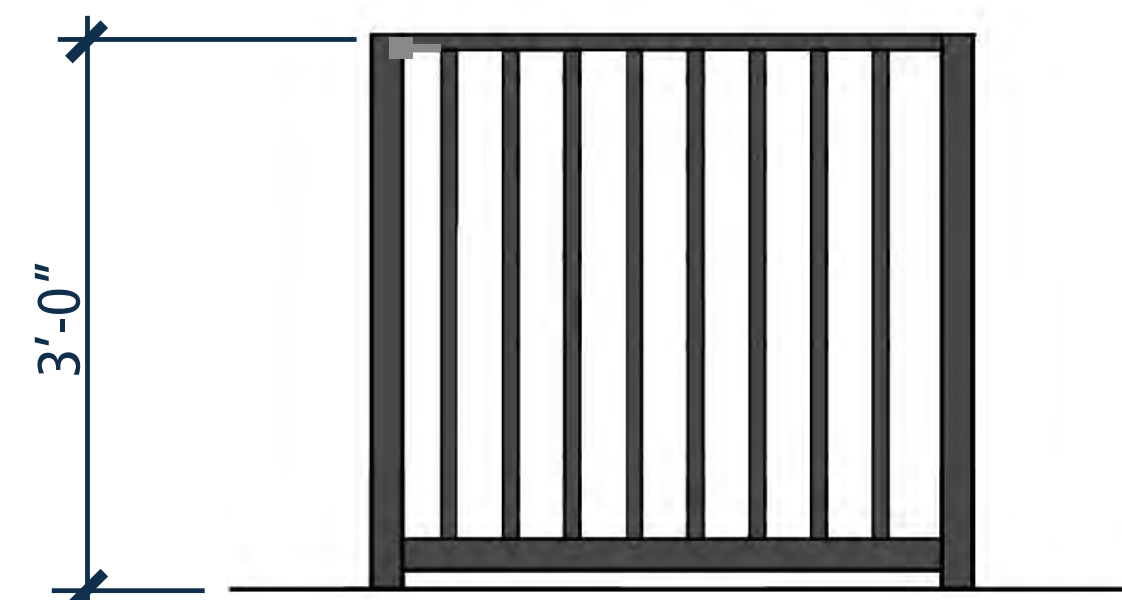
Patio Wall and Staircase Cheek Wall

- 3'-0" ht
- Slump CMU with White Stucco (Running Bond Pattern)



Patio Gate

- 3'-0" ht.
- Color to Match Architecture Railing



Facilities' Access Gate / Maintenance Access Gate

- 5' ht.
- Tubular Steel
- Paint Color: SW7048 Urbane Bronze or Equal





LEGEND

- Parking Lot Light
- Tree/Signage Up Light
- Down Light
- Low Directional Bollard



Bega (Or Equal)

- Parking Lot Light



Philips (Or Equal)

- Tree Up Light



FX Luminaire (Or Equal)

- Down Light



Bega (Or Equal)

- Low Directional Bollard

NOTE:

Lighting fixture locations are conceptual. Final locations are subject to the final site configuration and utility layouts.



Project Summary

Site Area: 2.87 Acres (161,956 SF)

No. of Units: 57 Homes¹

- (18) Plan 2531: 1268 SF, 2 bed., 2.5 bath
- (21) Plan 1633: 1496 SF, 3 bed, 3 bath
- (18) Plan 1638: 1765 SF, 4 bed, 4 bath

Density: 19.86 du/ac

Building Coverage: 45,648 SF (28.2% of site)

Proposed Setbacks²:

- Front: 18' minimum (Via Del Rio)
- Street Side: 13' minimum (Avenida Del Vista)
- Side & Rear: 15' minimum
- Building to Building: 18' minimum separation

Parking Required³: 104 Spaces total

- 2-3 Bedroom: 39 homes x 1.5 sp/du = 58.5 spaces
- 4+ Bedroom: 18 homes x 2.5 sp/du = 45 spaces

Parking Provided: 127 Spaces total (2.23 sp/du)

- Resident: Private 2-car garage per unit
- Guest Spaces: 13 spaces (9' x 17/5' w/ 2.5' overhang)

Open Space Provided: 17,793 SF

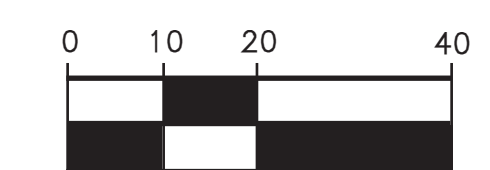
- Common Open Space: 10,935 SF⁴ (10' min. dim)
- Private Open Space: 6,858 SF⁵ (6' min. dim.)

* Conceptual Affordable Unit Locations

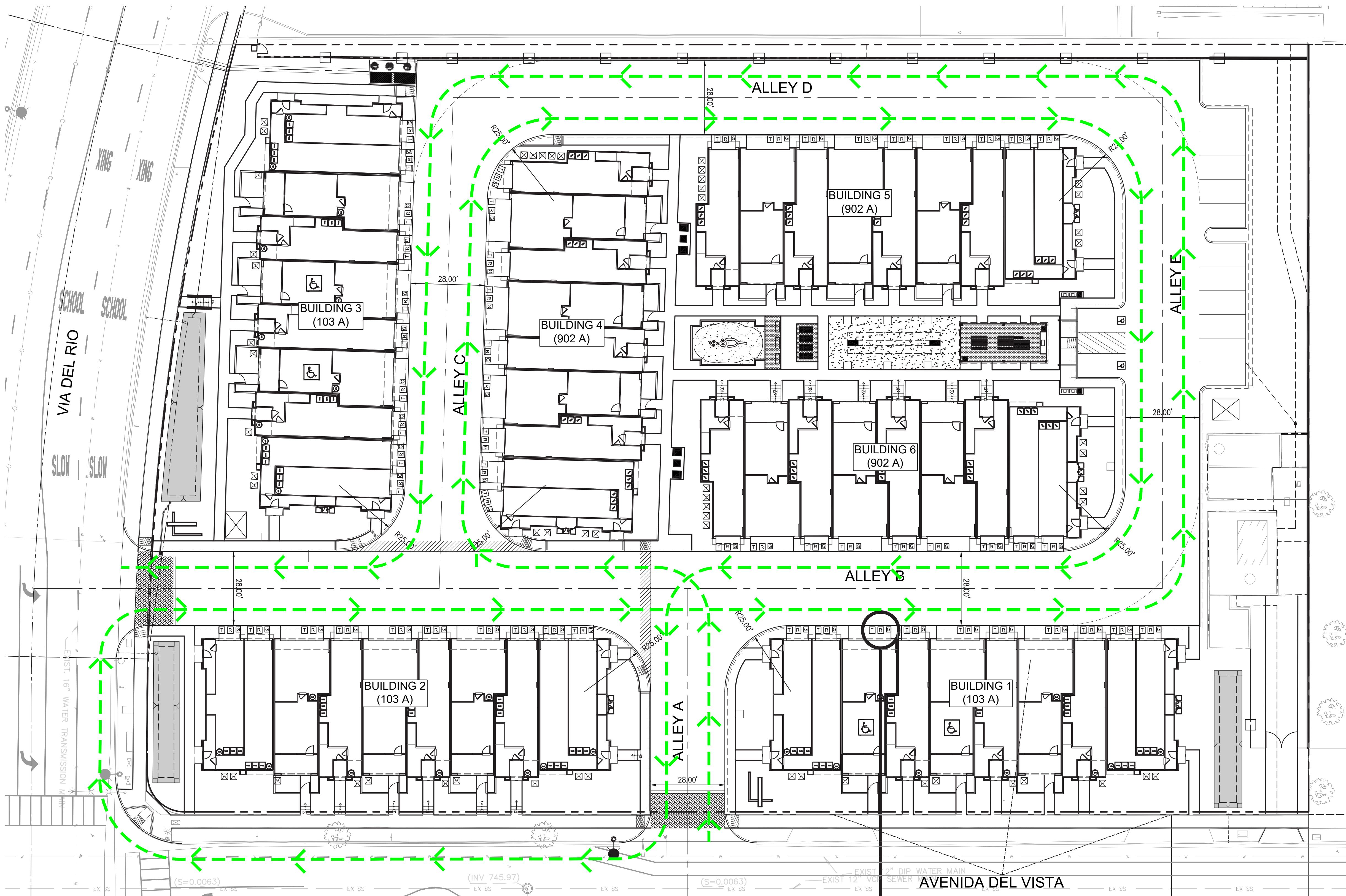
- (1) Plan 2531
- (1) Plan 1633
- (1) Plan 1638

Notes:

1. Type VB construction with NFPA 13D automatic sprinkler system.
2. Affordable waiver used to reduce front and street side setback.
3. Required parking based on affordable parking standards.
4. Affordable waivers used to reduce common open space requirement and indoor common open space requirement.
5. See floor plans for private open space per plan details.
6. Existing General Plan: High Density Residential
7. Existing Land Use: Church
8. Existing Zoning: R3
9. Proposed General Plan: High Density Residential
10. Proposed Zoning: R3
11. Assessor's Parcel Numbers: 103-200-088 & -089
12. Site Address: 1717 Via Del Rio, Corona, CA 92882



CONCEPTUAL PHASING AND AFFORDABLE UNIT PLAN



Project Summary

Site Area: 2.87 Acres (161,956 SF)

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2. Affordable waiver used to reduce front and street side setback and building separation requirements.
3. Required parking based on affordable parking standards.
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9. Proposed General Plan: High Density Residential
10. Proposed Zoning: R3
11. Assessor's Parcel Numbers: 103-200-088 & -089
12. Site Address: 1717 Via Del Rio, Corona, CA 92882

---> Conceptual trash truck path

T R G (2) 64-Gallon Carts for Trash and Recycle
 (1) 32-Gallon Cart for Organics/Green Waste

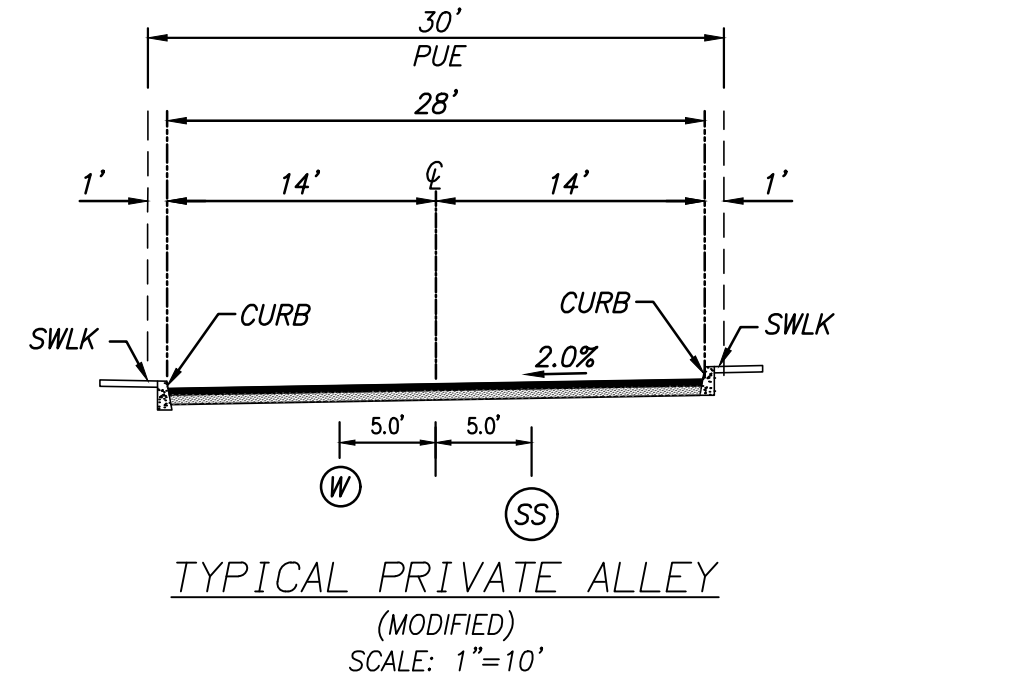
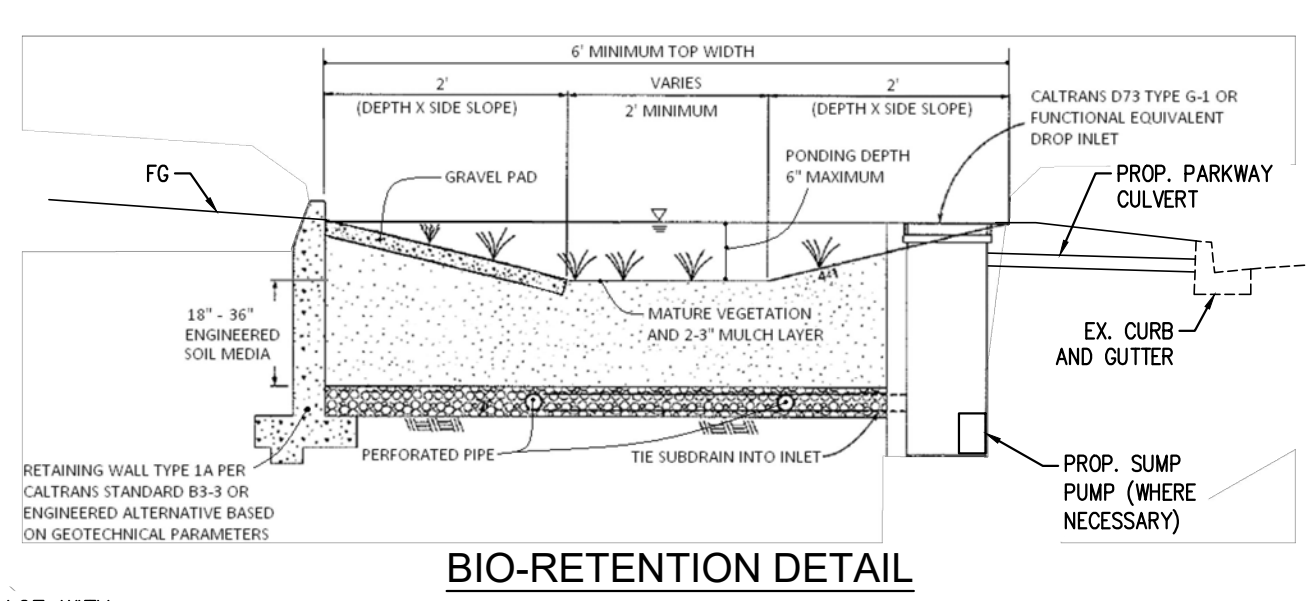
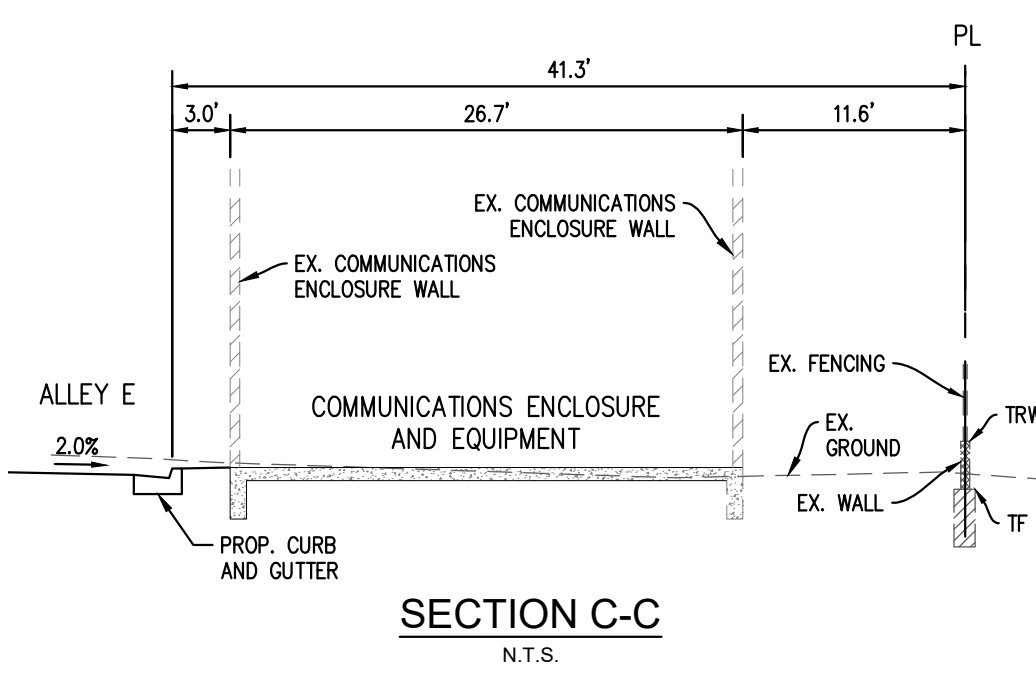
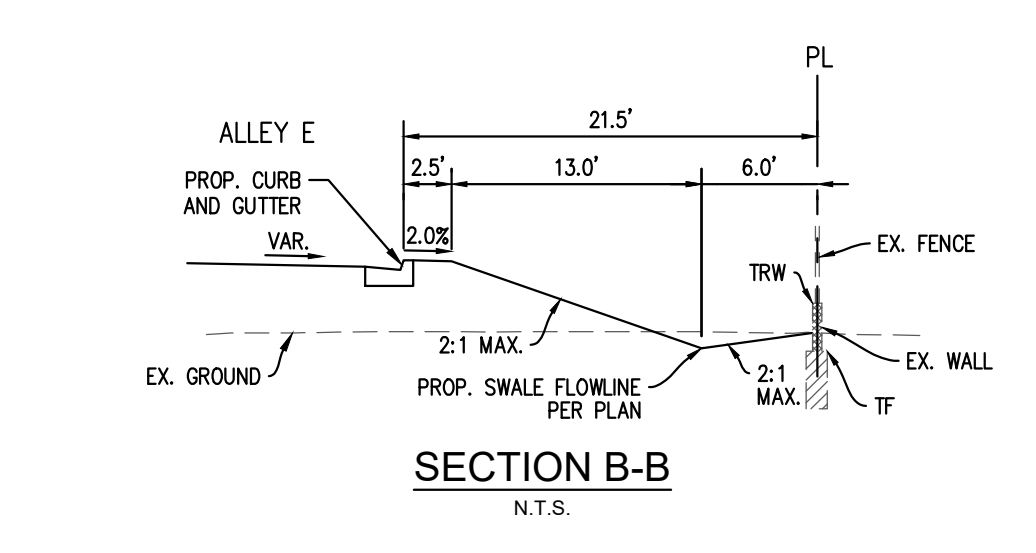
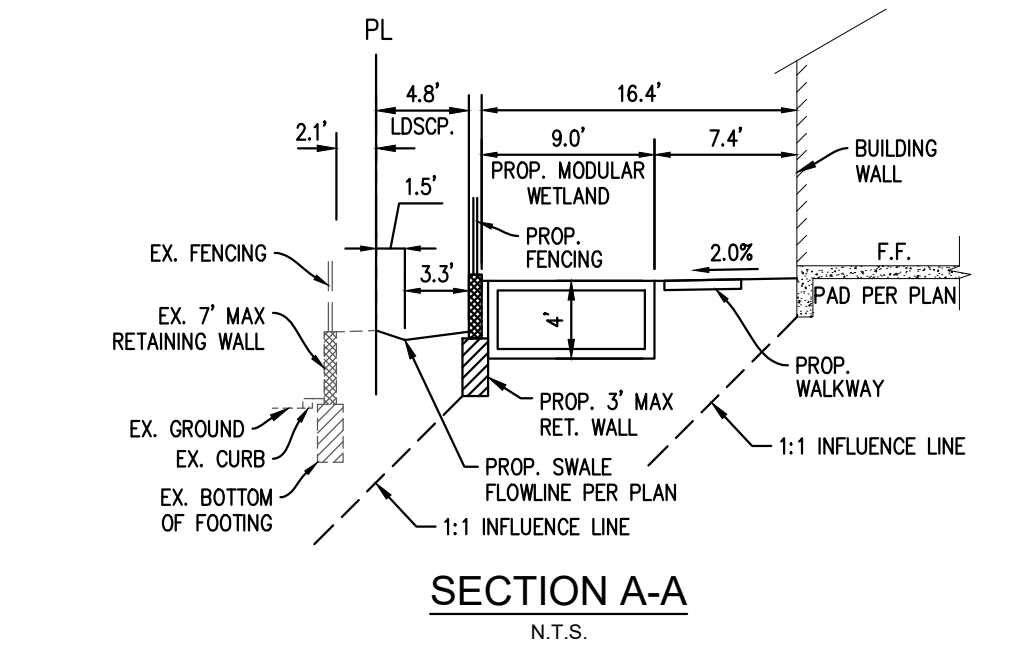
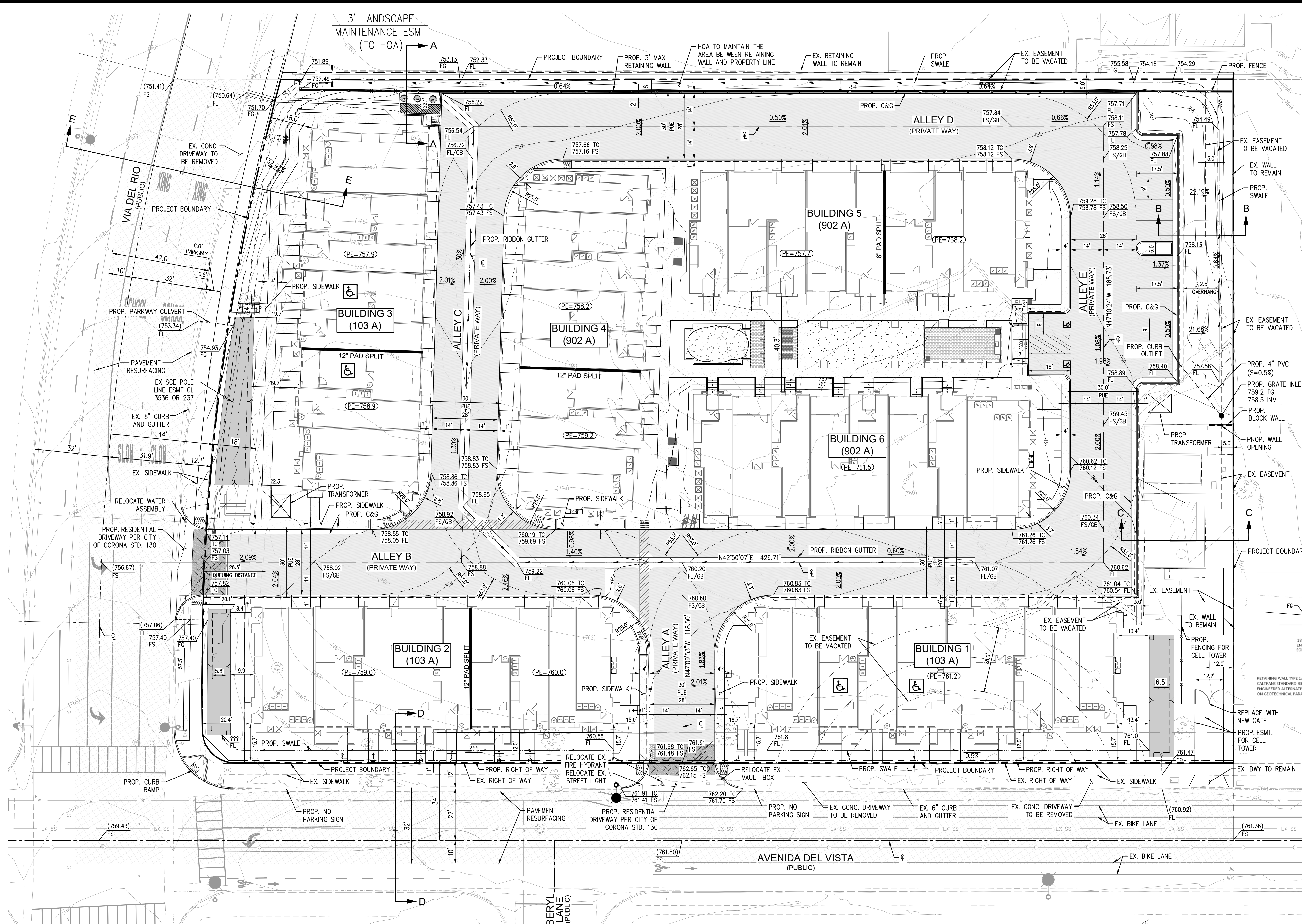
CONCEPTUAL TRASH STAGING PLAN

VIA DEL RIO
 CORONA, CALIFORNIA

05/01/2025
 SP-3

Kevin L. Crook
 Architect
 Inc #23095

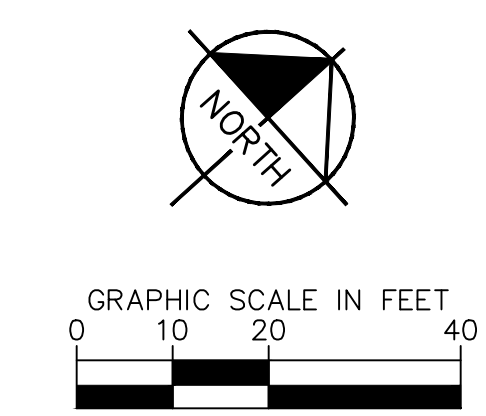
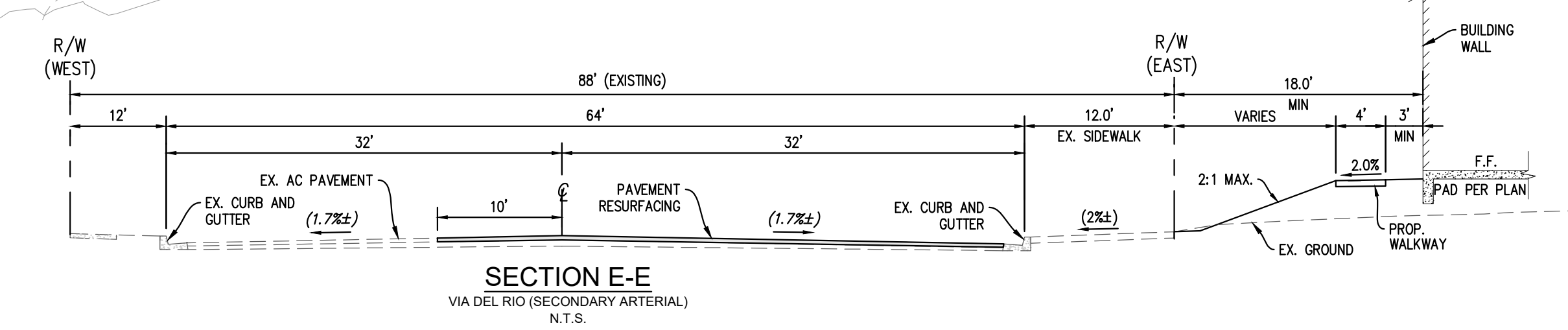
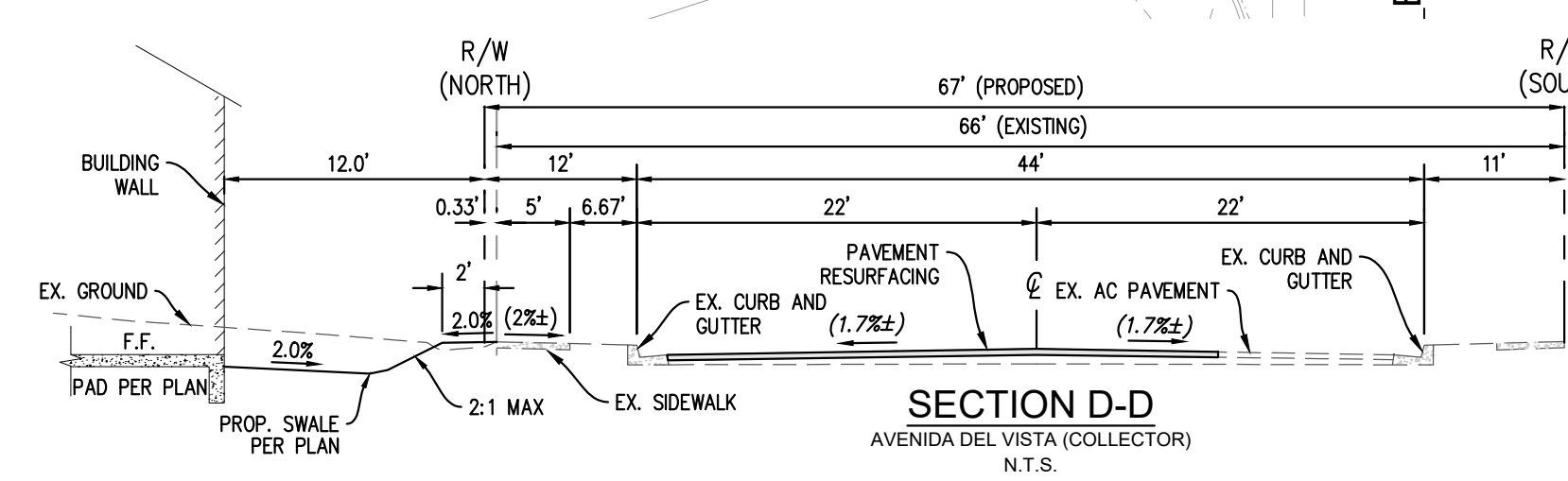
EXHIBIT 12



EARTHWORK INFO

NOTE:
SEE TENTATIVE TRACT MAP (SHEET C-2)
FOR ALL MODIFIED PRIVATE WAY SECTION.

CUT = 2,700 CY (RAW)
FILL = 6,200 CY (RAW)
NET = 3,500 CY OF FILL



CONCEPTUAL GRADING PLAN

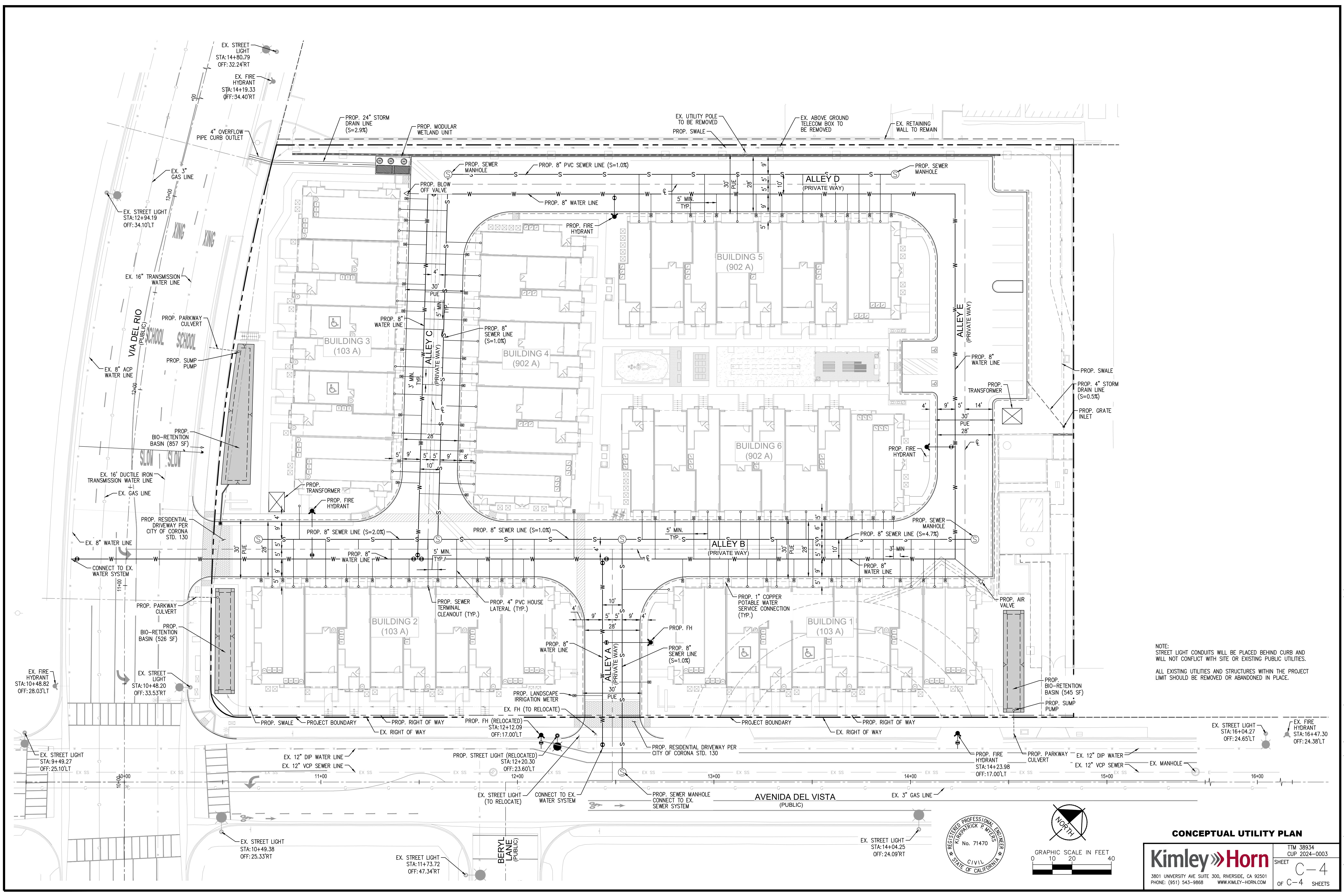
Kimley Horn

REGISTERED PROFESSIONAL ENGINEERS
KIMLEY-HORN & MERRITT, INC.
No. 71470
CIVIL
STATE OF CALIFORNIA

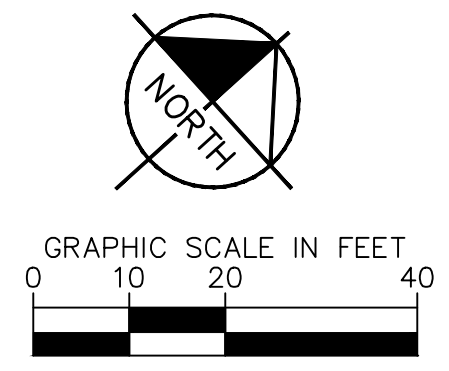
TTM 38934
CUP 2024-0003
SHEET C-3

EXHIBIT 13

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NOTE:
STREET LIGHT CONDUITS WILL BE PLACED BEHIND CURB AND WILL NOT CONFLICT WITH SITE OR EXISTING PUBLIC UTILITIES.
ALL EXISTING UTILITIES AND STRUCTURES WITHIN THE PROJECT LIMIT SHOULD BE REMOVED OR ABANDONED IN PLACE.



CONCEPTUAL UTILITY PLAN

Kimley-Horn

3801 UNIVERSITY AVE SUITE 300, RIVERSIDE, CA 92501
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM

TTM 38934
CUP 2024-0003
SHEET **C-4**
OF C-4 SHEETS

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OVERHEAD WIRE EXHIBIT

**PROJECT SITE
1717 VIA DEL RIO**

**PROPERTY
BOUNDARY**

**SOCAL POWER
POLE LOCATIONS**

EXISTING OVERHEAD LINES

**OVERHEAD LINES
TO REMAIN**




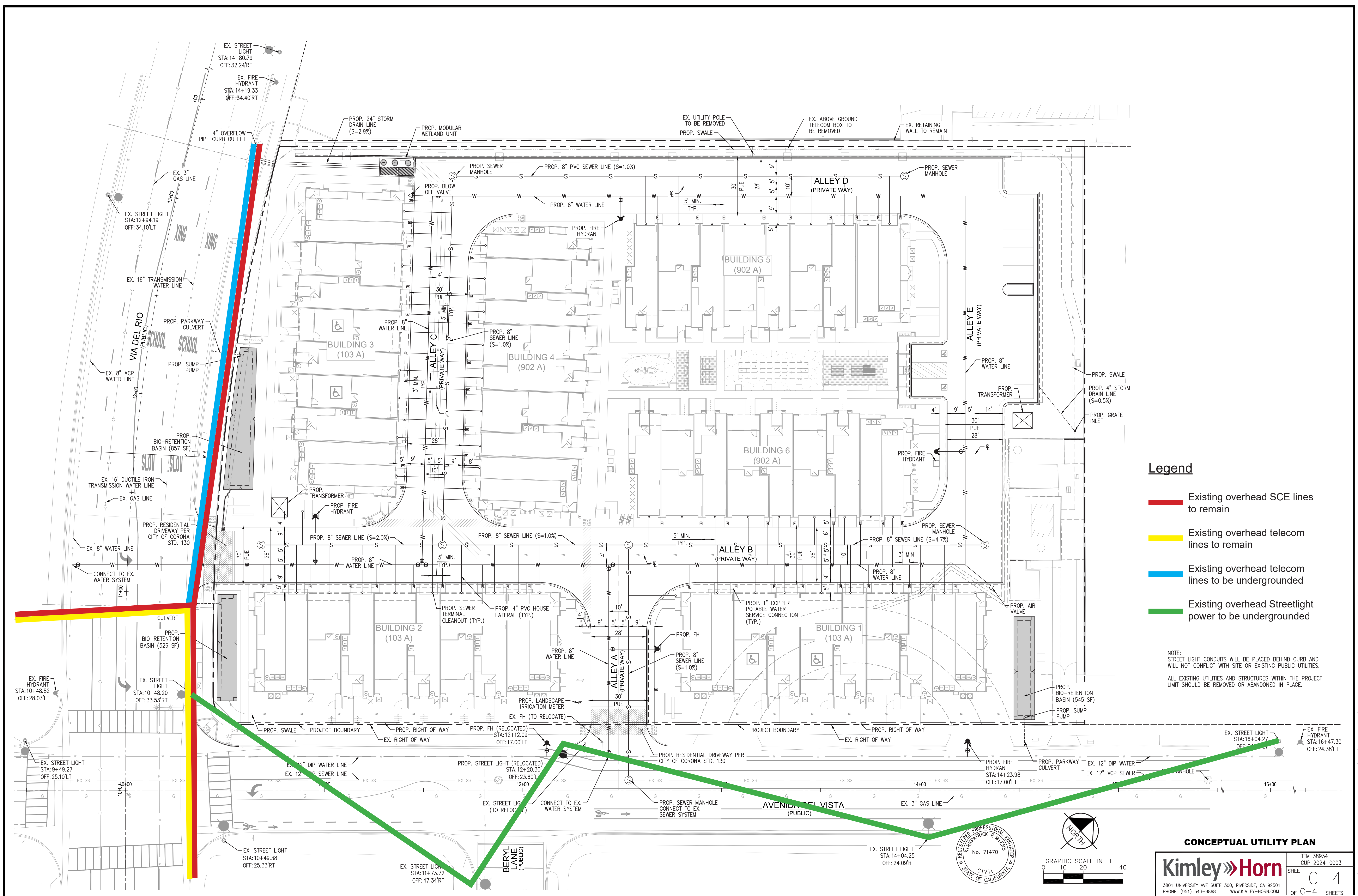
-  **SOCAL POWER POLES**
-  **OFFSITE OVERHEAD LINES TO REMAIN**
-  **PROJECT FRONTAGE LINES TO REMAIN**

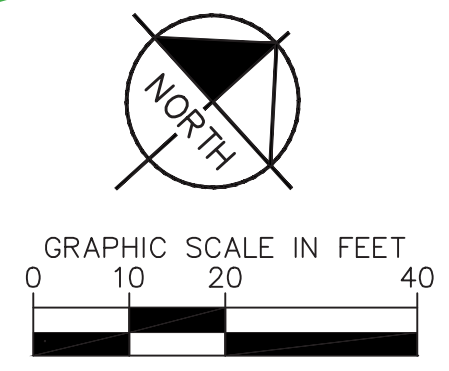
EXHIBIT 14a





- Legend**
- Existing overhead SCE lines to remain
 - Existing overhead telecom lines to remain
 - Existing overhead telecom lines to be undergrounded
 - Existing overhead Streetlight power to be undergrounded

NOTE:
STREET LIGHT CONDUITS WILL BE PLACED BEHIND CURB AND WILL NOT CONFLICT WITH SITE OR EXISTING PUBLIC UTILITIES.
ALL EXISTING UTILITIES AND STRUCTURES WITHIN THE PROJECT LIMIT SHOULD BE REMOVED OR ABANDONED IN PLACE.



CONCEPTUAL UTILITY PLAN

Kimley»Horn

3801 UNIVERSITY AVE SUITE 300, RIVERSIDE, CA 92501
PHONE: (951) 543-9868 WWW.KIMLEY-HORN.COM

TTM 38934
CUP 2024-0003
SHEET **C-4**
OF C-4 SHEETS

EXHIBIT 14b

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Samuel Buenrostro, Ed.D., Superintendent (951) 736-5010
Dalia Gadelmawla, Deputy Superintendent Business Services (951) 736-5035
Jeremy Goins, Ed.D., Asst. Superintendent Educational Services (951) 736-5080
Glen A. Gonsalves, Asst. Superintendent Human Resources (951) 736-5064
Ben Odipo, PMP, Asst. Superintendent Information Technology (951) 736-5190
Reggie Thompkins, Ed.D., Asst. Superintendent Instructional Support (951) 736-5111
Evita Tapia-Gonzalez, Chief of Communications Executive Services (951) 736-5003
Kathy Lee, Ed.D., Exec. Dir. of Development Executive Services (951) 736-5010

May 9, 2025

Sandra Vanian, Planning Manager
Brendan Dalde, Assistant Planner
City of Corona, Planning and Development Department
400 South Vicentia Avenue
Corona, CA 92882

Re: 1717 Via Del Rio Fencing

Dear Ms. Vanian & Mr. Dalde,

Meritage Homes proposed a fencing and landscaping plan for the area between Coronita Elementary School and their new town home project. Currently, a retaining wall and steel fence—located slightly on the school’s property—separate the school from the neighboring site.

Meritage plans to keep the existing wall and fence, adding a 6–7-foot-wide landscaped buffer with a small new retaining wall on their side. Initially, no additional security fencing was included, but after discussions, Meritage agreed to add fencing and a secure gate to prevent trespassing, while preserving visibility and aesthetics.

They also proposed recording an easement requiring the future HOA to maintain the landscaping and irrigation. This approach meets the District’s security concerns without the need for a taller, more obtrusive wall and helps preserve the operational integrity of the school.

The District appreciates Meritage’s cooperation and looks forward to continued collaboration.

Sincerely,

A handwritten signature in black ink, appearing to read 'John C. Vondriska'.

John C. Vondriska
Administrator Director, Facilities & Support Services

Board of Education

Anna Coriddi-Meza

Jami Merchant

Stacy Nicola

Chris Raahauge

Mary Helen Ybarra

Where your future takes

2820 CLARK AVENUE • NORCO, CA 92860-1903 • (951) 736-5010

EXHIBIT 15

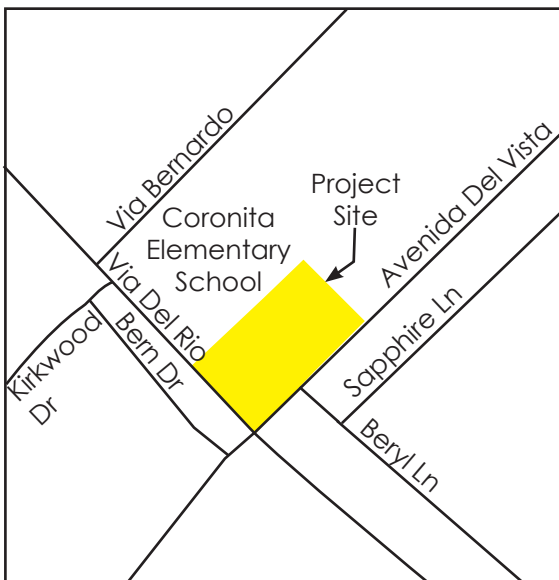
A NEW FOR SALE RESIDENTIAL COMMUNITY IS BEING PROPOSED NEAR YOU!

VIA DEL RIO

CORONA, CALIFORNIA



 Site Plan
Not to Scale



 Location Map
Not to Scale

Fast Facts

- › Replaces a boarded up office space
- › Includes 57 new high-quality attached, for-sale, three-story townhomes
- › Energy efficient and water efficient buildings and landscaping
- › Traditional architectural styles
- › Two, three, and four-bedroom floor plans
- › Two-car garages with additional on site guest parking
- › Private open space in the form of a balcony
- › Common amenity areas including a bbq area with shade structure and tables, picnic tables, and open lawn areas

EXHIBIT 16



Frequently Asked Questions

Q: How many homes are proposed and will they be for sale or for rent?

A: There will be 57 attached three-story townhomes. All homes will be for-sale.

Q: Will this community have a Home Owners Association (HOA)?

A: Yes, an HOA will be fully responsible for managing and maintaining the community, including all landscaping, common amenity areas, and parking enforcement.

Q: Where does the community take access from?

A: The primary vehicular entry/exit of the project is from 1st Street adjacent to Avenida Del Vista. The secondary access will be taken from Via Del Rio.

Q: Where will the residents (and their guests) of the proposed project park?

A: Each residence has its own attached 2-car garage. The HOA will ensure that residents are maintaining their garage for the parking of vehicles and not storage. Additional spaces will be provided on site for guests.

Q: Will the community be gated?

A: No, this development will not be gated.

Q: When is construction expected to begin?

A: Construction is anticipated to begin the 1st quarter of 2026, with a grand opening in the 1st quarter of 2027.

Q: Is there an interest list, and if so, how do I get on it?

A: Yes, there is an interest list. Please contact Louisa Feletto at the phone number or email address listed below.

Q: Will these homes be energy efficient?

A: Yes, Meritage Homes is proud to be the leader in energy-efficient homes. All our homes are equipped with solar, high performance HVAC, high efficiency windows, and more. We also offer additional green features and are Energy Star, Air Quality Plus, and Water Sense EPA certified to provide homes that are healthy for the environment and our buyers. We encourage you to explore our website at www.meritagehomes.com.

Q: What if I have more questions or concerns?

A: Please feel free to contact Louisa Feletto at the phone number or email address below. We look forward to speaking with you!



August 12, 2025

Sandra Vanian, Planning Manager
Brendan Dalde, Assistant Planner
City of Corona, Planning and Development Department
400 South Vicentia Avenue
Corona, CA 92882

Re: Project Description

Dear Ms. Vanian and Dr. Dalde,

Meritage Homes is pleased to submit Via Del Rio, a proposed for-sale residential community located in the City's West Ontario neighborhood. Meritage Homes has entered into a contract with Ingles La Sendra, Inc to purchase approximately 2.87 acres of land located at 1717 Via Del Rio (APN 103-200-088 and 103-200-089).

The proposed Via Del Rio Residential Project (project or proposed project) includes a request for approval of a Conditional Use Permit, Tentative Tract Map, and Density Bonus Agreement for a residential development on the site. The existing General Plan designation of "High Density Residential" and Zoning designation of "R3 – Multiple-Family Residential" would remain the same.

The site is located roughly a half mile south of State Route 91, and three and a quarter miles west of Interstate 15. The project site has been previously disturbed and is developed with the Iglesia Reformada La Senda church, a surface parking lot, turf area, a playground, ornamental plantings, associated church facilities/structures, and two existing cell tower facilities. The project site is surrounded by single-family homes to the southeast and southwest, a multi-family development to the northeast, and an elementary school to the northwest.

The proposed project includes development of up to 57 three story townhomes on the 2.87-acre site, with 3 units proposed to be affordable in the "Very Low" income range. Additionally, 4 homes are proposed to be ADA accessible. Of the 57 homes, 18 are considered duplexes under the building code and thus exempt from the 10% accessibility calculation provision. The proposed townhomes would range in size from approximately 1,200-1,800 square feet (sf) and include 2 to 4 bedrooms. The project would include two garage spaces per unit plus approximately 13 guest spaces for a total of 127 parking spaces. Access to the residential area would be provided via two driveways. The primary driveway allowing both left and right turn movements would be located off Avenida Del Vista. The secondary driveway would be off Via Del Rio and allow right-in, right-out turning movements only.

The project would provide a total of approximately 17,793 sf of open space area, including approximately 6,858 sf of private open space, and approximately 10,935 sf of common open space area. The common open space area amenities would include features such as decorative walkways, gathering spaces, a BBQ area with shaded seating, a tot lot, passive lawn areas, and bicycle parking. The private open space areas would consist of patios and deck/balconies available to each unit.



The project does not propose any off-site improvements or modifications. Thus, it is assumed that all study area roadway facilities and intersections would remain the same with the implementation of the project. The project will update perimeter street lighting and fire hydrants to bring the area into conformance with the City's current standards.

The existing cell tower facilities are proposed to remain in place, however the access to the facilities and associated easements would be updated to encompass all structures and provide a single point of access from Avenida Del Vista and adjust any gates into the structure to come from the north side. Coordination with the carriers and tower owners is underway to update the legal documents associated with this.

Meritage Homes believes that the housing proposed by this project provides the type of workforce housing that is desperately needed in the region and throughout the state. We are excited for the opportunity to bring this project to the City of Corona and look forward to working with City staff to get this approved.

Sincerely,

Louisa Feletto
Forward Planning Manager
MLC Holdings, Inc.



August 12, 2025

Sandra Vanian, Planning Manager
Brendan Dalde, Assistant Planner
City of Corona, Planning and Development Department
400 South Vicentia Avenue
Corona, CA 92882

Re: Affordable Housing Narrative

Dear Ms. Vanian & Mr. Dalde,

Meritage Homes is pleased to submit Via Del Rio, a proposed for-sale residential community located in the City's West Ontario neighborhood. Meritage Homes has entered into a contract with Ingles La Sendra, Inc to purchase approximately 2.87 acres of land located at 1717 Via Del Rio (APN 103-200-088 and 103-200-089).

The proposed project consists of 57 three-story for-sale townhomes with a density of 19.86 dwelling units per acre. Proposed homes range from approximately 1,200 – 1,800 square feet with two to four bedrooms. The proposed project would also include grading of the site, installation of water, sewer, and water quality infrastructure, as well as private drives and amenities.

The property maintains a general plan designation of "High Density Residential" and a zoning designation of "R3 – Multiple-Family Residential" which allows for the development of a residential project up to 36 dwelling units per acre. This is consistent with other properties to the northeast of the site.

Of the 57 homes, three homes (5.3%) are proposed to be affordable at a "Very Low" income level. The development would utilize the following incentive/concession and waivers:

- **Concession 1:** Rule 20 requirement for overhead to underground conversion of utility lines along Via Del Rio. This rule requires the undergrounding of all overhead utilities, except for cables greater than 32k volts. The project proposes to leave overhead lines within the public right of way in place. The cost of undergrounding the lines along Via Del Rio would not be a straightforward effort based on current pole locations, local services, and transformer locations. As such, the anticipated cost of that work effort would be \$815,000 plus additional costs related to private homeowner coordination needed to place a new pole in the rear yard of the home at 1801 Bern Drive, Corona, CA. By eliminating this requirement, the project can support the inclusion of three affordable units on site and achieve the proposed density. It should be noted that due to construction conflicts, the project will underground the lower telecommunication lines between the power pole at the western property line and the pole closest to the intersection of Via Del Rio and Avenida Del Vista along the property's frontage. No lines crossing Via Del Rio to the south or crossing Avenida Del Vista to the east will be touched.
- **Waiver 1:** Chapter 17.24.200(B) Recreation Facilities. This code item requires an indoor recreation facility for projects with more than 20 dwelling units. The project proposes to waive this requirement in its entirety. The project proposes to eliminate the indoor recreation space requirement as constructing this space would preclude the development from achieving the proposed density on site.



- **Waiver 2:** Chapter 17.82.030(A)(2)(a)(1) Front Yard. This code item requires a minimum 20 feet for the front setback. The project proposes a reduced front setback to a minimum 18 feet. By reducing the front yard setback, the project can provide larger drive aprons to accommodate the City's required water meters per Standard Drawing 408 and achieve the proposed density on site.
- **Waiver 3:** Chapter 17.82.030(A)(2)(a)(3) Street Side Yard. This code item requires a minimum 15 feet for the street side setback. The project proposes a reduced street side setback to a minimum 13 feet. By reducing the street side yard setback, the project can provide larger drive aprons to accommodate the City's required water meters per Standard Drawing 408 and achieve the proposed density on site.
- **Waiver 4:** Chapter 17.82.030(A)(2)(a)(5) Building Separation. This code item requires a minimum separation of 25 feet for three story buildings. The project proposes to reduce the building separation to a minimum 18 feet. This reduced separation is at "pinch point" areas between Buildings 4 and 5 (18' separation) and Buildings 4 and 6 (22' separation) on site (a front to side condition). The separation minimum would still meet the requirements of the California Building Code. By reducing the minimum building separation, the project can achieve the proposed density on site.
- Utilization of parking ratios as described in the Density Bonus Law found in subdivision (p) of California Government Code Sections 65915 – 65918. The reduction of parking requires one and one-half onsite parking spaces for two- and three-bedroom homes, and two and one-half onsite parking spaces for four- or more bedroom homes.

The project will require a Conditional Use Permit (CUP2024-0003) for the proposed condominium use as well as a Tentative Tract Map (TTM2024-0002) and Affordable Housing And Density Bonus Agreement (AHDB2024-0001). The tentative tract map will include revising easements for existing cell tower facilities on the property.

Meritage Homes believes that the housing proposed by this project provides the type of workforce housing that is desperately needed in the region and throughout the state. We are excited for the opportunity to bring this project to the City of Corona and look forward to working with City staff to get this approved.

Sincerely,

Louisa Feletto
Forward Planning Manager
MLC Holdings, Inc.

VIA DEL RIO
(DPR2023-0029)
FOCUSED TRAFFIC STUDY

PREPARED BY: Charlene So, PE | cso@urbanxroads.com
Jared Brawner | jbrawner@urbanxroads.com

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Appendix 1.2: Site Adjacent Queues

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Appendix 3.2: Existing (2024) Conditions Intersection Operations Analysis Worksheets

Appendix 3.3: Existing (2024) Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 5.1: E+P Conditions Intersection Operations Analysis Worksheets

Appendix 5.2: E+P Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 5.3: E+P Conditions Intersection Operations Analysis Worksheets With Improvements

Appendix 6.1: Opening Year Cumulative (2027) Without Project Conditions Intersection Operations Analysis Worksheets

Appendix 6.2: Opening Year Cumulative (2027) With Project Conditions Intersection Operations Analysis Worksheets

Appendix 6.3: Opening Year Cumulative (2027) Without Project Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 6.4: Opening Year Cumulative (2027) With Project Conditions Traffic Signal Warrant Analysis Worksheets

Appendix 6.5: Opening Year Cumulative (2027) With Project Conditions Intersection Operations Analysis Worksheets With Improvements

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LIST OF ABBREVIATED TERMS

| | |
|----------|--|
| (1) | Reference |
| ADT | Average Daily Traffic |
| CA MUTCD | California Manual on Uniform Traffic Control Devices |
| Caltrans | California Department of Transportation |
| CMP | Congestion Management Program |
| DIF | Development Impact Fee |
| E+P | Existing plus Project |
| FTS | Focused Traffic Study |
| HCM | Highway Capacity Manual |
| ITE | Institute of Transportation Engineers |
| LOS | Level of Service |
| MD | Mid-Day |
| PHF | Peak Hour Factor |
| Project | Via Del Rio |
| RCTC | Riverside County Transportation Commission |
| RTA | Riverside Transit Agency |
| TUMF | Transportation Uniform Mitigation Fee |
| v/c | Volume-to-Capacity |
| vphgpl | Vehicles per Hour Green per Lane |
| WRCOG | Western Riverside Council of Governments |

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1 INTRODUCTION

This report presents the results of the Focused Traffic Study (FTS) for Via Del Rio (Project), which is located on the northeast corner of Via Del Rio and Avenida Del Vista in the City of Corona, as shown in Exhibit 1-1. The purpose of this FTS is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the City of Corona's Traffic Impact Study Guidelines and consultation with City staff during the traffic study scoping process. (1) The City-approved Project Traffic Study Scoping Agreement is provided in Appendix 1.1 of this TA.

1.1 SUMMARY OF FINDINGS

The development of the proposed Project will not require the construction of any off-site intersection improvements to maintain acceptable peak hour operations at the study area intersections. However, the Project will still participate in contributing its proportional share to off-site regional improvements through the payment of the City's Development Impact Fees (DIF) and the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF). Although it is unlikely the County would implement a signal at the intersection of Via Del Rio and Paseo Grande, the FTA identifies the Project should contribute its fair share contribution of 4.3 percent towards the installation of a future traffic signal, or other future traffic control improvement (an alternative would be a roundabout). The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to construct a stop control for both egress points (Driveway 1 and Driveway 2). Driveway 1 on Via Del Rio will be restricted to right-in/right-out access only. Driveway 2 on Avenida Del Vista will allow for full turning movements (no turn restrictions).
- The Project fronting roadways of Avenida Del Vista and Via Del Rio are currently constructed to their ultimate General Plan roadway classification. However, the Project will construct site adjacent improvements to curb-and-gutter, sidewalks, and landscaping per the City's Standards, wherever necessary to accommodate site access.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

1.2 PROJECT OVERVIEW

The site is currently occupied by Iglesia Reformada La Senda, a 300-seat church which also operates a religious radio station and a day care on-site. The Project is proposed to consist of the development of 54 market-rate townhome units and 3 affordable units on approximately 2.8 acres. A preliminary site plan for the proposed Project is shown in Exhibit 1-2. Access to the Project site will be accommodated to Avenida Del Vista via a full access driveway and restricted access on Via Del Rio that will be limited to right-in/right-out access only. Regional access to the Project site is available from the SR-91 Freeway via Sixth Street to Paseo Grande. Exhibit 1-2 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections. The Project is proposed to be developed in a single phase with an anticipated Opening Year of 2027.

EXHIBIT 1-1 : LOCATION MAP

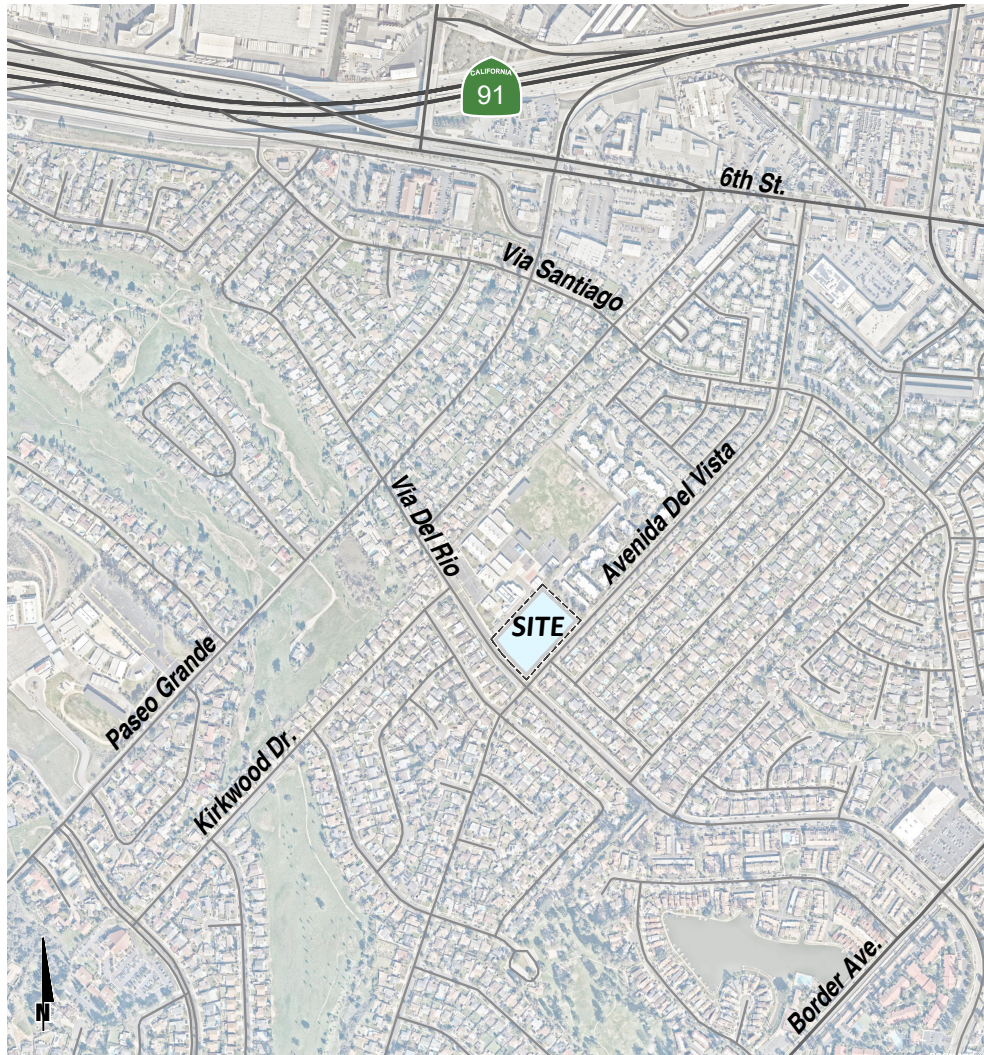
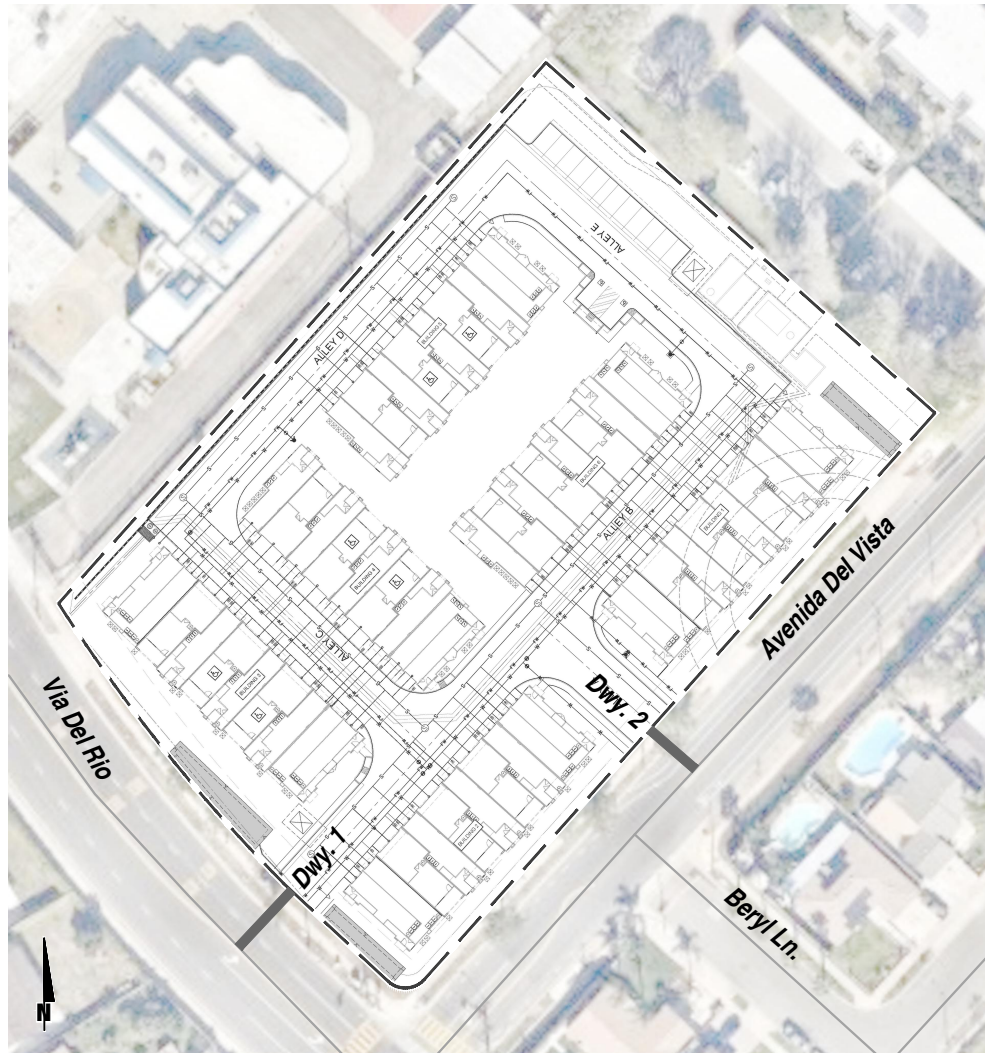


EXHIBIT 1-2 : SITE PLAN



In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) for the Multifamily (Low-Rise) Residential land use category (ITE Land Use Code 220) and Affordable Homes (ITE Land use Code 223) have been utilized. (2) The Project is anticipated to generate a total of 378 two-way trip-ends per day with 22 AM peak hour trips, 24 Mid-Day (MD) peak hour trips, and 29 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2024)
- Existing plus Project (E+P)
- Opening Year Cumulative (2027) Without Project
- Opening Year Cumulative (2027) With Project

1.3.1 EXISTING (2024) CONDITIONS

Information for Existing (2024) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.3.2 E+P CONDITIONS

The E+P analysis determines any potential circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions.

1.3.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

The Opening Year Cumulative (2027) conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2024) conditions of 6.12% is included for Opening Year Cumulative (2027) traffic conditions. This comprehensive list was compiled from information provided by both the City of Corona and County of Riverside and is consistent with other recent studies in the study area.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Corona’s traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Corona staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City is included in Appendix 1.1 of this TA.

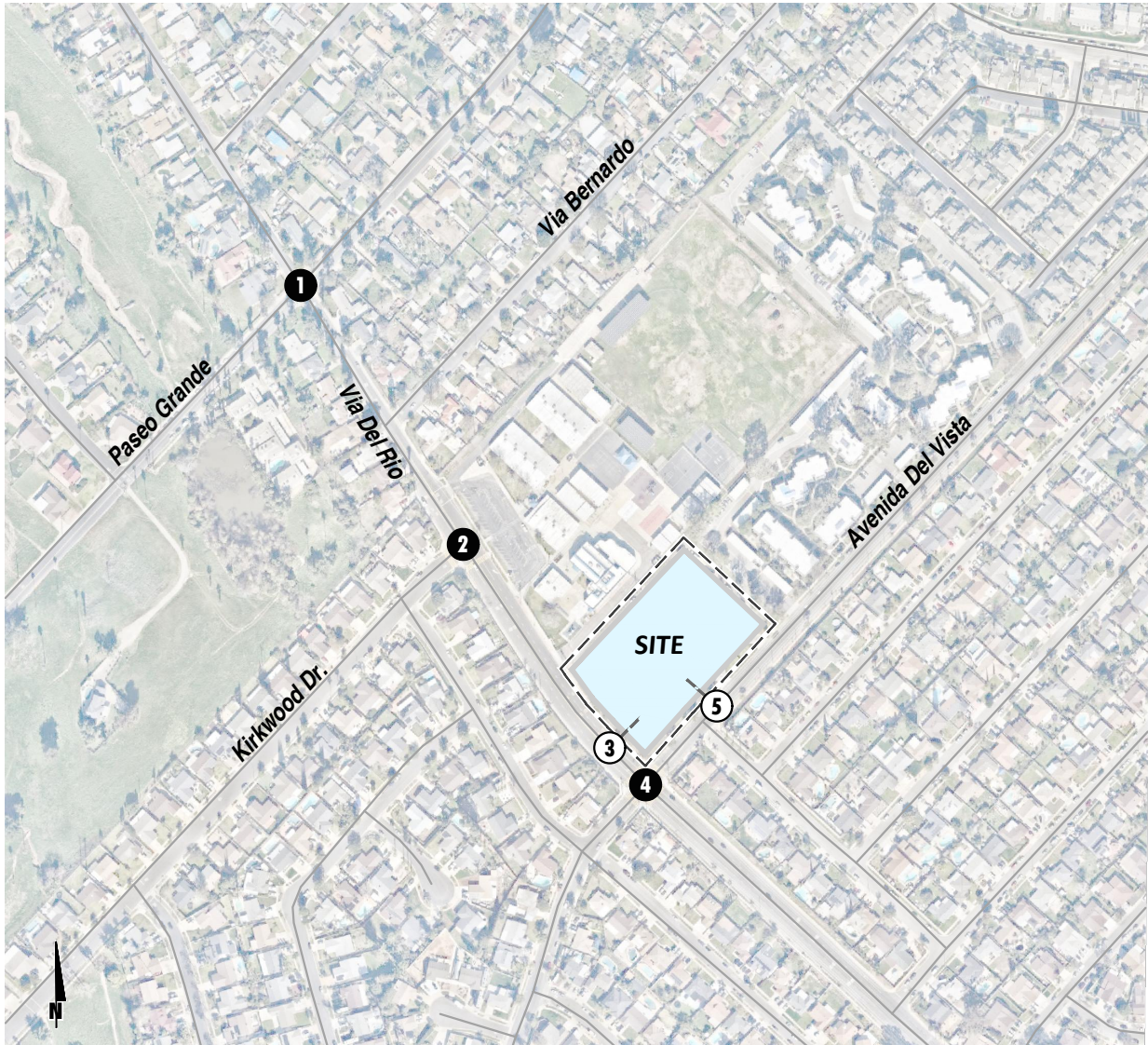
TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

| ID | Intersection | Jurisdiction | CMP? |
|----|---------------------------------|----------------|------|
| 1 | Via Del Rio & Paseo Grande | City of Corona | No |
| 2 | Via Del Rio & Kirkwood Dr. | City of Corona | No |
| 3 | Via Del Rio & Driveway 1 | City of Corona | No |
| 4 | Via Del Rio & Avenida Del Vista | City of Corona | No |
| 5 | Driveway 2 & Avenida Del Vista | City of Corona | No |

The 5 study area intersections shown in Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with City of Corona staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the City’s traffic study guidelines. (1) The “50 peak hour trip” criteria represent a minimum number of trips at which a typical intersection would have the potential to be substantively affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within the City of Corona and throughout Riverside County for estimating a potential area of influence (i.e., study area).

The intent of a Congestion Management Program (CMP) is to directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and was most recently updated in 2019 as part of the Riverside County Long Range Transportation Study. The Riverside County Transportation Commission (RCTC) adopted the 2019 CMP for the County of Riverside in December 2019. (3) There are no study area intersections identified as a Riverside County CMP facility, as shown in Table 1-1.

EXHIBIT 1-3 : STUDY AREA



LEGEND:

- 1** = Existing Intersection Analysis Location
- 0** = Future Intersection Analysis Location

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions* and Section 6 *Opening Year Cumulative (2027) Conditions* include the detailed analysis. A summary of Level of Service (LOS) results for all analysis scenarios is presented in Table 1-2.

1.5.1 EXISTING (2024) CONDITIONS

The intersection operations analysis results are summarized in Table 1-2, which indicates that the existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

- Via Del Rio & Paseo Grande (#1) – LOS E AM peak hour only

It should be noted that the morning deficiency occurs over a 20 to 30-minute period with morning drop-offs occurring at the surrounding existing schools in conjunction with morning commute traffic. The MD peak period was evaluated in addition to the typical AM and PM peak hours due to the proximity of existing schools to the study area (Coronita Elementary School, Cesar Chavez Academy, and Corona High School).

1.5.2 E+P CONDITIONS

With the addition of Project traffic, the study area intersections will continue to operate at an acceptable LOS during the peak hours under Existing plus Project (E+P) traffic conditions with the exception of the intersection of Via Del Rio and Paseo Grande which will continue to operate at LOS E during the AM peak hour only.

1.5.3 OPENING YEAR CUMULATIVE (2027) CONDITIONS

The intersection of Via Del Rio and Paseo Grande is anticipated to operate at an unacceptable LOS during both the AM and the MD peak hours under both Opening Year Cumulative (2027) Without and With Project traffic conditions. The deficiency is due to the heavier traffic flows that occur over 20 to 30 minutes during the morning drop-off and afternoon pick-up timeframe.

TABLE 1-2 : SUMMARY OF INTERSECTION LOS

| | Existing | | | Existing+Project | | | 2027 Without Project | | |
|-----------------------------------|----------|-----|-----|------------------|----|----|----------------------|-----|-----|
| | AM | MD | PM | AM | MD | PM | AM | MD | PM |
| 1 Via Del Rio & Paseo Grande | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 2 Via Del Rio & Kirkwood Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 3 Via Del Rio & Driveway 1 | N/A | N/A | N/A | ● | ● | ● | N/A | N/A | N/A |
| 4 Via Del Rio & Avenida Del Vista | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 5 Driveway 2 & Avenida Del Vista | N/A | N/A | N/A | ● | ● | ● | N/A | N/A | N/A |

LEGEND:

- = A-D
- = E
- = F

1.6 RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown in Exhibit 1-4.

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

Recommendation 1 – Driveway 1 & Via Del Rio (#1) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the westbound approach (Project driveway) and construct a right turn lane. Driveway 1 is to be restricted to right-in/right-out access only. A dedicated northbound right-turn pocket is not necessary at Driveway 1 since traffic volume for the movement would be no more than 2 vehicles during the peak hours.

Recommendation 2 – Avenida Del Vista & Driveway 2 (#3) – The following improvements are necessary to accommodate site access:

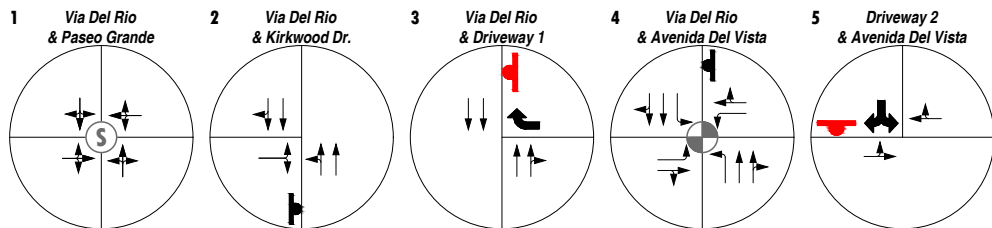
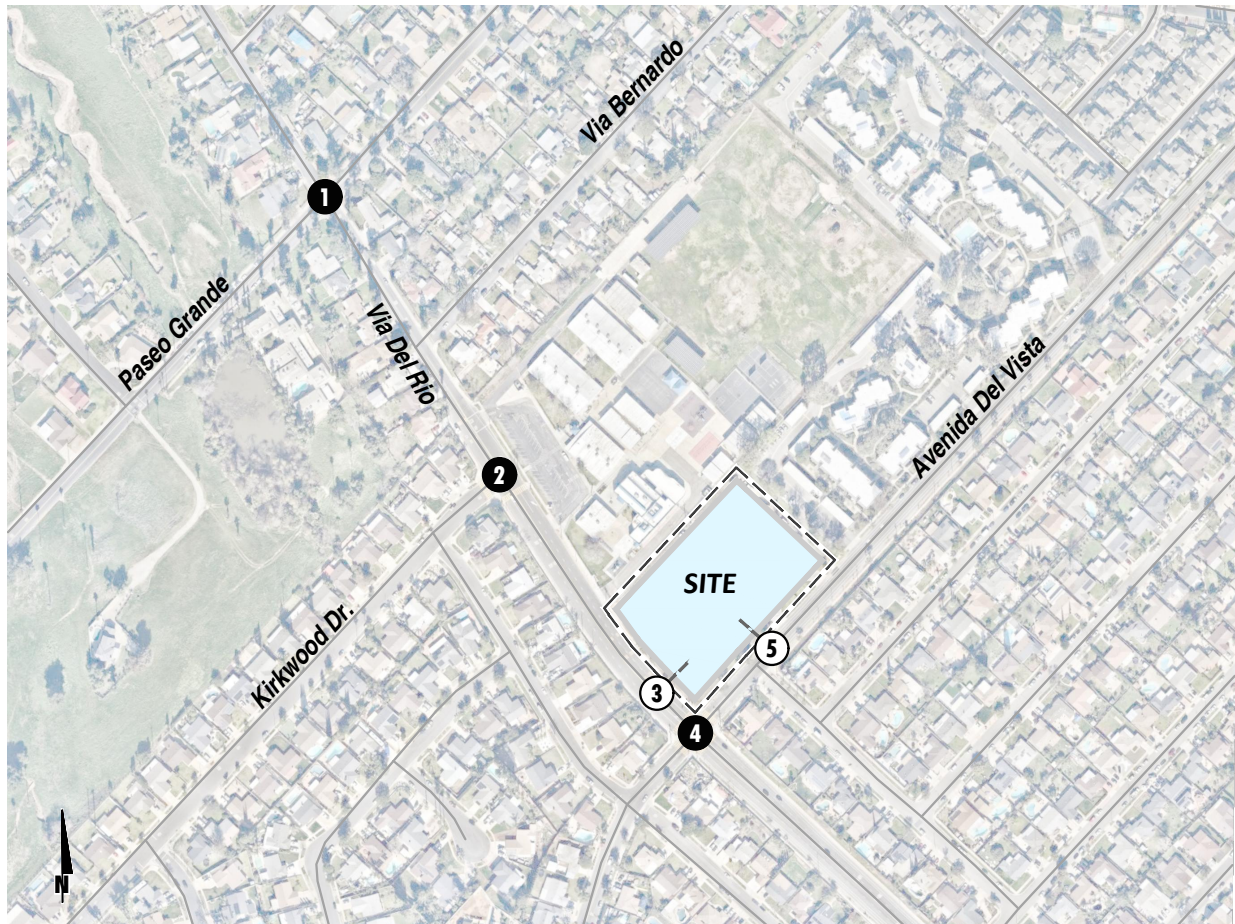
- Project to install a stop control on the southbound approach (Project driveway) and construct a shared left-right turn lane. A dedicated westbound right-turn pocket is not necessary at Driveway 2 to accommodate inbound Project traffic since the traffic volume for the movement would be no more than 1 vehicle during the peak hours.

Both Via Del Rio and Avenida Del Vista are currently built to their ultimate cross-sections per the City's General Plan. Roadway, curb and gutter, sidewalk, and landscaping improvements necessary to facilitate site access along the east side of Via Del Rio and on the north side of Avenida Del Vista shall be made as required by the final Conditions of Approval for the Project and the City of Corona standards (as needed to facilitate site access).

1.6.2 OFF-SITE RECOMMENDATIONS

The development of the proposed Project is anticipated to result in one peak hour intersection deficiency at the study area intersection of Via Del Rio and Paseo Grande. The recommended improvements needed to address the deficiencies identified under E+P and Opening Year Cumulative (2027) traffic conditions are shown in Table 1-3. Improvements that appear under EAP (2027) would be the Project's responsibility to implement/construct in order to maintain acceptable LOS. For those remaining improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share (4.3 percent) and payment of fees (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay fair share fees and participate in pre-existing fee programs consistent with the City's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

EXHIBIT 1-3 : SITE ACCESS RECOMMENDATIONS



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- S** = Existing All Way Stop
- ⊙** = Existing Traffic Signal
- ⊥** = Existing Stop Sign
- ⊥** (red) = Stop Sign Improvement
- ←** = Existing Lane
- ←** (thick) = Lane Improvement

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO

| # | Intersection Location | Jurisdiction | E+P | 2027 With Project | Improvements in City DIF, TUMF, etc. ¹ | Project Responsibility ² | Project Fair Share ³ |
|---|----------------------------|--------------|---------------------------------------|---------------------|--|--|------------------------------------|
| 1 | Via Del Rio & Paseo Grande | County | - Install Traffic Signal ⁴ | - Same ⁴ | No | Fair Share | 5.8% |

¹ Improvements included in TUMF Nexus or City DIF programs have been identified as such.

² Program improvements constructed by Project may be eligible for fee credit. In lieu fee payment is at discretion of City.

³ Represents the fair share percentage for the Project during the most impacted peak hour. Identifies the Project's responsibility to construct an off-site improvement, contribute fair share, or fee payment towards the improvements shown. If identified as a Project construct obligation/in a fee program, then no fair share percentage has been identified.

⁴ The installation of a traffic signal is required to bring the intersection to acceptable LOS during the peak hours. However, because of the location of the intersection in a residential area, the County of Riverside staff is unlikely to support the installation of a traffic signal which would only be beneficial during the school drop-off and pick-up periods which occurs over a total of 30 to 40 minutes out of the 24-hour day. An alternative to the traffic signal is the implementation of a roundabout.

1.6.3 QUEUING ANALYSIS

A queuing analysis was conducted at the study area intersections for Opening Year Cumulative (2027) With Project traffic conditions to determine the turn pocket lengths necessary to accommodate 95th percentile queues. The analysis was conducted for the weekday AM, weekday MD, and weekday PM peak hours. The results have been provided in Appendix 1.2 and summarized in Table 1-4. Based on the results of the queuing analysis, no queuing issues are anticipated at the Project driveway intersections. SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many agencies utilize the 95th percentile queues for design purposes. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each turn movement. A SimTraffic simulation has been recorded five (5) times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals.

TABLE 1-4: SUMMARY OF PEAK HOUR QUEUES

| Intersection | Movement | Available Stacking Distance (Feet) | 95th Percentile Queue (Feet) | | | Acceptable? ¹ | | |
|---------------------------------|----------|------------------------------------|------------------------------|---------|---------|--------------------------|-----|-----|
| | | | AM Peak | MD Peak | PM Peak | AM | MD | PM |
| Via Del Rio & Driveway 1 | SBT | 200 | 15 | 13 | 11 | Yes | Yes | Yes |
| | WBR | 100 | 24 | 15 | 27 | Yes | Yes | Yes |
| Via Del Rio & Avenida Del Vista | NBL | 90 | 36 | 52 | 41 | Yes | Yes | Yes |
| | NBT | 720 | 151 | 68 | 70 | Yes | Yes | Yes |
| | NBT/R | 720 | 208 | 112 | 106 | Yes | Yes | Yes |
| | SBL | 80 | 65 | 68 | 45 | Yes | Yes | Yes |
| | SBT | 130 | 75 | 59 | 74 | Yes | Yes | Yes |
| | SBT/R | 600 | 71 | 100 | 87 | Yes | Yes | Yes |
| | EBL | 130 | 75 | 50 | 46 | Yes | Yes | Yes |
| | EBT/R | 130 | 94 | 68 | 78 | Yes | Yes | Yes |
| | WBL | 110 | 55 | 58 | 36 | Yes | Yes | Yes |
| Driveway 2 & Avenida Del Vista | WBT/R | 200 | 110 | 125 | 99 | Yes | Yes | Yes |
| | SBL/R | 100 | 32 | 30 | 25 | Yes | Yes | Yes |
| | EBL/T | 200 | 9 | 16 | 11 | Yes | Yes | Yes |
| | WBT/R | 260 | 4 | 0 | 0 | Yes | Yes | Yes |

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Corona's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing a breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 7th Edition [Highway Capacity Manual](#) (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Corona requires signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

| Description | Average Control Delay (Seconds), V/C ≤ 1.0 | Level of Service, V/C ≤ 1.0 ¹ |
|---|--|--|
| Operations with very low delay occurring with favorable progression and/or short cycle length. | 0 to 10.00 | A |
| Operations with low delay occurring with good progression and/or short cycle lengths. | 10.01 to 20.00 | B |
| Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear. | 20.01 to 35.00 | C |
| Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable. | 35.01 to 55.00 | D |
| Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay. | 55.01 to 80.00 | E |
| Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths. | 80.01 and up | F |

Source: HCM, 7th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

Consistent with the Riverside County CMP and City of Corona traffic study guidelines, a saturation flow rate of 1,900 vehicles per hour green per lane (vphgpl) has been utilized for all intersections for all scenarios.

The traffic modeling and signal timing optimization software package Synchro (Version 12) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., $PHF = \frac{Hourly\ Volume}{4 \times Peak\ 15\ minute\ Flow\ Rate}$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak

hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (4)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Corona requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

| Description | Average Control Delay (Seconds), V/C ≤ 1.0 | Level of Service, V/C ≤ 1.0 ¹ |
|---|---|---|
| Little or no delays. | 0 to 10.00 | A |
| Short traffic delays. | 10.01 to 15.00 | B |
| Average traffic delays. | 15.01 to 25.00 | C |
| Long traffic delays. | 25.01 to 35.00 | D |
| Very long traffic delays. | 35.01 to 50.00 | E |
| Extreme traffic delays with intersection capacity exceeded. | > 50.00 | F |

Source: HCM, 7th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term “signal warrants” refers to the list of established criteria used by the California Department of Transportation (Caltrans) and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (5)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (5) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this FTS, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants are used where posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants where speeds exceed 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for all study area intersections (for existing and future traffic conditions).

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *E+P Conditions* and Section 6 *Opening Year Cumulative (2027) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Per the City of Corona General Plan, intersections should maintain LOS D or better on arterial streets in the City. (6) Considerations for LOS exemption includes lack of available right-of-way, environmental constraints, or other modes of travel (such as bicycle or pedestrians).

Key locations identified for LOS exemption are:

- Green River Road at SR-91;
- Lincoln Avenue at SR-91;
- Main Street at SR-91;
- Sixth Street, between East Grand Boulevard and West Grand Boulevard;
- McKinley Avenue at SR-91;
- Hidden Valley Parkway at I-15;
- Magnolia Avenue at I-15;
- Ontario Avenue at I-15;
- El Cerrito Road at I-15;
- Cajalco Road at I-15;
- Weirick Road at I-15; and
- Other locations, as approved by the City.

For the purposes of this traffic analysis, LOS D has been utilized as the acceptable LOS standard for study area intersections.

2.5 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. The following deficiency criteria have been utilized. To determine whether the addition of project-related traffic at a study intersection would result in a deficiency, the following will be utilized:

- A deficiency occurs at study area intersections if the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and the addition of project trips causes the peak hour LOS of the study area intersection to operate at unacceptable LOS (i.e., LOS E or F). For intersections currently operating at unacceptable LOS (LOS E or F), a deficiency will occur if the Project contributes peak hour trips to pre-project traffic conditions.

2.6 PROJECT FAIR SHARE CALCULATION METHODOLOGY

Improvements found to be included in the TUMF and/or DIF fee program will be identified as such. For improvements that do not appear to be in either of the pre-existing fee programs, a fair share contribution based on the Project's proportional share may be imposed in order to address the Project's share of deficiencies in lieu of construction. It should be noted that fair share calculations are for informational purposes only and the City Traffic Engineer will determine the appropriate improvements to be implemented by a project (to be identified in the conditions of approval). The Project's fair share contribution is determined based on the following equations, consistent with the City's traffic study guidelines:

P = Project Fair Share (in percent)

$D(p)$ = Project only delay increase (seconds/vehicle) of the intersection (or ADT for links) during the critical peak hour.

$D(t)$ = Total delay of the intersection (or ADT for links) during the critical peak hour including that generated by the project.

$D(a)$ = Total delay of the intersection (or ADT for links) during the critical peak hour under acceptable LOS condition as defined in Section 5.1 per the Highway Capacity Manual.

$$P = [D(p) / (D(t) - D(a))] * 100$$

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3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Corona General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with City of Corona staff (Appendix 1.1), the study area includes a total of 3 existing and 2 future intersections as shown previously in Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF CORONA GENERAL PLAN CIRCULATION ELEMENTS

As noted previously, the Project site is located within the City of Corona. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on City of Corona General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Corona General Plan Circulation Element and Exhibit 3-3 illustrates the City of Corona General Plan roadway cross-sections.

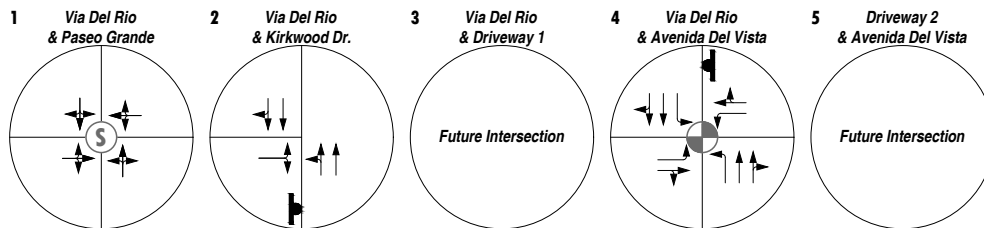
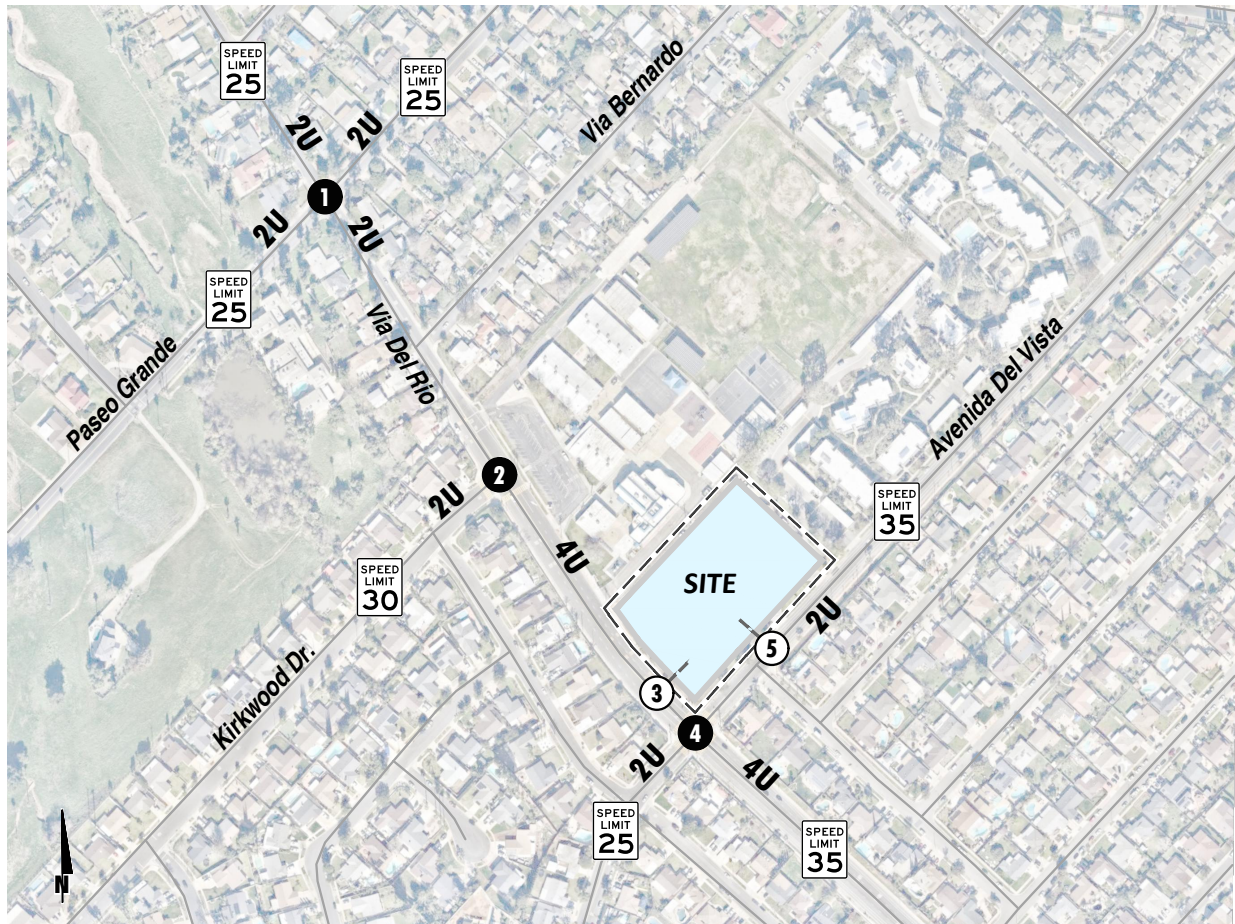
Secondary Streets are two-lane undivided roadways with a 68-foot right-of-way and 44-foot curb-to-curb measurement. The following study area roadways within the City of Corona are classified as Secondary Streets:

- Via Del Rio south of Paseo Grande
- Paseo Grande east of Via Del Rio

Collector Streets are two-lane undivided roadways with a 68-foot right-of-way and 44-foot curb-to-curb measurement. The following study area roadways within the City of Corona are classified as Collector Streets:

- Paseo Grande west of Via Del Rio
- Kirkwood Drive west of Via Del Rio
- Avenida Del Vista

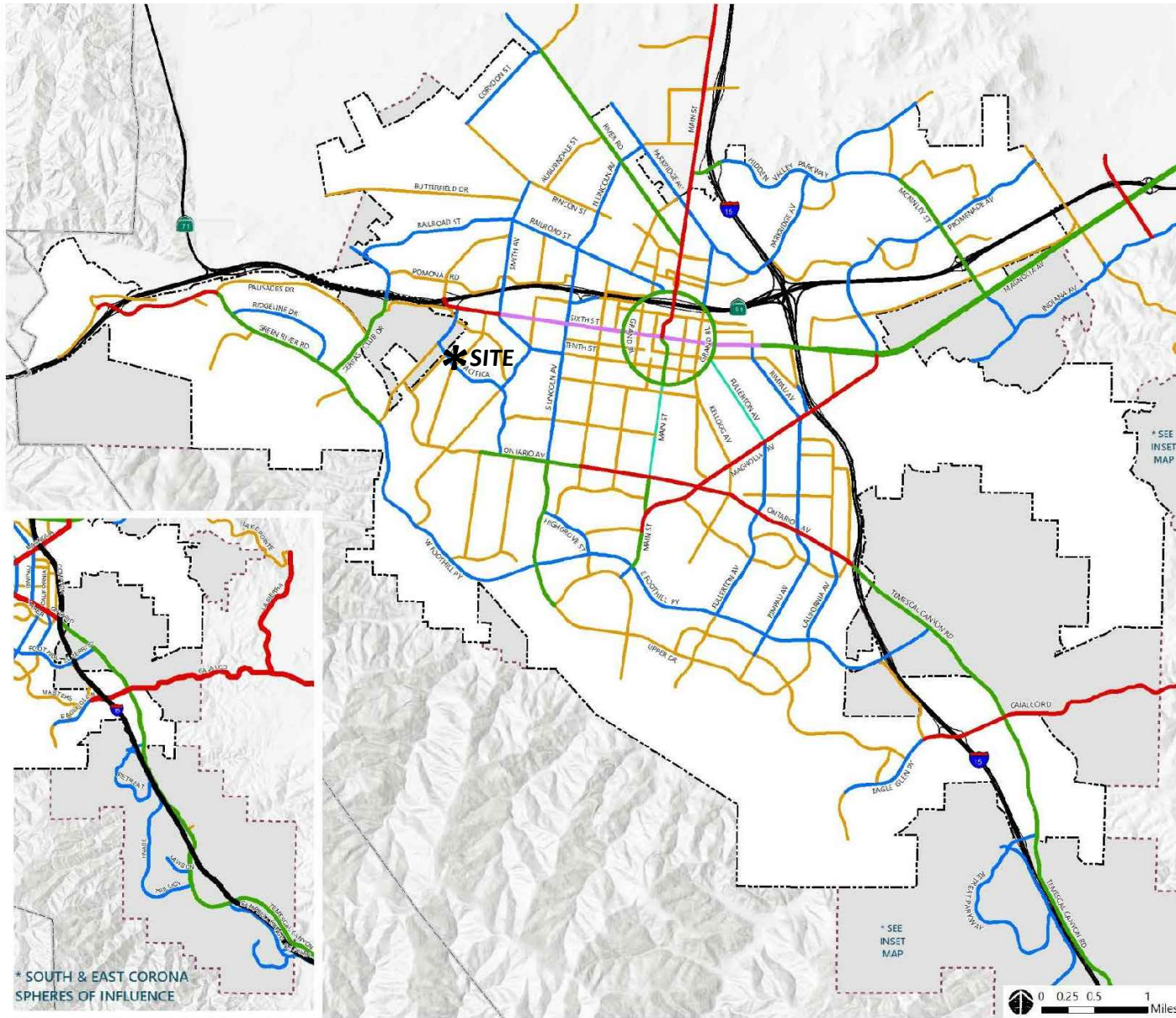
EXHIBIT 3-1 : EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



LEGEND:

- 0** = Existing Intersection Analysis Location = Existing Stop Sign
- = Future Intersection Analysis Location = Existing Lane
- S** = Existing All Way Stop **2** = Number of Lanes
- = Existing Traffic Signal **U** = Undivided

EXHIBIT 3-2 : CITY OF CORONA GENERAL PLAN CIRCULATION ELEMENT



**Figure CE-1
Roadway Plan**

- Legend**
- Freeway
 - Major Arterial 6 Lane
 - Major Arterial 4 Lane
 - Mixed Use Boulevard
4 Lane Divided/Undivided
 - Secondary 4 Lane
 - Collector
 - Special Residential
 - City Boundary
 - Sphere of Influence Areas

Source:
City of Corona, 2019



0 0.25 0.5 1 Miles

EXHIBIT 3-3: CITY OF CORONA GENERAL PLAN ROADWAY CROSS-SECTIONS (PAGE 1 OF 2)

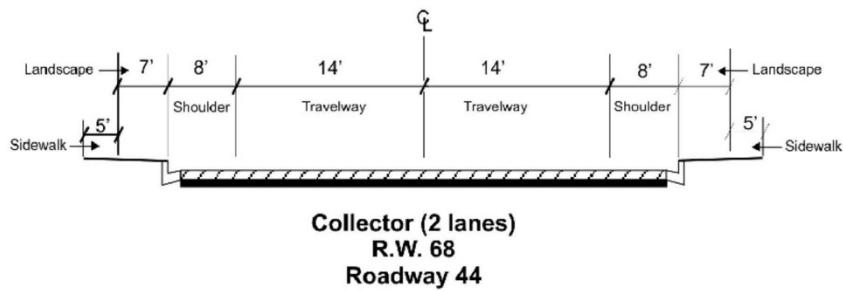
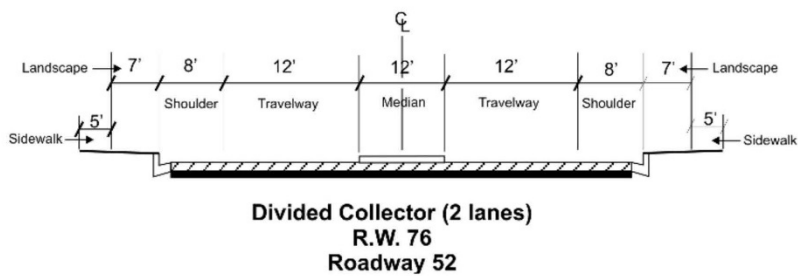
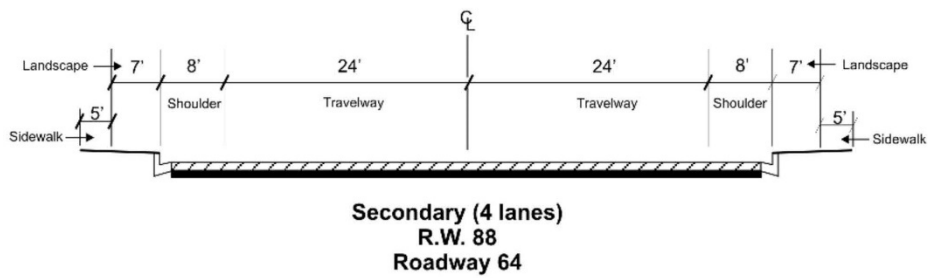
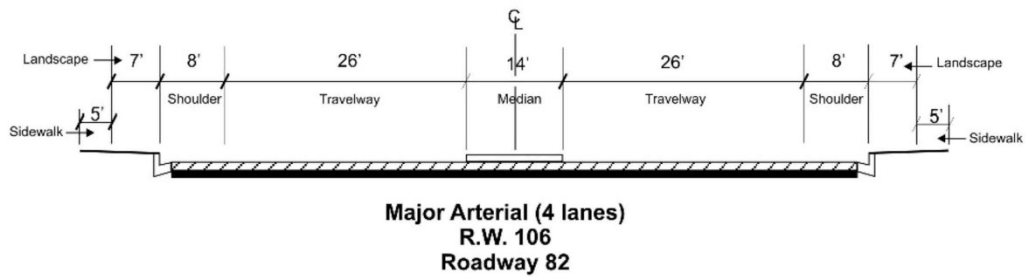
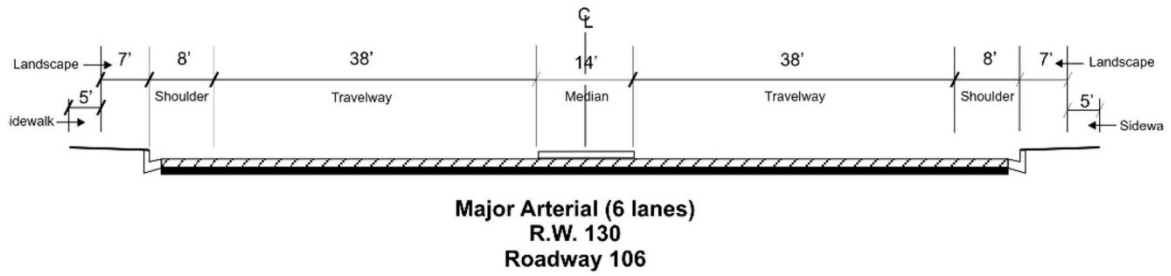
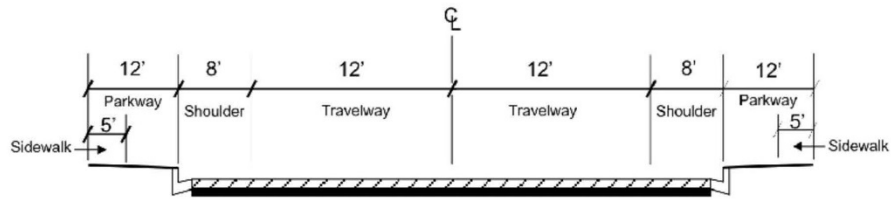
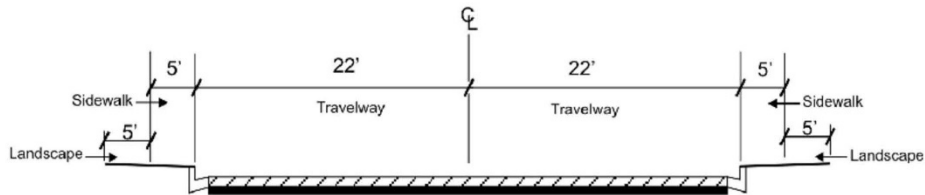


EXHIBIT 3-3: CITY OF CORONA GENERAL PLAN ROADWAY CROSS-SECTIONS (PAGE 2 OF 2)

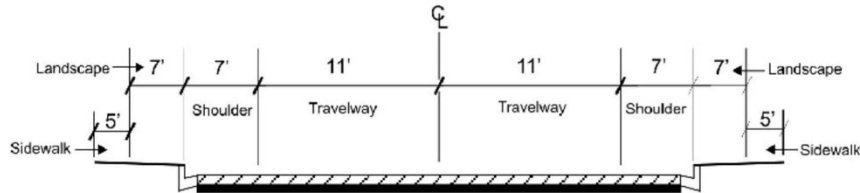


**Local Street
R.W. 64
Roadway 40**

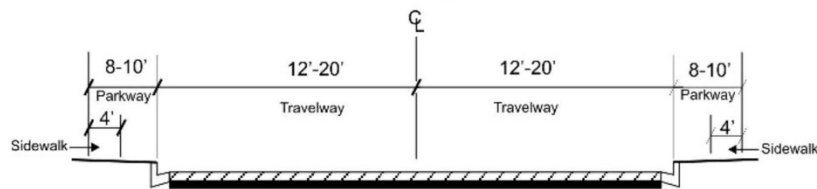
Note: See local residential street Planning Policy 6.1.10



**Local Industrial
R.W. 64
Roadway 44**

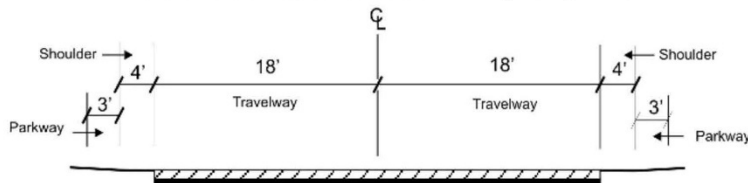


**Cul-De-Sac
R.W. 60
Roadway 36**



**Private Residential Street
R.W. 40-60
Roadway 24-40**

Note: See local residential street Planning Policy 6.1.10



**Rural Road (Traffic Volume)
R.W. 50
Roadway 36**

Note: See local residential street Planning Policy 6.1.10

3.3 BICYCLE & PEDESTRIAN FACILITIES

Existing and proposed bike trails within the City of Corona are shown in Exhibit 3-4. Via Del Rio south of Avenida Del Vista and Avenida Del Vista are currently stopped and signed as an existing Class II bike facility within the study area. Class II bike lanes are on-street, striped, and signed bike lanes. Via Del Rio to the north of Avenida Del Vista is designated as a proposed Class III bicycle facility. Class III bike lanes are signed but not striped on-street bike lanes (shared with vehicular traffic). Exhibit 3-5 illustrates the existing pedestrian facilities, including sidewalks and crosswalks. As shown in Exhibit 3-5, there are pedestrian and bicycle facilities within the vicinity of the Project site such as Class II bike lanes, crosswalks, and sidewalks. The intersections of Via Del Rio at both Kirkwood Drive and Avenida Del Vista are striped with enhanced school-zone crosswalks due to the proximity to Coronita Elementary School. In addition, Via Del Rio includes a reduced school-zone speed limit of 25 miles per hour. Pedestrian and bicycle activity have been captured as part of the existing data collection and are incorporated into the operations analysis.

3.4 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA). The transit services are illustrated in Exhibit 3-6. The closest RTA route is Route 1 which has a stop at Smith Avenue & Sixth Street approximately $\frac{3}{4}$ -mile to the east (with 15-minute frequencies during the peak hours). The City also operates the Corona Cruiser, and the Red Line has a route within the study area along Avenida Del Vista, Border Avenue, Rio Del Vista, and Smith Avenue. The Corona Cruiser Red Line could serve the proposed Project and provide a connection to the stop at Smith Avenue & Sixth Street to the RTA Route 1 stop. Transit service is reviewed and updated by RTA and the City of Corona periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.5 EXISTING (2024) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April 2024. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hours between 6:30 AM and 9:00 AM)
- Weekday Mid-Day Peak Hour (peak hours between 1:30 PM and 3:30 PM)
- Weekday PM Peak Hour (peak hours between 4:00 PM and 6:00 PM)

The 2024 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. As such, no additional adjustments were made to the traffic counts to establish the baseline condition. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

EXHIBIT 3-4 : CITY OF CORONA GENERAL PLAN EXISTING AND PROPOSED BIKE TRAILS

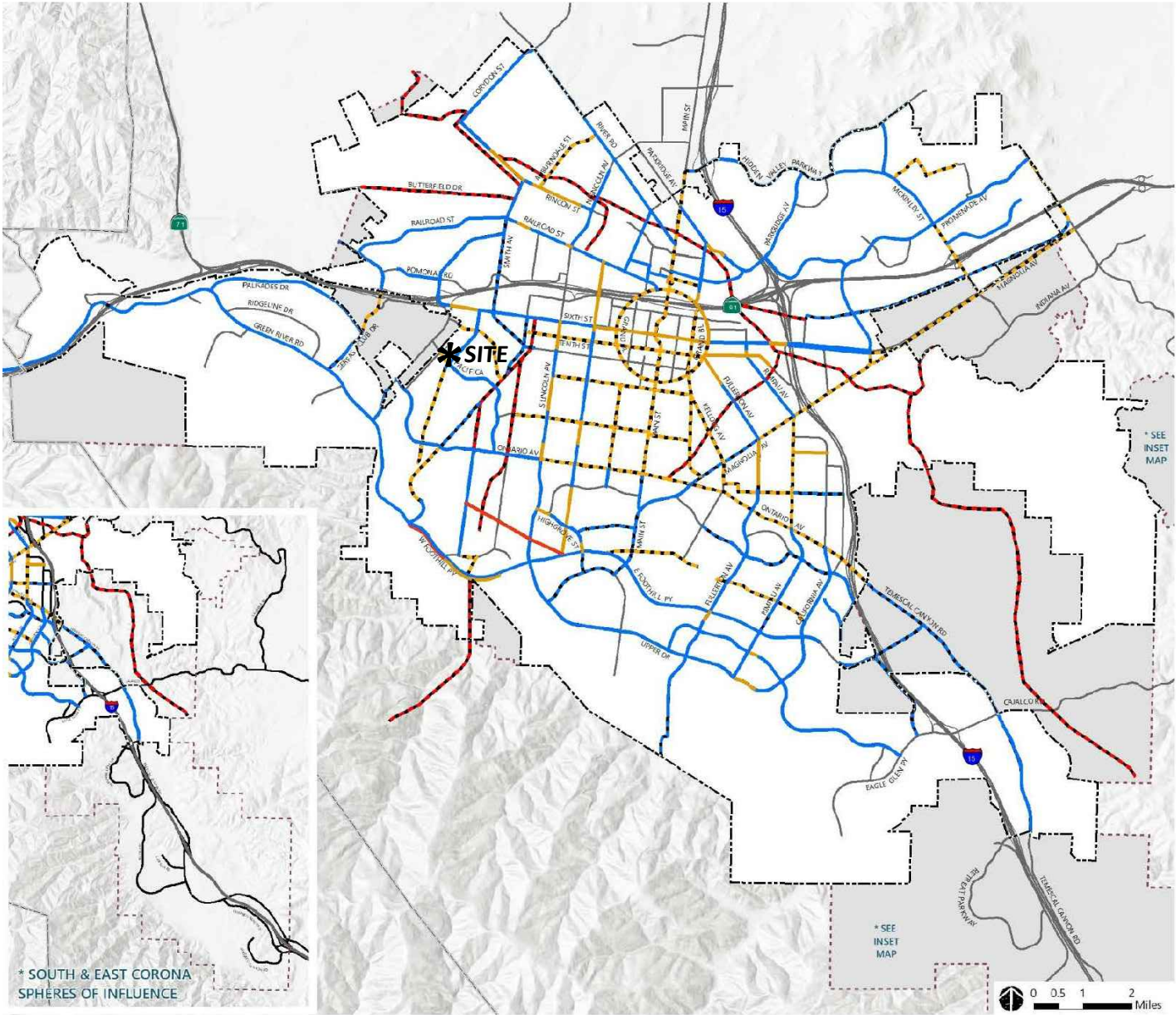


Figure CE-3
Bikeway Plan

- Legend
- Existing Bikeways**
 - Existing Class I
 - Existing Class II
 - Existing Class III
 - Proposed Bikeways**
 - Proposed Class I
 - Proposed Class II
 - Proposed Class III
 - City Boundary
 - Sphere of Influence Areas

Source:
City of Corona, 2017



0 0.5 1 2 Miles

* SOUTH & EAST CORONA SPHERES OF INFLUENCE

* SEE INSET MAP

* SEE INSET MAP

EXHIBIT 3-5 : EXISTING PEDESTRIAN FACILITIES



LEGEND:





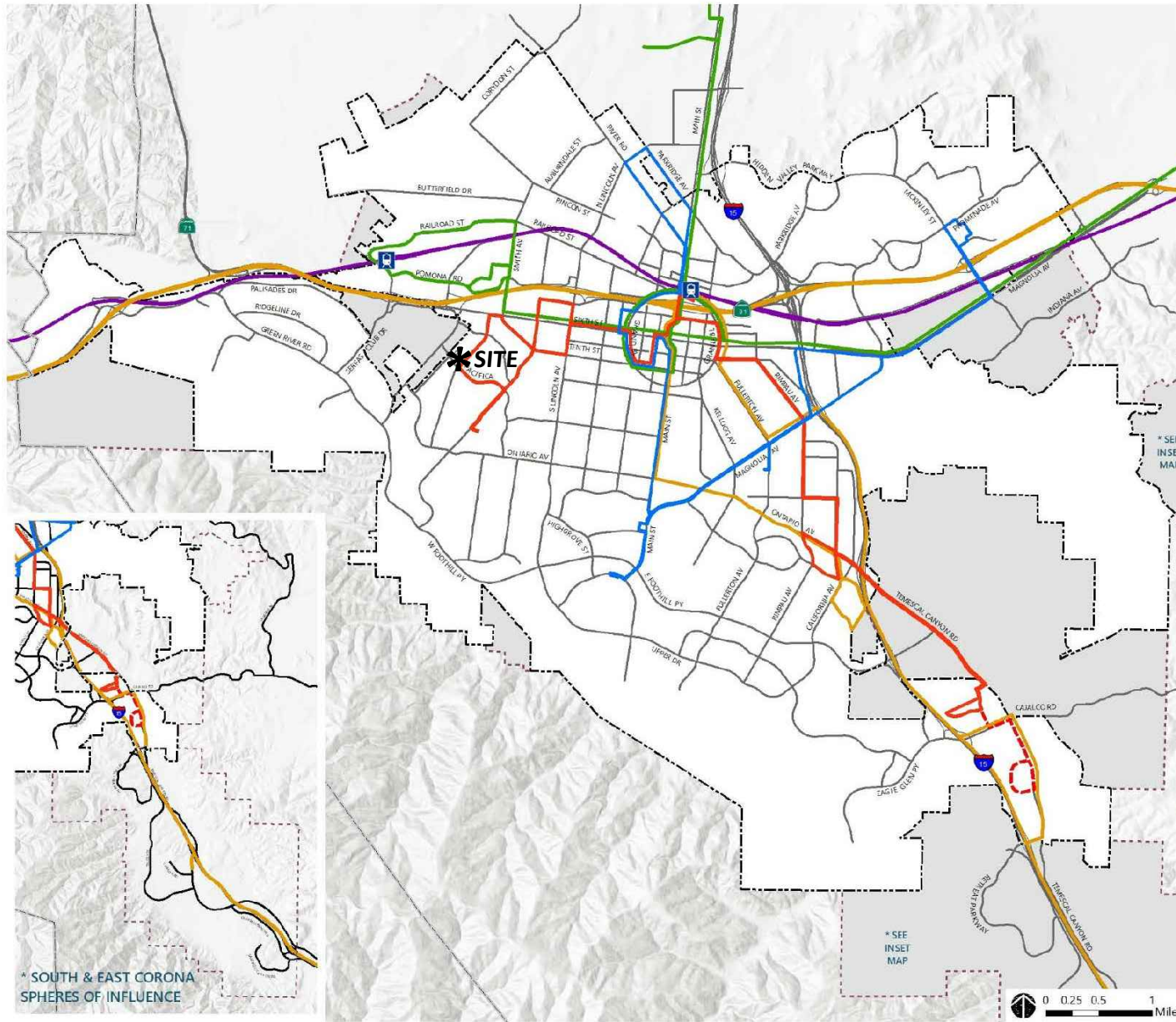
-  = 1 Approach
-  = 2 Approaches
-  = All Approaches (School)
-  = Sidewalks

EXHIBIT 3-6 : CITY OF CORONA GENERAL PLAN EXISTING AND PROPOSED BIKE TRAILS



**Figure CE-2
Transit Routes**

Legend

City of Corona

- Corona Cruiser Blue Line
- Corona Cruiser Red Line
- Corona Red Line (Saturday Only)

Intercity Routes

- Riverside Transit Agency
- Freeway Commuter Routes (RTA/OCTA)
- Metrolink Commuter Rail

Metrolink Station

City Boundary

Sphere of Influence Areas

Source:
Corona 2019;
Riverside Transportation Agency 2019



Existing weekday ADT volumes, in actual vehicles, are shown in Exhibit 3-7. Where actual 24-hour count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 13.8 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.24 percent. As such, the above equation utilizing a factor of 13.8 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.24 percent (i.e., $1/0.0724 = 13.8$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday peak hour intersection volumes (AM, MD, and PM peak hours) are also shown in Exhibit 3-7.

3.6 EXISTING (2024) INTERSECTION OPERATIONS ANALYSIS

Existing (2024) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that the existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

- Via Del Rio & Paseo Grande (#1) – LOS E AM peak hour only

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2024) CONDITIONS

| # | Intersection | Traffic Control ¹ | Delay ² (secs.) | | | Level of Service | | |
|---|---------------------------------|------------------------------|-------------------------------|------|------|------------------|----|----|
| | | | AM | MD | PM | AM | MD | PM |
| 1 | Via Del Rio & Paseo Grande | AWS | 45.4 | 17.3 | 11.9 | E | C | B |
| 2 | Via Del Rio & Kirkwood Dr. | CSS | 13.2 | 12.1 | 11.0 | B | B | B |
| 3 | Via Del Rio & Driveway 1 | | Future Intersection | | | | | |
| 4 | Via Del Rio & Avenida Del Vista | TS | 16.0 | 14.2 | 13.7 | B | B | B |
| 5 | Driveway 2 & Avenida Del Vista | | Future Intersection | | | | | |

* **BOLD** = LOS does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

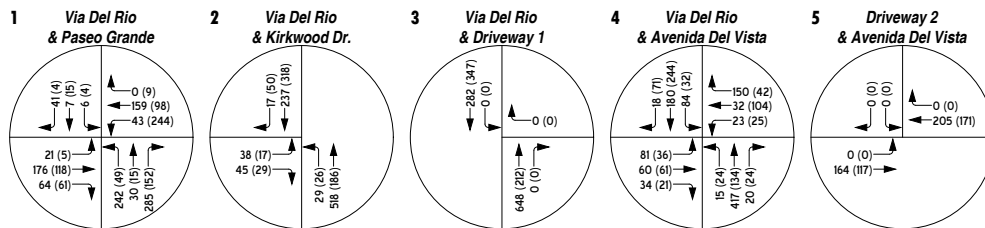
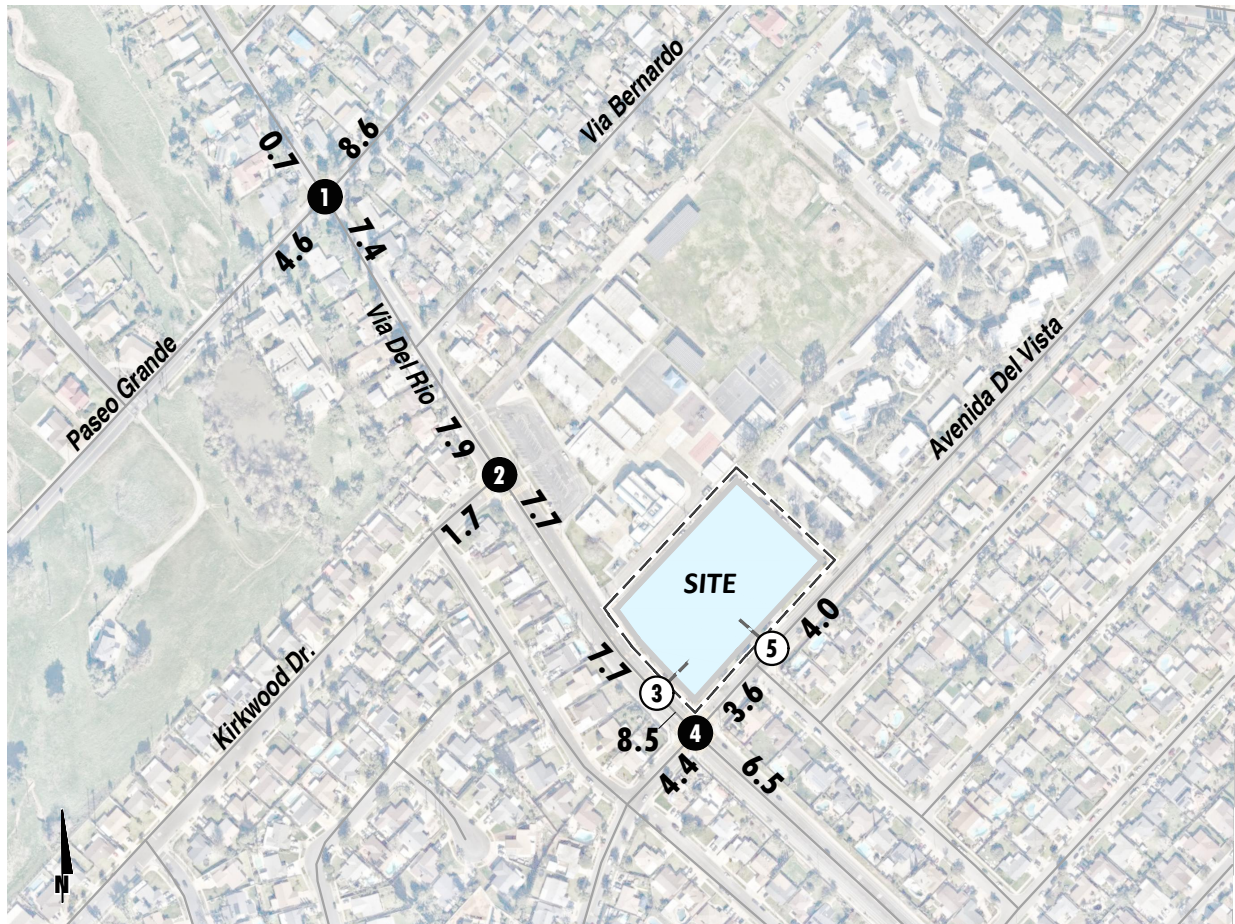
¹ AWS = All-Way Stop; CSS = Cross-Street Stop; TS = Traffic Signal

² Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3.7 EXISTING (2024) TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The existing unsignalized study area intersections do not currently warrant a traffic signal under Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

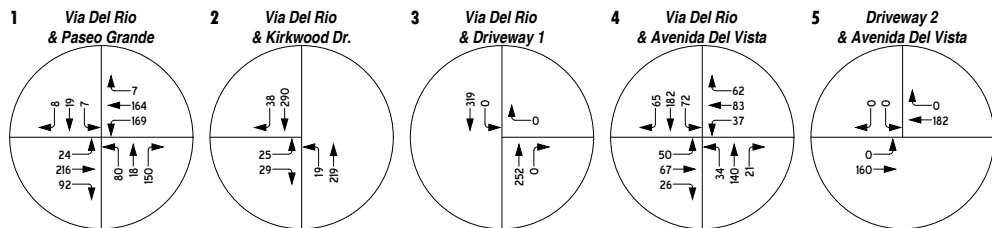
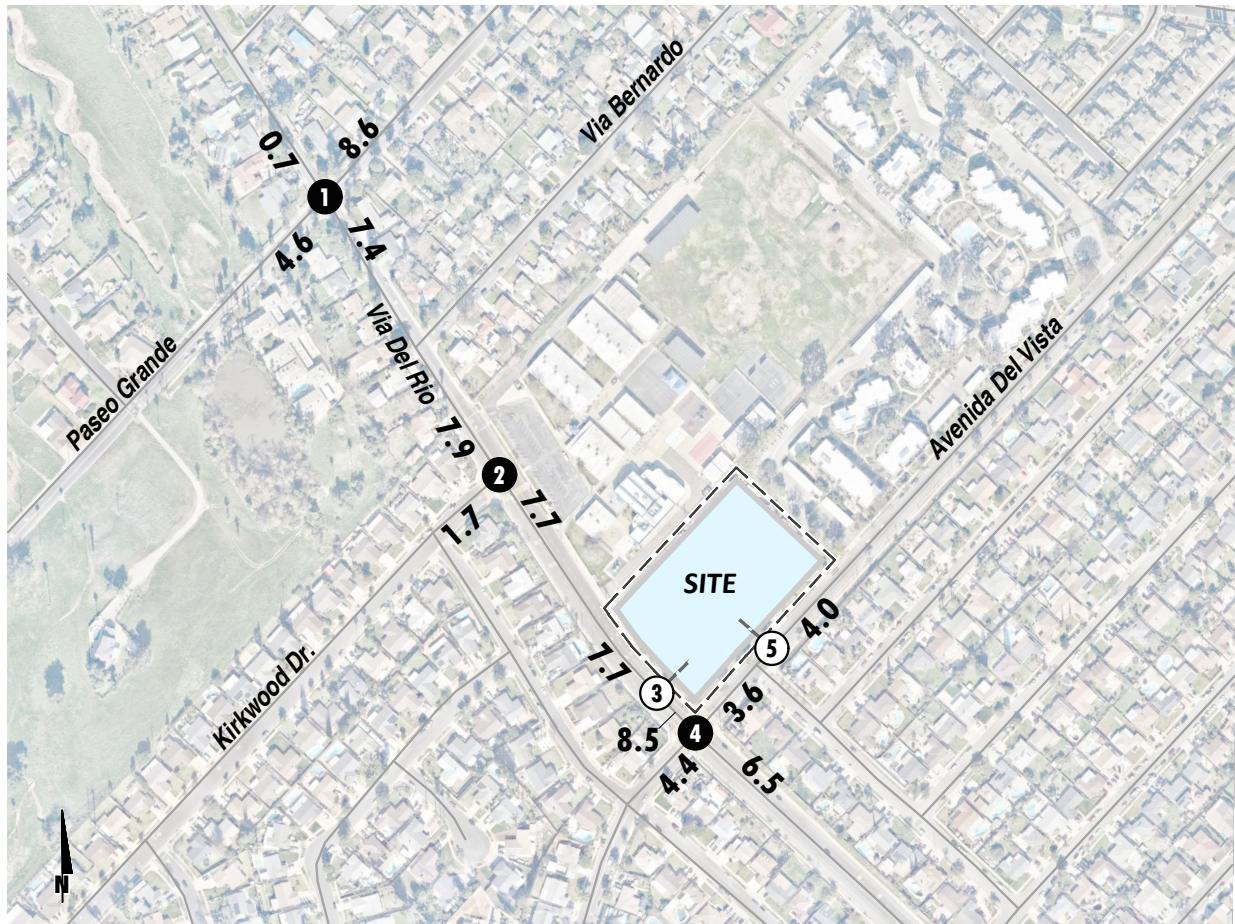
EXHIBIT 3-7 : EXISTING (2024) TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips (1000's)

EXHIBIT 3-7 : EXISTING (2024) TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 = Peak Hour Intersection Volume MD
- 00** = Average Daily Trips (1000's)

4 PROJECTED FUTURE TRAFFIC

It is our understanding that the Project is to consist of 54 market-rate townhomes and 3 affordable homes. Access to the site will be accommodated via one driveway on Via Del Rio and a driveway on Avenida Del Vista. Regional access to the Project site is available from the SR-91 Freeway via Sixth Street. The Project is proposed to be developed in a single phase with an anticipated opening year of 2027.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic, which is both attracted to, and produced by, a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to, and produced by, the specific land uses being proposed for a given development.

4.1.1 EXISTING USES

The site is occupied by an existing 300-seat church. In addition to weekend services, the church also hosts a religious radio station and supports a day care center on Thursdays. In an effort to understand the existing traffic associated with the current uses, trip generation has been determined based on driveway counts collected at the existing driveway on Avenida Del Vista on Thursday, October 19, 2023. The other driveways were closed (gated) and not in use on the day of the traffic counts. Driveway counts are included in Appendix 1.1. The trip generation summary illustrating daily, and peak hour, trip generation estimates for the existing use is shown in Table 4-1. As shown in Table 4-1, the existing use currently generates a total of 120 two-way trips per day with 9 AM peak hour trips, 51 Mid-Day (MD) peak hour trips, and 4 PM peak hour trips (weekday only).

TABLE 4-1: EXISTING TRIP GENERATION SUMMARY

| Land Use | AM Peak Hour | | | MD Peak Hour | | | PM Peak Hour | | | Daily |
|----------------------------|--------------|-----|-------|--------------|-----|-------|--------------|-----|-------|-------|
| | In | Out | Total | In | Out | Total | In | Out | Total | |
| Thursday, October 19, 2023 | | | | | | | | | | |
| Total Trips | 5 | 4 | 9 | 27 | 24 | 51 | 4 | 0 | 4 | 120 |

4.1.2 PROPOSED PROJECT

The proposed Project is to consist of 54 market-rate townhomes and 3 affordable homes. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used. Table 4-2 summarizes the trip generation rates for ITE Land Use Code 220 and ITE Land Use Code 223. The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project are also summarized in Table 2. The proposed Project is anticipated to generate 378 two-way trips per day with 22 AM peak hour trips, 24 MD peak hour trips, and 29 PM peak hour trips.

TABLE 4-2: PROPOSED PROJECT TRIP GENERATION SUMMARY

| Land Use ¹ | ITE | | AM Peak Hour | | | MD Peak Hour | | | PM Peak Hour | | | Daily |
|------------------------------------|------|--------------------|--------------|------|-------|--------------|------|-------|--------------|------|-------|-------|
| | Code | Units ² | In | Out | Total | In | Out | Total | In | Out | Total | |
| Multifamily (Low-Rise) Residential | 220 | DU | 0.10 | 0.30 | 0.40 | 0.22 | 0.19 | 0.41 | 0.32 | 0.19 | 0.51 | 6.74 |
| Affordable Housing | 223 | DU | 0.15 | 0.36 | 0.50 | 0.29 | 0.21 | 0.50 | 0.27 | 0.19 | 0.46 | 4.81 |

¹ Source: Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, 2021.

² DU = Dwelling Units

| Land Use | Quantity Units ¹ | AM Peak Hour | | | MD Peak Hour | | | PM Peak Hour | | | Daily |
|------------------------------------|-----------------------------|--------------|-----------|-----------|--------------|-----------|-----------|--------------|-----------|-----------|------------|
| | | In | Out | Total | In | Out | Total | In | Out | Total | |
| Multifamily (Low-Rise) Residential | 54 DU | 5 | 16 | 21 | 12 | 10 | 22 | 17 | 10 | 27 | 364 |
| Affordable Homes | 3 DU | 0 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 14 |
| Total | 57 DU | 5 | 17 | 22 | 13 | 11 | 24 | 18 | 11 | 29 | 378 |

¹ DU = Dwelling Units

4.1.3 TRIP GENERATION COMPARISON

Table 4-3 shows the trip generation comparison between the existing and proposed use. The resulting net new trips are identified in Table 4-3. As shown, the Project is anticipated to generate an increase of 258 two-way trips per day with 13 more AM peak hour trips, 27 fewer MD peak hour trips, and 25 more PM peak hour trips in comparison to the existing uses. The trip generation presented in Table 4-3 will be utilized to evaluate off-site intersections, however, the full Project trip generation reflected previously in Table 4-2 will be evaluated at the Project driveways and site adjacent intersection of Via Del Rio and Avenida Del Vista.

TABLE 4-3: TRIP GENERATION COMPARISON

| | AM Peak Hour | | | MD Peak Hour | | | PM Peak Hour | | | Daily |
|-------------------------------|--------------|-----------|-----------|--------------|------------|------------|--------------|-----------|-----------|------------|
| | In | Out | Total | In | Out | Total | In | Out | Total | |
| Existing Use: Church | 5 | 4 | 9 | 27 | 24 | 51 | 4 | 0 | 4 | 120 |
| Proposed Project: Multifamily | 5 | 17 | 22 | 13 | 11 | 24 | 18 | 11 | 29 | 378 |
| Net Change in Trips | 0 | 13 | 13 | -14 | -13 | -27 | 14 | 11 | 25 | 258 |

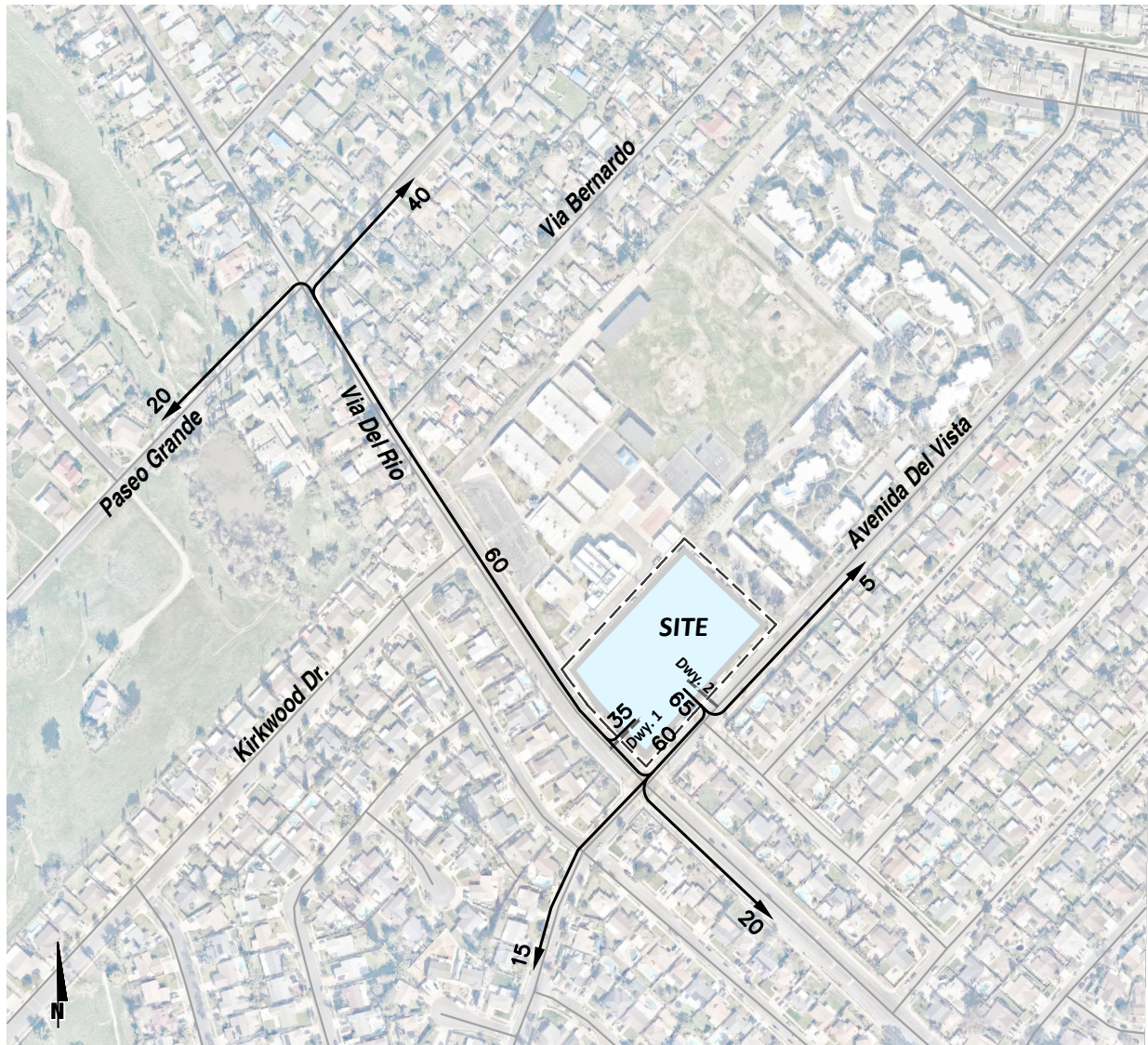
4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The Project trip distribution patterns were developed based on recent studies in the area and through consultation with City of Corona staff. The Project trip distribution patterns are provided in Exhibit 4-1.

4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking, or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

EXHIBIT 4-1 : PROJECT TRIP DISTRIBUTION (SHEET 1 OF 2)

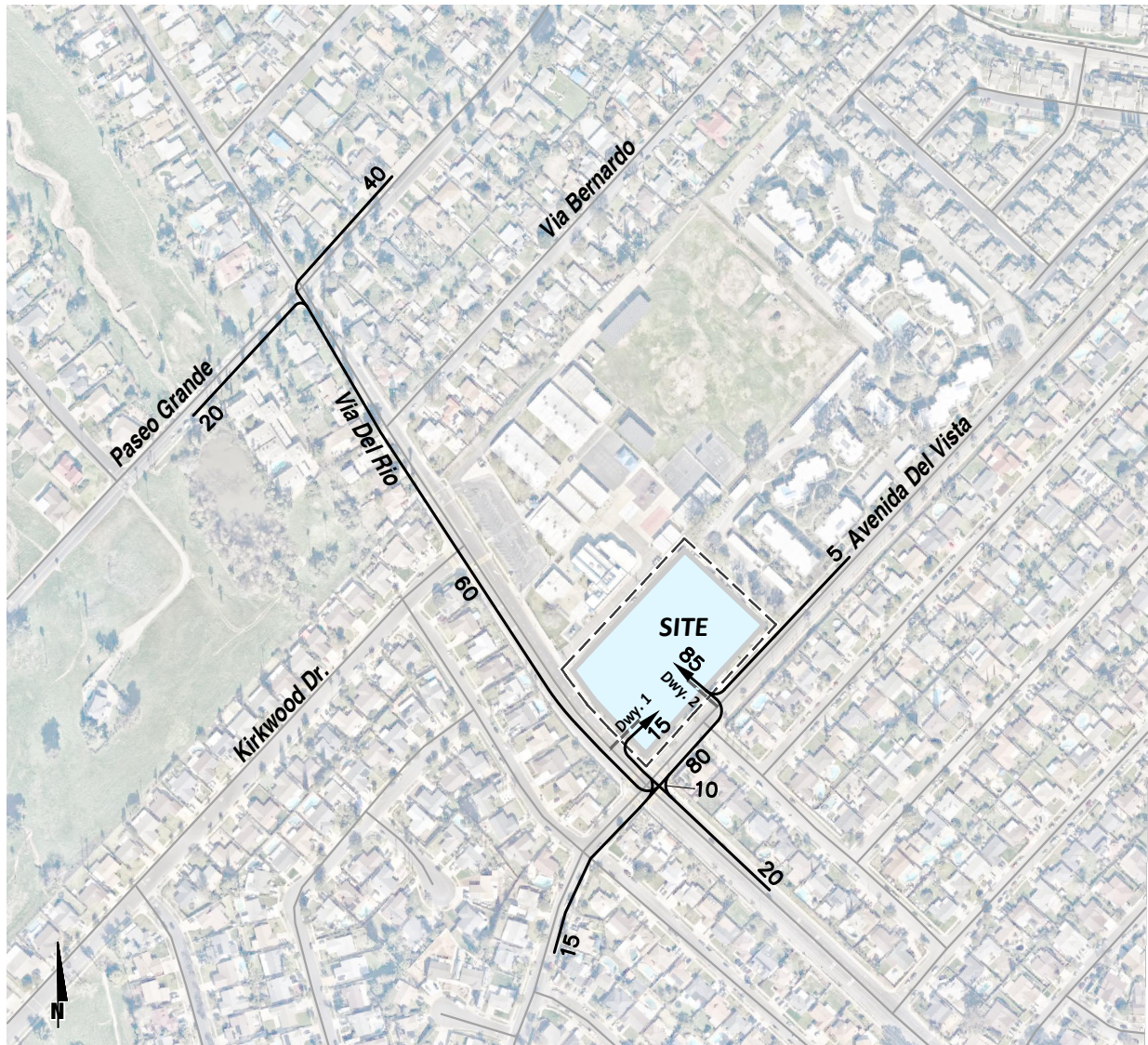


LEGEND:

10 = Percent From Project

➔ = Outbound

EXHIBIT 4-1 : PROJECT TRIP DISTRIBUTION (SHEET 2 OF 2)



LEGEND:

10 = Percent To Project

➔ = Inbound

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project Only traffic volumes are provided in Exhibit 4-2.

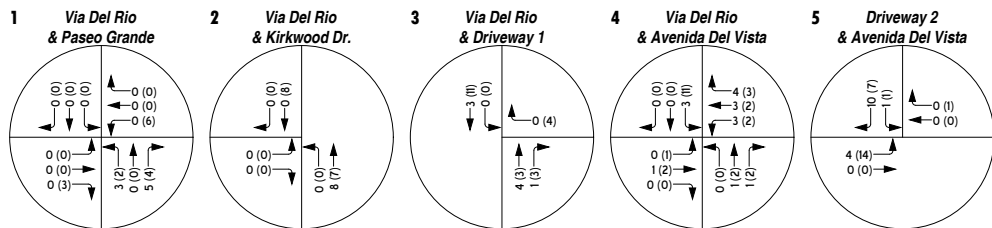
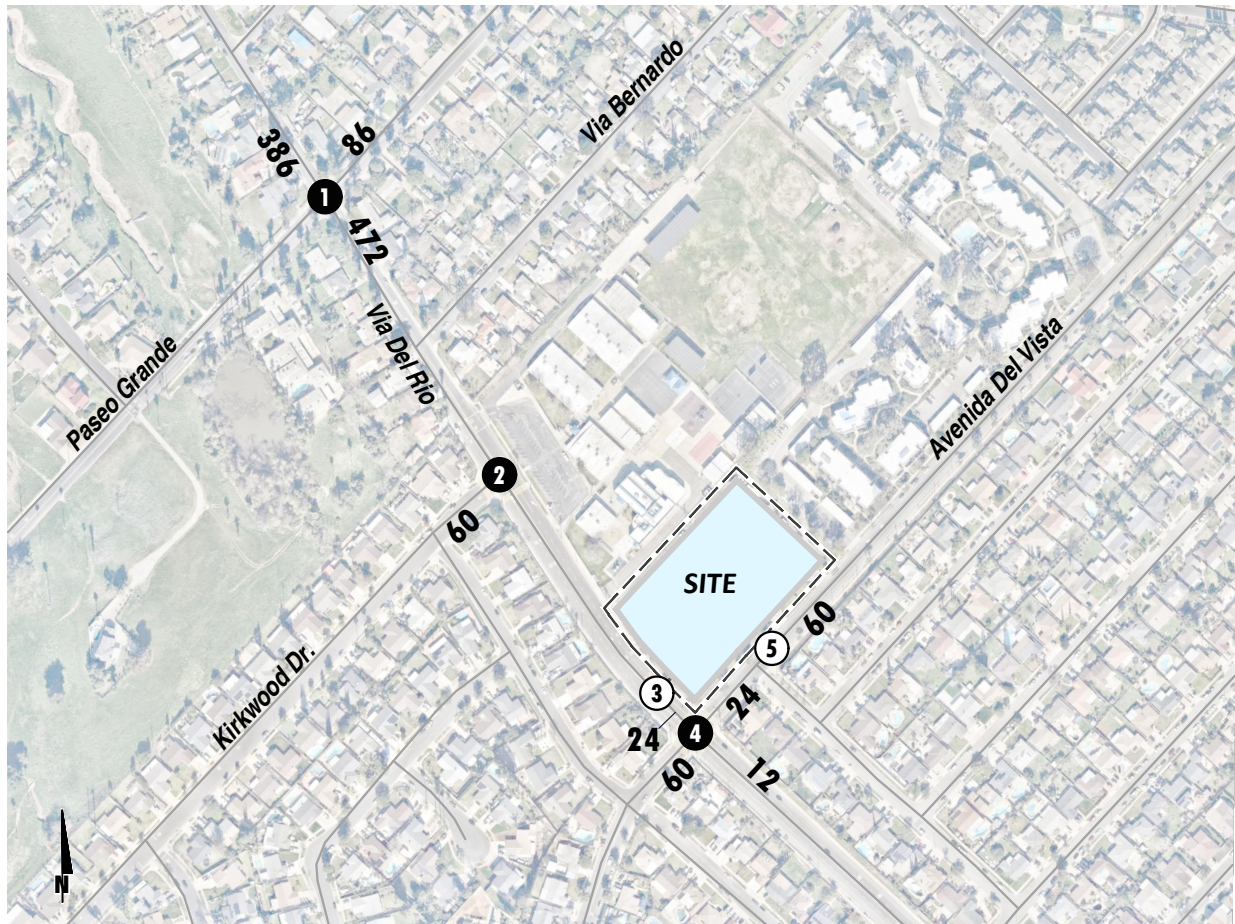
4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2027 traffic conditions. The total ambient growth is 6.12% for 2027 traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in conjunction with traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. 2027 traffic volumes are provided in Section 6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine With Project forecasts.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Corona and the County of Riverside. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-2 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-4. If applicable, the traffic generated by individual cumulative projects was manually added to the Without Project forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-4 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. Any other cumulative projects located beyond the cumulative study area that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Cumulative Only ADT and weekday peak hour intersection turning movement volumes are shown in Exhibit 4-3.

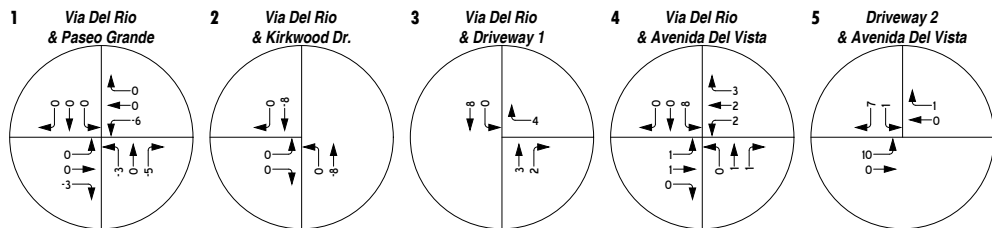
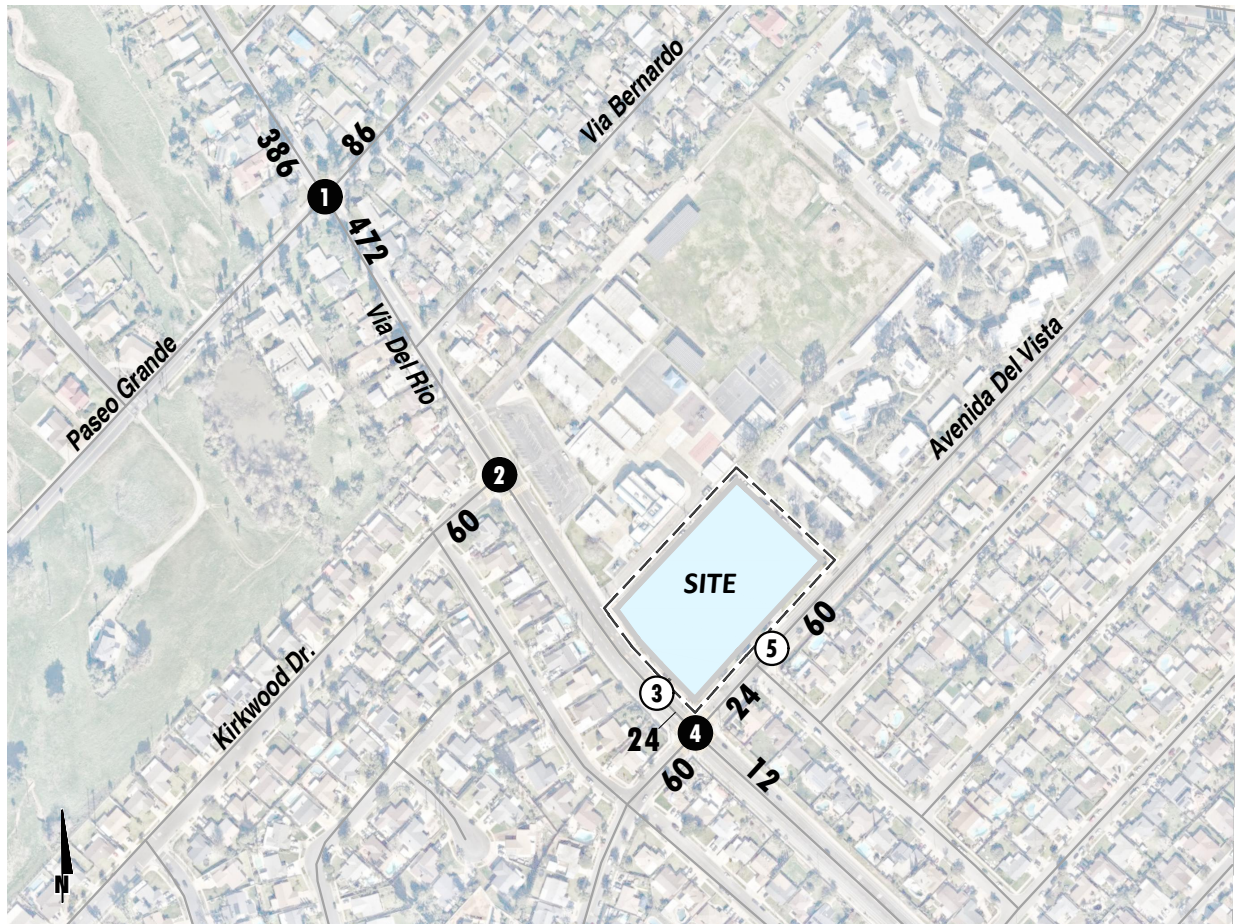
EXHIBIT 4-2 : PROJECT ONLY TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips

EXHIBIT 4-2 : PROJECT ONLY TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 = Peak Hour Intersection Volume MD
- 00** = Average Daily Trips

EXHIBIT 4-3 : CUMULATIVE DEVELOPMENT LOCATION MAP

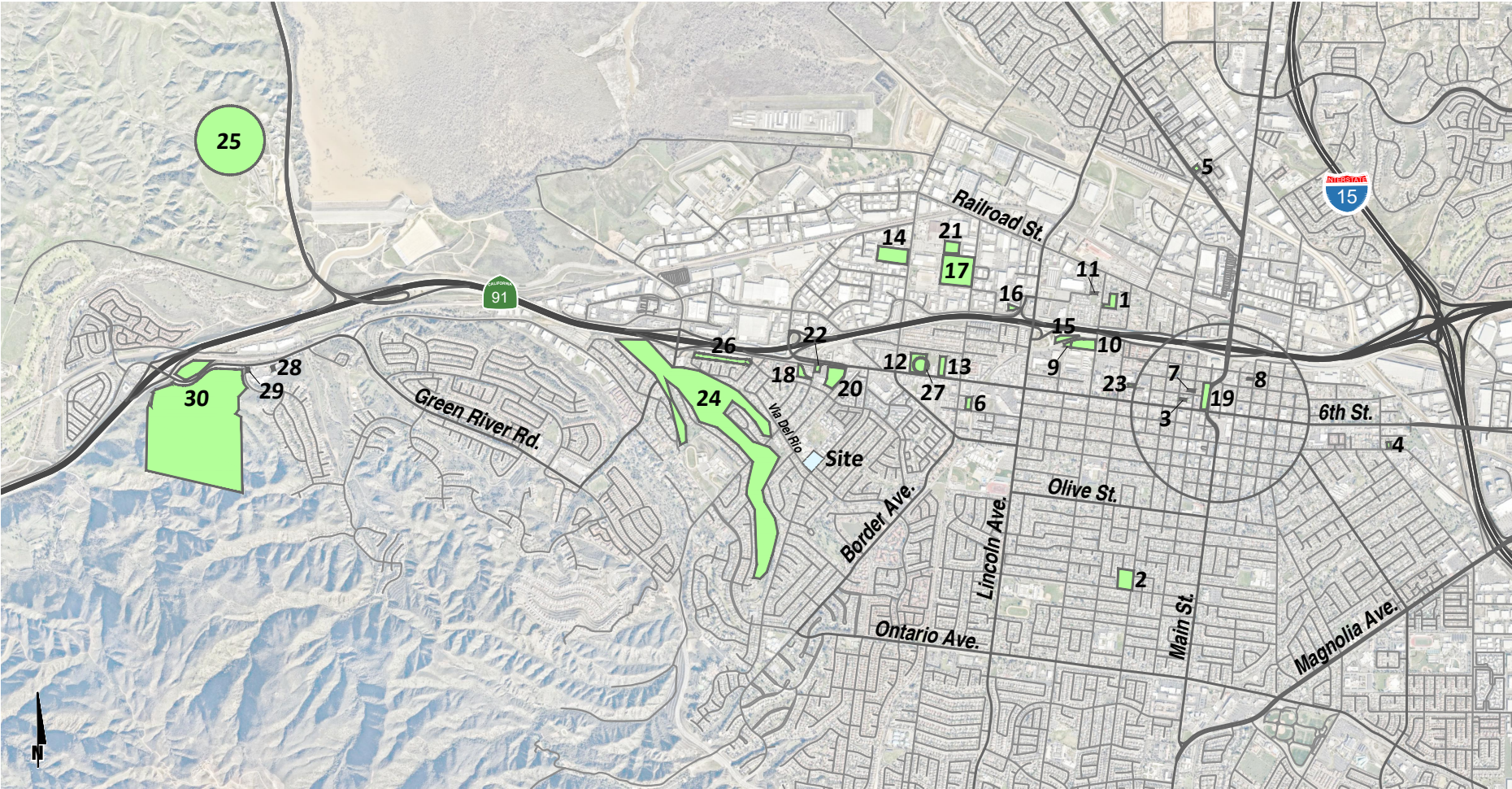
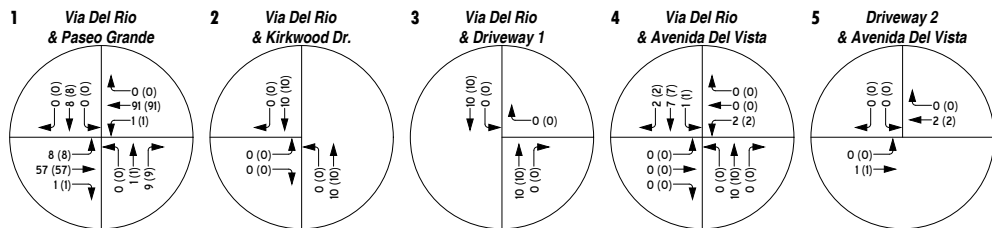
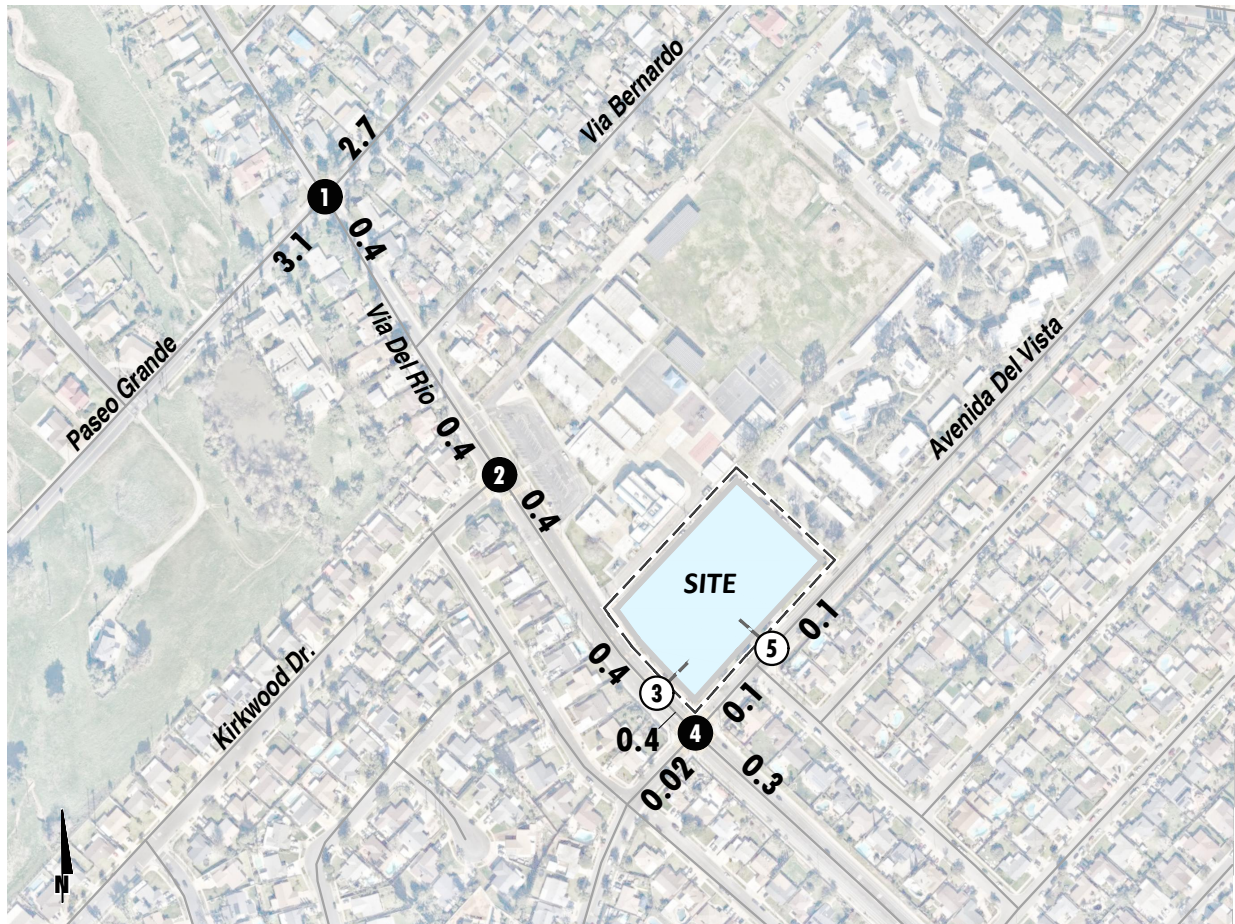


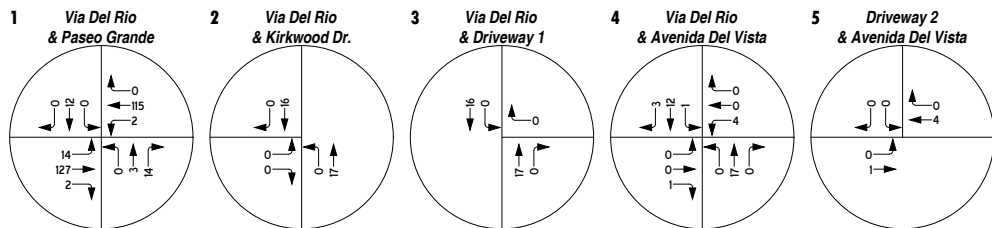
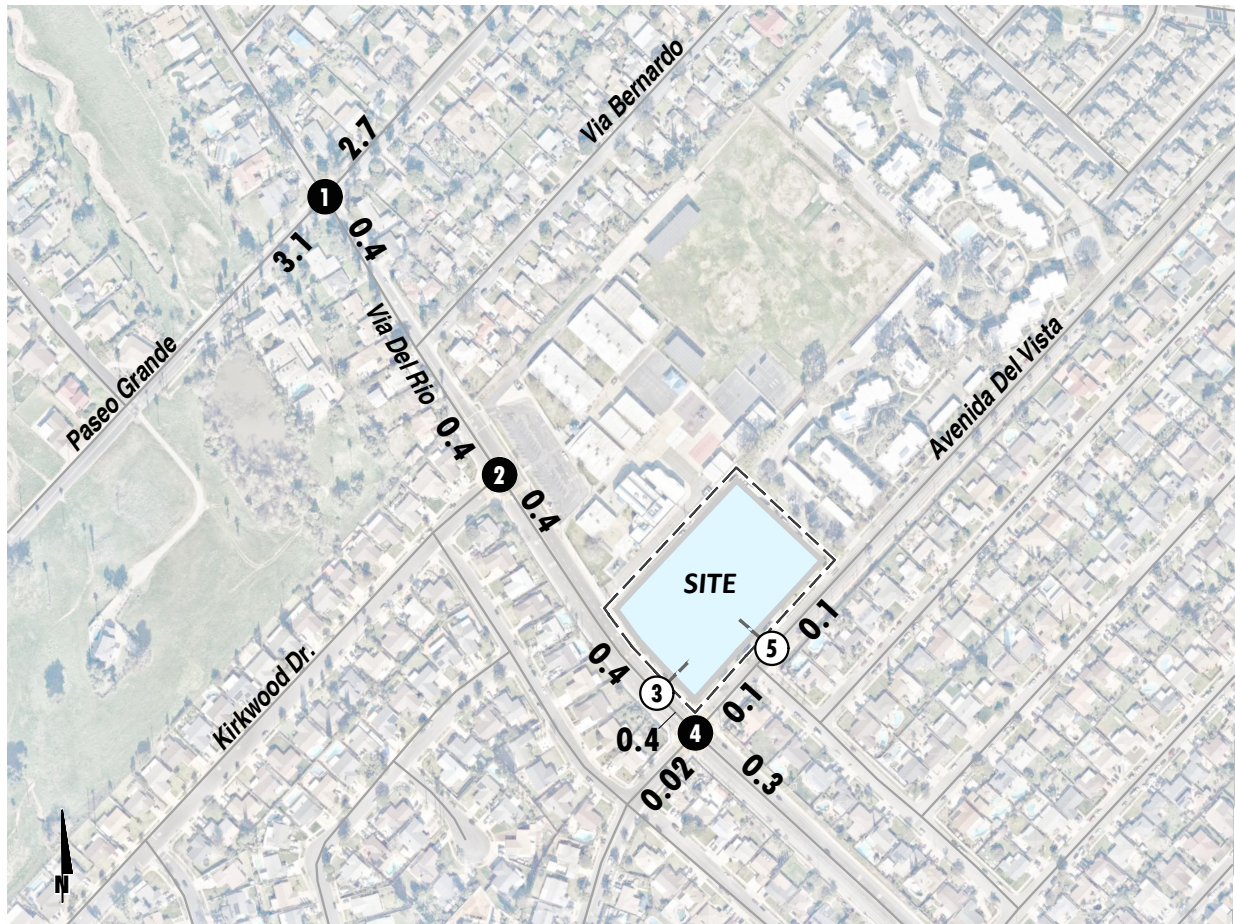
EXHIBIT 4-4 : CUMULATIVE ONLY TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- 0** = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips (1000's)

EXHIBIT 4-4 : CUMULATIVE ONLY TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 = Peak Hour Intersection Volume MD
- 00 = Average Daily Trips (1000's)

TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

| No. | Project Name | Land Use ¹ | Quantity Units ² |
|-----|---|---|-----------------------------|
| 1 | CUPM2021-0004 | Senior Adult (Attached) Housing | 62 DU |
| 2 | TTM 37980 (DPR2023-0022, PP2023-00008) | Single Family Residential + ADU | 38 DU |
| 3 | DPR2019-0017, DPR2021-0013 & DPR2022-0024 | Senior Adult (Detached) Housing | 3 DU |
| 4 | PP2019-0009 | Multifamily Residential | 6 DU |
| 5 | Tract 37085 (DPR2019-0024, CUP2022-0004) | Multifamily Residential | 9 DU |
| 6 | DPR2019-0026, PP2020-0001 | Multifamily Residential | 16 DU |
| 7 | DPR2022-0001, PP2023-00003 | Multifamily Residential | 4 DU |
| 8 | DPR2023-0008 | Single Family Residential | 2 DU |
| 9 | Second Street Housing (DPR2023-0026, PP2023-0011) | Affordable Housing | 25 DU |
| 10 | Second Street Family | Affordable Housing | 115 DU |
| 11 | DPR2023-0038 | Single Family Residential | 2 DU |
| 12 | LA Fitness International (PP2018-0005, PM37452) | LA Fitness Gym | 37.000 TSF |
| | | Commercial Retail | 9.300 TSF |
| 13 | PP2022-0001, CUP2022-0002 | EV Charging Station & Car Wash | -- |
| 14 | DPR2022-0014, GPA2022-0003 | Warehousing | 162.480 TSF |
| 15 | DPR2022-0031, GPA2023-0004 & PP2023-0007 | Gas Station w/ Convenience Market | 12 VFP |
| | | Fast-Food Restaurant w/ Drive-Thru | 1.900 TSF |
| 16 | DPR2022-0036 | Warehousing | 7.500 TSF |
| 17 | IPT Corona Commerce Center (DPR2023-0009) | Warehousing | 284.661 TSF |
| 18 | DPR2023-0017 | Mosque | 13.200 TSF |
| 19 | Northgate Market (DPR2023-0020) | Commercial Retail (Grocery & Retail) | 50.000 TSF |
| 20 | Toyota (DPR2023-0012, PPM2023-0008) | Car Dealership Expansion | 49.130 TSF |
| 21 | DPR2023-0033 | Warehousing | 76.674 TSF |
| 22 | Asi Development (DPR2023-0036) | Gas Station w/ Convenience Market | 8 VFP |
| 23 | DPR2023-0010, ARC2024-0001 | Medical Office | 3.560 TSF |
| 24 | Trails at Corona | Senior Adult (Attached) Housing | 116 DU |
| 25 | Prado Raceway | Racetrack | 163 AC |
| 26 | TPM 38715 | Shopping Center & Fast-Food With Drive Thru | 52 TSF |
| 27 | Skyline Heights | Single Family Detached | 291 DU |
| 28 | Taco Bell with Drive Thru | Fast-Food Restaurant w/ Drive-Thru | 2.080 TSF |
| 29 | Drive-Thru Restaurant | Fast-Food Restaurant w/ Drive-Thru | 2.400 TSF |
| 30 | Green River Specific Plan | Industrial Park | 634.381 TSF |
| | | High-Cube Cold Storage Warehouse | 111.950 TSF |
| | | Super Convenience Market with Gas Station | 12 VFP |
| | | Fast-Food Restaurant w/ Drive-Thru | 2.500 TSF |
| | | Hotel | 150 RM |
| | | Single Family Detached Residential | 32 DU |

¹ TSF = Thousand Square Feet; DU = Dwelling Units; VFP = Vehicle Fueling Postions

4.7 NEAR-TERM TRAFFIC CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year (2027) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2027 from the year 2024. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2027 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2027) Without Project
 - Existing 2024 counts
 - Ambient growth traffic (6.12%)
 - Cumulative Development Traffic

- Opening Year Cumulative (2027) With Project
 - Existing 2024 counts
 - Ambient growth traffic (6.12%)
 - Cumulative Development Traffic
 - Project Traffic

5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P traffic conditions are consistent with those shown previously in Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P conditions (e.g., intersection and roadway improvements at the Project’s frontage and driveways).

5.2 E+P GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus the addition of Project traffic. This analysis scenario does not include the addition of any ambient background growth or traffic associated with cumulative development projects. The weekday ADT volumes and peak hour volumes which can be expected for E+P traffic conditions are shown in Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection analysis results are summarized in Table 5-1, which indicate the study area intersection of Via Del Rio at Paseo Grande is anticipated to continue to operate at an unacceptable LOS during the AM peak hour with the addition of Project traffic, consistent with Existing traffic conditions. The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1.

TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

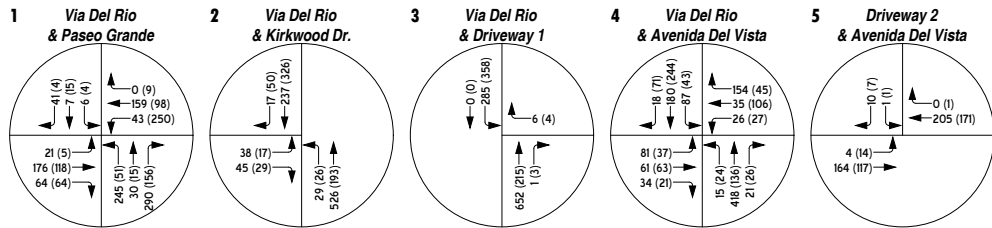
| # Intersection | Traffic Control ² | Existing (2024) | | | | | | E+P | | | | | |
|-----------------------------------|------------------------------|----------------------------|------|------|------------------|----|----|----------------------------|------|------|------------------|----|----|
| | | Delay ¹ (secs.) | | | Level of Service | | | Delay ¹ (secs.) | | | Level of Service | | |
| | | AM | MD | PM | AM | MD | PM | AM | MD | PM | AM | MD | PM |
| 1 Via Del Rio & Paseo Grande | AWS | 45.4 | 17.3 | 11.9 | E | C | B | 48.2 | 16.6 | 12.3 | E | C | B |
| 2 Via Del Rio & Kirkwood Dr. | CSS | 13.2 | 12.1 | 11.0 | B | B | B | 13.3 | 12.0 | 11.1 | B | B | B |
| 3 Via Del Rio & Driveway 1 | CSS | Future Intersection | | | | | | 10.7 | 9.1 | 9.0 | B | A | A |
| 4 Via Del Rio & Avenida Del Vista | TS | 16.0 | 14.2 | 13.7 | B | B | B | 16.1 | 14.3 | 13.8 | B | B | B |
| 5 Driveway 2 & Avenida Del Vista | CSS | Future Intersection | | | | | | 9.6 | 9.5 | 9.4 | A | A | A |

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² AWS = All-Way Stop; CSS = Cross-Street Stop; TS = Traffic Signal; **CSS** = Improvement

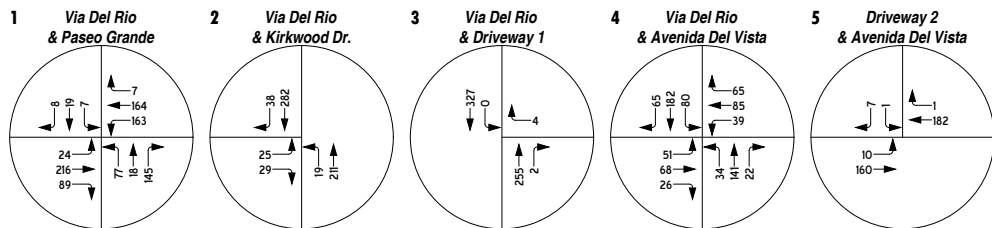
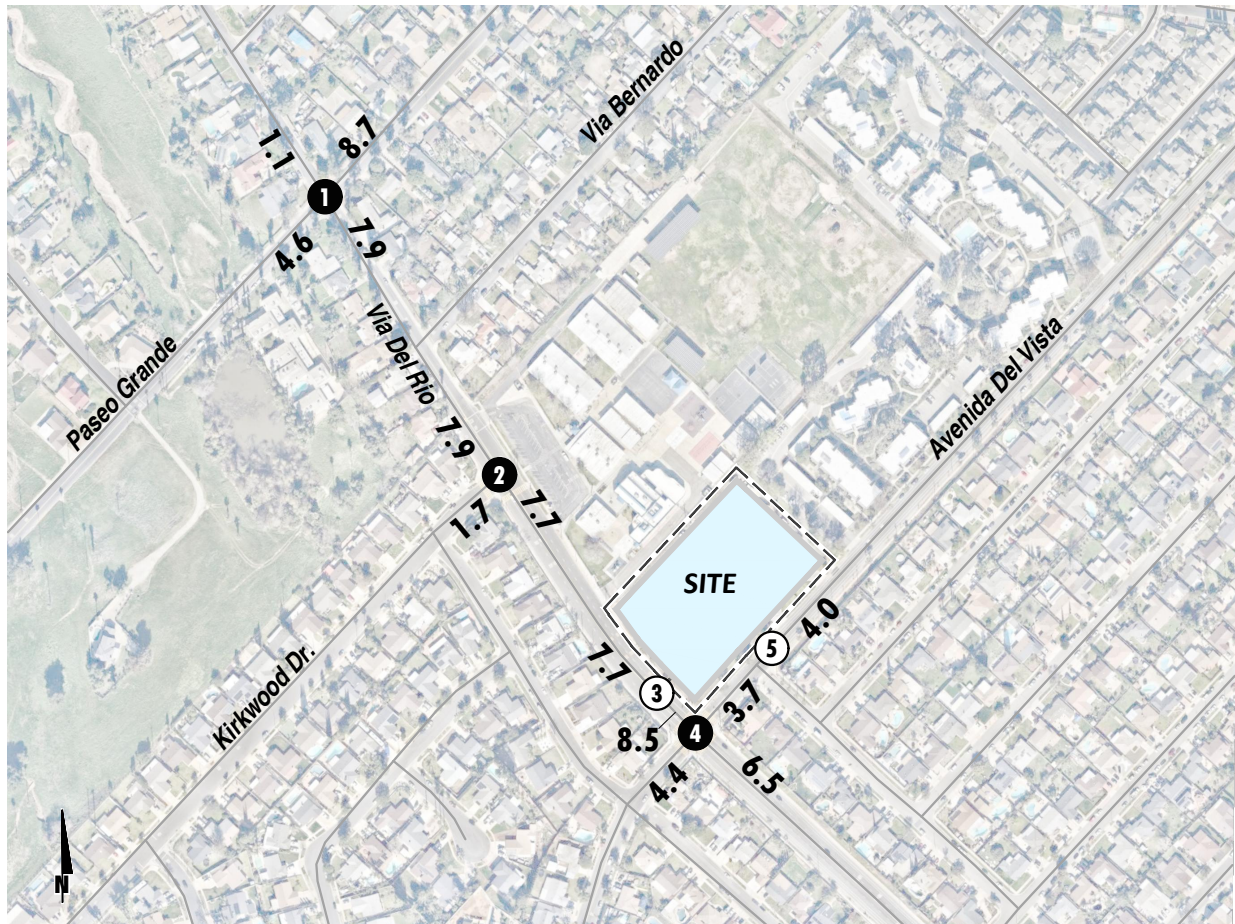
EXHIBIT 5-1 : E+P TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips (1000's)

EXHIBIT 5-1 : E+P TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Peak Hour Intersection Volume MD
- 00** = Average Daily Trips (1000's)

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for E+P traffic conditions based on peak hour volumes. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under E+P (see Appendix 5.2).

5.5 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of Project deficiencies and improvements based on the City of Corona deficiency criteria discussed in Section 2.5 *Deficiency Criteria*. Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 5-2. Table 5-2 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under E+P traffic conditions. Improvements have been identified to bring the E+P deficiencies back to acceptable levels. Intersection analysis worksheets for E+P traffic conditions, with improvements, are provided in Appendix 5.3.

It should be noted that the morning deficiency occurs over a 20 to 30-minute period with morning drop-offs occurring at the surrounding existing schools in conjunction with morning commute traffic. The MD peak period was evaluated in addition to the typical AM and PM peak hour due to the proximity of existing schools to the study area (Coronita Elementary School, Cesar Chavez Academy, and Corona High School).

The installation of a traffic signal at the intersection of Via Del Rio and Paseo Grande is required to bring the intersection back to acceptable LOS during the AM peak hour. However, because of the location of the intersection within an existing residential area, the County of Riverside may not favor the installation of a traffic signal at this location to address a morning deficiency that occurs over a 20 to 30-minute period. The County may consider other alternative traffic controls could also be explored such as the implementation of a roundabout.

TABLE 5-2: INTERSECTION ANALYSIS FOR E+P CONDITIONS WITH IMPROVEMENTS

| # Intersection | Traffic Control ³ | Intersection Approach Lanes ¹ | | | | | | | | | | | | Delay ² (secs.) | | | Level of Service | | | | | |
|------------------------------|------------------------------|--|---|---|------------|---|---|-----------|---|---|-----------|---|---|-------------------------------|-----|-----|------------------|------|------|----------|---|---|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | MD | PM | AM | MD | PM | | | |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | | | | | | |
| 1 Via Del Rio & Paseo Grande | | | | | | | | | | | | | | | | | | | | | | |
| Without Improvements | AWS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 48.2 | 16.6 | 12.3 | E | C | B |
| With Improvements - Option 1 | TS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 12.0 | 8.4 | 7.8 | B | A | A | | | |
| With Improvements - Option 2 | RA | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 9.4 | 6.8 | 5.5 | A | A | A | | | |

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

1 When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

2 Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

3 AWS = All-Way Stop; TS = Traffic Signal; RA = Roundabout; **TS** = Improvement

4 The installation of a traffic signal is required to bring the intersection to acceptable LOS during the peak hours. However, because of the location of the intersection in a residential area, the County of Riverside staff is unlikely to support the installation of a traffic signal which would only be beneficial during the school drop-off and pick-up periods which occurs over a total of 30 to 40 minutes out of the 24-hour day. An alternative to the traffic signal is the implementation of a roundabout.

6 OPENING YEAR CUMULATIVE (2027) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2027) Without and With Project traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (2027) conditions are consistent with those shown previously in Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative (2027) With Project conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative (2027) Without Project conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

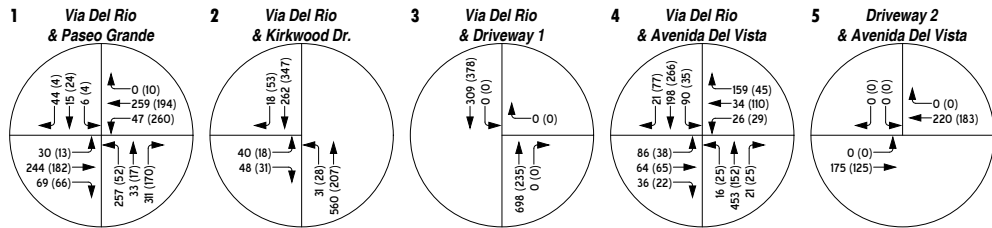
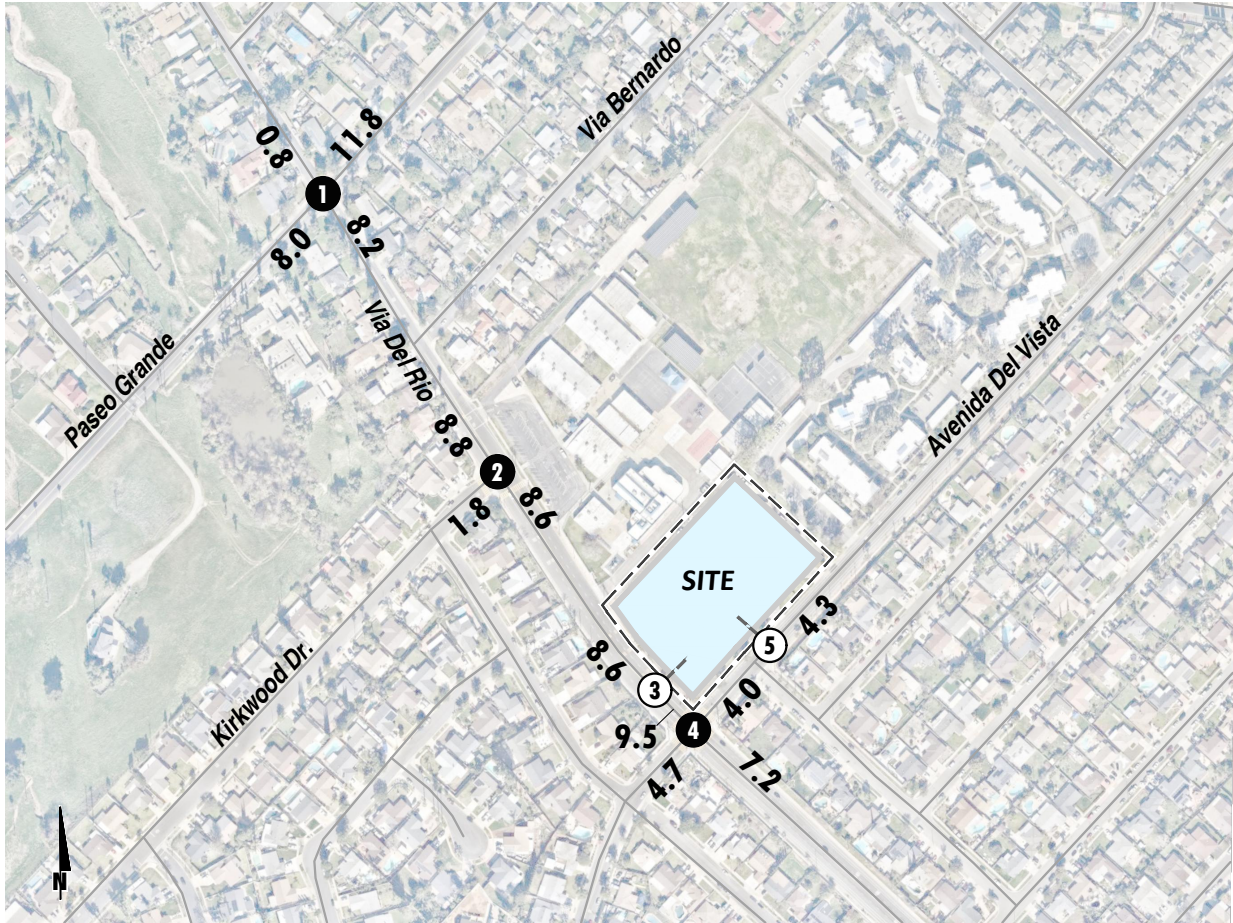
6.2 OPENING YEAR CUMULATIVE (2027) WITHOUT PROJECT GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus an ambient growth factor of 6.12% and the addition of traffic from cumulative development traffic. The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2027) Without Project traffic conditions are shown in Exhibit 6-1.

6.3 OPENING YEAR CUMULATIVE (2027) WITH PROJECT GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus an ambient growth factor of 6.12%, the addition of traffic from cumulative development traffic, and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2027) With Project traffic conditions are shown in Exhibit 6-2.

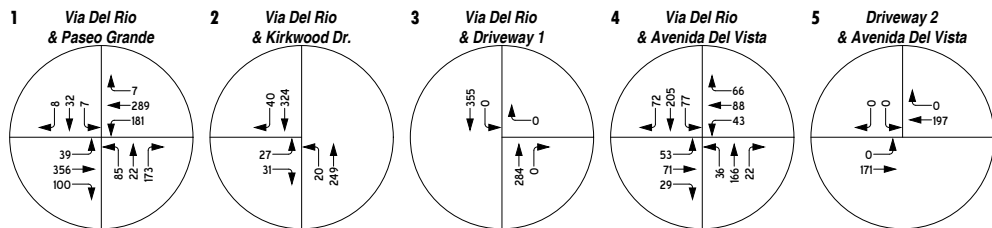
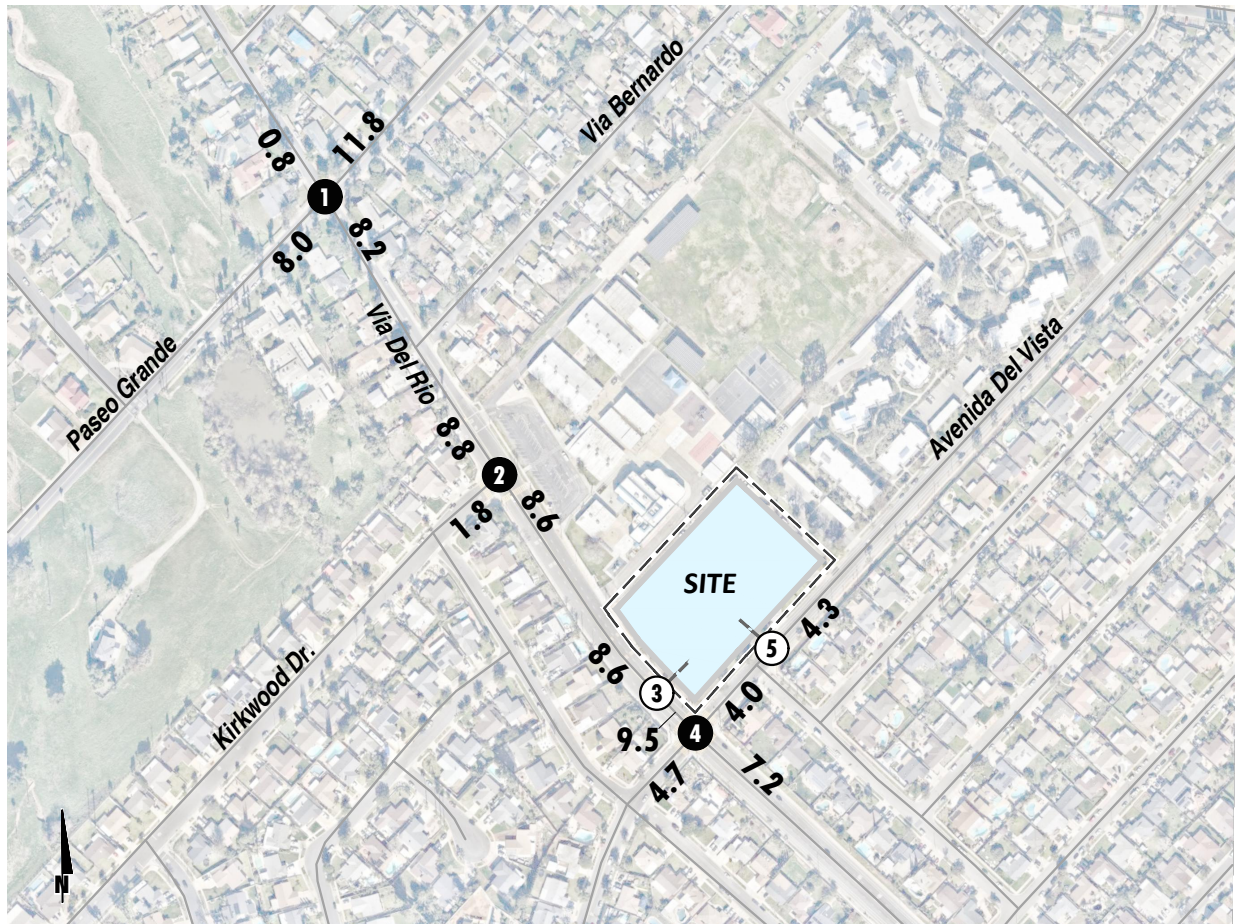
EXHIBIT 6-1 : OPENING YEAR CUMULATIVE (2027) WITHOUT TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips (1000's)

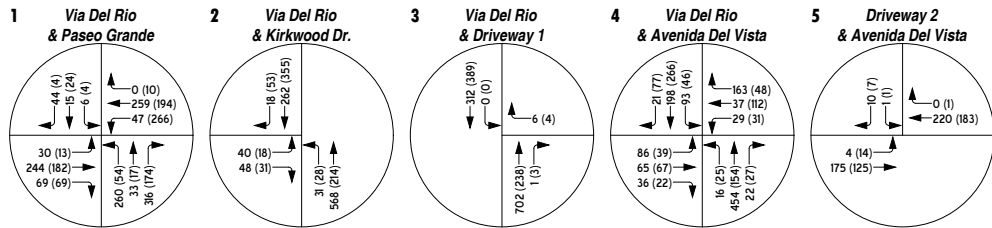
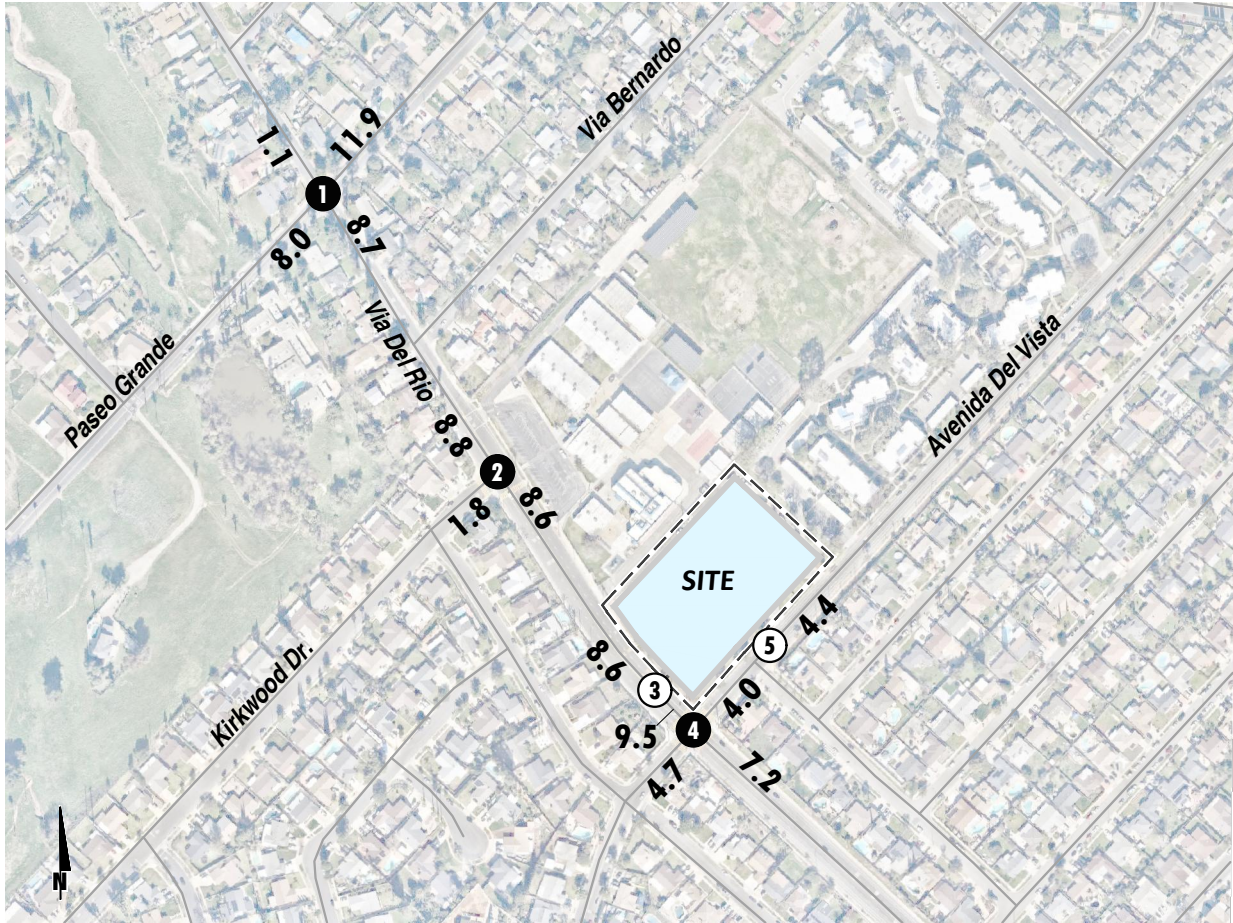
EXHIBIT 6-1 : OPENING YEAR CUMULATIVE (2027) WITHOUT TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Peak Hour Intersection Volume MD
- 00** = Average Daily Trips (1000's)

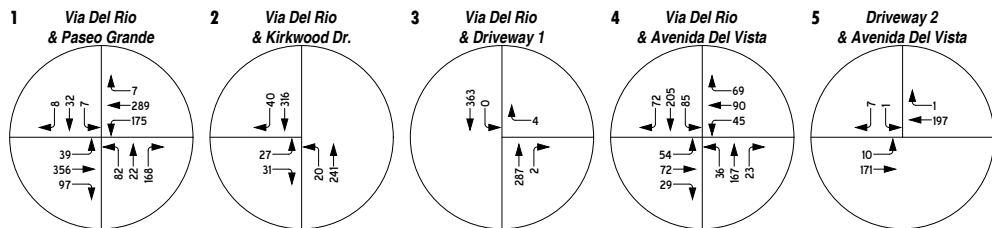
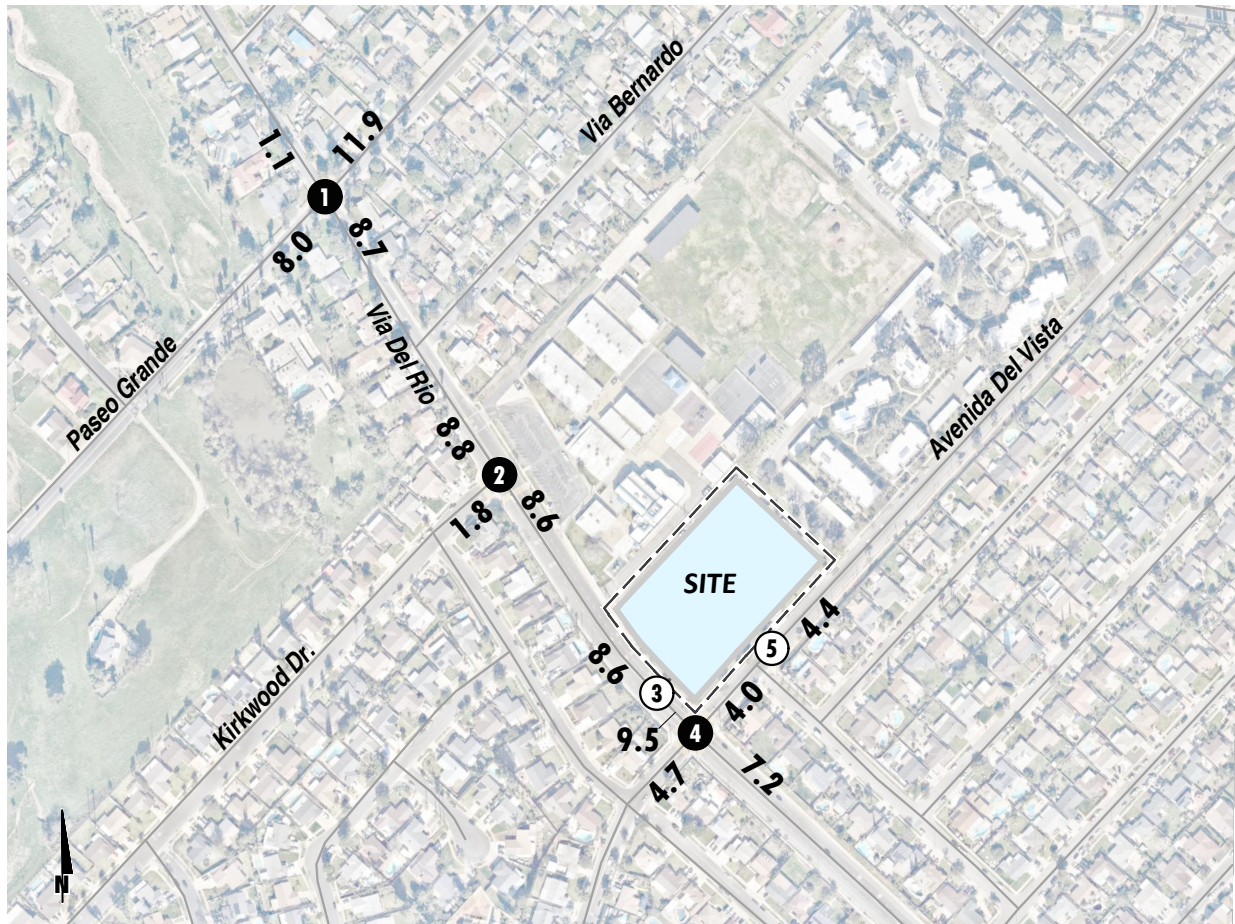
EXHIBIT 6-2 : OPENING YEAR CUMULATIVE (2027) WITH TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00 (00) = Peak Hour Intersection Volume AM (PM)
- 00** = Average Daily Trips (1000's)

EXHIBIT 6-2 : OPENING YEAR CUMULATIVE (2027) WITH TRAFFIC VOLUMES (SHEET 2 OF 2)



LEGEND:

- 0** = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- 00** = Peak Hour Intersection Volume MD
- 00** = Average Daily Trips (1000's)

6.4 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2027) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection analysis results are summarized in Table 6-1, which indicates the study area intersection of Via Del Rio at Paseo Grande is anticipated to operate at an unacceptable LOS during both the AM and MD peak hours under both Opening Year Cumulative (2027) Without and With Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2027) Without Project and With Project traffic conditions are included in Appendices 6.1 and 6.2, respectively.

TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS

| # Intersection | Traffic Control ² | Without Project | | | | | | With Project | | | | | |
|-----------------------------------|------------------------------|----------------------------|-------------|------|------------------|----------|----|----------------------------|-------------|------|------------------|----------|----|
| | | Delay ¹ (secs.) | | | Level of Service | | | Delay ¹ (secs.) | | | Level of Service | | |
| | | AM | MD | PM | AM | MD | PM | AM | MD | PM | AM | MD | PM |
| 1 Via Del Rio & Paseo Grande | AWS | >100.0 | 72.6 | 18.2 | F | F | C | >100.0 | 67.1 | 19.0 | F | F | C |
| 2 Via Del Rio & Kirkwood Dr. | CSS | 14.0 | 12.7 | 11.3 | B | B | B | 14.0 | 12.6 | 11.4 | B | B | B |
| 3 Via Del Rio & Driveway 1 | CSS | Future Intersection | | | | | | 10.9 | 9.2 | 9.0 | B | A | A |
| 4 Via Del Rio & Avenida Del Vista | TS | 16.3 | 14.4 | 13.9 | B | B | B | 16.4 | 14.5 | 14.0 | B | B | B |
| 5 Driveway 2 & Avenida Del Vista | CSS | Future Intersection | | | | | | 9.7 | 9.6 | 9.5 | A | A | A |

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² AWS = All-Way Stop; CSS = Cross-Street Stop; TS = Traffic Signal; **CSS** = Improvement

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for Opening Year Cumulative (2027) traffic conditions based on peak hour or ADT volumes. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under Opening Year Cumulative (2027) Without or With Project traffic conditions (see Appendices 6.3 and 6.4, respectively).

6.6 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of Project deficiencies and improvements based on the City of Corona deficiency criteria discussed in Section 2.5 *Deficiency Criteria*. Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 6-2. Table 6-2 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under Opening Year Cumulative (2027) traffic conditions. The improvements have been identified to bring the Opening Year Cumulative (2027) deficiencies back to acceptable levels. Intersection analysis worksheets for Opening Year Cumulative (2027) traffic conditions, with improvements, are provided in Appendix 6.5.

TABLE 6-2: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2027) CONDITIONS WITH IMPROVEMENTS

| # Intersection | Traffic Control ³ | Intersection Approach Lanes ¹ | | | | | | | | | | | | Delay ² (secs.) | | | Level of Service | | | | | |
|------------------------------|------------------------------|--|---|---|------------|---|---|-----------|---|---|-----------|---|---|-------------------------------|----|----|------------------|------|------|---|---|---|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | MD | PM | AM | MD | PM | | | |
| | | L | T | R | L | T | R | L | T | R | L | T | R | L | T | R | | | | | | |
| 1 Via Del Rio & Paseo Grande | | | | | | | | | | | | | | | | | | | | | | |
| Without Improvements | AWS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | >100.0 | 67.1 | 19.0 | F | F | C |
| With Improvements - Option 1 | TS | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 17.1 | 10.5 | 8.5 | B | B | A |
| With Improvements - Option 2 | RA | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 12.7 | 9.8 | 6.7 | B | A | A |

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

² Per the Highway Capacity Manual (7th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All-Way Stop; TS = Traffic Signal; RA = Roundabout; **IS** = Improvement

⁴ The installation of a traffic signal is required to bring the intersection to acceptable LOS during the peak hours. However, because of the location of the intersection in a residential area, the County of Riverside staff is unlikely to support the installation of a traffic signal which would only be beneficial during the school drop-off and pick-up periods which occurs over a total of 30 to 40 minutes out of the 24-hour day. An alternative to the traffic signal is the implementation of a roundabout.

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7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Corona are funded through a combination of improvements constructed by the Project, development impact fee programs or fair share contributions. Fee programs applicable to the Project are described below.

7.1 CITY OF CORONA DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project will also be subject to City of Corona’s DIF program which includes a component for streets and signals. A City-wide impact fee is necessary to finance the projects necessary to support local new development and not supported by the TUMF schedule. The latest City of Corona DIF fee schedule went into effect on May 16, 2022.

7.2 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right-of-way acquisition and improvement cost factors. (7) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite LOS and critical to mobility in the region. TUMF is a truly regional fee program and is imposed and implemented in every jurisdiction in Western Riverside County. TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Temescal Canyon Area Plan. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth.

7.3 FAIR SHARE CONTRIBUTION

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements, or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate. When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, have been provided in Table 7-1 for the applicable deficient study area intersection of Via Del Rio and Paseo Grande. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

TABLE 7-1: PROJECT FAIR SHARE CALCULATIONS

| # | Intersection | Project Delay Increase D(p) | 2027 WP Total Delay D(t) | Acceptable Delay D(a) | Project % of New Traffic |
|---|----------------------------|-----------------------------|--------------------------|-----------------------|--------------------------|
| 1 | Via Del Rio & Paseo Grande | | | | |
| | AM: | 4.10 | 105.1 | 35.0 | 5.8% |

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8 REFERENCES

1. **City of Corona.** *Traffic Impact Study Guidelines*. City of Corona : s.n., July 2006.
2. **Institute of Transportation Engineers.** *Trip Generation Manual*. 11th Edition. 2021.
3. **VRPA Technologies, Inc. for Riverside County Transportation Commission.** *Riverside County Long Range Transportation Study*. County of Riverside : VRPA Technologies, Inc., December 2019.
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5. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD)*. 2014, Updated March 30, 2021 (Revision 6).
6. **City of Corona.** *2020-2040 General Plan*. Corona : s.n., 2020.
7. **Western Riverside Council of Governments.** *Transportation Uniform Mitigation Fee Nexus Study*. County of Riverside : s.n., 2016 Update.

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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DATE: March 12, 2024
TO: Rosie Ureno, City of Corona
FROM: Charlene So, Urban Crossroads
JOB NO: 15701-02 TA Scope

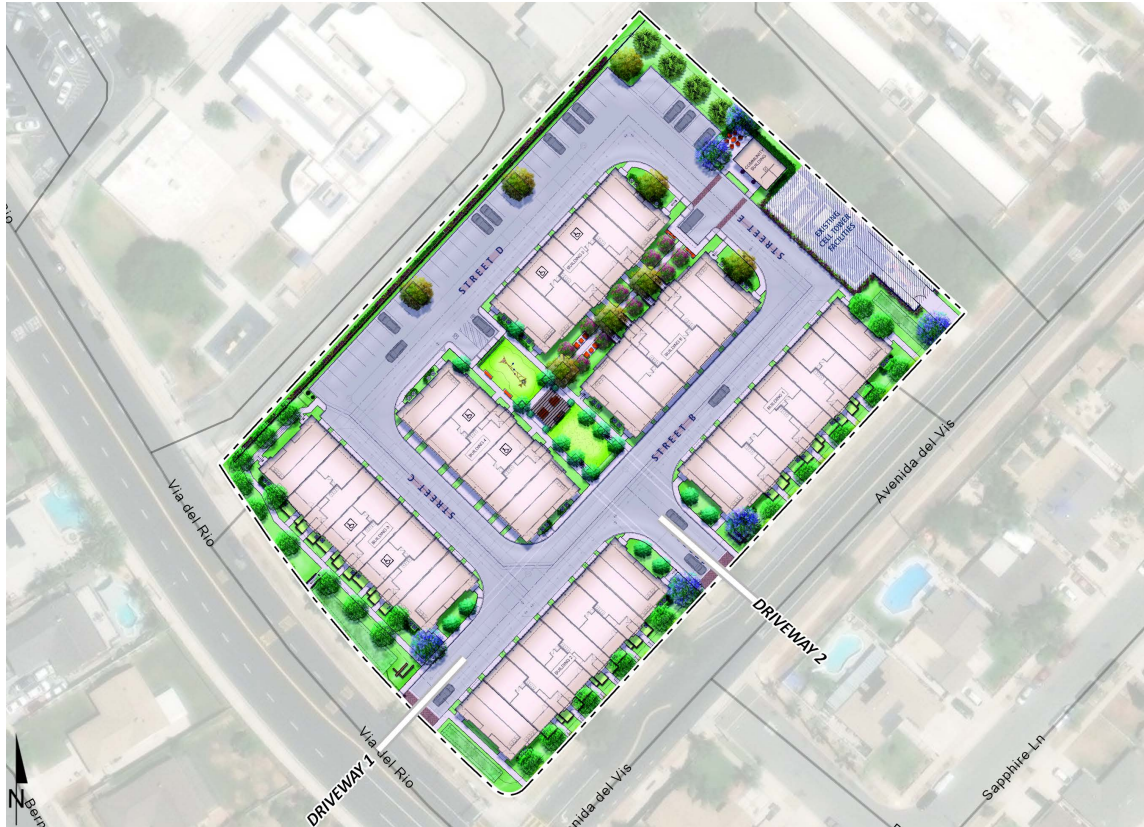
VIA DEL RIO (DPR2023-0029) FOCUSED TRAFFIC STUDY SCOPING AGREEMENT

Urban Crossroads, Inc. is pleased to submit this Focused Traffic Study scoping letter for the Via Del Rio development (**Project**), located on the northeast corner of Via Del Rio and Avenida Del Vista in the City of Corona. This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The following scope of work is based on the City's Traffic Impact Study Guidelines (July 2006) (**City Guidelines**). The City's scoping form is included in Attachment A.

PROPOSED PROJECT

It is our understanding that the Project is to consist of 54 townhomes on approximately 2.8 acres. The site is currently occupied by Iglesia Reformada La Senda, which is a 300-seat church which also operates a religious radio station and a day care on-site. A preliminary site plan for the proposed Project is shown in Exhibit 1. As indicated in Exhibit 1, access to the site will be accommodated via one driveway on Via Del Rio and a driveway on Avenida Del Vista.

EXHIBIT 1: PRELIMINARY SITE PLAN



TRIP GENERATION

Trip generation represents the amount of traffic, which is both attracted to, and produced by, a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to, and produced by, the specific land uses being proposed for a given development.

EXISTING USES

The site is occupied by an existing 300-seat church. In addition to weekend services, the church also hosts a religious radio station and supports a day care center on Thursdays. In an effort to understand the existing traffic associated with the current uses, trip generation has been determined based on driveway counts collected at the existing driveway on Avenida Del Vista on Thursday, October 19, 2023. The other driveways were closed (gated) and not in use on the day of the traffic counts. Driveway counts are included in Attachment B. The trip generation summary illustrating daily, and peak hour, trip generation estimates for the existing use is shown in Table 1. As shown in Table 1, the existing use currently generates a total of 120 two-way trips per day with 9 AM peak hour trips and 4 PM peak hour trips (weekday only).

TABLE 1: EXISTING TRIP GENERATION SUMMARY

| Land Use | AM Peak Hour | | | PM Peak Hour | | | Daily |
|----------------------------|--------------|-----|-------|--------------|-----|-------|-------|
| | In | Out | Total | In | Out | Total | |
| Thursday, October 19, 2023 | | | | | | | |
| Total Trips | 5 | 4 | 9 | 4 | 0 | 4 | 120 |

PROPOSED PROJECT

The proposed Project is to consist of 54 townhomes. In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used. Table 2 summarizes the trip generation rates for ITE Land Use Code 220. The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project are also summarized in Table 2. The proposed Project is anticipated to generate 364 two-way trips per day with 21 AM peak hour trips and 27 PM peak hour trips.

TABLE 2: PROPOSED PROJECT TRIP GENERATION SUMMARY

| Land Use ¹ | ITE Code | Units ² | AM Peak Hour | | | PM Peak Hour | | | Daily |
|------------------------------------|----------|--------------------|--------------|------|-------|--------------|------|-------|-------|
| | | | In | Out | Total | In | Out | Total | |
| Multifamily (Low-Rise) Residential | 220 | DU | 0.10 | 0.30 | 0.40 | 0.32 | 0.19 | 0.51 | 6.74 |

¹ Source: Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021.

² DU = Dwelling Units

| Land Use | Quantity Units ¹ | AM Peak Hour | | | PM Peak Hour | | | Daily |
|------------------------------------|-----------------------------|--------------|-----|-------|--------------|-----|-------|-------|
| | | In | Out | Total | In | Out | Total | |
| Multifamily (Low-Rise) Residential | 54 DU | 5 | 16 | 21 | 17 | 10 | 27 | 364 |

¹ DU = Dwelling Units

TRIP GENERATION COMPARISON

Table 3 shows the trip generation comparison between the existing and proposed use. The resulting net new trips are identified in Table 3. As shown, the Project is anticipated to generate an increase of 244 two-way trips per day with 12 more AM peak hour trips and 23 more PM peak hour trips in comparison to the existing uses. The trip generation presented in Table 3 will be utilized to evaluate off-site intersections, however, the full Project trip generation reflected in Table 2 will be evaluated at the Project driveways and site adjacent intersection of Via Del Rio and Avenida Del Vista.

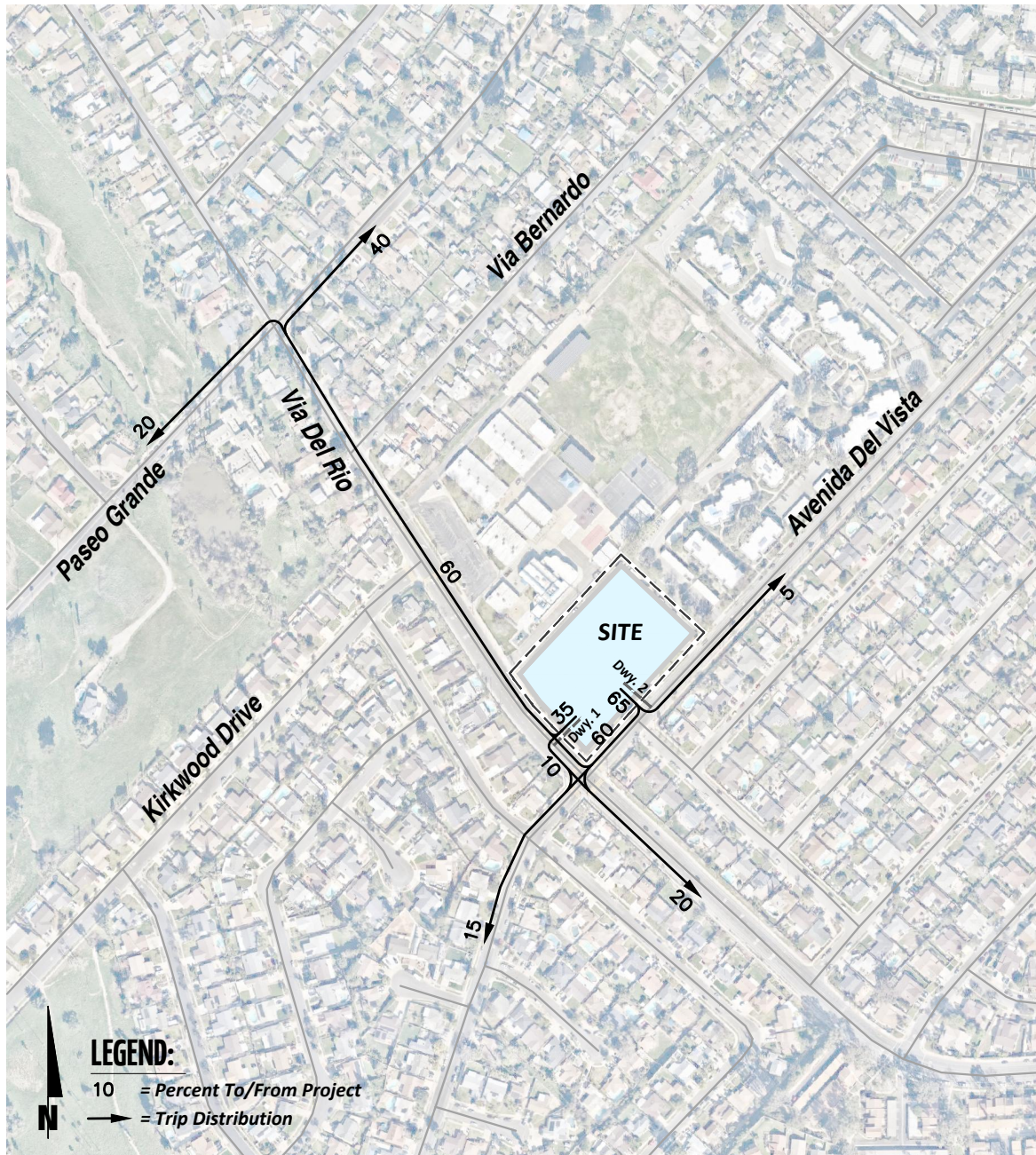
TABLE 3: TRIP GENERATION COMPARISON

| | AM Peak Hour | | | PM Peak Hour | | | Daily |
|-------------------------------|--------------|-----------|-----------|--------------|-----------|-----------|------------|
| | In | Out | Total | In | Out | Total | |
| Existing Use: Church | 5 | 4 | 9 | 4 | 0 | 4 | 120 |
| Proposed Project: Multifamily | 5 | 16 | 21 | 17 | 10 | 27 | 364 |
| Net Change in Trips | 0 | 12 | 12 | 13 | 10 | 23 | 244 |

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to, and from, the Project site. Trip distribution is the process of identifying the probable destinations, directions, or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Exhibit 2 shows the Project trip distribution patterns.

EXHIBIT 2: PROJECT TRIP DISTRIBUTION



ANALYSIS SCENARIOS

Consistent with the City's Guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2024) Conditions
- Existing plus Project (E+P) Conditions
- Opening Year Cumulative (2027) Without Project Conditions
- Opening Year Cumulative (2027) With Project Conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 7th Edition analysis methodology. The study area that is proposed to be evaluated is shown in Exhibit 3.

EXHIBIT 3: STUDY AREA



| ID | Intersection |
|----|---------------------------------|
| 1 | Via Del Rio & Paseo Grande |
| 2 | Via Del Rio & Kirkwood Dr. |
| 3 | Via Del Rio & Driveway 1 |
| 4 | Via Del Rio & Avenida Del Vista |
| 5 | Driveway 2 & Avenida Del Vista |

EXISTING COUNT DATA

We are proposing to conduct new traffic counts on a typical weekday when local schools are open and operating on normal bell schedules. Traffic counts will be conducted once the scoping agreement has been approved. Due to the proximity of the Project to existing schools in the vicinity, the traffic counts will be collected for the following peak hours:

- Weekday AM Peak Hour (6:30-9:00 AM)
- Weekday Mid-Day Peak Hour (1:30-3:30 PM)
- Weekday PM Peak Hour (4:00-6:00 PM)

AMBIENT GROWTH

An ambient growth rate of 2% per year is proposed for the study area intersection to approximate background growth not identified by nearby cumulative development projects. As such, a total of 6.12% will be applied to the baseline (2% per year, compounded over 3 years).

CUMULATIVE PROJECTS

It is requested that the City Planning Department provide current cumulative projects within the study area for inclusion in the Focused Traffic Analysis.

SPECIAL ISSUES

The following special issues will also be addressed:

- Conduct traffic signal warrant analysis for all existing and future unsignalized study area intersections, which also includes the Project driveways.
- Conduct a queuing analysis of the Project driveways and the site adjacent intersection of Via Del Rio and Avenida Del Vista.

If you have any questions or comments, I can be reached at cs@urbanxroads.com.

ATTACHMENT A: CITY SCOPING FORM

Exhibit F

Traffic Impact Study Scope – City of Corona

| | |
|----------------------|---|
| Project Name: | Via Del Rio |
| Project Address: | Northeast corner of Via Del Rio and Avenida Del Vista |
| Project Description: | 54 townhomes |
| Case Number: | |

| | Consultant | Developer |
|-----------------------|--|---|
| Name: | Charlene So, Urban Crossroads, Inc. | Meritage Homes |
| Address: | 1133 Camelback St. #8329, Newport Beach, CA 92658 | 14211 Yorba Street, Suite 200 Tustin, CA 92780 |
| Telephone: E-mail: | 949-861-0177 cso@urbanxroads.com | 949-299-3833 |

A. Trip Generation

| | | | |
|-------------------|-----|-------------------|--------|
| Proposed Land Use | HDR | Previous Land Use | Church |
| Existing Zoning | R3 | Proposed Zoning | R3 |

| | In | Out | Total |
|--------------|----|-----|-------|
| AM Peak Hour | 5 | 16 | 21 |
| PM Peak Hour | 17 | 10 | 27 |

B. Trip Distribution

Attach graphical representation

C. Background Traffic

| | | | |
|-----------------------|------|--------------|-----|
| Project Opening year: | 2027 | Growth Rate: | N/A |
|-----------------------|------|--------------|-----|

D. Study Intersections

| | |
|------------------------------------|--|
| 1. Via Del Rio & Paseo Grande | |
| 2. Via Del Rio & Kirkwood Dr. | |
| 3. Via Del Rio & Driveway 1 | |
| 4. Via Del Rio & Avenida Del Vista | |
| 5. Driveway 2 & Avenida Del Vista | |

E. Specific Issues to be addressed in the Study

| |
|-------------------|
| See attached memo |
| |

Approved By:

| | |
|-------------------------------------|--|
| City of Corona Traffic Engineering: | |
| Date: | |

APPROVED
 By Rosalva Ureno at 10:59 am, Mar 18, 2024

ATTACHMENT B: DRIVEWAY COUNTS



City: Corona
 Location: 1717 Via Del Rio - Ave Del Vista South Drivewa
 Date: Thursday, October 19, 2023
 Count Type: Classified Driveway Count

| | Entering | | | | |
|-------|----------|--------------|--------|---------|-------|
| | Pass Veh | Large 2 Axle | 3 Axle | 4+ Axle | Total |
| 0:00 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 2 | 0 | 0 | 0 | 2 |
| 7:45 | 2 | 0 | 0 | 0 | 2 |
| 8:00 | 1 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 0 | 0 | 0 | 0 | 0 |
| 11:30 | 0 | 0 | 0 | 0 | 0 |
| 11:45 | 0 | 0 | 0 | 0 | 0 |

| | Exiting | | | | |
|-------|----------|--------------|--------|---------|-------|
| | Pass Veh | Large 2 Axle | 3 Axle | 4+ Axle | Total |
| 0:00 | 0 | 0 | 0 | 0 | 0 |
| 0:15 | 0 | 0 | 0 | 0 | 0 |
| 0:30 | 0 | 0 | 0 | 0 | 0 |
| 0:45 | 0 | 0 | 0 | 0 | 0 |
| 1:00 | 0 | 0 | 0 | 0 | 0 |
| 1:15 | 0 | 0 | 0 | 0 | 0 |
| 1:30 | 0 | 0 | 0 | 0 | 0 |
| 1:45 | 0 | 0 | 0 | 0 | 0 |
| 2:00 | 0 | 0 | 0 | 0 | 0 |
| 2:15 | 0 | 0 | 0 | 0 | 0 |
| 2:30 | 0 | 0 | 0 | 0 | 0 |
| 2:45 | 0 | 0 | 0 | 0 | 0 |
| 3:00 | 0 | 0 | 0 | 0 | 0 |
| 3:15 | 0 | 0 | 0 | 0 | 0 |
| 3:30 | 0 | 0 | 0 | 0 | 0 |
| 3:45 | 0 | 0 | 0 | 0 | 0 |
| 4:00 | 0 | 0 | 0 | 0 | 0 |
| 4:15 | 0 | 0 | 0 | 0 | 0 |
| 4:30 | 0 | 0 | 0 | 0 | 0 |
| 4:45 | 0 | 0 | 0 | 0 | 0 |
| 5:00 | 0 | 0 | 0 | 0 | 0 |
| 5:15 | 0 | 0 | 0 | 0 | 0 |
| 5:30 | 0 | 0 | 0 | 0 | 0 |
| 5:45 | 0 | 0 | 0 | 0 | 0 |
| 6:00 | 0 | 0 | 0 | 0 | 0 |
| 6:15 | 0 | 0 | 0 | 0 | 0 |
| 6:30 | 0 | 0 | 0 | 0 | 0 |
| 6:45 | 0 | 0 | 0 | 0 | 0 |
| 7:00 | 0 | 0 | 0 | 0 | 0 |
| 7:15 | 0 | 0 | 0 | 0 | 0 |
| 7:30 | 0 | 0 | 0 | 0 | 0 |
| 7:45 | 3 | 0 | 0 | 0 | 3 |
| 8:00 | 1 | 0 | 0 | 0 | 1 |
| 8:15 | 0 | 0 | 0 | 0 | 0 |
| 8:30 | 0 | 0 | 0 | 0 | 0 |
| 8:45 | 0 | 0 | 0 | 0 | 0 |
| 9:00 | 0 | 0 | 0 | 0 | 0 |
| 9:15 | 0 | 0 | 0 | 0 | 0 |
| 9:30 | 0 | 0 | 0 | 0 | 0 |
| 9:45 | 0 | 0 | 0 | 0 | 0 |
| 10:00 | 0 | 0 | 0 | 0 | 0 |
| 10:15 | 0 | 0 | 0 | 0 | 0 |
| 10:30 | 0 | 0 | 0 | 0 | 0 |
| 10:45 | 0 | 0 | 0 | 0 | 0 |
| 11:00 | 0 | 0 | 0 | 0 | 0 |
| 11:15 | 1 | 0 | 0 | 0 | 1 |
| 11:30 | 1 | 0 | 0 | 0 | 1 |
| 11:45 | 0 | 0 | 0 | 0 | 0 |



City: Corona
 Location: 1717 Via Del Rio - Ave Del Vista South Drivewa
 Date: Thursday, October 19, 2023
 Count Type: Classified Driveway Count

| | Entering | | | | |
|--------------|-----------|--------------|----------|----------|-----------|
| | Pass Veh | Large 2 Axle | 3 Axle | 4+ Axle | Total |
| 12:00 | 1 | 0 | 0 | 0 | 1 |
| 12:15 | 0 | 0 | 0 | 0 | 0 |
| 12:30 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 0 | 0 | 0 | 0 | 0 |
| 13:30 | 2 | 0 | 0 | 0 | 2 |
| 13:45 | 10 | 0 | 0 | 0 | 10 |
| 14:00 | 14 | 0 | 0 | 0 | 14 |
| 14:15 | 1 | 0 | 0 | 0 | 1 |
| 14:30 | 0 | 0 | 0 | 0 | 0 |
| 14:45 | 0 | 0 | 0 | 0 | 0 |
| 15:00 | 1 | 0 | 0 | 0 | 1 |
| 15:15 | 0 | 0 | 0 | 0 | 0 |
| 15:30 | 0 | 0 | 0 | 0 | 0 |
| 15:45 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 0 | 0 | 0 | 0 | 0 |
| 16:15 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 1 | 0 | 0 | 0 | 1 |
| 17:45 | 3 | 0 | 0 | 0 | 3 |
| 18:00 | 3 | 0 | 0 | 0 | 3 |
| 18:15 | 0 | 0 | 0 | 0 | 0 |
| 18:30 | 1 | 0 | 0 | 0 | 1 |
| 18:45 | 7 | 0 | 0 | 0 | 7 |
| 19:00 | 6 | 0 | 0 | 0 | 6 |
| 19:15 | 2 | 0 | 0 | 0 | 2 |
| 19:30 | 1 | 0 | 0 | 0 | 1 |
| 19:45 | 1 | 0 | 0 | 0 | 1 |
| 20:00 | 0 | 0 | 0 | 0 | 0 |
| 20:15 | 1 | 0 | 0 | 0 | 1 |
| 20:30 | 0 | 0 | 0 | 0 | 0 |
| 20:45 | 0 | 0 | 0 | 0 | 0 |
| 21:00 | 0 | 0 | 0 | 0 | 0 |
| 21:15 | 0 | 0 | 0 | 0 | 0 |
| 21:30 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 0 | 0 | 0 | 0 | 0 |
| 23:15 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 0 | 0 | 0 | 0 | 0 |
| 23:45 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 60 | 0 | 0 | 0 | 60 |

| | Exiting | | | | |
|--------------|-----------|--------------|----------|----------|-----------|
| | Pass Veh | Large 2 Axle | 3 Axle | 4+ Axle | Total |
| 12:00 | 0 | 0 | 0 | 0 | 0 |
| 12:15 | 0 | 0 | 0 | 0 | 0 |
| 12:30 | 0 | 0 | 0 | 0 | 0 |
| 12:45 | 0 | 0 | 0 | 0 | 0 |
| 13:00 | 0 | 0 | 0 | 0 | 0 |
| 13:15 | 0 | 0 | 0 | 0 | 0 |
| 13:30 | 0 | 0 | 0 | 0 | 0 |
| 13:45 | 2 | 0 | 0 | 0 | 2 |
| 14:00 | 3 | 0 | 0 | 0 | 3 |
| 14:15 | 19 | 0 | 0 | 0 | 19 |
| 14:30 | 0 | 0 | 0 | 0 | 0 |
| 14:45 | 0 | 0 | 0 | 0 | 0 |
| 15:00 | 1 | 0 | 0 | 0 | 1 |
| 15:15 | 0 | 0 | 0 | 0 | 0 |
| 15:30 | 0 | 0 | 0 | 0 | 0 |
| 15:45 | 0 | 0 | 0 | 0 | 0 |
| 16:00 | 1 | 0 | 0 | 0 | 1 |
| 16:15 | 0 | 0 | 0 | 0 | 0 |
| 16:30 | 0 | 0 | 0 | 0 | 0 |
| 16:45 | 0 | 0 | 0 | 0 | 0 |
| 17:00 | 0 | 0 | 0 | 0 | 0 |
| 17:15 | 0 | 0 | 0 | 0 | 0 |
| 17:30 | 0 | 0 | 0 | 0 | 0 |
| 17:45 | 0 | 0 | 0 | 0 | 0 |
| 18:00 | 0 | 0 | 0 | 0 | 0 |
| 18:15 | 0 | 0 | 0 | 0 | 0 |
| 18:30 | 0 | 0 | 0 | 0 | 0 |
| 18:45 | 2 | 0 | 0 | 0 | 2 |
| 19:00 | 1 | 0 | 0 | 0 | 1 |
| 19:15 | 1 | 0 | 0 | 0 | 1 |
| 19:30 | 0 | 0 | 0 | 0 | 0 |
| 19:45 | 1 | 0 | 0 | 0 | 1 |
| 20:00 | 1 | 0 | 0 | 0 | 1 |
| 20:15 | 1 | 0 | 0 | 0 | 1 |
| 20:30 | 4 | 0 | 0 | 0 | 4 |
| 20:45 | 5 | 0 | 0 | 0 | 5 |
| 21:00 | 1 | 0 | 0 | 0 | 1 |
| 21:15 | 11 | 0 | 0 | 0 | 11 |
| 21:30 | 0 | 0 | 0 | 0 | 0 |
| 21:45 | 0 | 0 | 0 | 0 | 0 |
| 22:00 | 0 | 0 | 0 | 0 | 0 |
| 22:15 | 0 | 0 | 0 | 0 | 0 |
| 22:30 | 0 | 0 | 0 | 0 | 0 |
| 22:45 | 0 | 0 | 0 | 0 | 0 |
| 23:00 | 0 | 0 | 0 | 0 | 0 |
| 23:15 | 0 | 0 | 0 | 0 | 0 |
| 23:30 | 0 | 0 | 0 | 0 | 0 |
| 23:45 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 60 | 0 | 0 | 0 | 60 |

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APPENDIX 1.2: SITE ADJACENT QUEUES

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Queuing and Blocking Report

Opening Year Cumulative (2027) With Project - AM Peak Hour WITH IMPROVEMENTS 05/03/2024

Intersection: 3: Via Del Rio

| Movement | WB | SB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | R | T | T |
| Maximum Queue (ft) | 30 | 25 | 6 |
| Average Queue (ft) | 5 | 1 | 0 |
| 95th Queue (ft) | 24 | 15 | 4 |
| Link Distance (ft) | 240 | 505 | 505 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Intersection: 4: Via Del Rio & Avenida Del Vista

| Movement | EB | EB | WB | WB | NB | NB | NB | SB | SB | SB |
|-----------------------|----|------|----|-----|----|-----|-----|----|----|----|
| Directions Served | L | TR | L | TR | L | T | TR | L | T | TR |
| Maximum Queue (ft) | 86 | 134 | 71 | 141 | 52 | 160 | 253 | 69 | 90 | 85 |
| Average Queue (ft) | 39 | 45 | 21 | 60 | 9 | 61 | 129 | 37 | 36 | 36 |
| 95th Queue (ft) | 75 | 94 | 55 | 110 | 36 | 151 | 208 | 65 | 75 | 71 |
| Link Distance (ft) | | 1296 | | 171 | | | 893 | | 80 | 80 |
| Upstream Blk Time (%) | | | | 0 | | | | 0 | 1 | 0 |
| Queuing Penalty (veh) | | | | 0 | | | | 0 | 1 | 1 |
| Storage Bay Dist (ft) | 50 | | 50 | | 90 | 90 | | 75 | | |
| Storage Blk Time (%) | 8 | 6 | 2 | 12 | | 0 | 17 | 0 | 1 | |
| Queuing Penalty (veh) | 8 | 5 | 4 | 3 | | 1 | 42 | 0 | 1 | |

Intersection: 5: Avenida Del Vista

| Movement | EB | WB | SB |
|-----------------------|-----|-----|-----|
| Directions Served | LT | TR | LR |
| Maximum Queue (ft) | 19 | 6 | 31 |
| Average Queue (ft) | 1 | 0 | 9 |
| 95th Queue (ft) | 9 | 4 | 32 |
| Link Distance (ft) | 171 | 795 | 215 |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

Zone Summary

Zone wide Queuing Penalty: 66

Queuing and Blocking Report

Opening Year Cumulative (2027) With Project - MD Peak Hour WITH IMPROVEMENTS 05/03/2024

Intersection: 3: Via Del Rio & Driveway 1

| Movement | WB | SB |
|-----------------------|-----|-----|
| Directions Served | R | T |
| Maximum Queue (ft) | 11 | 6 |
| Average Queue (ft) | 2 | 2 |
| 95th Queue (ft) | 15 | 13 |
| Link Distance (ft) | 252 | 496 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Intersection: 4: Via Del Rio & Avenida Del Vista

| Movement | EB | EB | WB | WB | NB | NB | NB | SB | SB | SB |
|-----------------------|----|------|----|-----|----|----|-----|----|----|-----|
| Directions Served | L | TR | L | TR | L | T | TR | L | T | TR |
| Maximum Queue (ft) | 43 | 57 | 47 | 114 | 41 | 54 | 93 | 54 | 52 | 83 |
| Average Queue (ft) | 28 | 35 | 26 | 63 | 24 | 13 | 59 | 39 | 32 | 59 |
| 95th Queue (ft) | 50 | 68 | 58 | 125 | 52 | 68 | 112 | 68 | 59 | 100 |
| Link Distance (ft) | | 1296 | | 182 | | | 892 | | 92 | 92 |
| Upstream Blk Time (%) | | | | | | | | | 0 | 2 |
| Queuing Penalty (veh) | | | | | | | | | 0 | 4 |
| Storage Bay Dist (ft) | 50 | | 50 | | 90 | 90 | | 75 | | |
| Storage Blk Time (%) | 1 | 3 | 2 | 10 | | | 2 | 0 | 0 | |
| Queuing Penalty (veh) | 1 | 1 | 3 | 5 | | | 2 | 0 | 0 | |

Intersection: 5: Avenida Del Vista & Driveway 2

| Movement | EB | SB |
|-----------------------|-----|-----|
| Directions Served | LT | LR |
| Maximum Queue (ft) | 12 | 23 |
| Average Queue (ft) | 2 | 8 |
| 95th Queue (ft) | 16 | 30 |
| Link Distance (ft) | 182 | 249 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Zone Summary

Zone wide Queuing Penalty: 17

Queuing and Blocking Report

Opening Year Cumulative (2027) With Project - PM Peak Hour WITH IMPROVEMENTS 05/03/2024

Intersection: 3: Via Del Rio & Driveway 1

| Movement | WB | SB |
|-----------------------|-----|-----|
| Directions Served | R | T |
| Maximum Queue (ft) | 23 | 6 |
| Average Queue (ft) | 7 | 1 |
| 95th Queue (ft) | 27 | 11 |
| Link Distance (ft) | 283 | 503 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Intersection: 4: Via Del Rio & Avenida Del Vista

| Movement | EB | EB | WB | WB | NB | NB | NB | SB | SB | SB |
|-----------------------|----|------|----|-----|----|----|-----|----|----|----|
| Directions Served | L | TR | L | TR | L | T | TR | L | T | TR |
| Maximum Queue (ft) | 38 | 56 | 24 | 88 | 34 | 56 | 99 | 36 | 61 | 78 |
| Average Queue (ft) | 16 | 30 | 12 | 50 | 15 | 17 | 56 | 19 | 41 | 50 |
| 95th Queue (ft) | 46 | 78 | 36 | 99 | 41 | 70 | 106 | 45 | 74 | 87 |
| Link Distance (ft) | | 1295 | | 182 | | | 892 | | 80 | 80 |
| Upstream Blk Time (%) | | | | | | | | | 0 | 2 |
| Queuing Penalty (veh) | | | | | | | | | 1 | 3 |
| Storage Bay Dist (ft) | 50 | | 50 | | 90 | 90 | | 75 | | |
| Storage Blk Time (%) | 1 | 2 | 0 | 7 | | | 2 | | 1 | |
| Queuing Penalty (veh) | 1 | 1 | 0 | 2 | | | 2 | | 0 | |

Intersection: 5: Avenida Del Vista & Driveway 2

| Movement | EB | SB |
|-----------------------|-----|-----|
| Directions Served | LT | LR |
| Maximum Queue (ft) | 6 | 23 |
| Average Queue (ft) | 1 | 6 |
| 95th Queue (ft) | 11 | 25 |
| Link Distance (ft) | 182 | 180 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Zone Summary

Zone wide Queuing Penalty: 10

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APPENDIX 3.1: TRAFFIC COUNTS – APRIL 2024

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INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| | | | | | |
|--------------------------------|--|---------------------------------------|-----------------------------|-------------------------|-----------------------------|
| DATE: Tue, Apr 9, 24 | LOCATION: NORTH & SOUTH: EAST & WEST: | Corona Via del Rio Paseo Grande | PROJECT #: SC4539 | LOCATION #: 1 | CONTROL: STOP ALL |
|--------------------------------|--|---------------------------------------|-----------------------------|-------------------------|-----------------------------|

NOTES:

| | | | | | |
|----|-----|----|-------|-----|-----|
| AM | PM | MD | OTHER | ▲ N | ▶ E |
| | ◀ W | | | ▼ S | |

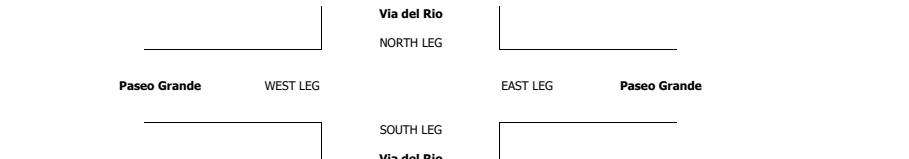
| LANES: | NORTHBOUND Via del Rio | | | SOUTHBOUND Via del Rio | | | EASTBOUND Paseo Grande | | | WESTBOUND Paseo Grande | | | TOTAL |
|----------------|---------------------------|----|-----|---------------------------|-----|-----|---------------------------|-----|-------|---------------------------|-----|-----|-------|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | |
| 6:30 AM | 38 | 5 | 82 | 1 | 3 | 0 | 0 | 13 | 1 | 6 | 5 | 0 | 154 |
| 6:45 AM | 29 | 10 | 87 | 2 | 1 | 0 | 0 | 20 | 4 | 11 | 5 | 0 | 169 |
| 7:00 AM | 71 | 10 | 96 | 2 | 0 | 3 | 0 | 22 | 1 | 10 | 13 | 0 | 228 |
| 7:15 AM | 57 | 6 | 63 | 1 | 3 | 7 | 4 | 25 | 6 | 9 | 21 | 0 | 202 |
| 7:30 AM | 66 | 6 | 60 | 2 | 2 | 14 | 7 | 63 | 23 | 11 | 66 | 0 | 320 |
| 7:45 AM | 48 | 8 | 66 | 1 | 2 | 17 | 10 | 66 | 34 | 13 | 59 | 0 | 324 |
| 8:00 AM | 23 | 7 | 43 | 1 | 4 | 0 | 7 | 68 | 40 | 15 | 15 | 0 | 223 |
| 8:15 AM | 15 | 10 | 67 | 1 | 1 | 2 | 1 | 32 | 11 | 20 | 15 | 0 | 175 |
| 8:30 AM | 25 | 4 | 84 | 4 | 4 | 0 | 1 | 18 | 8 | 18 | 15 | 1 | 182 |
| 8:45 AM | 13 | 4 | 59 | 0 | 1 | 1 | 1 | 11 | 8 | 11 | 12 | 2 | 123 |
| VOLUMES | 385 | 70 | 707 | 15 | 21 | 44 | 31 | 338 | 136 | 124 | 226 | 3 | 2,101 |
| APPROACH % | 33% | 6% | 61% | 19% | 26% | 55% | 6% | 67% | 27% | 35% | 64% | 1% | |
| APP/DEPART | 1,163 | / | 104 | 80 | / | 282 | 505 | / | 1,060 | 353 | / | 655 | 0 |
| BEGIN PEAK HR | 7:00 AM | | | | | | | | | | | | |
| VOLUMES | 242 | 30 | 285 | 6 | 7 | 41 | 21 | 176 | 64 | 43 | 159 | 0 | 1,074 |
| APPROACH % | 43% | 5% | 51% | 11% | 13% | 76% | 8% | 67% | 25% | 21% | 79% | 0% | |
| PEAK HR FACTOR | 0.787 | | | | | | | | | | | | |
| APP/DEPART | 557 | / | 51 | 54 | / | 114 | 261 | / | 467 | 202 | / | 442 | 0 |

U-TURNS

| NB | SB | EB | WB | TTL |
|----|----|----|----|-----|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |

RTOR

| NRR | SRR | ERR | WRR |
|-----|-----|-----|-----|
| X | X | X | X |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |



| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

AM

| |
|---------|
| 6:30 AM |
| 6:45 AM |
| 7:00 AM |
| 7:15 AM |
| 7:30 AM |
| 7:45 AM |
| 8:00 AM |
| 8:15 AM |
| 8:30 AM |
| 8:45 AM |
| TOTAL |

ALL PED + BIKE & SCOOTER

| E LEG | W LEG | S LEG | N LEG | TOTAL |
|-------|-------|-------|-------|-------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 2 | 5 |
| 0 | 0 | 0 | 2 | 2 |
| 7 | 1 | 1 | 2 | 11 |
| 1 | 0 | 1 | 0 | 2 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 3 | 5 |
| 1 | 0 | 0 | 1 | 2 |
| 14 | 2 | 2 | 10 | 28 |

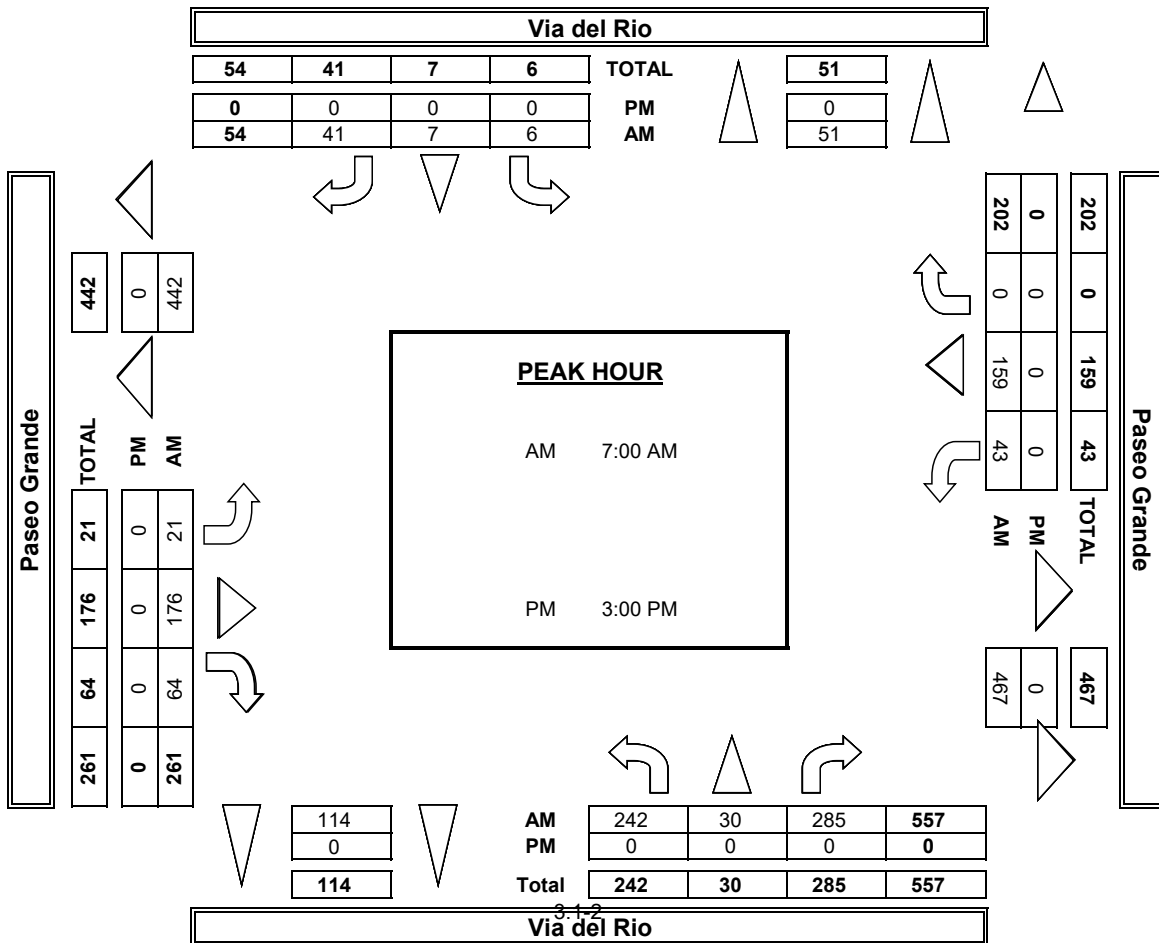
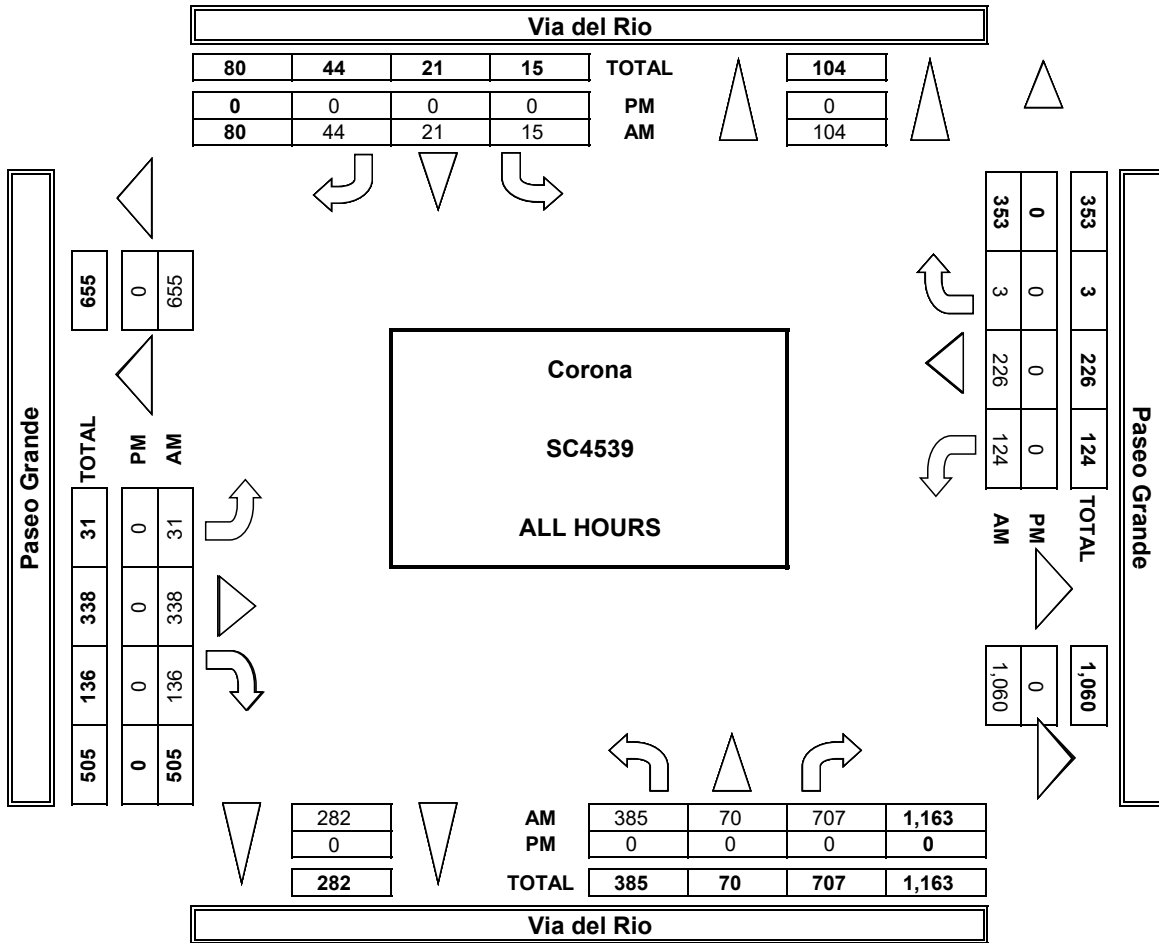
PEDESTRIAN CROSSINGS

| E LEG | W LEG | S LEG | N LEG | TOTAL |
|-------|-------|-------|-------|-------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 2 | 5 |
| 0 | 0 | 0 | 2 | 2 |
| 7 | 1 | 1 | 2 | 11 |
| 0 | 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 2 | 3 |
| 0 | 0 | 0 | 0 | 0 |
| 11 | 2 | 2 | 8 | 23 |

BICYCLE & SCOOTER CROSSINGS

| EL | WL | SL | NL | TOTAL |
|----|----|----|----|-------|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 1 | 2 |
| 1 | 0 | 0 | 1 | 2 |
| 3 | 0 | 0 | 2 | 5 |

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Apr 9, 24
 LOCATION: NORTH & SOUTH: Corona
 EAST & WEST: Via del Rio Paseo Grande
 PROJECT #: SC4539
 LOCATION #: 1
 CONTROL: STOP ALL



| LANES: | NORTHBOUND Via del Rio | | | SOUTHBOUND Via del Rio | | | EASTBOUND Paseo Grande | | | WESTBOUND Paseo Grande | | | TOTAL |
|-----------------------|---------------------------|---------|---------|---------------------------|---------|---------|---------------------------|---------|---------|---------------------------|---------|---------|-------|
| | NL 0 | NT 1 | NR 0 | SL 0 | ST 1 | SR 0 | EL 0 | ET 1 | ER 0 | WL 0 | WT 1 | WR 0 | |
| 1:30 PM | 15 | 3 | 37 | 1 | 1 | 6 | 1 | 28 | 5 | 37 | 36 | 0 | 170 |
| 1:45 PM | 17 | 3 | 37 | 4 | 3 | 4 | 0 | 14 | 10 | 35 | 35 | 1 | 163 |
| 2:00 PM | 15 | 4 | 27 | 2 | 2 | 3 | 2 | 34 | 17 | 41 | 47 | 2 | 196 |
| 2:15 PM | 28 | 6 | 44 | 1 | 3 | 3 | 14 | 73 | 24 | 42 | 53 | 0 | 291 |
| 2:30 PM | 19 | 6 | 43 | 1 | 8 | 2 | 8 | 67 | 36 | 37 | 40 | 3 | 270 |
| 2:45 PM | 18 | 2 | 36 | 3 | 6 | 0 | 0 | 42 | 15 | 49 | 24 | 2 | 197 |
| 3:00 PM | 12 | 2 | 45 | 1 | 1 | 0 | 0 | 16 | 9 | 42 | 34 | 3 | 165 |
| 3:15 PM | 14 | 10 | 38 | 0 | 1 | 3 | 0 | 18 | 18 | 57 | 18 | 2 | 179 |
| VOLUMES | 138 | 36 | 307 | 13 | 25 | 21 | 25 | 292 | 134 | 340 | 287 | 13 | 1,632 |
| APPROACH % | 29% | 7% | 64% | 22% | 42% | 36% | 6% | 65% | 30% | 53% | 45% | 2% | |
| APP/DEPART | 481 | / | 74 | 59 | / | 499 | 451 | / | 613 | 641 | / | 446 | 0 |
| BEGIN PEAK HR VOLUMES | 80 | 18 | 150 | 7 | 19 | 8 | 24 | 216 | 92 | 169 | 164 | 7 | 954 |
| APPROACH % | 32% | 7% | 60% | 21% | 56% | 24% | 7% | 65% | 28% | 50% | 48% | 2% | |
| PEAK HR FACTOR | 0.795 | | | 0.773 | | | 0.748 | | | 0.895 | | | 0.820 |
| APP/DEPART | 248 | / | 49 | 34 | / | 280 | 332 | / | 373 | 340 | / | 252 | 0 |
| 4:00 PM | 15 | 6 | 50 | 0 | 5 | 0 | 1 | 31 | 15 | 67 | 24 | 0 | 214 |
| 4:15 PM | 11 | 4 | 43 | 1 | 3 | 1 | 2 | 26 | 12 | 59 | 28 | 2 | 192 |
| 4:30 PM | 20 | 1 | 29 | 3 | 2 | 0 | 1 | 15 | 18 | 57 | 28 | 2 | 176 |
| 4:45 PM | 3 | 4 | 30 | 0 | 5 | 3 | 1 | 46 | 16 | 61 | 18 | 5 | 192 |
| 5:00 PM | 13 | 5 | 35 | 3 | 4 | 1 | 2 | 21 | 14 | 63 | 10 | 4 | 175 |
| 5:15 PM | 5 | 2 | 42 | 4 | 3 | 1 | 0 | 24 | 15 | 71 | 13 | 1 | 181 |
| 5:30 PM | 12 | 5 | 37 | 2 | 6 | 2 | 1 | 19 | 13 | 62 | 33 | 2 | 194 |
| 5:45 PM | 10 | 4 | 34 | 3 | 4 | 0 | 1 | 12 | 12 | 70 | 39 | 1 | 190 |
| VOLUMES | 89 | 31 | 300 | 16 | 32 | 8 | 9 | 194 | 115 | 510 | 193 | 17 | 1,514 |
| APPROACH % | 21% | 7% | 71% | 29% | 57% | 14% | 3% | 61% | 36% | 71% | 27% | 2% | |
| APP/DEPART | 420 | / | 57 | 56 | / | 657 | 318 | / | 510 | 720 | / | 290 | 0 |
| BEGIN PEAK HR VOLUMES | 49 | 15 | 152 | 4 | 15 | 4 | 5 | 118 | 61 | 244 | 98 | 9 | 774 |
| APPROACH % | 23% | 7% | 70% | 17% | 65% | 17% | 3% | 64% | 33% | 70% | 28% | 3% | |
| PEAK HR FACTOR | 0.761 | | | 0.719 | | | 0.730 | | | 0.964 | | | 0.904 |
| APP/DEPART | 216 | / | 29 | 23 | / | 320 | 184 | / | 274 | 351 | / | 151 | 0 |

| U-TURNS | | | | |
|---------|----|----|----|-----|
| NB | SB | EB | WB | TTL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 1 | 1 |

| RTOR | | | |
|------|-----|-----|-----|
| NRR | SRR | ERR | WRR |
| X | X | X | X |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |



| | | | | |
|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

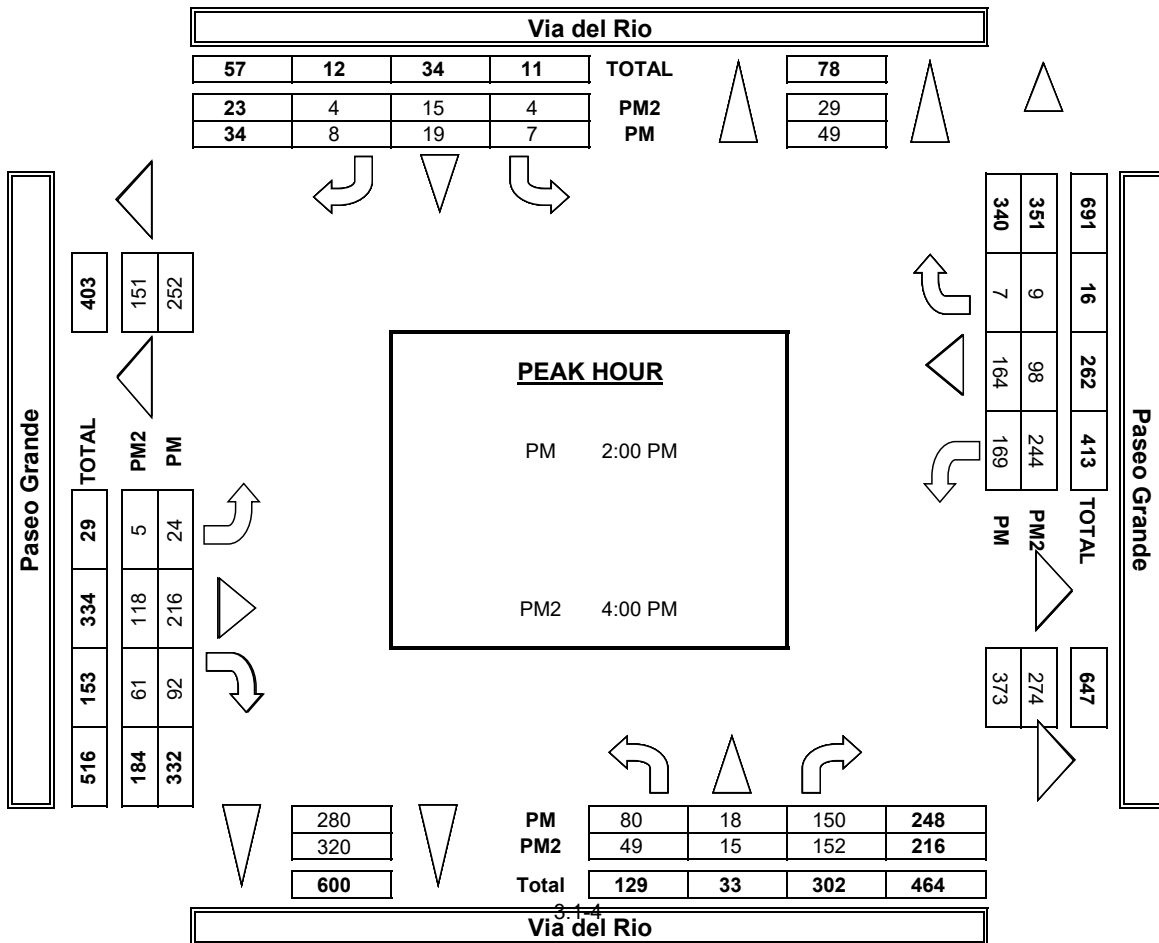
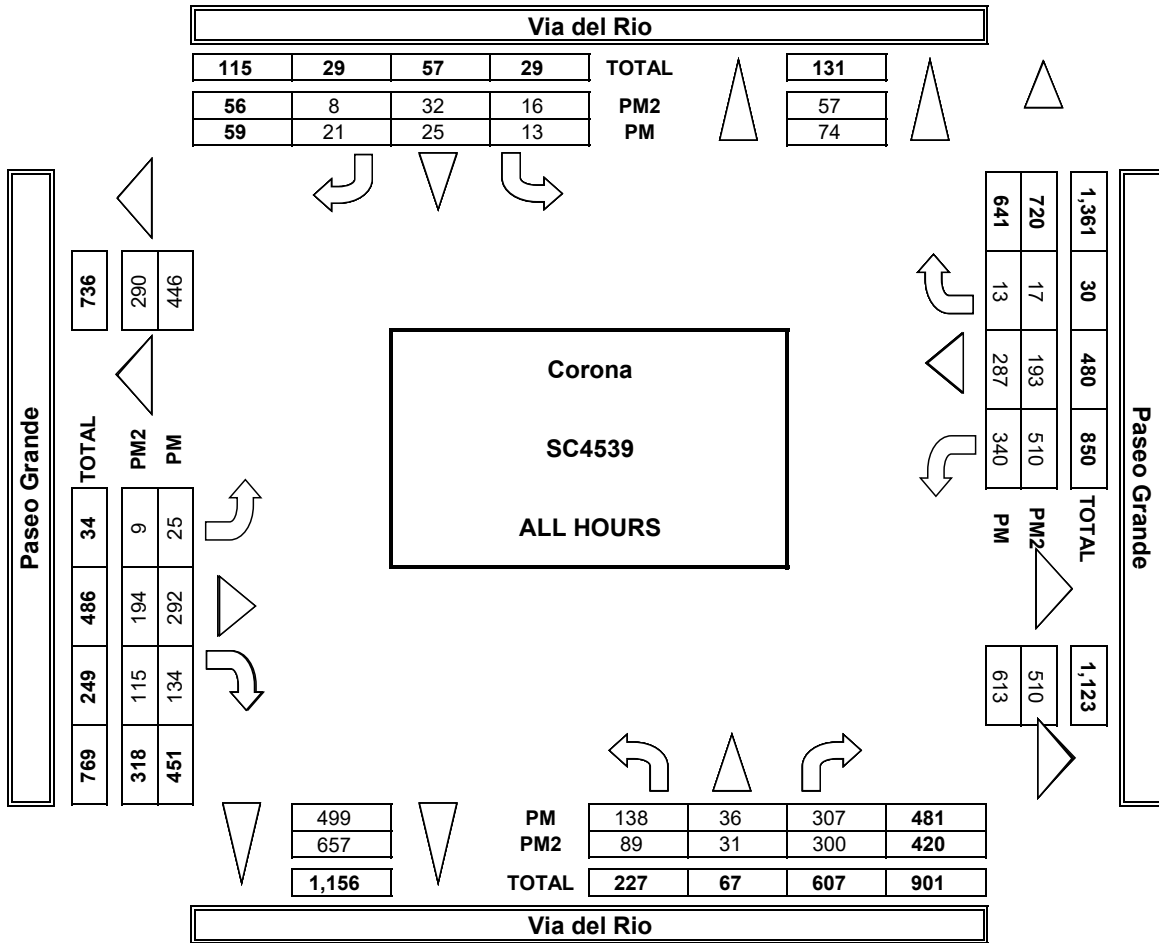
| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| | ALL PED + BIKE & SCOOTER | | | | TOTAL |
|---------|--------------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 0 | 0 | 0 |
| 1:45 PM | 3 | 0 | 0 | 5 | 8 |
| 2:00 PM | 0 | 0 | 0 | 0 | 0 |
| 2:15 PM | 10 | 0 | 1 | 18 | 29 |
| 2:30 PM | 10 | 0 | 0 | 10 | 20 |
| 2:45 PM | 0 | 0 | 1 | 2 | 3 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 1 | 0 | 0 | 2 | 3 |
| TOTAL | 24 | 0 | 2 | 37 | 63 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 1 | 0 | 1 | 1 | 3 |
| 4:30 PM | 2 | 1 | 0 | 0 | 3 |
| 4:45 PM | 4 | 1 | 0 | 2 | 7 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 1 | 1 | 0 | 2 | 4 |
| 5:30 PM | 0 | 1 | 0 | 1 | 2 |
| 5:45 PM | 1 | 0 | 1 | 1 | 3 |
| TOTAL | 9 | 4 | 2 | 7 | 22 |

| | PEDESTRIAN CROSSINGS | | | | TOTAL |
|---------|----------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 0 | 0 | 0 |
| 1:45 PM | 3 | 0 | 0 | 5 | 8 |
| 2:00 PM | 0 | 0 | 0 | 0 | 0 |
| 2:15 PM | 10 | 0 | 1 | 18 | 29 |
| 2:30 PM | 10 | 0 | 0 | 10 | 20 |
| 2:45 PM | 0 | 0 | 1 | 2 | 3 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 1 | 0 | 0 | 2 | 3 |
| TOTAL | 24 | 0 | 2 | 37 | 63 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 1 | 1 | 2 |
| 4:30 PM | 2 | 1 | 0 | 0 | 3 |
| 4:45 PM | 4 | 1 | 0 | 2 | 7 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 1 | 0 | 0 | 2 | 3 |
| 5:30 PM | 0 | 0 | 0 | 1 | 1 |
| 5:45 PM | 1 | 0 | 1 | 1 | 3 |
| TOTAL | 8 | 2 | 2 | 7 | 19 |

| | BICYCLE & SCOOTER CROSSINGS | | | | TOTAL |
|---------|-----------------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 1 | 0 | 0 | 0 | 1 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 1 | 0 | 0 | 1 |
| 5:30 PM | 0 | 1 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1 | 2 | 0 | 0 | 3 |

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| | | | |
|--------------------------------|--|--------------------------------------|---|
| DATE: Tue, Apr 9, 24 | LOCATION: NORTH & SOUTH: EAST & WEST: | Corona Via Del Rio Kirkwood Dr | PROJECT #: SC4539 LOCATION #: 2 CONTROL: STOP E |
|--------------------------------|--|--------------------------------------|---|

| | | | | | | | | | | | | | | | | | | | | | |
|---------------|---|----|-----|---|--|----|--|---|--|----|-----|--|-----|-------|--|---|--|--|--|---|--|
| NOTES: | <table border="1"> <tr> <td>AM</td> <td></td> <td>▲</td> <td></td> </tr> <tr> <td>PM</td> <td></td> <td>N</td> <td></td> </tr> <tr> <td>MD</td> <td>◀ W</td> <td></td> <td>E ▶</td> </tr> <tr> <td>OTHER</td> <td></td> <td>S</td> <td></td> </tr> <tr> <td></td> <td></td> <td>▼</td> <td></td> </tr> </table> | AM | | ▲ | | PM | | N | | MD | ◀ W | | E ▶ | OTHER | | S | | | | ▼ | |
| AM | | ▲ | | | | | | | | | | | | | | | | | | | |
| PM | | N | | | | | | | | | | | | | | | | | | | |
| MD | ◀ W | | E ▶ | | | | | | | | | | | | | | | | | | |
| OTHER | | S | | | | | | | | | | | | | | | | | | | |
| | | ▼ | | | | | | | | | | | | | | | | | | | |

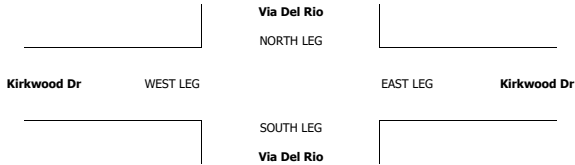
| LANES: | NORTHBOUND Via Del Rio | | | SOUTHBOUND Via Del Rio | | | EASTBOUND Kirkwood Dr | | | WESTBOUND Kirkwood Dr | | | TOTAL |
|----------------|---------------------------|-------|-------|---------------------------|-----|-----|--------------------------|----|-----|--------------------------|-----|----|-------|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | |
| 6:30 AM | 4 | 112 | 0 | 0 | 11 | 0 | 5 | 0 | 2 | 0 | 0 | 0 | 134 |
| 6:45 AM | 2 | 120 | 0 | 0 | 15 | 2 | 11 | 0 | 1 | 0 | 0 | 0 | 151 |
| 7:00 AM | 5 | 175 | 0 | 0 | 11 | 1 | 7 | 0 | 2 | 0 | 0 | 0 | 201 |
| 7:15 AM | 4 | 123 | 0 | 0 | 16 | 2 | 8 | 0 | 4 | 0 | 0 | 0 | 157 |
| 7:30 AM | 7 | 122 | 0 | 0 | 71 | 7 | 10 | 0 | 13 | 0 | 0 | 0 | 230 |
| 7:45 AM | 13 | 98 | 0 | 0 | 85 | 7 | 13 | 0 | 16 | 0 | 0 | 0 | 232 |
| 8:00 AM | 4 | 71 | 0 | 0 | 65 | 6 | 6 | 0 | 34 | 0 | 0 | 0 | 186 |
| 8:15 AM | 11 | 84 | 0 | 0 | 30 | 6 | 10 | 0 | 7 | 0 | 0 | 0 | 148 |
| 8:30 AM | 16 | 107 | 0 | 0 | 30 | 1 | 8 | 0 | 9 | 0 | 0 | 0 | 171 |
| 8:45 AM | 4 | 72 | 0 | 0 | 33 | 2 | 2 | 0 | 3 | 0 | 0 | 0 | 116 |
| VOLUMES | 70 | 1,084 | 0 | 0 | 367 | 34 | 80 | 0 | 91 | 0 | 0 | 0 | 1,727 |
| APPROACH % | 6% | 94% | 0% | 0% | 91% | 8% | 47% | 0% | 53% | 0% | 0% | 0% | |
| APP/DEPART | 1,154 | / | 1,165 | 402 | / | 458 | 171 | / | 0 | / | 104 | 0 | |
| BEGIN PEAK HR | 7:00 AM | | | | | | | | | | | | |
| VOLUMES | 29 | 518 | 0 | 0 | 183 | 17 | 38 | 0 | 35 | 0 | 0 | 0 | 821 |
| APPROACH % | 5% | 95% | 0% | 0% | 91% | 8% | 52% | 0% | 48% | 0% | 0% | 0% | |
| PEAK HR FACTOR | 0.760 | | | | | | | | | | | | |
| APP/DEPART | 547 | / | 557 | 201 | / | 218 | 73 | / | 0 | / | 46 | 0 | |

| U-TURNS | | | | |
|---------|----|----|----|-----|
| NB | SB | EB | WB | TTL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |

| RTOR | | | |
|------|-----|-----|-----|
| NRR | SRR | ERR | WRR |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| | | | |
|---|---|---|---|
| 0 | 1 | 0 | 0 |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|



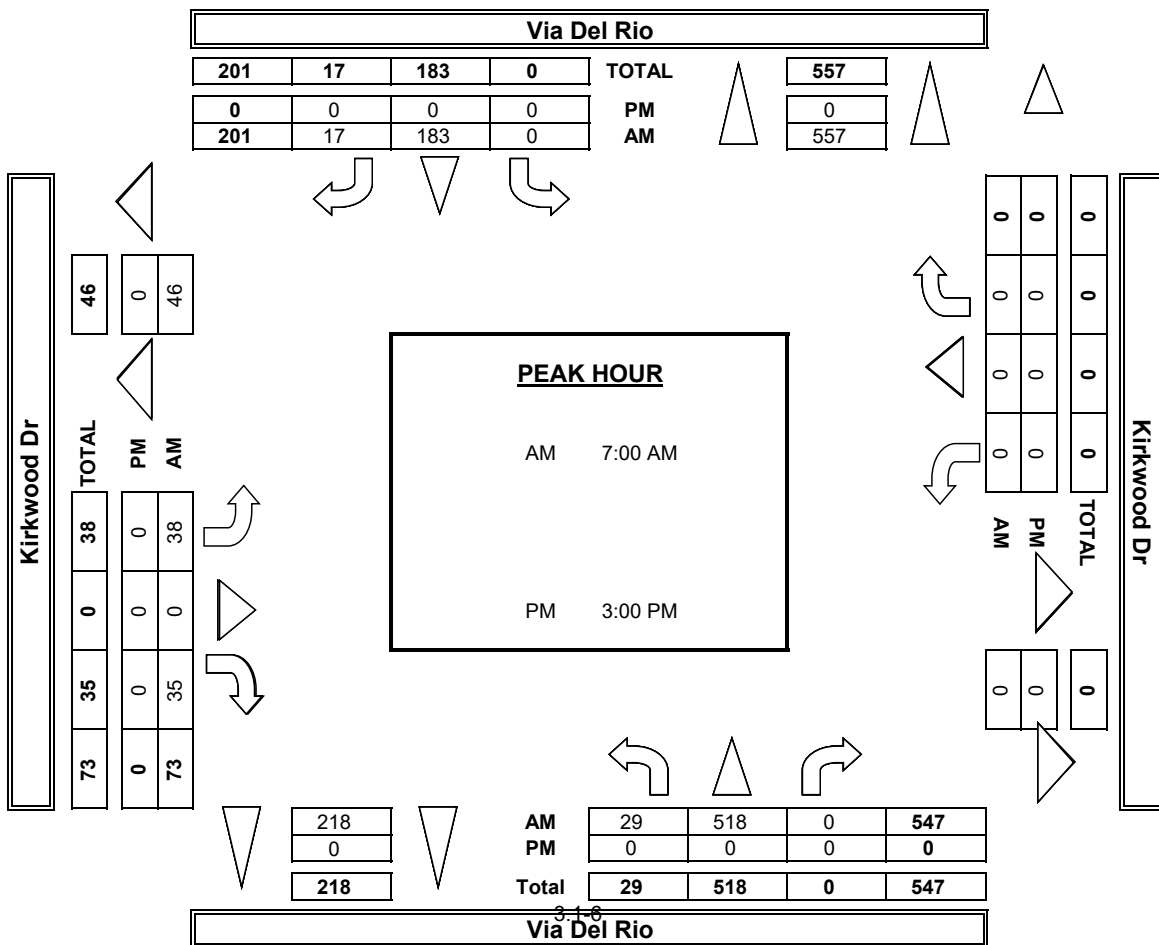
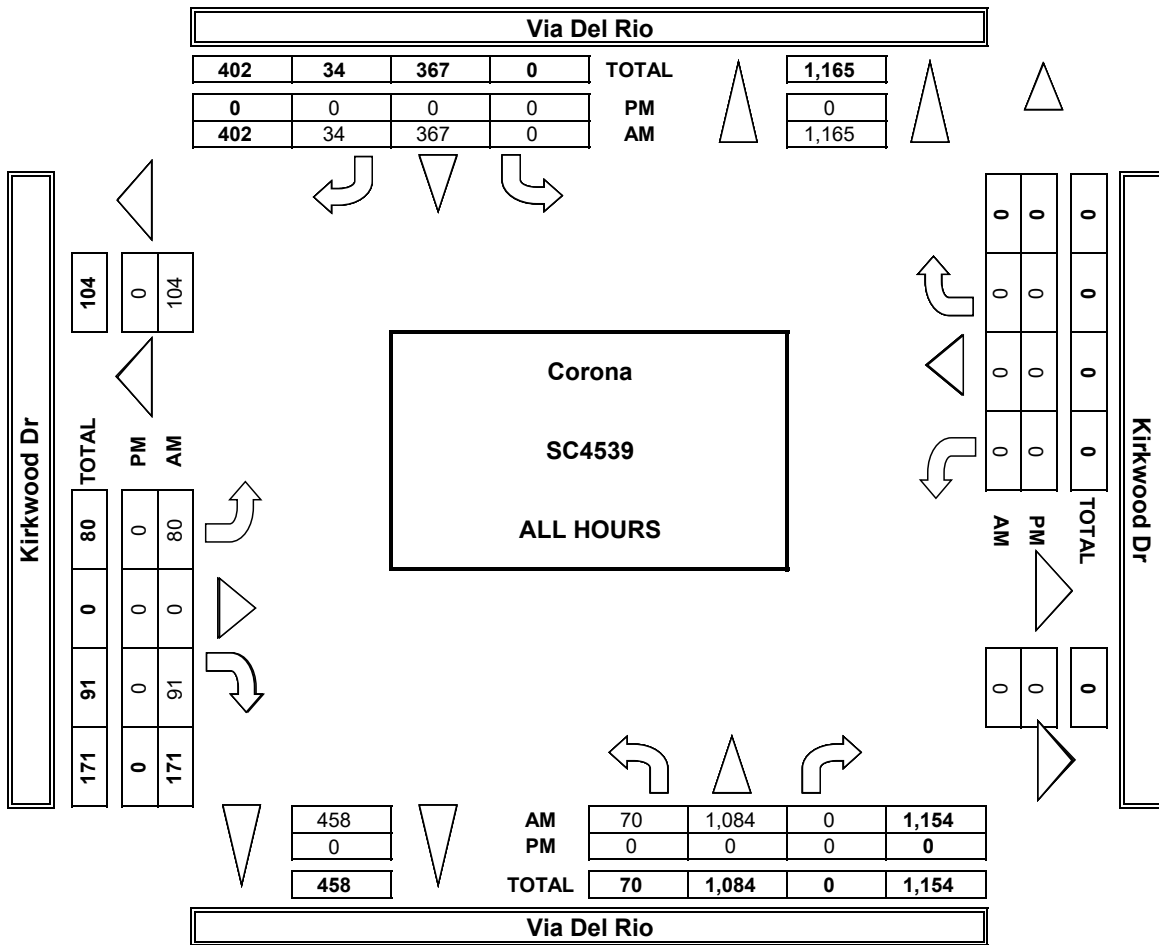
| AM | 6:30 AM | 6:45 AM | 7:00 AM | 7:15 AM | 7:30 AM | 7:45 AM | 8:00 AM | 8:15 AM | 8:30 AM | 8:45 AM | TOTAL |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 2 | 0 | 3 | | | | | | | 3 |
| 0 | 1 | 1 | 0 | 2 | | | | | | | 2 |
| 0 | 2 | 14 | 0 | 16 | | | | | | | 16 |
| 1 | 1 | 29 | 0 | 31 | | | | | | | 30 |
| 0 | 1 | 5 | 0 | 6 | | | | | | | 6 |
| 2 | 2 | 1 | 0 | 5 | | | | | | | 4 |
| 1 | 1 | 2 | 0 | 4 | | | | | | | 3 |
| 1 | 0 | 0 | 0 | 1 | | | | | | | 0 |
| 5 | 9 | 54 | 0 | 68 | | | | | | | 64 |

| ALL PED + BIKE & SCOOTER | | | | |
|--------------------------|-------|-------|-------|-------|
| E LEG | W LEG | S LEG | N LEG | TOTAL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 2 | 0 | 3 |
| 0 | 1 | 1 | 0 | 2 |
| 0 | 2 | 14 | 0 | 16 |
| 1 | 1 | 29 | 0 | 31 |
| 0 | 1 | 5 | 0 | 6 |
| 2 | 2 | 1 | 0 | 5 |
| 1 | 1 | 2 | 0 | 4 |
| 1 | 0 | 0 | 0 | 1 |
| 5 | 9 | 54 | 0 | 68 |

| PEDESTRIAN CROSSINGS | | | | |
|----------------------|-------|-------|-------|-------|
| E LEG | W LEG | S LEG | N LEG | TOTAL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 2 | 0 | 3 |
| 0 | 1 | 1 | 0 | 2 |
| 0 | 2 | 14 | 0 | 16 |
| 0 | 1 | 29 | 0 | 30 |
| 0 | 1 | 5 | 0 | 6 |
| 2 | 1 | 1 | 0 | 4 |
| 0 | 1 | 2 | 0 | 3 |
| 0 | 0 | 0 | 0 | 0 |
| 2 | 8 | 54 | 0 | 64 |

| BICYCLE & SCOOTER CROSSINGS | | | | |
|-----------------------------|----|----|----|-------|
| EL | WL | SL | NL | TOTAL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 |
| 3 | 1 | 0 | 0 | 4 |

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

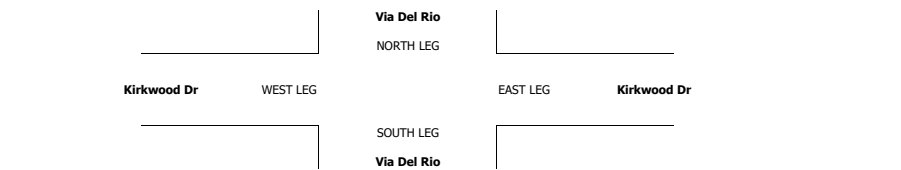
DATE: Tue, Apr 9, 24
 LOCATION: NORTH & SOUTH: Corona
 EAST & WEST: Via Del Rio Kirkwood Dr
 PROJECT #: SC4539
 LOCATION #: 2
 CONTROL: STOP E



| LANES: | NORTHBOUND Via Del Rio | | | SOUTHBOUND Via Del Rio | | | EASTBOUND Kirkwood Dr | | | WESTBOUND Kirkwood Dr | | | TOTAL |
|-----------------------|---------------------------|-----|-----|---------------------------|-------|-----|--------------------------|----|-----|--------------------------|----|-----|-------|
| | NL | NT | NR | SL | ST | SR | EL | ET | ER | WL | WT | WR | |
| 1:30 PM | 0 | 51 | 0 | 0 | 40 | 6 | 8 | 0 | 4 | 0 | 0 | 0 | 109 |
| 1:45 PM | 12 | 55 | 0 | 0 | 46 | 9 | 4 | 0 | 5 | 0 | 0 | 0 | 131 |
| 2:00 PM | 7 | 37 | 0 | 0 | 49 | 11 | 10 | 0 | 7 | 0 | 0 | 0 | 121 |
| 2:15 PM | 7 | 60 | 0 | 0 | 72 | 11 | 5 | 0 | 8 | 0 | 0 | 0 | 163 |
| 2:30 PM | 4 | 60 | 0 | 0 | 86 | 8 | 7 | 0 | 7 | 0 | 0 | 0 | 172 |
| 2:45 PM | 5 | 51 | 0 | 0 | 67 | 9 | 6 | 0 | 8 | 0 | 0 | 0 | 146 |
| 3:00 PM | 3 | 48 | 0 | 0 | 51 | 10 | 7 | 0 | 5 | 0 | 0 | 0 | 124 |
| 3:15 PM | 3 | 62 | 0 | 0 | 68 | 9 | 5 | 0 | 10 | 0 | 0 | 0 | 157 |
| VOLUMES | 41 | 424 | 0 | 0 | 479 | 73 | 52 | 0 | 54 | 0 | 0 | 0 | 1,125 |
| APPROACH % | 9% | 91% | 0% | 0% | 87% | 13% | 49% | 0% | 50% | 0% | 0% | 0% | |
| APP/DEPART | 466 | / | 476 | 552 | / | 534 | 107 | / | 0 | 0 | / | 115 | 0 |
| BEGIN PEAK HR VOLUMES | 19 | 219 | 0 | 0 | 276 | 38 | 25 | 0 | 28 | 0 | 0 | 0 | 606 |
| APPROACH % | 8% | 92% | 0% | 0% | 88% | 12% | 46% | 0% | 52% | 0% | 0% | 0% | |
| PEAK HR FACTOR | 0.888 | | | | 0.835 | | 0.964 | | | 0.000 | | | 0.881 |
| APP/DEPART | 238 | / | 244 | 314 | / | 304 | 54 | / | 0 | 0 | / | 58 | 0 |
| 4:00 PM | 9 | 62 | 0 | 0 | 81 | 10 | 5 | 0 | 2 | 0 | 0 | 0 | 169 |
| 4:15 PM | 5 | 53 | 0 | 0 | 62 | 10 | 5 | 0 | 4 | 0 | 0 | 0 | 139 |
| 4:30 PM | 5 | 50 | 0 | 0 | 68 | 10 | 2 | 0 | 7 | 0 | 0 | 0 | 142 |
| 4:45 PM | 6 | 34 | 0 | 0 | 87 | 7 | 3 | 0 | 2 | 0 | 0 | 0 | 139 |
| 5:00 PM | 6 | 49 | 0 | 0 | 76 | 14 | 4 | 0 | 4 | 0 | 0 | 0 | 153 |
| 5:15 PM | 7 | 43 | 0 | 0 | 77 | 13 | 5 | 0 | 12 | 0 | 0 | 0 | 157 |
| 5:30 PM | 4 | 49 | 0 | 0 | 80 | 10 | 7 | 0 | 4 | 0 | 0 | 0 | 154 |
| 5:45 PM | 9 | 45 | 0 | 0 | 85 | 13 | 1 | 0 | 9 | 0 | 0 | 0 | 162 |
| VOLUMES | 51 | 385 | 0 | 0 | 616 | 87 | 32 | 0 | 44 | 0 | 0 | 0 | 1,215 |
| APPROACH % | 12% | 88% | 0% | 0% | 88% | 12% | 42% | 0% | 58% | 0% | 0% | 0% | |
| APP/DEPART | 436 | / | 417 | 703 | / | 660 | 76 | / | 0 | 0 | / | 138 | 0 |
| BEGIN PEAK HR VOLUMES | 26 | 186 | 0 | 0 | 318 | 50 | 17 | 0 | 29 | 0 | 0 | 0 | 626 |
| APPROACH % | 12% | 88% | 0% | 0% | 86% | 14% | 37% | 0% | 63% | 0% | 0% | 0% | |
| PEAK HR FACTOR | 0.964 | | | | 0.939 | | 0.676 | | | 0.000 | | | 0.966 |
| APP/DEPART | 212 | / | 203 | 368 | / | 347 | 46 | / | 0 | 0 | / | 76 | 0 |

| U-TURNS | | | | | |
|---------|----|----|----|-----|--|
| NB | SB | EB | WB | TTL | |
| 1 | 0 | 0 | 0 | 1 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 1 | 0 | 1 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 0 | 0 | 0 | 0 | 0 | |
| 1 | 0 | 1 | 0 | 2 | |

| RTOR | | | |
|------|-----|-----|-----|
| NRR | SRR | ERR | WRR |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |



| | | | |
|---|---|---|---|
| 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

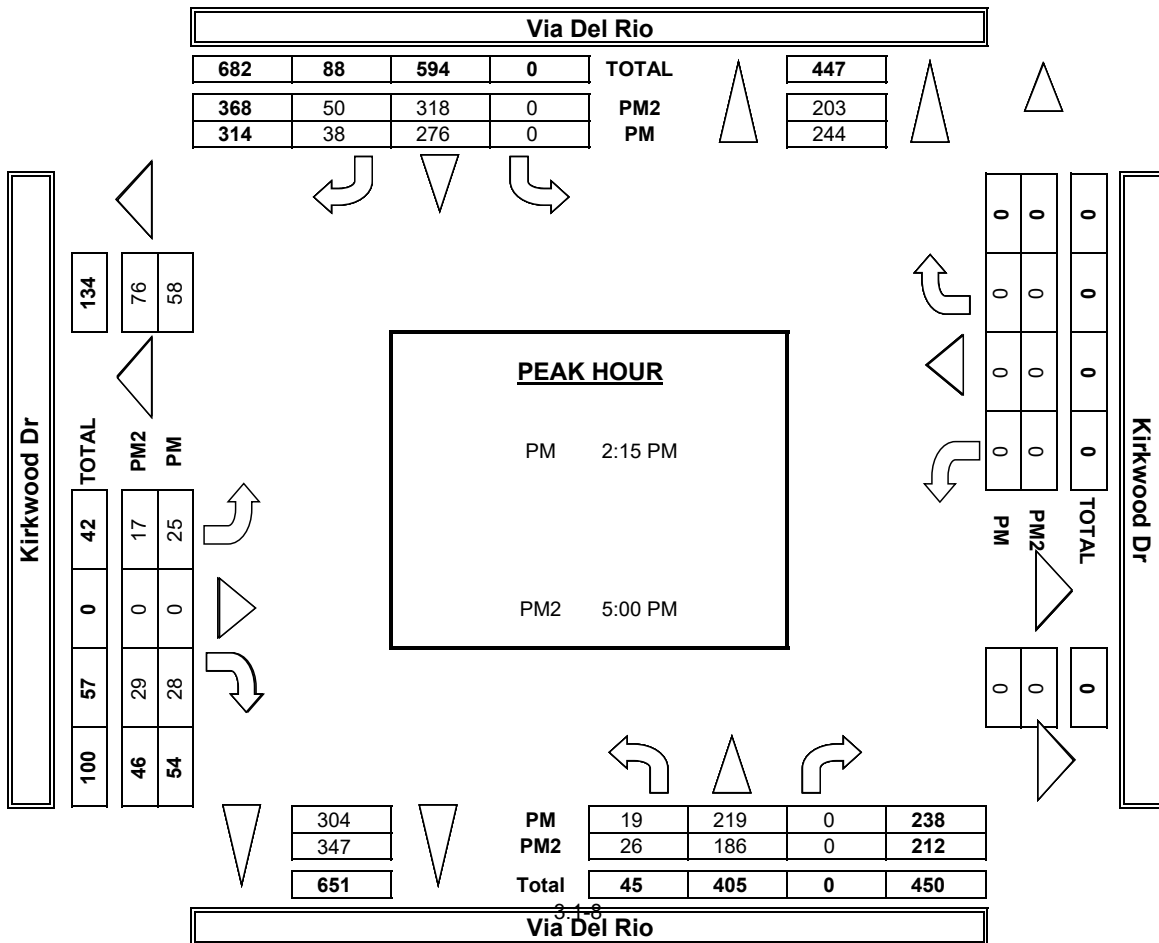
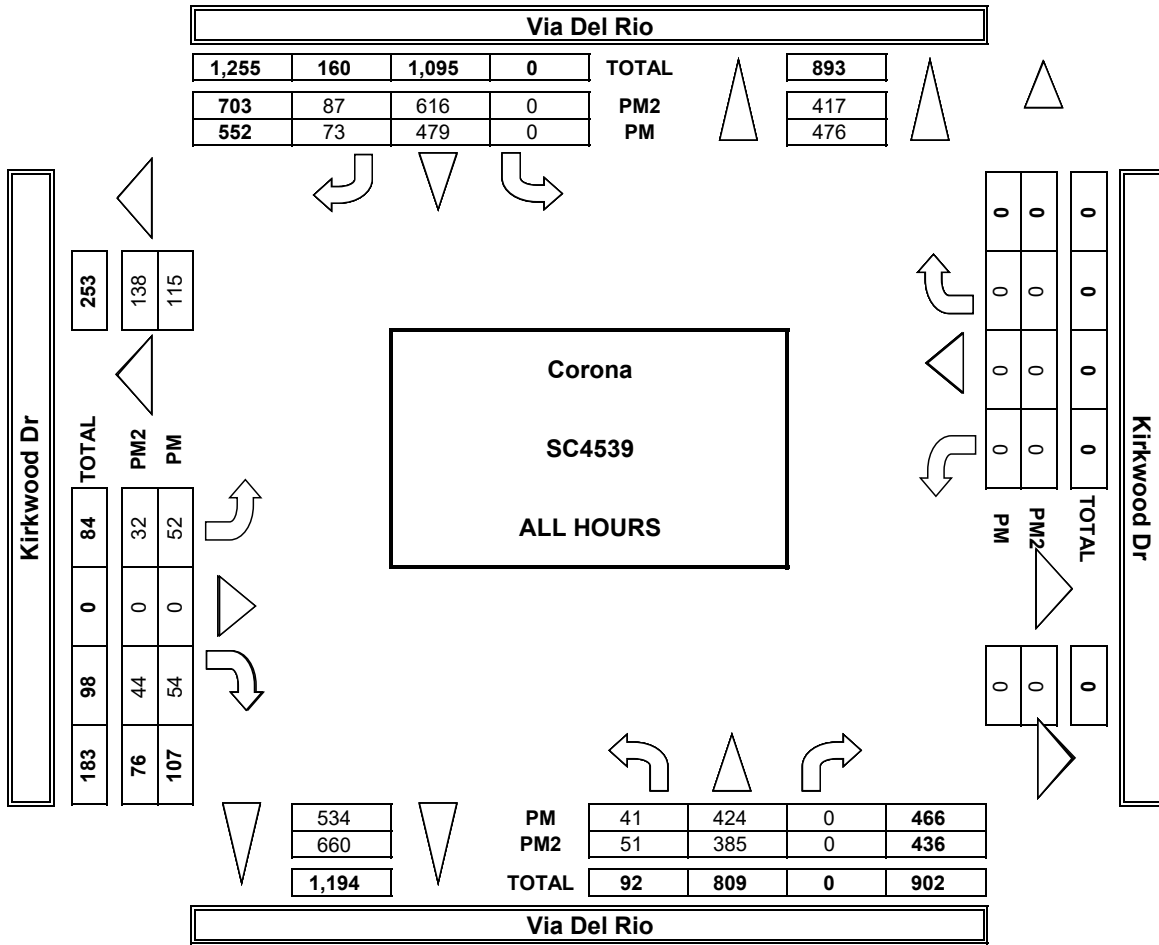
| TIME | ALL PED + BIKE & SCOOTER | | | | TOTAL |
|---------|--------------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 1 | 0 | 1 |
| 1:45 PM | 0 | 0 | 26 | 0 | 26 |
| 2:00 PM | 0 | 3 | 130 | 0 | 133 |
| 2:15 PM | 0 | 14 | 30 | 0 | 44 |
| 2:30 PM | 0 | 0 | 3 | 0 | 3 |
| 2:45 PM | 0 | 0 | 2 | 0 | 2 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 1 | 0 | 1 |
| TOTAL | 0 | 17 | 193 | 0 | 210 |
| 4:00 PM | 0 | 0 | 1 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 2 | 0 | 2 |
| 5:00 PM | 1 | 2 | 0 | 0 | 3 |
| 5:15 PM | 0 | 2 | 0 | 0 | 2 |
| 5:30 PM | 0 | 1 | 0 | 0 | 1 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1 | 5 | 3 | 0 | 9 |

| TIME | PEDESTRIAN CROSSINGS | | | | TOTAL |
|---------|----------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 1 | 0 | 1 |
| 1:45 PM | 0 | 0 | 26 | 0 | 26 |
| 2:00 PM | 0 | 3 | 130 | 0 | 133 |
| 2:15 PM | 0 | 14 | 30 | 0 | 44 |
| 2:30 PM | 0 | 0 | 3 | 0 | 3 |
| 2:45 PM | 0 | 0 | 2 | 0 | 2 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 1 | 0 | 1 |
| TOTAL | 0 | 17 | 193 | 0 | 210 |
| 4:00 PM | 0 | 0 | 1 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 2 | 0 | 2 |
| 5:00 PM | 0 | 2 | 0 | 0 | 2 |
| 5:15 PM | 0 | 1 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 3 | 3 | 0 | 6 |

| TIME | BICYCLE & SCOOTER CROSSINGS | | | | TOTAL |
|---------|-----------------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 0 | 0 | 0 |
| 1:45 PM | 0 | 0 | 0 | 0 | 0 |
| 2:00 PM | 0 | 0 | 0 | 0 | 0 |
| 2:15 PM | 0 | 0 | 0 | 0 | 0 |
| 2:30 PM | 0 | 0 | 0 | 0 | 0 |
| 2:45 PM | 0 | 0 | 0 | 0 | 0 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 0 | 0 | 0 | 0 |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 |
| 5:00 PM | 1 | 0 | 0 | 0 | 1 |
| 5:15 PM | 0 | 1 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 1 | 2 | 0 | 0 | 3 |

| TIME | ALL PED + BIKE & SCOOTER | | | | TOTAL |
|---------|--------------------------|-------|-------|-------|-------|
| | E LEG | W LEG | S LEG | N LEG | |
| 1:30 PM | 0 | 0 | 1 | 0 | 1 |
| 1:45 PM | 0 | 0 | 26 | 0 | 26 |
| 2:00 PM | 0 | 3 | 130 | 0 | 133 |
| 2:15 PM | 0 | 14 | 30 | 0 | 44 |
| 2:30 PM | 0 | 0 | 3 | 0 | 3 |
| 2:45 PM | 0 | 0 | 2 | 0 | 2 |
| 3:00 PM | 0 | 0 | 0 | 0 | 0 |
| 3:15 PM | 0 | 0 | 1 | 0 | 1 |
| TOTAL | 0 | 17 | 193 | 0 | 210 |
| 4:00 PM | 0 | 0 | 1 | 0 | 1 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 2 | 0 | 2 |
| 5:00 PM | 0 | 2 | 0 | 0 | 2 |
| 5:15 PM | 0 | 1 | 0 | 0 | 1 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 0 | 3 | 3 | 0 | 6 |

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

| | | | | | |
|--------------------------------|--|--|-----------------------------|-------------------------|---------------------------|
| DATE: Tue, Apr 9, 24 | LOCATION: NORTH & SOUTH: EAST & WEST: | Corona Via del Rio Avenida Del Vista | PROJECT #: SC4539 | LOCATION #: 3 | CONTROL: SIGNAL |
|--------------------------------|--|--|-----------------------------|-------------------------|---------------------------|

| | | |
|---------------|-------|---------------|
| NOTES: | AM | ▲ N E ▶ |
| | PM | |
| | MD | |
| | OTHER | |

| LANES: | NORTHBOUND Via del Rio | | | SOUTHBOUND Via del Rio | | | EASTBOUND Avenida Del Vista | | | WESTBOUND Avenida Del Vista | | | TOTAL |
|----------------|---------------------------|---------|---------|---------------------------|---------|---------|--------------------------------|---------|---------|--------------------------------|---------|---------|-------|
| | NL 1 | NT 2 | NR 0 | SL 1 | ST 2 | SR 0 | EL 1 | ET 1 | ER 0 | WL 1 | WT 1 | WR 0 | |
| 6:30 AM | 3 | 95 | 3 | 1 | 11 | 2 | 23 | 6 | 2 | 0 | 2 | 3 | 151 |
| 6:45 AM | 2 | 93 | 3 | 2 | 11 | 1 | 24 | 15 | 3 | 1 | 9 | 6 | 170 |
| 7:00 AM | 1 | 152 | 5 | 1 | 8 | 1 | 31 | 10 | 4 | 1 | 0 | 7 | 221 |
| 7:15 AM | 0 | 114 | 6 | 3 | 13 | 2 | 19 | 12 | 4 | 7 | 5 | 15 | 200 |
| 7:30 AM | 4 | 141 | 2 | 25 | 46 | 5 | 22 | 15 | 7 | 2 | 6 | 54 | 329 |
| 7:45 AM | 5 | 97 | 6 | 37 | 51 | 2 | 25 | 22 | 11 | 8 | 8 | 71 | 343 |
| 8:00 AM | 6 | 65 | 6 | 19 | 70 | 9 | 15 | 11 | 12 | 6 | 13 | 10 | 242 |
| 8:15 AM | 5 | 69 | 9 | 6 | 28 | 4 | 20 | 21 | 12 | 2 | 9 | 7 | 192 |
| 8:30 AM | 5 | 106 | 4 | 5 | 23 | 4 | 23 | 20 | 1 | 4 | 20 | 6 | 221 |
| 8:45 AM | 3 | 64 | 6 | 5 | 26 | 1 | 9 | 13 | 7 | 2 | 12 | 9 | 157 |
| VOLUMES | 34 | 996 | 50 | 104 | 287 | 31 | 211 | 145 | 63 | 33 | 84 | 188 | 2,226 |
| APPROACH % | 3% | 92% | 5% | 25% | 68% | 7% | 50% | 35% | 15% | 11% | 28% | 62% | |
| APP/DEPART | 1,080 | / | 1,395 | 422 | / | 383 | 419 | / | 299 | 305 | / | 149 | 0 |
| BEGIN PEAK HR | 7:15 AM | | | | | | | | | | | | |
| VOLUMES | 15 | 417 | 20 | 84 | 180 | 18 | 81 | 60 | 34 | 23 | 32 | 150 | 1,114 |
| APPROACH % | 3% | 92% | 4% | 30% | 64% | 6% | 46% | 34% | 19% | 11% | 16% | 73% | |
| PEAK HR FACTOR | 0.769 | | | | | | | | | | | | |
| APP/DEPART | 452 | / | 648 | 282 | / | 237 | 175 | / | 164 | 205 | / | 65 | 0 |

| U-TURNS | | | | |
|---------|----|----|----|-----|
| NB | SB | EB | WB | TTL |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |

| RTOR | | | |
|------|-----|-----|-----|
| NRR | SRR | ERR | WRR |
| 0 | 0 | 1 | 2 |
| 0 | 1 | 2 | 2 |
| 1 | 0 | 2 | 2 |
| 0 | 0 | 3 | 6 |
| 0 | 1 | 3 | 24 |
| 2 | 1 | 3 | 22 |
| 0 | 1 | 6 | 7 |
| 2 | 2 | 6 | 3 |
| 0 | 0 | 0 | 3 |
| 0 | 0 | 3 | 4 |
| 5 | 6 | 29 | 75 |

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

| | | | |
|---|---|----|----|
| 2 | 3 | 15 | 59 |
|---|---|----|----|



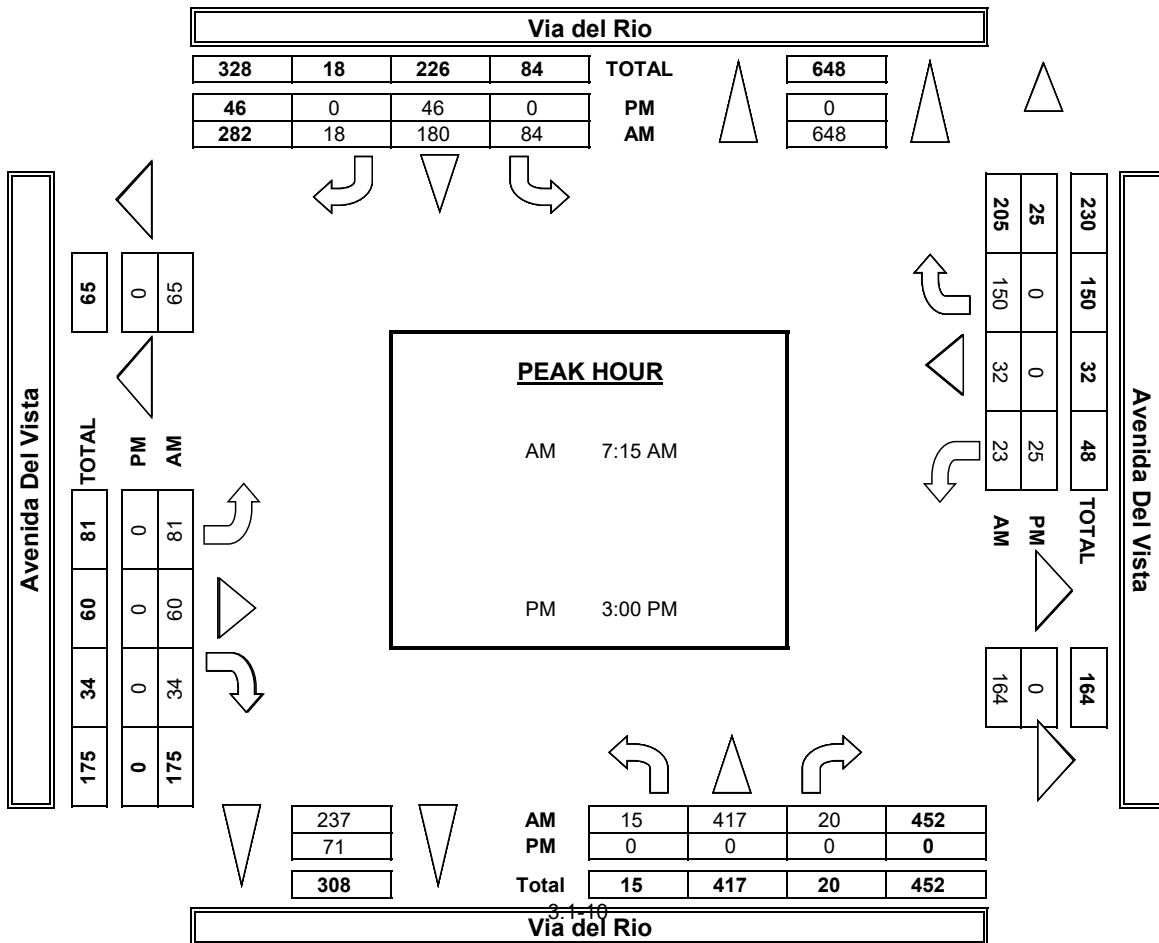
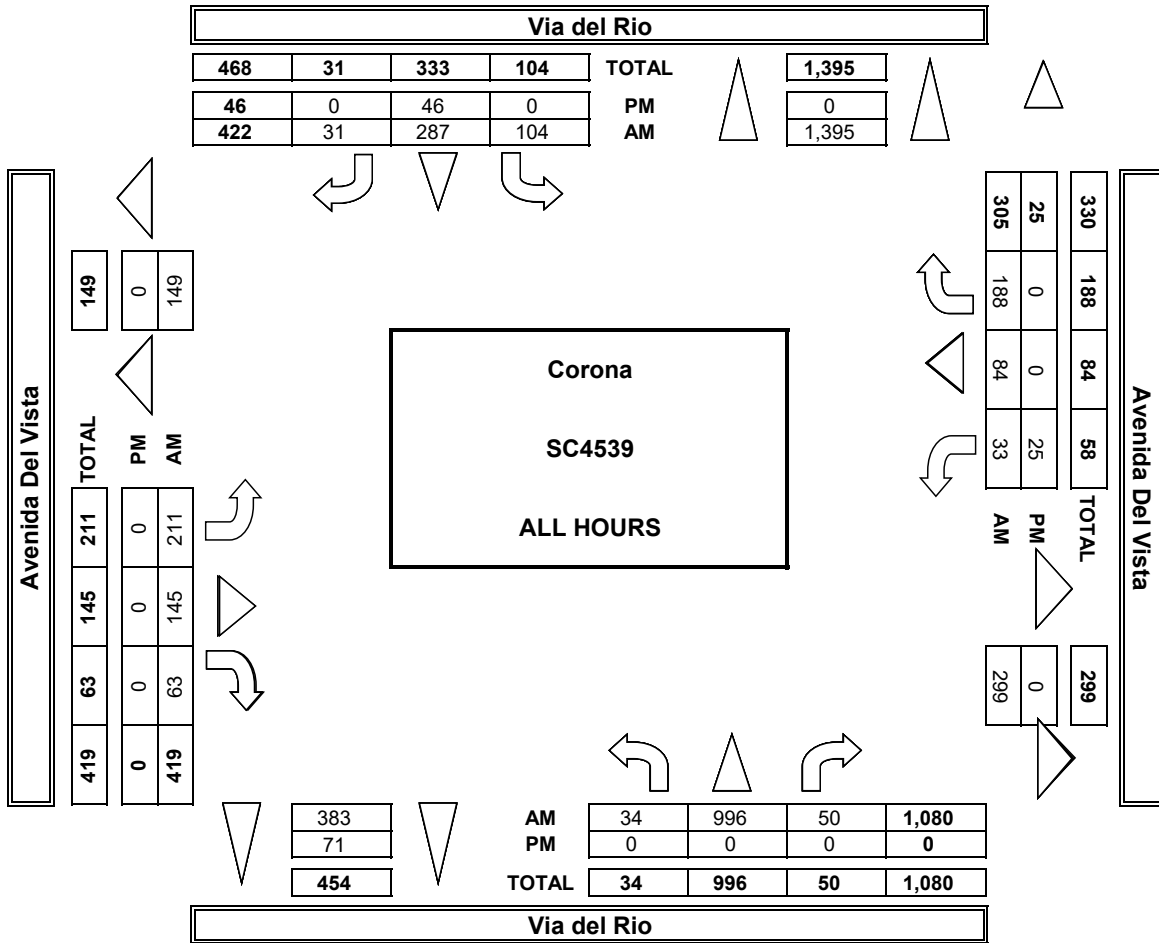
| AM | 6:30 AM | 6:45 AM | 7:00 AM | 7:15 AM | 7:30 AM | 7:45 AM | 8:00 AM | 8:15 AM | 8:30 AM | 8:45 AM | TOTAL |
|----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-------|
| 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 0 | 2 | 5 | 17 |
| 0 | 0 | 0 | 1 | 0 | 3 | 4 | 2 | 0 | 2 | 5 | 17 |
| 2 | 1 | 1 | 0 | 4 | 3 | 4 | 2 | 0 | 2 | 5 | 17 |
| 1 | 1 | 1 | 0 | 3 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 2 | 0 | 0 | 6 | 8 | 8 | 4 | 2 | 0 | 2 | 5 | 17 |
| 31 | 6 | 1 | 7 | 45 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 2 | 2 | 0 | 0 | 4 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 0 | 1 | 1 | 0 | 2 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 2 | 0 | 0 | 0 | 2 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 2 | 0 | 2 | 1 | 5 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |
| 42 | 11 | 9 | 14 | 76 | 4 | 4 | 2 | 0 | 2 | 5 | 17 |

| ALL PED + BIKE & SCOOTER | | | | |
|--------------------------|-------|-------|-------|-------|
| E LEG | W LEG | S LEG | N LEG | TOTAL |
| 0 | 0 | 2 | 0 | 2 |
| 0 | 0 | 1 | 0 | 1 |
| 2 | 1 | 1 | 0 | 4 |
| 1 | 1 | 1 | 0 | 3 |
| 2 | 0 | 0 | 6 | 8 |
| 31 | 6 | 1 | 7 | 45 |
| 2 | 2 | 0 | 0 | 4 |
| 0 | 1 | 1 | 0 | 2 |
| 2 | 0 | 0 | 0 | 2 |
| 2 | 0 | 2 | 1 | 5 |
| 42 | 11 | 9 | 14 | 76 |

| PEDESTRIAN CROSSINGS | | | | |
|----------------------|-------|-------|-------|-------|
| E LEG | W LEG | S LEG | N LEG | TOTAL |
| 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 1 | 0 | 1 |
| 2 | 1 | 1 | 0 | 4 |
| 1 | 1 | 1 | 0 | 3 |
| 2 | 0 | 0 | 6 | 8 |
| 30 | 6 | 1 | 7 | 44 |
| 2 | 2 | 0 | 0 | 4 |
| 0 | 0 | 1 | 0 | 1 |
| 2 | 0 | 0 | 0 | 2 |
| 1 | 0 | 2 | 1 | 4 |
| 40 | 10 | 8 | 14 | 72 |

| BICYCLE & SCOOTER CROSSINGS | | | | |
|-----------------------------|----|----|----|-------|
| EL | WL | SL | NL | TOTAL |
| 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 2 | 1 | 1 | 0 | 4 |

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Apr 9, 24
 LOCATION: NORTH & SOUTH: Corona
 EAST & WEST: Via del Rio
 Avenida Del Vista
 PROJECT #: SC4539
 LOCATION #: 3
 CONTROL: SIGNAL



| | NORTHBOUND Via del Rio | | | SOUTHBOUND Via del Rio | | | EASTBOUND Avenida Del Vista | | | WESTBOUND Avenida Del Vista | | | TOTAL |
|-----------------------|---------------------------|---------|---------|---------------------------|---------|---------|--------------------------------|---------|---------|--------------------------------|---------|---------|-------|
| | NL 1 | NT 2 | NR 0 | SL 1 | ST 2 | SR 0 | EL 1 | ET 1 | ER 0 | WL 1 | WT 1 | WR 0 | |
| 1:30 PM | 2 | 37 | 5 | 4 | 21 | 9 | 11 | 20 | 2 | 2 | 24 | 12 | 149 |
| 1:45 PM | 9 | 41 | 10 | 3 | 36 | 10 | 16 | 13 | 5 | 4 | 22 | 21 | 190 |
| 2:00 PM | 5 | 24 | 8 | 11 | 41 | 9 | 7 | 19 | 8 | 7 | 21 | 30 | 190 |
| 2:15 PM | 7 | 33 | 6 | 21 | 48 | 21 | 18 | 13 | 7 | 9 | 18 | 18 | 219 |
| 2:30 PM | 13 | 42 | 4 | 25 | 53 | 13 | 17 | 15 | 4 | 12 | 19 | 8 | 225 |
| 2:45 PM | 9 | 41 | 3 | 15 | 40 | 22 | 8 | 20 | 7 | 9 | 25 | 6 | 205 |
| 3:00 PM | 6 | 31 | 8 | 6 | 31 | 19 | 17 | 17 | 8 | 4 | 20 | 5 | 172 |
| 3:15 PM | 2 | 46 | 7 | 6 | 47 | 20 | 10 | 14 | 4 | 6 | 19 | 9 | 190 |
| VOLUMES | 53 | 295 | 51 | 91 | 317 | 123 | 104 | 131 | 45 | 53 | 168 | 109 | 1,541 |
| APPROACH % | 13% | 74% | 13% | 17% | 60% | 23% | 37% | 47% | 16% | 16% | 51% | 33% | |
| APP/DEPART | 399 | / | 509 | 532 | / | 415 | 280 | / | 273 | 330 | / | 344 | 0 |
| BEGIN PEAK HR VOLUMES | 34 | 140 | 21 | 72 | 182 | 65 | 50 | 67 | 26 | 37 | 83 | 62 | 840 |
| APPROACH % | 17% | 72% | 11% | 23% | 57% | 20% | 35% | 47% | 18% | 20% | 46% | 34% | |
| PEAK HR FACTOR | | 0.826 | | | 0.879 | | | 0.941 | | | 0.784 | | 0.933 |
| APP/DEPART | 195 | / | 253 | 320 | / | 245 | 143 | / | 160 | 182 | / | 182 | 0 |
| 4:00 PM | 5 | 51 | 7 | 6 | 60 | 17 | 13 | 16 | 6 | 8 | 16 | 12 | 217 |
| 4:15 PM | 6 | 36 | 2 | 4 | 40 | 14 | 16 | 19 | 2 | 6 | 28 | 4 | 177 |
| 4:30 PM | 9 | 35 | 6 | 6 | 64 | 15 | 11 | 20 | 5 | 6 | 21 | 11 | 209 |
| 4:45 PM | 4 | 30 | 7 | 9 | 53 | 21 | 5 | 18 | 5 | 5 | 26 | 12 | 195 |
| 5:00 PM | 4 | 35 | 5 | 7 | 55 | 15 | 11 | 9 | 5 | 7 | 30 | 8 | 191 |
| 5:15 PM | 7 | 34 | 6 | 9 | 64 | 18 | 9 | 14 | 6 | 7 | 27 | 11 | 212 |
| 5:30 PM | 7 | 38 | 3 | 5 | 58 | 20 | 11 | 20 | 2 | 3 | 21 | 12 | 200 |
| 5:45 PM | 1 | 49 | 6 | 16 | 50 | 22 | 3 | 11 | 9 | 2 | 17 | 12 | 198 |
| VOLUMES | 43 | 308 | 42 | 62 | 444 | 142 | 79 | 127 | 40 | 44 | 186 | 82 | 1,599 |
| APPROACH % | 11% | 78% | 11% | 10% | 69% | 22% | 32% | 52% | 16% | 14% | 60% | 26% | |
| APP/DEPART | 393 | / | 469 | 648 | / | 528 | 246 | / | 231 | 312 | / | 371 | 0 |
| BEGIN PEAK HR VOLUMES | 24 | 134 | 24 | 31 | 236 | 69 | 36 | 61 | 21 | 25 | 104 | 42 | 807 |
| APPROACH % | 13% | 74% | 13% | 9% | 70% | 21% | 31% | 52% | 18% | 15% | 61% | 25% | |
| PEAK HR FACTOR | | 0.910 | | | 0.923 | | | 0.819 | | | 0.950 | | 0.952 |
| APP/DEPART | 182 | / | 212 | 336 | / | 282 | 118 | / | 116 | 171 | / | 197 | 0 |

U-TURNS

| NB | SB | EB | WB | TTL |
|----|----|----|----|-----|
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 1 | 0 | 0 | 1 |

RTOR

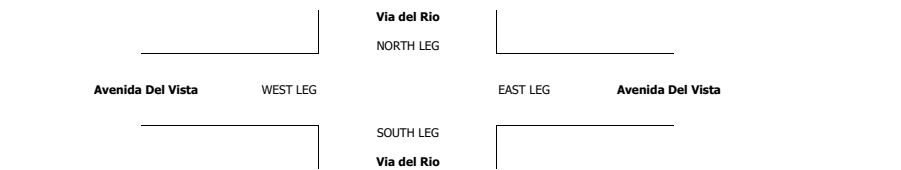
| NRR | SRR | ERR | WRR |
|-----|-----|-----|-----|
| 1 | 5 | 0 | 2 |
| 5 | 4 | 1 | 6 |
| 1 | 2 | 5 | 6 |
| 0 | 7 | 5 | 8 |
| 0 | 1 | 1 | 1 |
| 1 | 4 | 3 | 2 |
| 1 | 2 | 1 | 1 |
| 0 | 4 | 1 | 0 |
| 9 | 29 | 17 | 26 |

U-TURNS

| | | | |
|---|---|---|---|
| 0 | 1 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 |

RTOR

| | | | |
|---|----|----|----|
| 2 | 14 | 14 | 17 |
| 0 | 4 | 1 | 4 |
| 1 | 1 | 1 | 1 |
| 1 | 5 | 2 | 4 |
| 2 | 7 | 2 | 4 |
| 0 | 2 | 3 | 2 |
| 2 | 3 | 3 | 5 |
| 0 | 5 | 1 | 5 |
| 0 | 7 | 8 | 7 |
| 6 | 34 | 21 | 32 |



PM

| | | | | | | | | | | | | | |
|---------|----|-----|----|----|-----|-----|----|-----|----|----|-----|----|-------|
| 1:30 PM | 2 | 37 | 5 | 4 | 21 | 9 | 11 | 20 | 2 | 2 | 24 | 12 | 149 |
| 1:45 PM | 9 | 41 | 10 | 3 | 36 | 10 | 16 | 13 | 5 | 4 | 22 | 21 | 190 |
| 2:00 PM | 5 | 24 | 8 | 11 | 41 | 9 | 7 | 19 | 8 | 7 | 21 | 30 | 190 |
| 2:15 PM | 7 | 33 | 6 | 21 | 48 | 21 | 18 | 13 | 7 | 9 | 18 | 18 | 219 |
| 2:30 PM | 13 | 42 | 4 | 25 | 53 | 13 | 17 | 15 | 4 | 12 | 19 | 8 | 225 |
| 2:45 PM | 9 | 41 | 3 | 15 | 40 | 22 | 8 | 20 | 7 | 9 | 25 | 6 | 205 |
| 3:00 PM | 6 | 31 | 8 | 6 | 31 | 19 | 17 | 17 | 8 | 4 | 20 | 5 | 172 |
| 3:15 PM | 2 | 46 | 7 | 6 | 47 | 20 | 10 | 14 | 4 | 6 | 19 | 9 | 190 |
| TOTAL | 49 | 308 | 42 | 62 | 444 | 142 | 79 | 127 | 40 | 44 | 186 | 82 | 1,599 |

ALL PED + BIKE & SCOOTER

| E LEG | W LEG | S LEG | N LEG | TOTAL |
|-------|-------|-------|-------|-------|
| 1 | 0 | 2 | 1 | 4 |
| 5 | 2 | 0 | 2 | 9 |
| 19 | 0 | 4 | 3 | 26 |
| 16 | 1 | 3 | 5 | 25 |
| 3 | 2 | 0 | 2 | 7 |
| 3 | 1 | 0 | 0 | 4 |
| 0 | 1 | 0 | 0 | 1 |
| 2 | 1 | 0 | 0 | 3 |
| 49 | 8 | 9 | 13 | 79 |
| 4 | 0 | 0 | 1 | 5 |
| 1 | 0 | 2 | 0 | 3 |
| 2 | 1 | 1 | 0 | 4 |
| 3 | 0 | 2 | 4 | 9 |
| 2 | 0 | 3 | 0 | 5 |
| 0 | 1 | 0 | 1 | 2 |
| 1 | 3 | 2 | 0 | 6 |
| 3 | 0 | 1 | 0 | 4 |
| 16 | 5 | 11 | 6 | 38 |

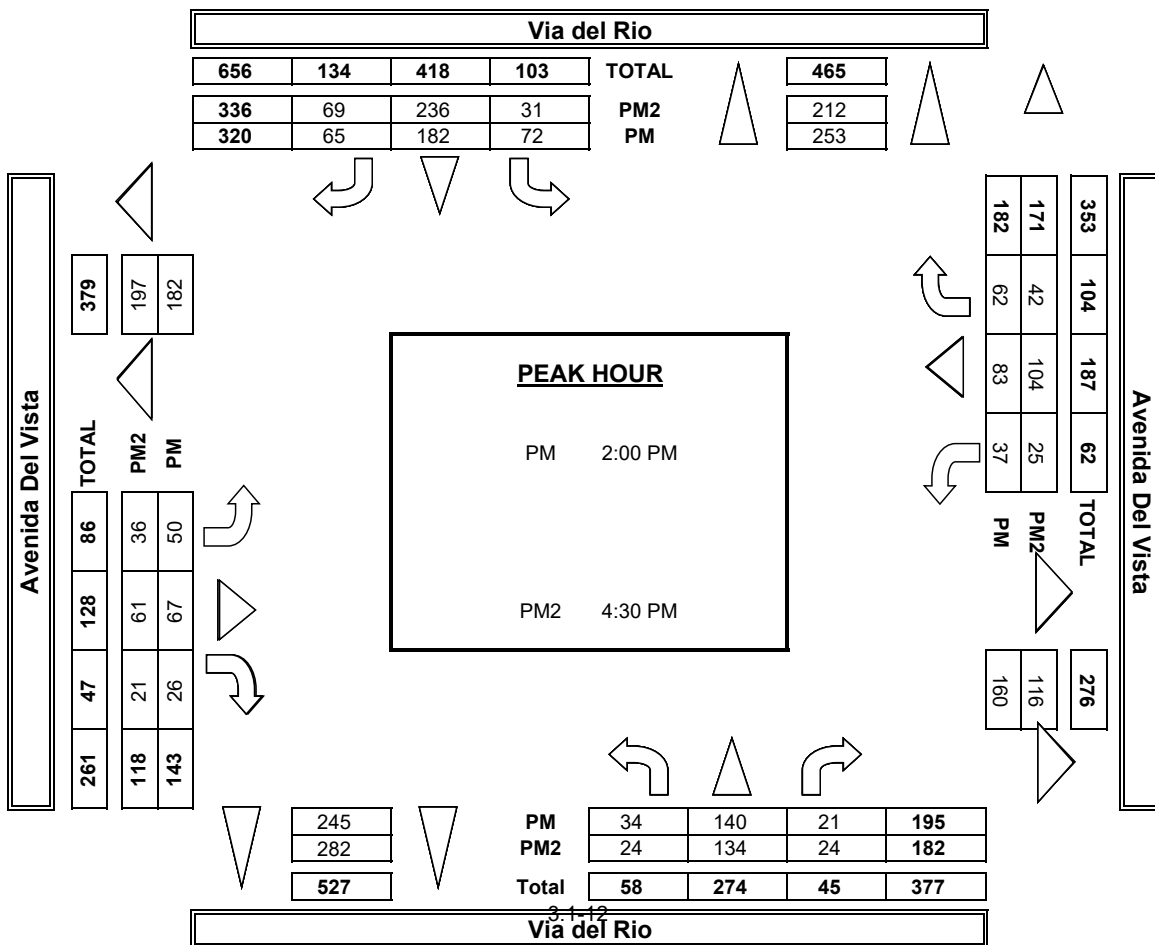
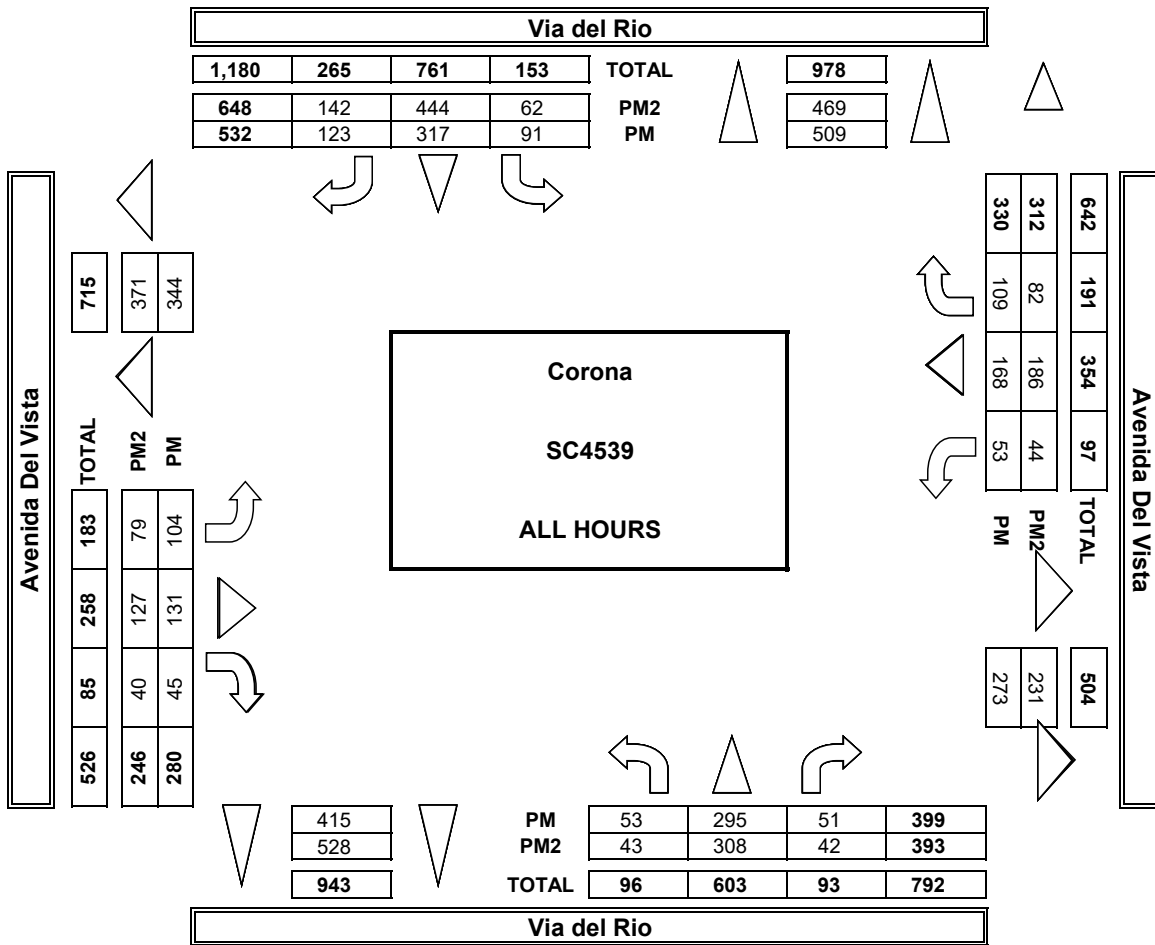
PEDESTRIAN CROSSINGS

| E LEG | W LEG | S LEG | N LEG | TOTAL |
|-------|-------|-------|-------|-------|
| 1 | 0 | 1 | 1 | 3 |
| 5 | 2 | 0 | 2 | 9 |
| 19 | 0 | 3 | 3 | 25 |
| 16 | 1 | 3 | 5 | 25 |
| 3 | 2 | 0 | 2 | 7 |
| 3 | 1 | 0 | 0 | 4 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 47 | 7 | 7 | 13 | 74 |
| 4 | 0 | 0 | 0 | 4 |
| 0 | 0 | 2 | 0 | 2 |
| 2 | 1 | 1 | 0 | 4 |
| 2 | 0 | 2 | 4 | 8 |
| 1 | 0 | 3 | 0 | 4 |
| 0 | 0 | 0 | 1 | 1 |
| 1 | 1 | 2 | 0 | 4 |
| 3 | 0 | 1 | 0 | 4 |
| 13 | 2 | 11 | 5 | 31 |

BICYCLE & SCOOTER CROSSINGS

| EL | WL | SL | NL | TOTAL |
|----|----|----|----|-------|
| 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 1 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 |
| 2 | 1 | 2 | 0 | 5 |
| 0 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 | 1 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 2 | 0 | 0 | 2 |
| 0 | 0 | 0 | 0 | 0 |
| 3 | 3 | 0 | 1 | 7 |

AimTD LLC
TURNING MOVEMENT COUNTS



ADT2 Avenida Del Vista east of Via Del Rio.

Prepared by AimTD LLC tel. 714 253 7888

| AM Period | EB | | WB | | PM Period | EB | | WB | | |
|-------------------|----|-------|-------|--------------|-------------|----|---------------------|-----------|-----------------|-------------|
| 0:00 | 1 | | 6 | | 12:00 | 26 | | 29 | | |
| 0:15 | 1 | | 4 | | 12:15 | 17 | | 16 | | |
| 0:30 | 4 | | 1 | | 12:30 | 27 | | 21 | | |
| 0:45 | 4 | 10 | 1 | 12 | 12:45 | 28 | 98 | 23 | 89 | 187 |
| 1:00 | 1 | | 4 | | 13:00 | 19 | | 24 | | |
| 1:15 | 2 | | 3 | | 13:15 | 25 | | 26 | | |
| 1:30 | 1 | | 1 | | 13:30 | 29 | | 38 | | |
| 1:45 | 0 | 4 | 1 | 9 | 13:45 | 26 | 99 | 47 | 135 | 234 |
| 2:00 | 2 | | 3 | | 14:00 | 38 | | 58 | | |
| 2:15 | 0 | | 1 | | 14:15 | 40 | | 45 | | |
| 2:30 | 3 | | 1 | | 14:30 | 44 | | 39 | | |
| 2:45 | 2 | 7 | 2 | 7 | 14:45 | 38 | 160 | 40 | 182 | 342 |
| 3:00 | 3 | | 2 | | 15:00 | 31 | | 29 | | |
| 3:15 | 4 | | 3 | | 15:15 | 27 | | 34 | | |
| 3:30 | 4 | | 2 | | 15:30 | 27 | | 23 | | |
| 3:45 | 3 | 14 | 0 | 7 | 15:45 | 33 | 118 | 41 | 127 | 245 |
| 4:00 | 7 | | 2 | | 16:00 | 29 | | 36 | | |
| 4:15 | 3 | | 3 | | 16:15 | 25 | | 38 | | |
| 4:30 | 12 | | 1 | | 16:30 | 32 | | 38 | | |
| 4:45 | 6 | 28 | 2 | 8 | 16:45 | 34 | 120 | 43 | 155 | 275 |
| 5:00 | 5 | | 4 | | 17:00 | 21 | | 45 | | |
| 5:15 | 6 | | 6 | | 17:15 | 29 | | 45 | | |
| 5:30 | 18 | | 3 | | 17:30 | 28 | | 36 | | |
| 5:45 | 19 | 48 | 6 | 19 | 17:45 | 33 | 111 | 31 | 157 | 268 |
| 6:00 | 18 | | 3 | | 18:00 | 36 | | 34 | | |
| 6:15 | 13 | | 10 | | 18:15 | 22 | | 31 | | |
| 6:30 | 10 | | 5 | | 18:30 | 24 | | 28 | | |
| 6:45 | 20 | 61 | 16 | 34 | 18:45 | 24 | 106 | 31 | 124 | 230 |
| 7:00 | 16 | | 8 | | 19:00 | 20 | | 32 | | |
| 7:15 | 21 | | 27 | | 19:15 | 15 | | 31 | | |
| 7:30 | 42 | | 62 | | 19:30 | 28 | | 25 | | |
| 7:45 | 65 | 144 | 87 | 184 | 19:45 | 19 | 82 | 21 | 109 | 191 |
| 8:00 | 36 | | 29 | | 20:00 | 17 | | 22 | | |
| 8:15 | 36 | | 18 | | 20:15 | 17 | | 34 | | |
| 8:30 | 29 | | 30 | | 20:30 | 13 | | 18 | | |
| 8:45 | 24 | 125 | 23 | 100 | 20:45 | 14 | 61 | 24 | 98 | 159 |
| 9:00 | 22 | | 13 | | 21:00 | 15 | | 24 | | |
| 9:15 | 23 | | 12 | | 21:15 | 13 | | 16 | | |
| 9:30 | 13 | | 21 | | 21:30 | 6 | | 10 | | |
| 9:45 | 15 | 73 | 21 | 67 | 21:45 | 12 | 46 | 16 | 66 | 112 |
| 10:00 | 17 | | 13 | | 22:00 | 8 | | 18 | | |
| 10:15 | 20 | | 18 | | 22:15 | 6 | | 6 | | |
| 10:30 | 14 | | 17 | | 22:30 | 6 | | 9 | | |
| 10:45 | 26 | 77 | 23 | 71 | 22:45 | 5 | 25 | 9 | 42 | 67 |
| 11:00 | 13 | | 17 | | 23:00 | 4 | | 9 | | |
| 11:15 | 17 | | 29 | | 23:15 | 5 | | 8 | | |
| 11:30 | 22 | | 28 | | 23:30 | 2 | | 7 | | |
| 11:45 | 22 | 74 | 24 | 98 | 23:45 | 3 | 14 | 8 | 32 | 46 |
| Total Vol. | | 665 | | 616 | 1281 | | 1040 | | 1316 | 2356 |
| | | | | | | | Daily Totals | | | |
| | | | | | | | EB | WB | Combined | |
| | | | | | | | 1705 | 1932 | 3637 | |
| | | | | | | | AM | PM | | |
| Split % | | 51.9% | 48.1% | 35.2% | | | 44.1% | 55.9% | 64.8% | |
| Peak Hour | | 7:30 | 7:15 | 7:30 | | | 14:00 | 13:45 | 14:00 | |
| Volume | | 179 | 205 | 375 | | | 160 | 189 | 342 | |
| P.H.F. | | 0.69 | 0.59 | 0.62 | | | 0.91 | 0.81 | 0.89 | |

APPENDIX 3.2: EXISTING (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 45.4 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 21 | 176 | 64 | 43 | 159 | 0 | 242 | 30 | 285 | 6 | 7 | 41 |
| Future Vol, veh/h | 21 | 176 | 64 | 43 | 159 | 0 | 242 | 30 | 285 | 6 | 7 | 41 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 25 | 212 | 77 | 52 | 192 | 0 | 292 | 36 | 343 | 7 | 8 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 17.9 | 15.7 | 72.5 | 10.8 |
| HCM LOS | C | C | F | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 43% | 8% | 21% | 11% |
| Vol Thru, % | 5% | 67% | 79% | 13% |
| Vol Right, % | 51% | 25% | 0% | 76% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 557 | 261 | 202 | 54 |
| LT Vol | 242 | 21 | 43 | 6 |
| Through Vol | 30 | 176 | 159 | 7 |
| RT Vol | 285 | 64 | 0 | 41 |
| Lane Flow Rate | 671 | 314 | 243 | 65 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.048 | 0.561 | 0.455 | 0.121 |
| Departure Headway (Hd) | 5.62 | 6.671 | 7.004 | 6.897 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 638 | 544 | 518 | 523 |
| Service Time | 3.71 | 4.671 | 5.004 | 4.897 |
| HCM Lane V/C Ratio | 1.052 | 0.577 | 0.469 | 0.124 |
| HCM Control Delay, s/veh | 72.5 | 17.9 | 15.7 | 10.8 |
| HCM Lane LOS | F | C | C | B |
| HCM 95th-tile Q | 17.7 | 3.4 | 2.3 | 0.4 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.6 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 38 | 45 | 29 | 518 | 237 | 17 |
| Future Vol, veh/h | 38 | 45 | 29 | 518 | 237 | 17 |
| Conflicting Peds, #/hr | 0 | 46 | 0 | 0 | 0 | 5 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 43 | 51 | 33 | 589 | 269 | 19 |

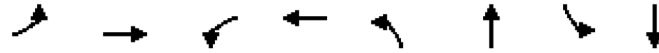
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 644 | 195 | 294 | 0 | 0 |
| Stage 1 | 284 | - | - | - | - |
| Stage 2 | 360 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 405 | 813 | 1265 | - | - |
| Stage 1 | 739 | - | - | - | - |
| Stage 2 | 676 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 389 | 774 | 1259 | - | - |
| Mov Cap-2 Maneuver | 389 | - | - | - | - |
| Stage 1 | 712 | - | - | - | - |
| Stage 2 | 673 | - | - | - | - |

| Approach | EB | NB | SB |
|------------------------|-------|------|----|
| HCM Control Delay, s/v | 13.21 | 0.63 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 191 | - | 533 | - | - |
| HCM Lane V/C Ratio | 0.026 | - | 0.177 | - | - |
| HCM Control Delay (s/veh) | 7.9 | 0.2 | 13.2 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.6 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

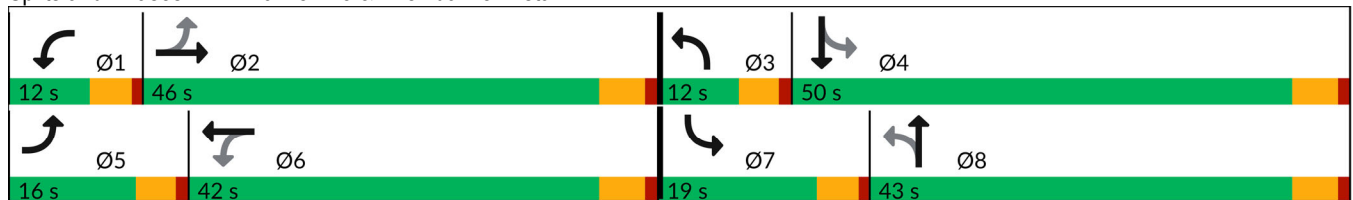


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 81 | 60 | 23 | 32 | 15 | 417 | 84 | 180 |
| Future Volume (vph) | 81 | 60 | 23 | 32 | 15 | 417 | 84 | 180 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 16.0 | 46.0 | 12.0 | 42.0 | 12.0 | 43.0 | 19.0 | 50.0 |
| Total Split (%) | 13.3% | 38.3% | 10.0% | 35.0% | 10.0% | 35.8% | 15.8% | 41.7% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 22.4 | 18.8 | 17.4 | 12.9 | 20.4 | 16.0 | 26.3 | 24.3 |
| Actuated g/C Ratio | 0.38 | 0.32 | 0.29 | 0.22 | 0.34 | 0.27 | 0.44 | 0.41 |
| v/c Ratio | 0.23 | 0.20 | 0.06 | 0.46 | 0.04 | 0.57 | 0.25 | 0.17 |
| Control Delay (s/veh) | 15.0 | 16.7 | 14.1 | 10.4 | 11.5 | 23.7 | 12.4 | 12.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 15.0 | 16.7 | 14.1 | 10.4 | 11.5 | 23.7 | 12.4 | 12.9 |
| LOS | B | B | B | B | B | C | B | B |
| Approach Delay (s/veh) | | 16.0 | | 10.9 | | 23.4 | | 12.8 |
| Approach LOS | | B | | B | | C | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 59.4 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.57 | |
| Intersection Signal Delay (s/veh): 17.2 | Intersection LOS: B |
| Intersection Capacity Utilization 53.1% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 81 | 60 | 34 | 23 | 32 | 150 | 15 | 417 | 20 | 84 | 180 | 18 |
| Future Volume (veh/h) | 81 | 60 | 34 | 23 | 32 | 150 | 15 | 417 | 20 | 84 | 180 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 0.91 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 100 | 74 | 23 | 28 | 40 | 112 | 19 | 515 | 23 | 104 | 222 | 18 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 437 | 354 | 110 | 477 | 93 | 261 | 472 | 894 | 40 | 382 | 1035 | 83 |
| Arrive On Green | 0.07 | 0.26 | 0.26 | 0.03 | 0.22 | 0.22 | 0.02 | 0.26 | 0.26 | 0.07 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1368 | 425 | 1781 | 429 | 1200 | 1781 | 3449 | 154 | 1781 | 3327 | 267 |
| Grp Volume(v), veh/h | 100 | 0 | 97 | 28 | 0 | 152 | 19 | 265 | 273 | 104 | 118 | 122 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1793 | 1781 | 0 | 1628 | 1781 | 1777 | 1825 | 1781 | 1777 | 1818 |
| Q Serve(g_s), s | 2.2 | 0.0 | 2.2 | 0.6 | 0.0 | 4.2 | 0.4 | 6.7 | 6.8 | 2.1 | 2.5 | 2.6 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 2.2 | 0.6 | 0.0 | 4.2 | 0.4 | 6.7 | 6.8 | 2.1 | 2.5 | 2.6 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 0.74 | 1.00 | | 0.08 | 1.00 | | 0.15 |
| Lane Grp Cap(c), veh/h | 437 | 0 | 464 | 477 | 0 | 354 | 472 | 461 | 473 | 382 | 553 | 565 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.21 | 0.06 | 0.00 | 0.43 | 0.04 | 0.57 | 0.58 | 0.27 | 0.21 | 0.22 |
| Avail Cap(c_a), veh/h | 698 | 0 | 1416 | 674 | 0 | 1161 | 686 | 1301 | 1336 | 744 | 1541 | 1577 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 0.0 | 15.0 | 14.8 | 0.0 | 17.5 | 13.5 | 16.7 | 16.7 | 12.6 | 13.2 | 13.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 1.1 | 1.1 | 0.1 | 0.2 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.8 | 0.2 | 0.0 | 1.4 | 0.1 | 2.5 | 2.6 | 0.7 | 0.9 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 14.1 | 0.0 | 15.2 | 14.8 | 0.0 | 18.3 | 13.5 | 17.8 | 17.8 | 12.8 | 13.3 | 13.4 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 197 | | | 180 | | | 557 | | | 344 | |
| Approach Delay, s/veh | | 14.6 | | | 17.8 | | | 17.7 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.3 | 18.5 | 5.8 | 21.2 | 8.4 | 16.3 | 8.5 | 18.5 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 7.4 | 40.9 | 7.4 | 44.9 | 11.4 | 36.9 | 14.4 | 37.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 4.2 | 2.4 | 4.6 | 4.2 | 6.2 | 4.1 | 8.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.4 | 0.1 | 0.9 | 0.1 | 3.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 16.0 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 17.3 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 24 | 216 | 92 | 169 | 164 | 7 | 80 | 18 | 150 | 7 | 19 | 8 |
| Future Vol, veh/h | 24 | 216 | 92 | 169 | 164 | 7 | 80 | 18 | 150 | 7 | 19 | 8 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 263 | 112 | 206 | 200 | 9 | 98 | 22 | 183 | 9 | 23 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 17.5 | 19.5 | 14.8 | 10.6 |
| HCM LOS | C | C | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 32% | 7% | 50% | 21% |
| Vol Thru, % | 7% | 65% | 48% | 56% |
| Vol Right, % | 60% | 28% | 2% | 24% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 248 | 332 | 340 | 34 |
| LT Vol | 80 | 24 | 169 | 7 |
| Through Vol | 18 | 216 | 164 | 19 |
| RT Vol | 150 | 92 | 7 | 8 |
| Lane Flow Rate | 302 | 405 | 415 | 41 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.497 | 0.623 | 0.662 | 0.08 |
| Departure Headway (Hd) | 5.916 | 5.542 | 5.744 | 6.955 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 605 | 648 | 626 | 518 |
| Service Time | 4.007 | 3.627 | 3.826 | 4.955 |
| HCM Lane V/C Ratio | 0.499 | 0.625 | 0.663 | 0.079 |
| HCM Control Delay, s/veh | 14.8 | 17.5 | 19.5 | 10.6 |
| HCM Lane LOS | B | C | C | B |
| HCM 95th-tile Q | 2.8 | 4.3 | 4.9 | 0.3 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 25 | 29 | 19 | 219 | 290 | 38 |
| Future Vol, veh/h | 25 | 29 | 19 | 219 | 290 | 38 |
| Conflicting Peds, #/hr | 0 | 35 | 0 | 0 | 0 | 14 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 33 | 22 | 249 | 330 | 43 |

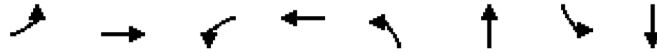
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 533 | 235 | 387 | 0 | 0 |
| Stage 1 | 365 | - | - | - | - |
| Stage 2 | 168 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 477 | 766 | 1168 | - | - |
| Stage 1 | 673 | - | - | - | - |
| Stage 2 | 845 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 455 | 731 | 1153 | - | - |
| Mov Cap-2 Maneuver | 455 | - | - | - | - |
| Stage 1 | 650 | - | - | - | - |
| Stage 2 | 834 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v12.07 | | 0.78 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 287 | - | 571 | - | - |
| HCM Lane V/C Ratio | 0.019 | - | 0.108 | - | - |
| HCM Control Delay (s/veh) | 8.2 | 0.1 | 12.1 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.4 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

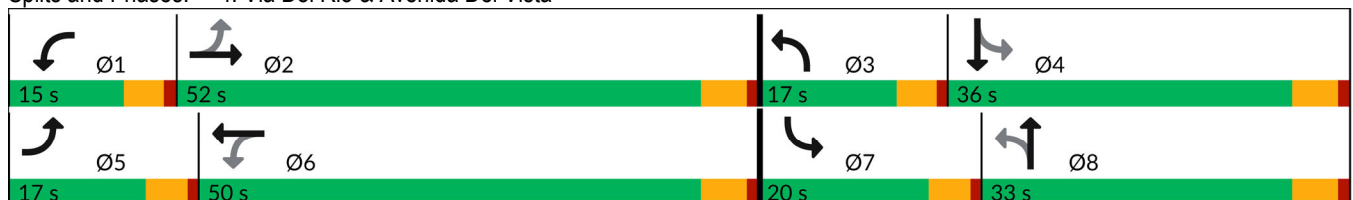


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 50 | 67 | 37 | 83 | 34 | 140 | 72 | 182 |
| Future Volume (vph) | 50 | 67 | 37 | 83 | 34 | 140 | 72 | 182 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 17.0 | 52.0 | 15.0 | 50.0 | 17.0 | 33.0 | 20.0 | 36.0 |
| Total Split (%) | 14.2% | 43.3% | 12.5% | 41.7% | 14.2% | 27.5% | 16.7% | 30.0% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 17.6 | 15.0 | 16.2 | 12.9 | 15.5 | 12.2 | 17.6 | 14.7 |
| Actuated g/C Ratio | 0.37 | 0.31 | 0.34 | 0.27 | 0.32 | 0.26 | 0.37 | 0.31 |
| v/c Ratio | 0.10 | 0.17 | 0.08 | 0.31 | 0.08 | 0.19 | 0.15 | 0.24 |
| Control Delay (s/veh) | 10.7 | 14.2 | 10.7 | 16.3 | 11.7 | 17.8 | 11.7 | 14.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 10.7 | 14.2 | 10.7 | 16.3 | 11.7 | 17.8 | 11.7 | 14.1 |
| LOS | B | B | B | B | B | B | B | B |
| Approach Delay (s/veh) | | 13.0 | | 15.2 | | 16.7 | | 13.6 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 47.7 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.32 | |
| Intersection Signal Delay (s/veh): 14.6 | Intersection LOS: B |
| Intersection Capacity Utilization 48.5% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 50 | 67 | 26 | 37 | 83 | 62 | 34 | 140 | 21 | 72 | 182 | 65 |
| Future Volume (veh/h) | 50 | 67 | 26 | 37 | 83 | 62 | 34 | 140 | 21 | 72 | 182 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.92 | 0.94 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 54 | 72 | 13 | 40 | 89 | 49 | 37 | 151 | 21 | 77 | 196 | 55 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 451 | 374 | 67 | 494 | 263 | 145 | 461 | 761 | 103 | 502 | 747 | 204 |
| Arrive On Green | 0.05 | 0.24 | 0.24 | 0.04 | 0.23 | 0.23 | 0.04 | 0.25 | 0.25 | 0.07 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 1536 | 277 | 1781 | 1128 | 621 | 1781 | 3105 | 421 | 1781 | 2753 | 752 |
| Grp Volume(v), veh/h | 54 | 0 | 85 | 40 | 0 | 138 | 37 | 85 | 87 | 77 | 125 | 126 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1814 | 1781 | 0 | 1749 | 1781 | 1777 | 1749 | 1781 | 1777 | 1728 |
| Q Serve(g_s), s | 1.1 | 0.0 | 1.8 | 0.8 | 0.0 | 3.2 | 0.7 | 1.8 | 1.9 | 1.5 | 2.7 | 2.8 |
| Cycle Q Clear(g_c), s | 1.1 | 0.0 | 1.8 | 0.8 | 0.0 | 3.2 | 0.7 | 1.8 | 1.9 | 1.5 | 2.7 | 2.8 |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 0.36 | 1.00 | | 0.24 | 1.00 | | 0.43 |
| Lane Grp Cap(c), veh/h | 451 | 0 | 441 | 494 | 0 | 407 | 461 | 436 | 429 | 502 | 482 | 469 |
| V/C Ratio(X) | 0.12 | 0.00 | 0.19 | 0.08 | 0.00 | 0.34 | 0.08 | 0.19 | 0.20 | 0.15 | 0.26 | 0.27 |
| Avail Cap(c_a), veh/h | 814 | 0 | 1762 | 802 | 0 | 1627 | 847 | 1027 | 1011 | 952 | 1137 | 1106 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.8 | 0.0 | 14.5 | 13.0 | 0.0 | 15.4 | 12.6 | 14.4 | 14.5 | 12.0 | 13.8 | 13.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.7 | 0.3 | 0.0 | 1.1 | 0.2 | 0.6 | 0.7 | 0.5 | 0.9 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 12.8 | 0.0 | 14.7 | 13.0 | 0.0 | 15.9 | 12.6 | 14.7 | 14.7 | 12.0 | 14.1 | 14.1 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 139 | | | 178 | | | 209 | | | 328 | |
| Approach Delay, s/veh | | 14.0 | | | 15.3 | | | 14.3 | | | 13.6 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.7 | 16.8 | 6.6 | 18.2 | 7.2 | 16.3 | 7.8 | 16.9 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 46.9 | 12.4 | 30.9 | 12.4 | 44.9 | 15.4 | 27.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 3.8 | 2.7 | 4.8 | 3.1 | 5.2 | 3.5 | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.4 | 0.0 | 0.8 | 0.1 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.2 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 11.9 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 118 | 61 | 244 | 98 | 9 | 49 | 15 | 152 | 4 | 15 | 4 |
| Future Vol, veh/h | 5 | 118 | 61 | 244 | 98 | 9 | 49 | 15 | 152 | 4 | 15 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 6 | 131 | 68 | 271 | 109 | 10 | 54 | 17 | 169 | 4 | 17 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|----|------|------|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 10 | 13.9 | 10.7 | 9.1 |
| HCM LOS | A | B | B | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 23% | 3% | 70% | 17% |
| Vol Thru, % | 7% | 64% | 28% | 65% |
| Vol Right, % | 70% | 33% | 3% | 17% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 216 | 184 | 351 | 23 |
| LT Vol | 49 | 5 | 244 | 4 |
| Through Vol | 15 | 118 | 98 | 15 |
| RT Vol | 152 | 61 | 9 | 4 |
| Lane Flow Rate | 240 | 204 | 390 | 26 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.341 | 0.284 | 0.539 | 0.041 |
| Departure Headway (Hd) | 5.114 | 5.006 | 5.086 | 5.807 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 708 | 720 | 714 | 618 |
| Service Time | 3.114 | 3.024 | 3.086 | 3.828 |
| HCM Lane V/C Ratio | 0.339 | 0.283 | 0.546 | 0.042 |
| HCM Control Delay, s/veh | 10.7 | 10 | 13.9 | 9.1 |
| HCM Lane LOS | B | A | B | A |
| HCM 95th-tile Q | 1.5 | 1.2 | 3.2 | 0.1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 17 | 29 | 26 | 186 | 318 | 50 |
| Future Vol, veh/h | 17 | 29 | 26 | 186 | 318 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 3 |
| 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 | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 30 | 27 | 192 | 328 | 52 |

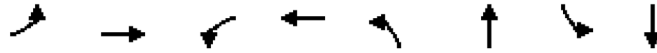
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 506 | 193 | 382 | 0 | 0 |
| Stage 1 | 357 | - | - | - | - |
| Stage 2 | 149 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 496 | 816 | 1173 | - | - |
| Stage 1 | 679 | - | - | - | - |
| Stage 2 | 863 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 481 | 814 | 1169 | - | - |
| Mov Cap-2 Maneuver | 481 | - | - | - | - |
| Stage 1 | 661 | - | - | - | - |
| Stage 2 | 860 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v10.99 | | 1.13 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 442 | - | 648 | - | - |
| HCM Lane V/C Ratio | 0.023 | - | 0.073 | - | - |
| HCM Control Delay (s/veh) | 8.2 | 0.2 | 11 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

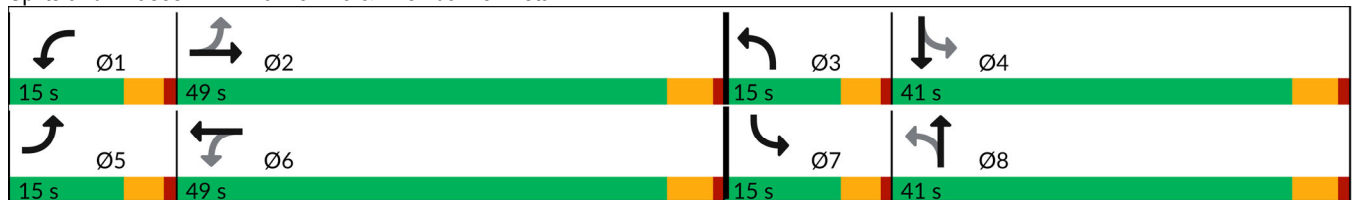


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 36 | 61 | 25 | 104 | 24 | 134 | 32 | 244 |
| Future Volume (vph) | 36 | 61 | 25 | 104 | 24 | 134 | 32 | 244 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 15.0 | 49.0 | 15.0 | 49.0 | 15.0 | 41.0 | 15.0 | 41.0 |
| Total Split (%) | 12.5% | 40.8% | 12.5% | 40.8% | 12.5% | 34.2% | 12.5% | 34.2% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 16.1 | 14.7 | 15.0 | 12.9 | 14.3 | 12.2 | 15.3 | 14.0 |
| Actuated g/C Ratio | 0.38 | 0.34 | 0.35 | 0.30 | 0.33 | 0.29 | 0.36 | 0.33 |
| v/c Ratio | 0.07 | 0.13 | 0.04 | 0.27 | 0.05 | 0.16 | 0.06 | 0.29 |
| Control Delay (s/veh) | 9.5 | 11.1 | 9.6 | 14.9 | 11.2 | 14.7 | 11.0 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 9.5 | 11.1 | 9.6 | 14.9 | 11.2 | 14.7 | 11.0 | 12.7 |
| LOS | A | B | A | B | B | B | B | B |
| Approach Delay (s/veh) | | 10.7 | | 14.1 | | 14.3 | | 12.6 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 42.8 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.29 | |
| Intersection Signal Delay (s/veh): 13.0 | Intersection LOS: B |
| Intersection Capacity Utilization 43.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 36 | 61 | 21 | 25 | 104 | 42 | 24 | 134 | 24 | 32 | 244 | 71 |
| Future Volume (veh/h) | 36 | 61 | 21 | 25 | 104 | 42 | 24 | 134 | 24 | 32 | 244 | 71 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 0.99 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 38 | 64 | 11 | 26 | 109 | 28 | 25 | 141 | 20 | 34 | 257 | 57 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 467 | 399 | 69 | 515 | 352 | 90 | 393 | 726 | 101 | 470 | 697 | 152 |
| Arrive On Green | 0.04 | 0.26 | 0.26 | 0.03 | 0.25 | 0.25 | 0.03 | 0.23 | 0.23 | 0.04 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 1553 | 267 | 1781 | 1433 | 368 | 1781 | 3118 | 433 | 1781 | 2888 | 628 |
| Grp Volume(v), veh/h | 38 | 0 | 75 | 26 | 0 | 137 | 25 | 79 | 82 | 34 | 156 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1820 | 1781 | 0 | 1801 | 1781 | 1777 | 1775 | 1781 | 1777 | 1739 |
| Q Serve(g_s), s | 0.7 | 0.0 | 1.4 | 0.5 | 0.0 | 2.7 | 0.5 | 1.6 | 1.6 | 0.6 | 3.2 | 3.3 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 1.4 | 0.5 | 0.0 | 2.7 | 0.5 | 1.6 | 1.6 | 0.6 | 3.2 | 3.3 |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 0.20 | 1.00 | | 0.24 | 1.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | 467 | 0 | 467 | 515 | 0 | 442 | 393 | 413 | 413 | 470 | 429 | 420 |
| V/C Ratio(X) | 0.08 | 0.00 | 0.16 | 0.05 | 0.00 | 0.31 | 0.06 | 0.19 | 0.20 | 0.07 | 0.36 | 0.38 |
| Avail Cap(c_a), veh/h | 813 | 0 | 1816 | 881 | 0 | 1798 | 761 | 1450 | 1448 | 823 | 1450 | 1420 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.5 | 0.0 | 12.7 | 11.7 | 0.0 | 13.6 | 12.2 | 13.6 | 13.6 | 11.9 | 13.9 | 13.9 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 | 0.2 | 0.0 | 0.5 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.5 | 0.2 | 0.0 | 1.0 | 0.2 | 0.5 | 0.6 | 0.2 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 11.5 | 0.0 | 12.8 | 11.7 | 0.0 | 13.9 | 12.3 | 13.8 | 13.8 | 12.0 | 14.4 | 14.5 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 113 | | | 163 | | | 186 | | | 348 | |
| Approach Delay, s/veh | | 12.4 | | | 13.6 | | | 13.6 | | | 14.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.0 | 16.4 | 5.9 | 15.7 | 6.5 | 15.9 | 6.3 | 15.3 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 43.9 | 10.4 | 35.9 | 10.4 | 43.9 | 10.4 | 35.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.5 | 3.4 | 2.5 | 5.3 | 2.7 | 4.7 | 2.6 | 3.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.0 | 1.8 | 0.0 | 0.8 | 0.0 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 13.7 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

**APPENDIX 3.3: EXISTING (2024) CONDITIONS TRAFFIC SIGNAL
WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **Existing (2024) Conditions - Weekday AM Peak Hour**

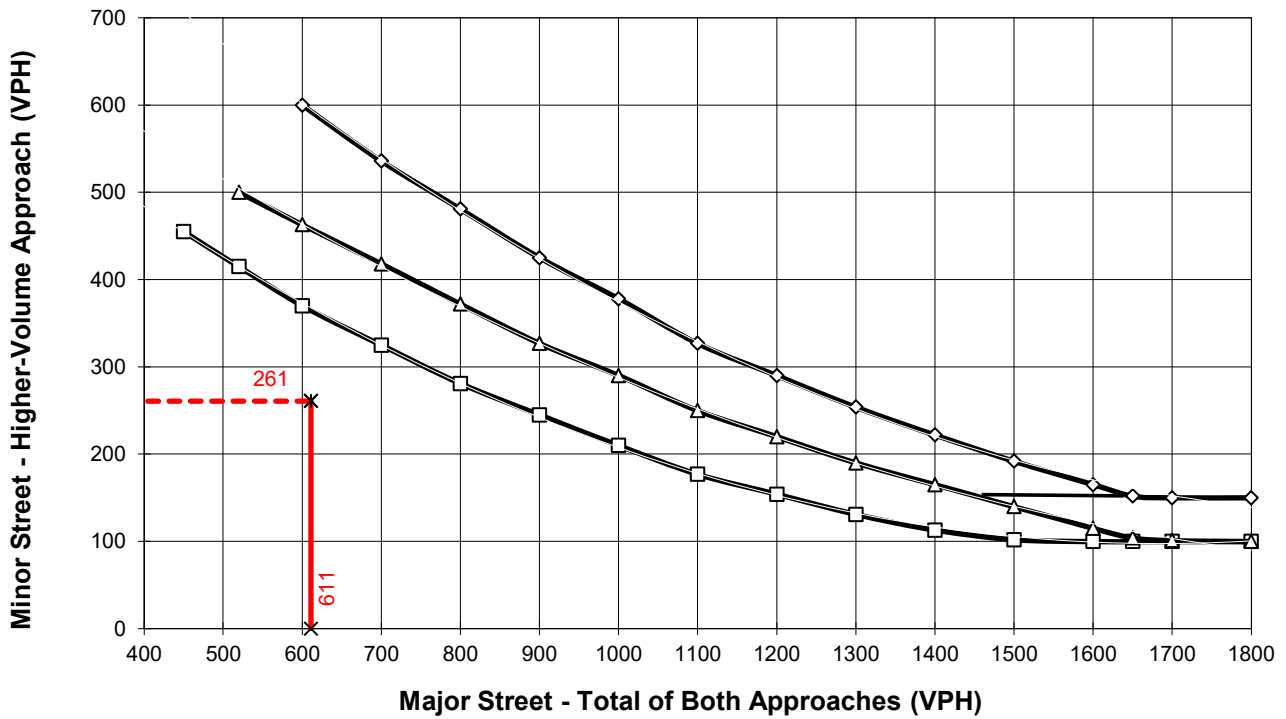
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **611**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Paseo Grande**

High Volume Approach (VPH) = **261**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = Existing (2024) Conditions - Weekday AM Peak Hour

Major Street Name = Via del Rio

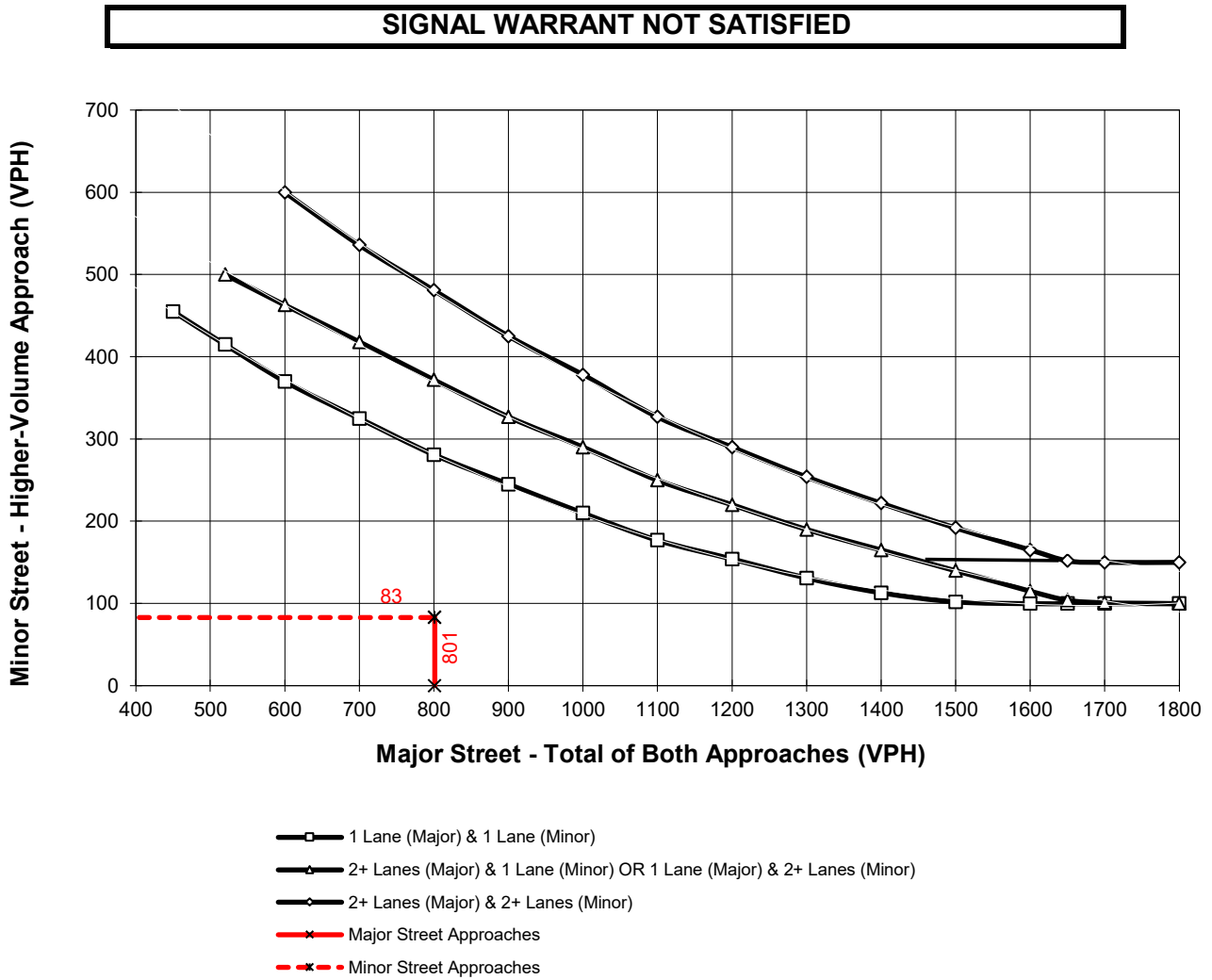
Total of Both Approaches (VPH) = 801

Number of Approach Lanes on Major Street = 1

Minor Street Name = Kirkwood Dr.

High Volume Approach (VPH) = 83

Number of Approach Lanes On Minor Street = 1



*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.1: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 48.2 |
| Intersection LOS | E |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 21 | 176 | 64 | 43 | 159 | 0 | 245 | 30 | 290 | 6 | 7 | 41 |
| Future Vol, veh/h | 21 | 176 | 64 | 43 | 159 | 0 | 245 | 30 | 290 | 6 | 7 | 41 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 25 | 212 | 77 | 52 | 192 | 0 | 295 | 36 | 349 | 7 | 8 | 49 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 17.9 | 15.8 | 77.4 | 10.9 |
| HCM LOS | C | C | F | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 43% | 8% | 21% | 11% |
| Vol Thru, % | 5% | 67% | 79% | 13% |
| Vol Right, % | 51% | 25% | 0% | 76% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 565 | 261 | 202 | 54 |
| LT Vol | 245 | 21 | 43 | 6 |
| Through Vol | 30 | 176 | 159 | 7 |
| RT Vol | 290 | 64 | 0 | 41 |
| Lane Flow Rate | 681 | 314 | 243 | 65 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.064 | 0.561 | 0.456 | 0.122 |
| Departure Headway (Hd) | 5.628 | 6.708 | 7.041 | 6.924 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 640 | 541 | 516 | 521 |
| Service Time | 3.712 | 4.708 | 5.041 | 4.924 |
| HCM Lane V/C Ratio | 1.064 | 0.58 | 0.471 | 0.125 |
| HCM Control Delay, s/veh | 77.4 | 17.9 | 15.8 | 10.9 |
| HCM Lane LOS | F | C | C | B |
| HCM 95th-tile Q | 18.6 | 3.4 | 2.4 | 0.4 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.6 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 38 | 45 | 29 | 526 | 237 | 17 |
| Future Vol, veh/h | 38 | 45 | 29 | 526 | 237 | 17 |
| Conflicting Peds, #/hr | 0 | 46 | 0 | 0 | 0 | 5 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 43 | 51 | 33 | 598 | 269 | 19 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 649 | 195 | 294 | 0 | 0 |
| Stage 1 | 284 | - | - | - | - |
| Stage 2 | 365 | - | - | - | - |
| 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 | 403 | 813 | 1265 | - | - |
| Stage 1 | 739 | - | - | - | - |
| Stage 2 | 673 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 386 | 774 | 1259 | - | - |
| Mov Cap-2 Maneuver | 386 | - | - | - | - |
| Stage 1 | 712 | - | - | - | - |
| Stage 2 | 670 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v13.25 | | 0.63 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 188 | - | 530 | - | - |
| HCM Lane V/C Ratio | 0.026 | - | 0.178 | - | - |
| HCM Control Delay (s/veh) | 7.9 | 0.2 | 13.3 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.6 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 6 | 652 | 1 | 0 | 285 |
| Future Vol, veh/h | 0 | 6 | 652 | 1 | 0 | 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 | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 709 | 1 | 0 | 310 |

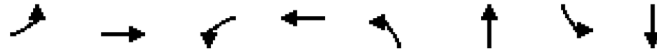
| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | - | 355 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 641 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | - | 641 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|-----------------------------|----|----|----|
| HCM Control Delay, s/v10.67 | | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|------|
| Capacity (veh/h) | - | - | 641 |
| HCM Lane V/C Ratio | - | - | 0.01 |
| HCM Control Delay (s/veh) | - | - | 10.7 |
| HCM Lane LOS | - | - | B |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024



| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 81 | 61 | 26 | 35 | 15 | 418 | 87 | 180 |
| Future Volume (vph) | 81 | 61 | 26 | 35 | 15 | 418 | 87 | 180 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 16.0 | 46.0 | 12.0 | 42.0 | 12.0 | 43.0 | 19.0 | 50.0 |
| Total Split (%) | 13.3% | 38.3% | 10.0% | 35.0% | 10.0% | 35.8% | 15.8% | 41.7% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 22.4 | 18.8 | 17.5 | 12.9 | 20.6 | 16.2 | 26.5 | 24.6 |
| Actuated g/C Ratio | 0.38 | 0.31 | 0.29 | 0.22 | 0.35 | 0.27 | 0.44 | 0.41 |
| v/c Ratio | 0.23 | 0.20 | 0.07 | 0.47 | 0.04 | 0.57 | 0.25 | 0.17 |
| Control Delay (s/veh) | 15.2 | 17.1 | 14.3 | 10.6 | 11.5 | 23.8 | 12.4 | 12.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 15.2 | 17.1 | 14.3 | 10.6 | 11.5 | 23.8 | 12.4 | 12.8 |
| LOS | B | B | B | B | B | C | B | B |
| Approach Delay (s/veh) | | 16.3 | | 11.1 | | 23.4 | | 12.8 |
| Approach LOS | | B | | B | | C | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 59.7 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.57 | |
| Intersection Signal Delay (s/veh): 17.3 | Intersection LOS: B |
| Intersection Capacity Utilization 53.6% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 81 | 61 | 34 | 26 | 35 | 154 | 15 | 418 | 21 | 87 | 180 | 18 |
| Future Volume (veh/h) | 81 | 61 | 34 | 26 | 35 | 154 | 15 | 418 | 21 | 87 | 180 | 18 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 0.91 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 100 | 75 | 23 | 32 | 43 | 117 | 19 | 516 | 24 | 107 | 222 | 18 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 430 | 350 | 107 | 476 | 95 | 259 | 472 | 893 | 41 | 383 | 1039 | 84 |
| Arrive On Green | 0.07 | 0.25 | 0.25 | 0.04 | 0.22 | 0.22 | 0.02 | 0.26 | 0.26 | 0.08 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 1373 | 421 | 1781 | 438 | 1192 | 1781 | 3441 | 160 | 1781 | 3327 | 267 |
| Grp Volume(v), veh/h | 100 | 0 | 98 | 32 | 0 | 160 | 19 | 266 | 274 | 107 | 118 | 122 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1793 | 1781 | 0 | 1630 | 1781 | 1777 | 1824 | 1781 | 1777 | 1818 |
| Q Serve(g_s), s | 2.2 | 0.0 | 2.2 | 0.7 | 0.0 | 4.4 | 0.4 | 6.8 | 6.8 | 2.2 | 2.5 | 2.6 |
| Cycle Q Clear(g_c), s | 2.2 | 0.0 | 2.2 | 0.7 | 0.0 | 4.4 | 0.4 | 6.8 | 6.8 | 2.2 | 2.5 | 2.6 |
| Prop In Lane | 1.00 | | 0.23 | 1.00 | | 0.73 | 1.00 | | 0.09 | 1.00 | | 0.15 |
| Lane Grp Cap(c), veh/h | 430 | 0 | 457 | 476 | 0 | 354 | 472 | 461 | 473 | 383 | 555 | 568 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.21 | 0.07 | 0.00 | 0.45 | 0.04 | 0.58 | 0.58 | 0.28 | 0.21 | 0.22 |
| Avail Cap(c_a), veh/h | 690 | 0 | 1414 | 667 | 0 | 1160 | 685 | 1298 | 1333 | 742 | 1538 | 1574 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 0.0 | 15.2 | 14.8 | 0.0 | 17.6 | 13.5 | 16.7 | 16.7 | 12.6 | 13.1 | 13.1 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.9 | 0.0 | 1.1 | 1.1 | 0.1 | 0.2 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.8 | 0.3 | 0.0 | 1.5 | 0.1 | 2.5 | 2.6 | 0.7 | 0.9 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 14.1 | 0.0 | 15.5 | 14.8 | 0.0 | 18.5 | 13.5 | 17.9 | 17.9 | 12.8 | 13.3 | 13.3 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 198 | | | 192 | | | 559 | | | 347 | |
| Approach Delay, s/veh | | 14.8 | | | 17.9 | | | 17.7 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.4 | 18.3 | 5.8 | 21.3 | 8.4 | 16.4 | 8.5 | 18.6 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 7.4 | 40.9 | 7.4 | 44.9 | 11.4 | 36.9 | 14.4 | 37.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 4.2 | 2.4 | 4.6 | 4.2 | 6.4 | 4.2 | 8.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.4 | 0.1 | 1.0 | 0.1 | 3.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 16.1 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | |
| Traffic Vol, veh/h | 4 | 164 | 205 | 0 | 1 | 10 |
| Future Vol, veh/h | 4 | 164 | 205 | 0 | 1 | 10 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 178 | 223 | 0 | 1 | 11 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 223 | 0 | - | 0 | 410 223 |
| Stage 1 | - | - | - | - | 223 - |
| Stage 2 | - | - | - | - | 187 - |
| 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 | 1346 | - | - | - | 598 817 |
| Stage 1 | - | - | - | - | 814 - |
| Stage 2 | - | - | - | - | 845 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1346 | - | - | - | 596 817 |
| Mov Cap-2 Maneuver | - | - | - | - | 596 - |
| Stage 1 | - | - | - | - | 811 - |
| Stage 2 | - | - | - | - | 845 - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.18 | 0 | 9.63 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 43 | - | - | - | 790 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.015 |
| HCM Control Delay (s/veh) | 7.7 | 0 | - | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 16.6 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 24 | 216 | 89 | 163 | 164 | 7 | 77 | 18 | 145 | 7 | 19 | 8 |
| Future Vol, veh/h | 24 | 216 | 89 | 163 | 164 | 7 | 77 | 18 | 145 | 7 | 19 | 8 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 29 | 263 | 109 | 199 | 200 | 9 | 94 | 22 | 177 | 9 | 23 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 16.9 | 18.6 | 14.3 | 10.4 |
| HCM LOS | C | C | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 32% | 7% | 49% | 21% |
| Vol Thru, % | 7% | 66% | 49% | 56% |
| Vol Right, % | 60% | 27% | 2% | 24% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 240 | 329 | 334 | 34 |
| LT Vol | 77 | 24 | 163 | 7 |
| Through Vol | 18 | 216 | 164 | 19 |
| RT Vol | 145 | 89 | 7 | 8 |
| Lane Flow Rate | 293 | 401 | 407 | 41 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.477 | 0.612 | 0.644 | 0.079 |
| Departure Headway (Hd) | 5.873 | 5.489 | 5.69 | 6.861 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 609 | 654 | 631 | 525 |
| Service Time | 3.958 | 3.564 | 3.765 | 4.861 |
| HCM Lane V/C Ratio | 0.481 | 0.613 | 0.645 | 0.078 |
| HCM Control Delay, s/veh | 14.3 | 16.9 | 18.6 | 10.4 |
| HCM Lane LOS | B | C | C | B |
| HCM 95th-tile Q | 2.6 | 4.2 | 4.6 | 0.3 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 25 | 29 | 19 | 211 | 282 | 38 |
| Future Vol, veh/h | 25 | 29 | 19 | 211 | 282 | 38 |
| Conflicting Peds, #/hr | 0 | 35 | 0 | 0 | 0 | 14 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 28 | 33 | 22 | 240 | 320 | 43 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 519 | 231 | 378 | 0 | 0 |
| Stage 1 | 356 | - | - | - | - |
| Stage 2 | 163 | - | - | - | - |
| 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 | 486 | 771 | 1177 | - | - |
| Stage 1 | 680 | - | - | - | - |
| Stage 2 | 849 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 464 | 736 | 1162 | - | - |
| Mov Cap-2 Maneuver | 464 | - | - | - | - |
| Stage 1 | 657 | - | - | - | - |
| Stage 2 | 838 | - | - | - | - |

| Approach | EB | NB | SB |
|------------------------|-------|-----|----|
| HCM Control Delay, s/v | 11.95 | 0.8 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 297 | - | 579 | - | - |
| HCM Lane V/C Ratio | 0.019 | - | 0.106 | - | - |
| HCM Control Delay (s/veh) | 8.2 | 0.1 | 12 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.4 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 4 | 255 | 2 | 0 | 327 |
| Future Vol, veh/h | 0 | 4 | 255 | 2 | 0 | 327 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 277 | 2 | 0 | 355 |

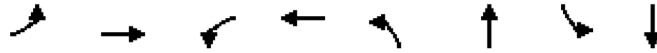
| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | - | 140 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 883 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | - | 883 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|------------------------|-----|----|----|
| HCM Control Delay, s/v | 9.1 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 883 |
| HCM Lane V/C Ratio | - | - | 0.005 |
| HCM Control Delay (s/veh) | - | - | 9.1 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

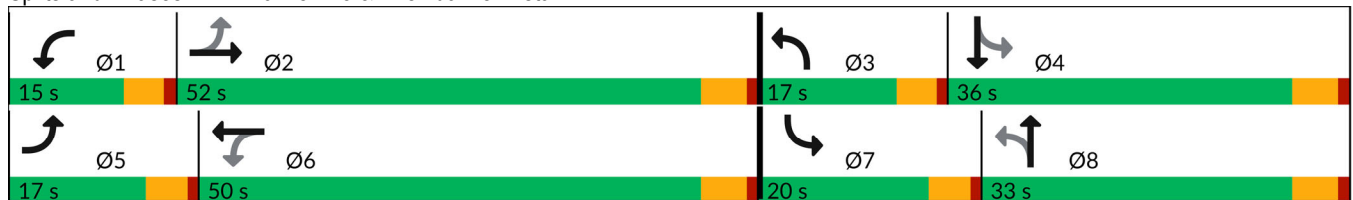


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 51 | 68 | 39 | 85 | 34 | 141 | 80 | 182 |
| Future Volume (vph) | 51 | 68 | 39 | 85 | 34 | 141 | 80 | 182 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 17.0 | 52.0 | 15.0 | 50.0 | 17.0 | 33.0 | 20.0 | 36.0 |
| Total Split (%) | 14.2% | 43.3% | 12.5% | 41.7% | 14.2% | 27.5% | 16.7% | 30.0% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 17.6 | 14.9 | 16.1 | 12.7 | 16.5 | 11.9 | 20.3 | 17.3 |
| Actuated g/C Ratio | 0.35 | 0.30 | 0.32 | 0.25 | 0.33 | 0.24 | 0.41 | 0.35 |
| v/c Ratio | 0.11 | 0.18 | 0.08 | 0.34 | 0.08 | 0.21 | 0.17 | 0.22 |
| Control Delay (s/veh) | 11.1 | 14.8 | 11.0 | 17.2 | 11.7 | 18.5 | 11.6 | 13.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 11.1 | 14.8 | 11.0 | 17.2 | 11.7 | 18.5 | 11.6 | 13.8 |
| LOS | B | B | B | B | B | B | B | B |
| Approach Delay (s/veh) | | 13.6 | | 16.0 | | 17.4 | | 13.3 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary























| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 50.1 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.35 | |
| Intersection Signal Delay (s/veh): 14.9 | Intersection LOS: B |
| Intersection Capacity Utilization 49.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 06/26/2024

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  | |  |  | |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 51 | 68 | 26 | 39 | 85 | 65 | 34 | 141 | 22 | 80 | 182 | 65 |
| Future Volume (veh/h) | 51 | 68 | 26 | 39 | 85 | 65 | 34 | 141 | 22 | 80 | 182 | 65 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.92 | 0.94 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 55 | 73 | 13 | 42 | 91 | 52 | 37 | 152 | 22 | 86 | 196 | 55 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 446 | 371 | 66 | 493 | 258 | 147 | 464 | 753 | 106 | 506 | 755 | 206 |
| Arrive On Green | 0.05 | 0.24 | 0.24 | 0.04 | 0.23 | 0.23 | 0.04 | 0.24 | 0.24 | 0.07 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 1540 | 274 | 1781 | 1111 | 635 | 1781 | 3087 | 435 | 1781 | 2754 | 752 |
| Grp Volume(v), veh/h | 55 | 0 | 86 | 42 | 0 | 143 | 37 | 86 | 88 | 86 | 125 | 126 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1814 | 1781 | 0 | 1746 | 1781 | 1777 | 1745 | 1781 | 1777 | 1729 |
| Q Serve(g_s), s | 1.1 | 0.0 | 1.8 | 0.8 | 0.0 | 3.3 | 0.7 | 1.9 | 2.0 | 1.7 | 2.7 | 2.8 |
| Cycle Q Clear(g_c), s | 1.1 | 0.0 | 1.8 | 0.8 | 0.0 | 3.3 | 0.7 | 1.9 | 2.0 | 1.7 | 2.7 | 2.8 |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 0.36 | 1.00 | | 0.25 | 1.00 | | 0.43 |
| Lane Grp Cap(c), veh/h | 446 | 0 | 437 | 493 | 0 | 405 | 464 | 434 | 426 | 506 | 487 | 474 |
| V/C Ratio(X) | 0.12 | 0.00 | 0.20 | 0.09 | 0.00 | 0.35 | 0.08 | 0.20 | 0.21 | 0.17 | 0.26 | 0.27 |
| Avail Cap(c_a), veh/h | 805 | 0 | 1753 | 795 | 0 | 1615 | 847 | 1021 | 1003 | 945 | 1131 | 1100 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.9 | 0.0 | 14.7 | 13.0 | 0.0 | 15.6 | 12.7 | 14.6 | 14.6 | 12.0 | 13.7 | 13.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.2 | 0.2 | 0.1 | 0.3 | 0.3 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.7 | 0.3 | 0.0 | 1.2 | 0.2 | 0.7 | 0.7 | 0.6 | 0.9 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 12.9 | 0.0 | 14.9 | 13.1 | 0.0 | 16.1 | 12.7 | 14.8 | 14.8 | 12.1 | 14.0 | 14.1 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 141 | | | 185 | | | 211 | | | 337 | |
| Approach Delay, s/veh | | 14.1 | | | 15.4 | | | 14.5 | | | 13.6 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.8 | 16.8 | 6.6 | 18.4 | 7.2 | 16.4 | 8.0 | 16.9 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 46.9 | 12.4 | 30.9 | 12.4 | 44.9 | 15.4 | 27.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 3.8 | 2.7 | 4.8 | 3.1 | 5.3 | 3.7 | 4.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.4 | 0.0 | 0.8 | 0.1 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.3 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 10 | 160 | 182 | 1 | 1 | 7 |
| Future Vol, veh/h | 10 | 160 | 182 | 1 | 1 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 174 | 198 | 1 | 1 | 8 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 199 | 0 | - | 0 | 394 198 |
| Stage 1 | - | - | - | - | 198 - |
| Stage 2 | - | - | - | - | 196 - |
| 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 | 1373 | - | - | - | 611 843 |
| Stage 1 | - | - | - | - | 835 - |
| Stage 2 | - | - | - | - | 837 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1373 | - | - | - | 605 843 |
| Mov Cap-2 Maneuver | - | - | - | - | 605 - |
| Stage 1 | - | - | - | - | 828 - |
| Stage 2 | - | - | - | - | 837 - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.45 | 0 | 9.53 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 106 | - | - | - | 803 |
| HCM Lane V/C Ratio | 0.008 | - | - | - | 0.011 |
| HCM Control Delay (s/veh) | 7.6 | 0 | - | - | 9.5 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 12.3 |
| Intersection LOS | B |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 118 | 64 | 250 | 98 | 9 | 51 | 15 | 156 | 4 | 15 | 4 |
| Future Vol, veh/h | 5 | 118 | 64 | 250 | 98 | 9 | 51 | 15 | 156 | 4 | 15 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 6 | 131 | 71 | 278 | 109 | 10 | 57 | 17 | 173 | 4 | 17 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|----|-----|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 10.1 | 14.5 | 11 | 9.2 |
| HCM LOS | B | B | B | A |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 23% | 3% | 70% | 17% |
| Vol Thru, % | 7% | 63% | 27% | 65% |
| Vol Right, % | 70% | 34% | 3% | 17% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 222 | 187 | 357 | 23 |
| LT Vol | 51 | 5 | 250 | 4 |
| Through Vol | 15 | 118 | 98 | 15 |
| RT Vol | 156 | 64 | 9 | 4 |
| Lane Flow Rate | 247 | 208 | 397 | 26 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.352 | 0.291 | 0.564 | 0.042 |
| Departure Headway (Hd) | 5.137 | 5.038 | 5.119 | 5.857 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 701 | 713 | 710 | 610 |
| Service Time | 3.173 | 3.068 | 3.119 | 3.906 |
| HCM Lane V/C Ratio | 0.352 | 0.292 | 0.559 | 0.043 |
| HCM Control Delay, s/veh | 11 | 10.1 | 14.5 | 9.2 |
| HCM Lane LOS | B | B | B | A |
| HCM 95th-tile Q | 1.6 | 1.2 | 3.6 | 0.1 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 17 | 29 | 26 | 193 | 326 | 50 |
| Future Vol, veh/h | 17 | 29 | 26 | 193 | 326 | 50 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 3 |
| 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 | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 30 | 27 | 199 | 336 | 52 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 518 | 197 | 391 | 0 | 0 |
| Stage 1 | 365 | - | - | - | - |
| Stage 2 | 153 | - | - | - | - |
| 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 | 487 | 811 | 1164 | - | - |
| Stage 1 | 673 | - | - | - | - |
| Stage 2 | 859 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 473 | 809 | 1161 | - | - |
| Mov Cap-2 Maneuver | 473 | - | - | - | - |
| Stage 1 | 654 | - | - | - | - |
| Stage 2 | 857 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v11.07 | | 1.11 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 427 | - | 641 | - | - |
| HCM Lane V/C Ratio | 0.023 | - | 0.074 | - | - |
| HCM Control Delay (s/veh) | 8.2 | 0.2 | 11.1 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.2 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 4 | 215 | 3 | 0 | 358 |
| Future Vol, veh/h | 0 | 4 | 215 | 3 | 0 | 358 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 234 | 3 | 0 | 389 |

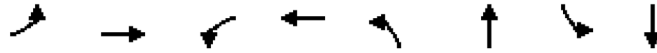
| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | - | 118 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 911 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | - | 911 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|------------------------|------|----|----|
| HCM Control Delay, s/v | 8.97 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 911 |
| HCM Lane V/C Ratio | - | - | 0.005 |
| HCM Control Delay (s/veh) | - | - | 9 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

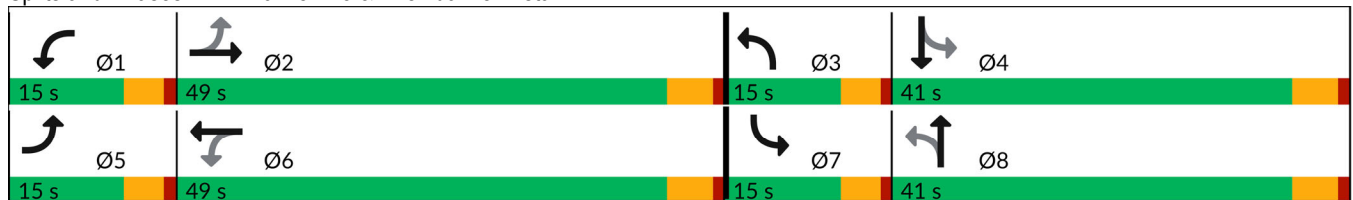


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 37 | 63 | 27 | 106 | 24 | 136 | 43 | 244 |
| Future Volume (vph) | 37 | 63 | 27 | 106 | 24 | 136 | 43 | 244 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 15.0 | 49.0 | 15.0 | 49.0 | 15.0 | 41.0 | 15.0 | 41.0 |
| Total Split (%) | 12.5% | 40.8% | 12.5% | 40.8% | 12.5% | 34.2% | 12.5% | 34.2% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 16.1 | 14.8 | 15.1 | 13.0 | 14.3 | 12.2 | 15.5 | 14.1 |
| Actuated g/C Ratio | 0.37 | 0.34 | 0.35 | 0.30 | 0.33 | 0.28 | 0.36 | 0.33 |
| v/c Ratio | 0.07 | 0.14 | 0.05 | 0.29 | 0.05 | 0.17 | 0.09 | 0.29 |
| Control Delay (s/veh) | 9.6 | 11.3 | 9.7 | 15.0 | 11.2 | 14.8 | 11.0 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 9.6 | 11.3 | 9.7 | 15.0 | 11.2 | 14.8 | 11.0 | 12.7 |
| LOS | A | B | A | B | B | B | B | B |
| Approach Delay (s/veh) | | 10.8 | | 14.3 | | 14.4 | | 12.6 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 43 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.29 | |
| Intersection Signal Delay (s/veh): 13.1 | Intersection LOS: B |
| Intersection Capacity Utilization 43.7% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 06/26/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 37 | 63 | 21 | 27 | 106 | 45 | 24 | 136 | 26 | 43 | 244 | 71 |
| Future Volume (veh/h) | 37 | 63 | 21 | 27 | 106 | 45 | 24 | 136 | 26 | 43 | 244 | 71 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 0.99 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 39 | 66 | 11 | 28 | 112 | 31 | 25 | 143 | 22 | 45 | 257 | 57 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 458 | 395 | 66 | 509 | 342 | 95 | 399 | 709 | 107 | 480 | 717 | 156 |
| Arrive On Green | 0.04 | 0.25 | 0.25 | 0.03 | 0.24 | 0.24 | 0.03 | 0.23 | 0.23 | 0.05 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 1561 | 260 | 1781 | 1408 | 390 | 1781 | 3081 | 464 | 1781 | 2888 | 628 |
| Grp Volume(v), veh/h | 39 | 0 | 77 | 28 | 0 | 143 | 25 | 81 | 84 | 45 | 156 | 158 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1821 | 1781 | 0 | 1797 | 1781 | 1777 | 1768 | 1781 | 1777 | 1740 |
| Q Serve(g_s), s | 0.7 | 0.0 | 1.5 | 0.5 | 0.0 | 2.9 | 0.5 | 1.6 | 1.7 | 0.8 | 3.2 | 3.3 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 1.5 | 0.5 | 0.0 | 2.9 | 0.5 | 1.6 | 1.7 | 0.8 | 3.2 | 3.3 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.22 | 1.00 | | 0.26 | 1.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | 458 | 0 | 461 | 509 | 0 | 436 | 399 | 409 | 407 | 480 | 441 | 432 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.17 | 0.05 | 0.00 | 0.33 | 0.06 | 0.20 | 0.21 | 0.09 | 0.35 | 0.37 |
| Avail Cap(c_a), veh/h | 798 | 0 | 1797 | 867 | 0 | 1774 | 763 | 1434 | 1426 | 811 | 1434 | 1404 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.7 | 0.0 | 13.0 | 11.9 | 0.0 | 13.9 | 12.4 | 13.8 | 13.8 | 11.9 | 13.8 | 13.8 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.2 | 0.2 | 0.0 | 0.5 | 0.5 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.5 | 0.2 | 0.0 | 1.0 | 0.2 | 0.6 | 0.6 | 0.3 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 11.7 | 0.0 | 13.1 | 11.9 | 0.0 | 14.3 | 12.5 | 14.0 | 14.1 | 12.0 | 14.3 | 14.3 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 116 | | | 171 | | | 190 | | | 359 | |
| Approach Delay, s/veh | | 12.7 | | | 13.9 | | | 13.9 | | | 14.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.1 | 16.4 | 5.9 | 16.1 | 6.5 | 15.9 | 6.7 | 15.3 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 43.9 | 10.4 | 35.9 | 10.4 | 43.9 | 10.4 | 35.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.5 | 3.5 | 2.5 | 5.3 | 2.7 | 4.9 | 2.8 | 3.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.0 | 1.8 | 0.0 | 0.8 | 0.0 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 13.8 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↶ | ↷ | | ↶ | ↷ |
| Traffic Vol, veh/h | 14 | 117 | 171 | 1 | 1 | 7 |
| Future Vol, veh/h | 14 | 117 | 171 | 1 | 1 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 127 | 186 | 1 | 1 | 8 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 187 | 0 | 0 | 344 | 186 |
| Stage 1 | - | - | - | 186 | - |
| Stage 2 | - | - | - | 158 | - |
| 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 | 1387 | - | - | 652 | 856 |
| Stage 1 | - | - | - | 845 | - |
| Stage 2 | - | - | - | 871 | - |
| Platoon blocked, % | | - | - | | |
| Mov Cap-1 Maneuver | 1387 | - | - | 645 | 856 |
| Mov Cap-2 Maneuver | - | - | - | 645 | - |
| Stage 1 | - | - | - | 835 | - |
| Stage 2 | - | - | - | 871 | - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.81 | 0 | 9.43 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 192 | - | - | - | 822 |
| HCM Lane V/C Ratio | 0.011 | - | - | - | 0.011 |
| HCM Control Delay (s/veh) | 7.6 | 0 | - | - | 9.4 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

APPENDIX 5.2: E+P CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

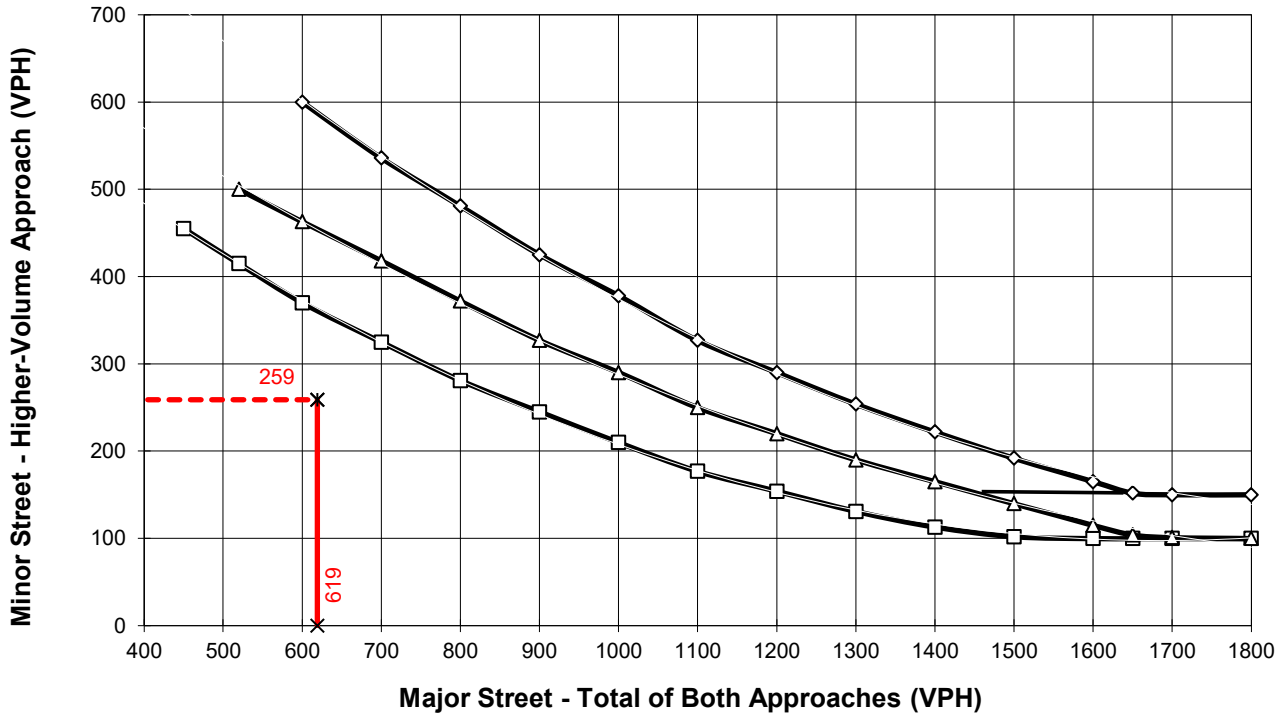
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **619**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Paseo Grande**

High Volume Approach (VPH) = **259**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x- Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane



Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **E+P Conditions - Weekday AM Peak Hour**

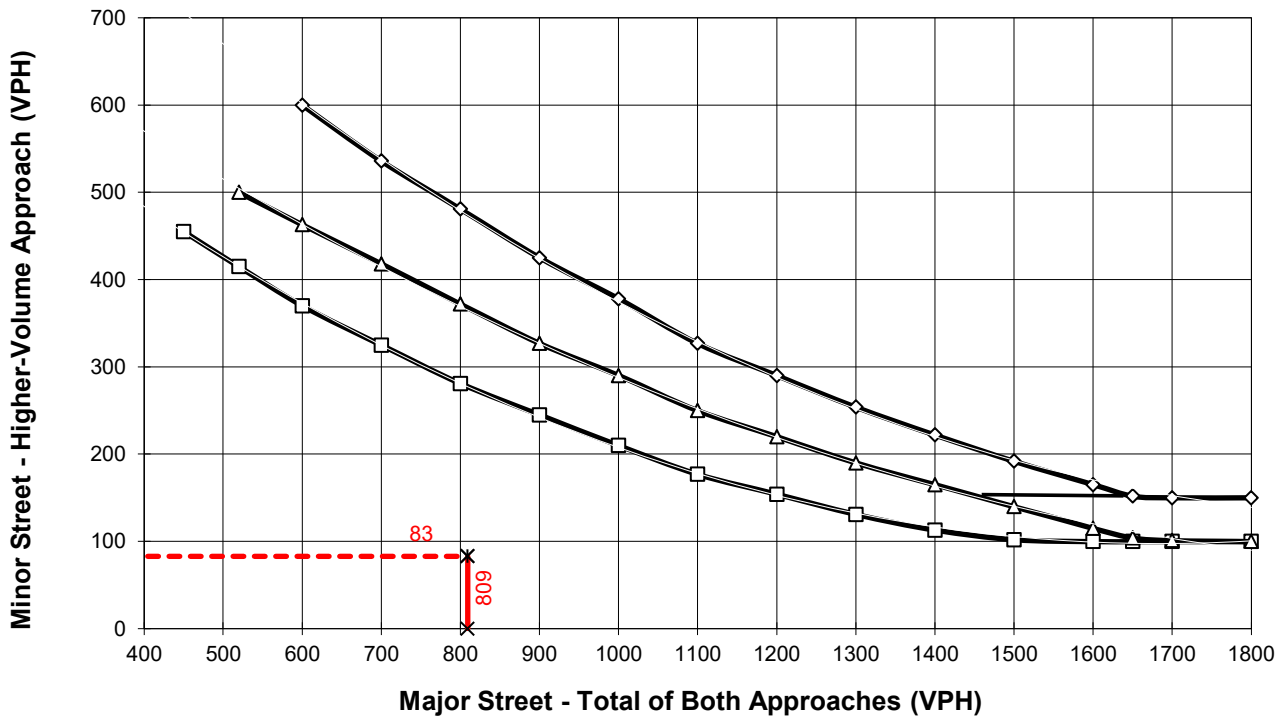
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **809**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Kirkwood Dr.**

High Volume Approach (VPH) = **83**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x- Minor Street Approaches

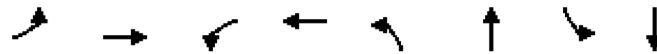
*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

APPENDIX 5.3: E+P CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

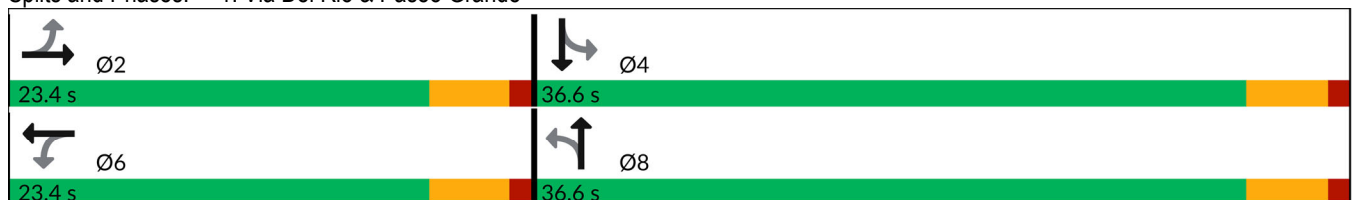


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 21 | 176 | 43 | 159 | 245 | 30 | 6 | 7 |
| Future Volume (vph) | 21 | 176 | 43 | 159 | 245 | 30 | 6 | 7 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 23.4 | 23.4 | 23.4 | 23.4 | 36.6 | 36.6 | 36.6 | 36.6 |
| Total Split (%) | 39.0% | 39.0% | 39.0% | 39.0% | 61.0% | 61.0% | 61.0% | 61.0% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 14.1 | | 14.1 | | 25.1 | | 25.1 |
| Actuated g/C Ratio | | 0.29 | | 0.29 | | 0.51 | | 0.51 |
| v/c Ratio | | 0.60 | | 0.51 | | 0.86 | | 0.07 |
| Control Delay (s/veh) | | 20.7 | | 20.6 | | 22.2 | | 3.3 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 20.7 | | 20.6 | | 22.2 | | 3.3 |
| LOS | | C | | C | | C | | A |
| Approach Delay (s/veh) | | 20.7 | | 20.6 | | 22.2 | | 3.3 |
| Approach LOS | | C | | C | | C | | A |

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 48.9
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay (s/veh): 20.6
 Intersection LOS: C
 Intersection Capacity Utilization 68.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary

Via Del Rio (JN 15701)

1: Via Del Rio & Paseo Grande

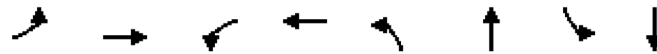
06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | | ↔ | | | ↔ | |
| Traffic Volume (veh/h) | 21 | 176 | 64 | 43 | 159 | 0 | 245 | 30 | 290 | 6 | 7 | 41 |
| Future Volume (veh/h) | 21 | 176 | 64 | 43 | 159 | 0 | 245 | 30 | 290 | 6 | 7 | 41 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 25 | 212 | 77 | 52 | 192 | 0 | 295 | 36 | 349 | 7 | 8 | 49 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 109 | 303 | 104 | 162 | 372 | 0 | 442 | 68 | 410 | 141 | 162 | 682 |
| Arrive On Green | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 | 0.00 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 | 0.54 |
| Sat Flow, veh/h | 71 | 1250 | 429 | 246 | 1537 | 0 | 593 | 125 | 757 | 86 | 299 | 1259 |
| Grp Volume(v), veh/h | 314 | 0 | 0 | 244 | 0 | 0 | 680 | 0 | 0 | 64 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1750 | 0 | 0 | 1783 | 0 | 0 | 1475 | 0 | 0 | 1645 | 0 | 0 |
| Q Serve(g_s), s | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 7.0 | 0.0 | 0.0 | 4.9 | 0.0 | 0.0 | 16.6 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 |
| Prop In Lane | 0.08 | | 0.25 | 0.21 | | 0.00 | 0.43 | | 0.51 | 0.11 | | 0.77 |
| Lane Grp Cap(c), veh/h | 515 | 0 | 0 | 535 | 0 | 0 | 920 | 0 | 0 | 985 | 0 | 0 |
| V/C Ratio(X) | 0.61 | 0.00 | 0.00 | 0.46 | 0.00 | 0.00 | 0.74 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 857 | 0 | 0 | 858 | 0 | 0 | 1227 | 0 | 0 | 1303 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 14.8 | 0.0 | 0.0 | 14.1 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 1.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.6 | 0.0 | 0.0 | 1.9 | 0.0 | 0.0 | 3.9 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 16.0 | 0.0 | 0.0 | 14.7 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 |
| LnGrp LOS | B | | | B | | | A | | | A | | |
| Approach Vol, veh/h | | 314 | | | 244 | | | 680 | | | | 64 |
| Approach Delay, s/veh | | 16.0 | | | 14.7 | | | 9.8 | | | | 4.7 |
| Approach LOS | | B | | | B | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 14.9 | | 27.7 | | 14.9 | | 27.7 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 18.8 | | 32.0 | | 18.8 | | 32.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.0 | | 2.8 | | 6.9 | | 18.6 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | 0.3 | | 1.1 | | 4.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 12.0 | | | | | | | | |
| HCM 7th LOS | | | | B | | | | | | | | |

Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

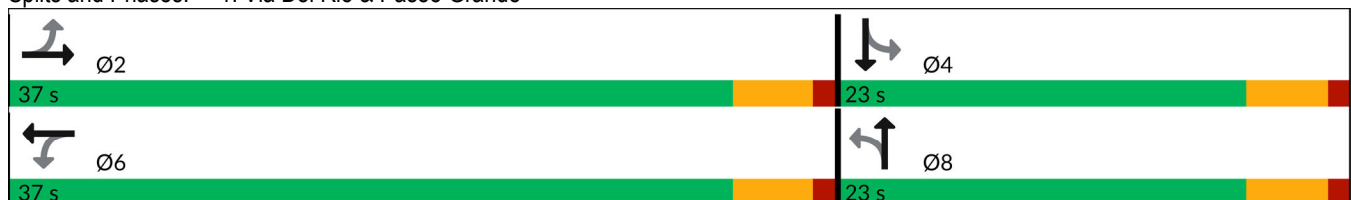


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 24 | 216 | 163 | 164 | 77 | 18 | 7 | 19 |
| Future Volume (vph) | 24 | 216 | 163 | 164 | 77 | 18 | 7 | 19 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 37.0 | 37.0 | 37.0 | 37.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Total Split (%) | 61.7% | 61.7% | 61.7% | 61.7% | 38.3% | 38.3% | 38.3% | 38.3% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 18.5 | | 18.5 | | 12.4 | | 12.4 |
| Actuated g/C Ratio | | 0.45 | | 0.45 | | 0.30 | | 0.30 |
| v/c Ratio | | 0.50 | | 0.71 | | 0.54 | | 0.08 |
| Control Delay (s/veh) | | 9.0 | | 16.9 | | 12.5 | | 11.3 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 9.0 | | 16.9 | | 12.5 | | 11.3 |
| LOS | | A | | B | | B | | B |
| Approach Delay (s/veh) | | 9.0 | | 17.0 | | 12.5 | | 11.3 |
| Approach LOS | | A | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 60 | |
| Actuated Cycle Length: 40.8 | |
| Natural Cycle: 60 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.72 | |
| Intersection Signal Delay (s/veh): 12.8 | Intersection LOS: B |
| Intersection Capacity Utilization 69.8% | ICU Level of Service C |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary

Via Del Rio (JN 15701)

1: Via Del Rio & Paseo Grande

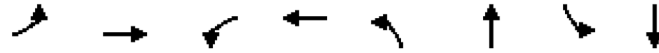
06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 24 | 216 | 89 | 163 | 164 | 7 | 77 | 18 | 145 | 7 | 19 | 8 |
| Future Volume (veh/h) | 24 | 216 | 89 | 163 | 164 | 7 | 77 | 18 | 145 | 7 | 19 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.98 | | 1.00 | 1.00 | | 0.96 | 1.00 | | 0.97 | 0.98 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 29 | 263 | 109 | 199 | 200 | 9 | 94 | 22 | 177 | 9 | 23 | 10 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 149 | 455 | 178 | 415 | 327 | 13 | 270 | 84 | 301 | 197 | 364 | 130 |
| Arrive On Green | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.37 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| Sat Flow, veh/h | 59 | 1214 | 475 | 638 | 874 | 34 | 351 | 260 | 932 | 164 | 1129 | 404 |
| Grp Volume(v), veh/h | 401 | 0 | 0 | 408 | 0 | 0 | 293 | 0 | 0 | 42 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1747 | 0 | 0 | 1546 | 0 | 0 | 1542 | 0 | 0 | 1697 | 0 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 5.5 | 0.0 | 0.0 | 5.7 | 0.0 | 0.0 | 4.7 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Prop In Lane | 0.07 | | 0.27 | 0.49 | | 0.02 | 0.32 | | 0.60 | 0.21 | | 0.24 |
| Lane Grp Cap(c), veh/h | 782 | 0 | 0 | 755 | 0 | 0 | 654 | 0 | 0 | 691 | 0 | 0 |
| V/C Ratio(X) | 0.51 | 0.00 | 0.00 | 0.54 | 0.00 | 0.00 | 0.45 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1962 | 0 | 0 | 1666 | 0 | 0 | 1078 | 0 | 0 | 1142 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 7.7 | 0.0 | 0.0 | 7.7 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.5 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.2 | 0.0 | 0.0 | 8.3 | 0.0 | 0.0 | 9.0 | 0.0 | 0.0 | 7.2 | 0.0 | 0.0 |
| LnGrp LOS | A | | | A | | | A | | | A | | |
| Approach Vol, veh/h | | 401 | | | 408 | | | 293 | | | | 42 |
| Approach Delay, s/veh | | 8.2 | | | 8.3 | | | 9.0 | | | | 7.2 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 16.0 | | 14.4 | | 16.0 | | 14.4 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 32.4 | | 18.4 | | 32.4 | | 18.4 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.5 | | 2.5 | | 7.7 | | 6.7 | | | | |
| Green Ext Time (p_c), s | | 2.8 | | 0.1 | | 3.3 | | 1.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 8.4 | | | | | | | | | |
| HCM 7th LOS | | | A | | | | | | | | | |

Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

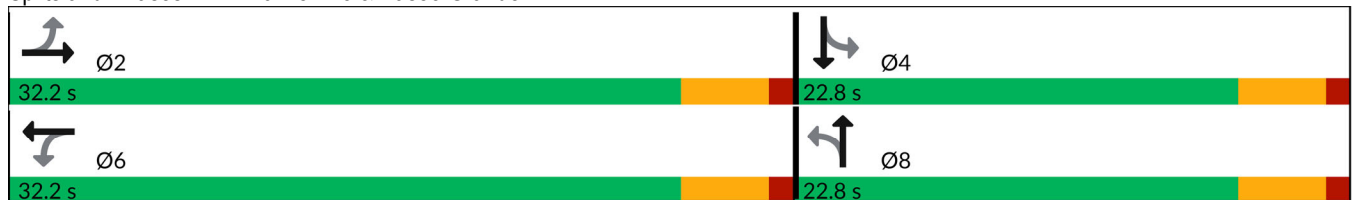


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 5 | 118 | 250 | 98 | 51 | 15 | 4 | 15 |
| Future Volume (vph) | 5 | 118 | 250 | 98 | 51 | 15 | 4 | 15 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 32.2 | 32.2 | 32.2 | 32.2 | 22.8 | 22.8 | 22.8 | 22.8 |
| Total Split (%) | 58.5% | 58.5% | 58.5% | 58.5% | 41.5% | 41.5% | 41.5% | 41.5% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 17.0 | | 17.0 | | 12.5 | | 12.5 |
| Actuated g/C Ratio | | 0.49 | | 0.49 | | 0.36 | | 0.36 |
| v/c Ratio | | 0.23 | | 0.65 | | 0.38 | | 0.04 |
| Control Delay (s/veh) | | 5.1 | | 14.2 | | 6.7 | | 10.9 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 5.1 | | 14.2 | | 6.7 | | 10.9 |
| LOS | | A | | B | | A | | B |
| Approach Delay (s/veh) | | 5.2 | | 14.2 | | 6.8 | | 10.9 |
| Approach LOS | | A | | B | | A | | B |

Intersection Summary

Cycle Length: 55
 Actuated Cycle Length: 34.9
 Natural Cycle: 55
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay (s/veh): 9.9
 Intersection LOS: A
 Intersection Capacity Utilization 61.7%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary
 1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
 06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | | ↔ | | | ↔ | |
| Traffic Volume (veh/h) | 5 | 118 | 64 | 250 | 98 | 9 | 51 | 15 | 156 | 4 | 15 | 4 |
| Future Volume (veh/h) | 5 | 118 | 64 | 250 | 98 | 9 | 51 | 15 | 156 | 4 | 15 | 4 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 6 | 131 | 71 | 278 | 109 | 10 | 57 | 17 | 173 | 4 | 17 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 134 | 428 | 225 | 561 | 175 | 14 | 222 | 75 | 333 | 174 | 423 | 86 |
| Arrive On Green | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 15 | 1141 | 599 | 930 | 467 | 36 | 223 | 244 | 1091 | 96 | 1384 | 282 |
| Grp Volume(v), veh/h | 208 | 0 | 0 | 397 | 0 | 0 | 247 | 0 | 0 | 25 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1755 | 0 | 0 | 1433 | 0 | 0 | 1557 | 0 | 0 | 1763 | 0 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 6.4 | 0.0 | 0.0 | 3.6 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Prop In Lane | 0.03 | | 0.34 | 0.70 | | 0.03 | 0.23 | | 0.70 | 0.16 | | 0.16 |
| Lane Grp Cap(c), veh/h | 787 | 0 | 0 | 750 | 0 | 0 | 630 | 0 | 0 | 684 | 0 | 0 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.00 | 0.53 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1797 | 0 | 0 | 1518 | 0 | 0 | 1123 | 0 | 0 | 1225 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 6.4 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 6.6 | 0.0 | 0.0 | 8.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 | 7.1 | 0.0 | 0.0 |
| LnGrp LOS | A | | | A | | | A | | | A | | |
| Approach Vol, veh/h | | 208 | | | 397 | | | 247 | | | | 25 |
| Approach Delay, s/veh | | 6.6 | | | 8.0 | | | 8.6 | | | | 7.1 |
| Approach LOS | | A | | | A | | | A | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 15.4 | | 13.4 | | 15.4 | | 13.4 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 27.6 | | 18.2 | | 27.6 | | 18.2 | | | | |
| Max Q Clear Time (g_c+I1), s | | 4.4 | | 2.3 | | 8.4 | | 5.6 | | | | |
| Green Ext Time (p_c), s | | 1.3 | | 0.1 | | 2.8 | | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 7.8 | | | | | | | | |
| HCM 7th LOS | | | | A | | | | | | | | |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 9.4 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 314 | 244 | 680 | 64 |
| Demand Flow Rate, veh/h | 321 | 249 | 694 | 65 |
| Vehicles Circulating, veh/h | 68 | 364 | 249 | 550 |
| Vehicles Exiting, veh/h | 547 | 579 | 140 | 63 |
| Ped Vol Crossing Leg, #/h | 1 | 10 | 2 | 6 |
| Ped Cap Adj | 1.000 | 0.999 | 1.000 | 0.999 |
| Approach Delay, s/veh | 5.1 | 6.5 | 12.8 | 5.5 |
| Approach LOS | A | A | B | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 321 | 249 | 694 | 65 |
| Cap Entry Lane, veh/h | 1287 | 952 | 1070 | 787 |
| Entry HV Adj Factor | 0.977 | 0.981 | 0.980 | 0.982 |
| Flow Entry, veh/h | 314 | 244 | 680 | 64 |
| Cap Entry, veh/h | 1258 | 932 | 1049 | 773 |
| V/C Ratio | 0.249 | 0.262 | 0.649 | 0.083 |
| Control Delay, s/veh | 5.1 | 6.5 | 12.8 | 5.5 |
| LOS | A | A | B | A |
| 95th %tile Queue, veh | 1 | 1 | 5 | 0 |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 6.8 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 401 | 408 | 293 | 42 |
| Demand Flow Rate, veh/h | 409 | 416 | 299 | 42 |
| Vehicles Circulating, veh/h | 235 | 148 | 307 | 503 |
| Vehicles Exiting, veh/h | 310 | 458 | 337 | 61 |
| Ped Vol Crossing Leg, #/h | 0 | 20 | 2 | 30 |
| Ped Cap Adj | 1.000 | 0.997 | 1.000 | 0.996 |
| Approach Delay, s/veh | 7.3 | 6.5 | 6.7 | 4.9 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 409 | 416 | 299 | 42 |
| Cap Entry Lane, veh/h | 1086 | 1187 | 1009 | 826 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.978 | 0.989 |
| Flow Entry, veh/h | 401 | 408 | 293 | 42 |
| Cap Entry, veh/h | 1064 | 1161 | 987 | 814 |
| V/C Ratio | 0.377 | 0.352 | 0.296 | 0.051 |
| Control Delay, s/veh | 7.3 | 6.5 | 6.7 | 4.9 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 2 | 2 | 1 | 0 |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 5.5 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 208 | 397 | 247 | 25 |
| Demand Flow Rate, veh/h | 212 | 405 | 251 | 25 |
| Vehicles Circulating, veh/h | 305 | 81 | 144 | 453 |
| Vehicles Exiting, veh/h | 173 | 314 | 373 | 33 |
| Ped Vol Crossing Leg, #/h | 2 | 6 | 1 | 3 |
| Ped Cap Adj | 1.000 | 0.999 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.6 | 5.8 | 4.9 | 4.5 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 212 | 405 | 251 | 25 |
| Cap Entry Lane, veh/h | 1011 | 1270 | 1191 | 869 |
| Entry HV Adj Factor | 0.983 | 0.980 | 0.983 | 0.987 |
| Flow Entry, veh/h | 208 | 397 | 247 | 25 |
| Cap Entry, veh/h | 993 | 1244 | 1171 | 857 |
| V/C Ratio | 0.210 | 0.319 | 0.211 | 0.029 |
| Control Delay, s/veh | 5.6 | 5.8 | 4.9 | 4.5 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 | 0 |

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**APPENDIX 6.1: OPENING YEAR CUMULATIVE (2027) WITHOUT
PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS
WORKSHEETS**

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| Intersection | |
|---------------------------|-----|
| Intersection Delay, s/veh | 101 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 30 | 244 | 69 | 47 | 259 | 0 | 257 | 33 | 311 | 6 | 15 | 44 |
| Future Vol, veh/h | 30 | 244 | 69 | 47 | 259 | 0 | 257 | 33 | 311 | 6 | 15 | 44 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 36 | 294 | 83 | 57 | 312 | 0 | 310 | 40 | 375 | 7 | 18 | 53 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|----|------|-------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 35 | 30.3 | 184.2 | 13.7 |
| HCM LOS | D | D | F | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 43% | 9% | 15% | 9% |
| Vol Thru, % | 5% | 71% | 85% | 23% |
| Vol Right, % | 52% | 20% | 0% | 68% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 601 | 343 | 306 | 65 |
| LT Vol | 257 | 30 | 47 | 6 |
| Through Vol | 33 | 244 | 259 | 15 |
| RT Vol | 311 | 69 | 0 | 44 |
| Lane Flow Rate | 724 | 413 | 369 | 78 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.337 | 0.794 | 0.732 | 0.175 |
| Departure Headway (Hd) | 6.647 | 7.887 | 8.133 | 8.867 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 550 | 463 | 450 | 407 |
| Service Time | 4.653 | 5.887 | 6.133 | 6.867 |
| HCM Lane V/C Ratio | 1.316 | 0.892 | 0.82 | 0.192 |
| HCM Control Delay, s/veh | 184.2 | 35 | 30.3 | 13.7 |
| HCM Lane LOS | F | D | D | B |
| HCM 95th-tile Q | 31.4 | 7.2 | 5.9 | 0.6 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 40 | 48 | 31 | 560 | 262 | 18 |
| Future Vol, veh/h | 40 | 48 | 31 | 560 | 262 | 18 |
| Conflicting Peds, #/hr | 0 | 46 | 0 | 0 | 0 | 5 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 45 | 55 | 35 | 636 | 298 | 20 |

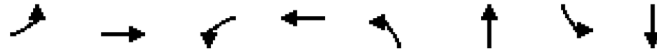
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 702 | 210 | 323 | 0 | 0 |
| Stage 1 | 313 | - | - | - | - |
| Stage 2 | 389 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 373 | 796 | 1233 | - | - |
| Stage 1 | 715 | - | - | - | - |
| Stage 2 | 654 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 356 | 757 | 1228 | - | - |
| Mov Cap-2 Maneuver | 356 | - | - | - | - |
| Stage 1 | 686 | - | - | - | - |
| Stage 2 | 651 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v13.97 | | 0.66 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 189 | - | 501 | - | - |
| HCM Lane V/C Ratio | 0.029 | - | 0.2 | - | - |
| HCM Control Delay (s/veh) | 8 | 0.3 | 14 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.7 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

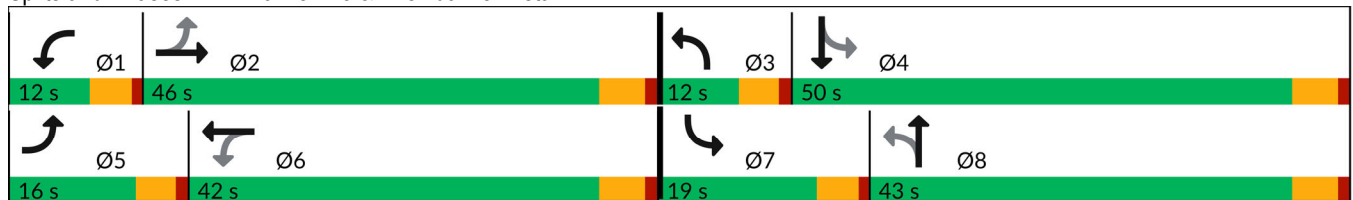


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 86 | 64 | 26 | 34 | 16 | 453 | 90 | 198 |
| Future Volume (vph) | 86 | 64 | 26 | 34 | 16 | 453 | 90 | 198 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 16.0 | 46.0 | 12.0 | 42.0 | 12.0 | 43.0 | 19.0 | 50.0 |
| Total Split (%) | 13.3% | 38.3% | 10.0% | 35.0% | 10.0% | 35.8% | 15.8% | 41.7% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 22.7 | 19.0 | 17.6 | 12.9 | 21.7 | 17.4 | 27.9 | 25.9 |
| Actuated g/C Ratio | 0.37 | 0.31 | 0.29 | 0.21 | 0.35 | 0.28 | 0.46 | 0.42 |
| v/c Ratio | 0.26 | 0.21 | 0.07 | 0.48 | 0.04 | 0.59 | 0.27 | 0.18 |
| Control Delay (s/veh) | 16.1 | 18.0 | 15.0 | 10.9 | 11.5 | 24.1 | 12.5 | 12.7 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 16.1 | 18.0 | 15.0 | 10.9 | 11.5 | 24.1 | 12.5 | 12.7 |
| LOS | B | B | B | B | B | C | B | B |
| Approach Delay (s/veh) | | 17.1 | | 11.5 | | 23.7 | | 12.7 |
| Approach LOS | | B | | B | | C | | B |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 61.3
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay (s/veh): 17.6
 Intersection LOS: B
 Intersection Capacity Utilization 54.5%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 86 | 64 | 36 | 26 | 34 | 159 | 16 | 453 | 21 | 90 | 198 | 21 |
| Future Volume (veh/h) | 86 | 64 | 36 | 26 | 34 | 159 | 16 | 453 | 21 | 90 | 198 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 0.91 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 79 | 25 | 32 | 42 | 123 | 20 | 559 | 24 | 111 | 244 | 22 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 420 | 344 | 109 | 465 | 88 | 259 | 472 | 928 | 40 | 375 | 1056 | 94 |
| Arrive On Green | 0.07 | 0.25 | 0.25 | 0.04 | 0.21 | 0.21 | 0.02 | 0.27 | 0.27 | 0.08 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1361 | 431 | 1781 | 414 | 1212 | 1781 | 3456 | 148 | 1781 | 3295 | 294 |
| Grp Volume(v), veh/h | 106 | 0 | 104 | 32 | 0 | 165 | 20 | 287 | 296 | 111 | 131 | 135 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1792 | 1781 | 0 | 1626 | 1781 | 1777 | 1827 | 1781 | 1777 | 1812 |
| Q Serve(g_s), s | 2.4 | 0.0 | 2.4 | 0.7 | 0.0 | 4.7 | 0.4 | 7.4 | 7.5 | 2.3 | 2.8 | 2.9 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 2.4 | 0.7 | 0.0 | 4.7 | 0.4 | 7.4 | 7.5 | 2.3 | 2.8 | 2.9 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 0.75 | 1.00 | | 0.08 | 1.00 | | 0.16 |
| Lane Grp Cap(c), veh/h | 420 | 0 | 453 | 465 | 0 | 347 | 472 | 477 | 491 | 375 | 570 | 581 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.23 | 0.07 | 0.00 | 0.48 | 0.04 | 0.60 | 0.60 | 0.30 | 0.23 | 0.23 |
| Avail Cap(c_a), veh/h | 671 | 0 | 1387 | 652 | 0 | 1136 | 678 | 1275 | 1311 | 725 | 1510 | 1541 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.5 | 0.0 | 15.7 | 15.2 | 0.0 | 18.2 | 13.4 | 16.9 | 16.9 | 12.6 | 13.2 | 13.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 1.0 | 0.0 | 1.2 | 1.2 | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.9 | 0.3 | 0.0 | 1.6 | 0.1 | 2.8 | 2.9 | 0.8 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 14.6 | 0.0 | 15.9 | 15.2 | 0.0 | 19.2 | 13.4 | 18.1 | 18.1 | 12.8 | 13.4 | 13.4 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 210 | | | 197 | | | 603 | | | 377 | |
| Approach Delay, s/veh | | 15.2 | | | 18.5 | | | 17.9 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.5 | 18.4 | 5.9 | 22.0 | 8.5 | 16.4 | 8.6 | 19.3 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 7.4 | 40.9 | 7.4 | 44.9 | 11.4 | 36.9 | 14.4 | 37.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 4.4 | 2.4 | 4.9 | 4.4 | 6.7 | 4.3 | 9.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 | 1.6 | 0.1 | 1.0 | 0.1 | 3.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 16.3 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 72.6 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 39 | 356 | 100 | 181 | 289 | 7 | 85 | 22 | 173 | 7 | 32 | 8 |
| Future Vol, veh/h | 39 | 356 | 100 | 181 | 289 | 7 | 85 | 22 | 173 | 7 | 32 | 8 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 48 | 434 | 122 | 221 | 352 | 9 | 104 | 27 | 211 | 9 | 39 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 90.2 | 88.6 | 24.2 | 13.7 |
| HCM LOS | F | F | C | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 30% | 8% | 38% | 15% |
| Vol Thru, % | 8% | 72% | 61% | 68% |
| Vol Right, % | 62% | 20% | 1% | 17% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 280 | 495 | 477 | 47 |
| LT Vol | 85 | 39 | 181 | 7 |
| Through Vol | 22 | 356 | 289 | 32 |
| RT Vol | 173 | 100 | 7 | 8 |
| Lane Flow Rate | 341 | 604 | 582 | 57 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.668 | 1.088 | 1.08 | 0.137 |
| Departure Headway (Hd) | 7.45 | 6.715 | 6.903 | 9.237 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 488 | 543 | 529 | 390 |
| Service Time | 5.45 | 4.715 | 4.903 | 7.237 |
| HCM Lane V/C Ratio | 0.699 | 1.112 | 1.1 | 0.146 |
| HCM Control Delay, s/veh | 24.2 | 90.2 | 88.6 | 13.7 |
| HCM Lane LOS | C | F | F | B |
| HCM 95th-tile Q | 4.9 | 18 | 17.4 | 0.5 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 27 | 31 | 20 | 249 | 324 | 40 |
| Future Vol, veh/h | 27 | 31 | 20 | 249 | 324 | 40 |
| Conflicting Peds, #/hr | 0 | 35 | 0 | 0 | 0 | 14 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 35 | 23 | 283 | 368 | 45 |

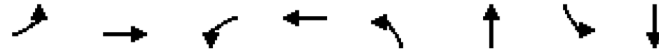
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 592 | 256 | 428 | 0 | 0 |
| Stage 1 | 405 | - | - | - | - |
| Stage 2 | 187 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 438 | 743 | 1128 | - | - |
| Stage 1 | 642 | - | - | - | - |
| Stage 2 | 826 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 417 | 709 | 1113 | - | - |
| Mov Cap-2 Maneuver | 417 | - | - | - | - |
| Stage 1 | 620 | - | - | - | - |
| Stage 2 | 815 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v12.68 | | 0.76 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 268 | - | 534 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | 0.123 | - | - |
| HCM Control Delay (s/veh) | 8.3 | 0.2 | 12.7 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.4 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

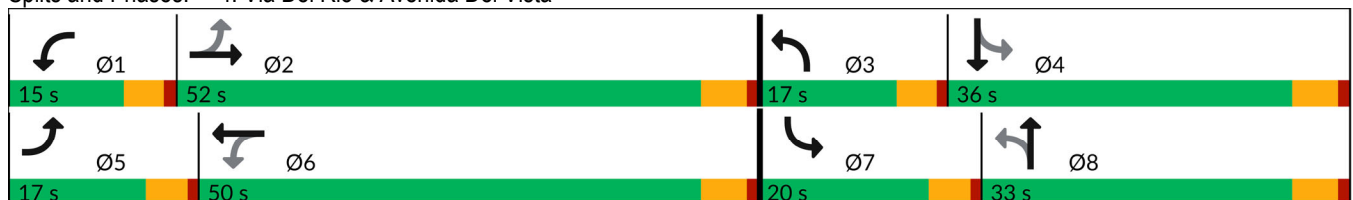


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 53 | 71 | 43 | 88 | 36 | 166 | 77 | 205 |
| Future Volume (vph) | 53 | 71 | 43 | 88 | 36 | 166 | 77 | 205 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 17.0 | 52.0 | 15.0 | 50.0 | 17.0 | 33.0 | 20.0 | 36.0 |
| Total Split (%) | 14.2% | 43.3% | 12.5% | 41.7% | 14.2% | 27.5% | 16.7% | 30.0% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 17.7 | 14.9 | 16.3 | 12.7 | 16.6 | 11.9 | 20.3 | 17.2 |
| Actuated g/C Ratio | 0.35 | 0.30 | 0.32 | 0.25 | 0.33 | 0.24 | 0.40 | 0.34 |
| v/c Ratio | 0.12 | 0.19 | 0.09 | 0.35 | 0.09 | 0.24 | 0.16 | 0.25 |
| Control Delay (s/veh) | 11.1 | 14.9 | 11.0 | 17.5 | 11.8 | 19.1 | 11.7 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 11.1 | 14.9 | 11.0 | 17.5 | 11.8 | 19.1 | 11.7 | 14.2 |
| LOS | B | B | B | B | B | B | B | B |
| Approach Delay (s/veh) | | 13.6 | | 16.2 | | 18.0 | | 13.7 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 50.2 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.36 | |
| Intersection Signal Delay (s/veh): 15.3 | Intersection LOS: B |
| Intersection Capacity Utilization 49.0% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 53 | 71 | 29 | 43 | 88 | 66 | 36 | 166 | 22 | 77 | 205 | 72 |
| Future Volume (veh/h) | 53 | 71 | 29 | 43 | 88 | 66 | 36 | 166 | 22 | 77 | 205 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.92 | 0.94 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 57 | 76 | 16 | 46 | 95 | 53 | 39 | 178 | 22 | 83 | 220 | 62 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 444 | 357 | 75 | 490 | 260 | 145 | 448 | 770 | 93 | 492 | 746 | 205 |
| Arrive On Green | 0.06 | 0.24 | 0.24 | 0.05 | 0.23 | 0.23 | 0.04 | 0.24 | 0.24 | 0.07 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 1492 | 314 | 1781 | 1122 | 626 | 1781 | 3155 | 382 | 1781 | 2749 | 755 |
| Grp Volume(v), veh/h | 57 | 0 | 92 | 46 | 0 | 148 | 39 | 99 | 101 | 83 | 140 | 142 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1806 | 1781 | 0 | 1748 | 1781 | 1777 | 1760 | 1781 | 1777 | 1728 |
| Q Serve(g_s), s | 1.1 | 0.0 | 2.0 | 0.9 | 0.0 | 3.5 | 0.8 | 2.2 | 2.2 | 1.6 | 3.0 | 3.2 |
| Cycle Q Clear(g_c), s | 1.1 | 0.0 | 2.0 | 0.9 | 0.0 | 3.5 | 0.8 | 2.2 | 2.2 | 1.6 | 3.0 | 3.2 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.36 | 1.00 | | 0.22 | 1.00 | | 0.44 |
| Lane Grp Cap(c), veh/h | 444 | 0 | 432 | 490 | 0 | 405 | 448 | 434 | 430 | 492 | 482 | 469 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.21 | 0.09 | 0.00 | 0.37 | 0.09 | 0.23 | 0.24 | 0.17 | 0.29 | 0.30 |
| Avail Cap(c_a), veh/h | 801 | 0 | 1744 | 787 | 0 | 1616 | 828 | 1021 | 1011 | 934 | 1131 | 1099 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 12.9 | 0.0 | 14.8 | 13.0 | 0.0 | 15.7 | 12.7 | 14.7 | 14.7 | 12.1 | 14.0 | 14.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.6 | 0.0 | 0.3 | 0.3 | 0.1 | 0.3 | 0.4 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.7 | 0.3 | 0.0 | 1.2 | 0.3 | 0.8 | 0.8 | 0.5 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 12.9 | 0.0 | 15.0 | 13.0 | 0.0 | 16.2 | 12.7 | 14.9 | 15.0 | 12.1 | 14.3 | 14.4 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 149 | | | 194 | | | 239 | | | 365 | |
| Approach Delay, s/veh | | 14.2 | | | 15.4 | | | 14.6 | | | 13.9 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.9 | 16.7 | 6.6 | 18.3 | 7.3 | 16.4 | 8.0 | 17.0 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 46.9 | 12.4 | 30.9 | 12.4 | 44.9 | 15.4 | 27.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 4.0 | 2.8 | 5.2 | 3.1 | 5.5 | 3.6 | 4.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.6 | 0.0 | 0.9 | 0.1 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.4 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 18.2 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 13 | 182 | 66 | 260 | 194 | 10 | 52 | 17 | 170 | 4 | 24 | 4 |
| Future Vol, veh/h | 13 | 182 | 66 | 260 | 194 | 10 | 52 | 17 | 170 | 4 | 24 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 202 | 73 | 289 | 216 | 11 | 58 | 19 | 189 | 4 | 27 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|----|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 12.9 | 24.5 | 13 | 10.2 |
| HCM LOS | B | C | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 22% | 5% | 56% | 13% |
| Vol Thru, % | 7% | 70% | 42% | 75% |
| Vol Right, % | 71% | 25% | 2% | 13% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 239 | 261 | 464 | 32 |
| LT Vol | 52 | 13 | 260 | 4 |
| Through Vol | 17 | 182 | 194 | 24 |
| RT Vol | 170 | 66 | 10 | 4 |
| Lane Flow Rate | 266 | 290 | 516 | 36 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.423 | 0.443 | 0.773 | 0.067 |
| Departure Headway (Hd) | 5.732 | 5.494 | 5.396 | 6.746 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 624 | 652 | 670 | 534 |
| Service Time | 3.804 | 3.561 | 3.451 | 4.746 |
| HCM Lane V/C Ratio | 0.426 | 0.445 | 0.77 | 0.067 |
| HCM Control Delay, s/veh | 13 | 12.9 | 24.5 | 10.2 |
| HCM Lane LOS | B | B | C | B |
| HCM 95th-tile Q | 2.1 | 2.3 | 7.3 | 0.2 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 18 | 31 | 28 | 207 | 347 | 53 |
| Future Vol, veh/h | 18 | 31 | 28 | 207 | 347 | 53 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 3 |
| 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 | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 32 | 29 | 213 | 358 | 55 |

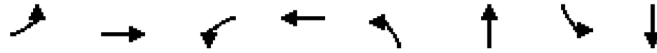
| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 552 | 209 | 415 | 0 | 0 |
| Stage 1 | 388 | - | - | - | - |
| Stage 2 | 164 | - | - | - | - |
| Critical Hdwy | 6.84 | 6.94 | 4.14 | - | - |
| Critical Hdwy Stg 1 | 5.84 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.84 | - | - | - | - |
| Follow-up Hdwy | 3.52 | 3.32 | 2.22 | - | - |
| Pot Cap-1 Maneuver | 463 | 797 | 1140 | - | - |
| Stage 1 | 655 | - | - | - | - |
| Stage 2 | 848 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 448 | 794 | 1137 | - | - |
| Mov Cap-2 Maneuver | 448 | - | - | - | - |
| Stage 1 | 635 | - | - | - | - |
| Stage 2 | 846 | - | - | - | - |

| Approach | EB | NB | SB |
|------------------------|-------|------|----|
| HCM Control Delay, s/v | 11.33 | 1.14 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 429 | - | 619 | - | - |
| HCM Lane V/C Ratio | 0.025 | - | 0.082 | - | - |
| HCM Control Delay (s/veh) | 8.2 | 0.2 | 11.3 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.3 | - | - |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
04/16/2024

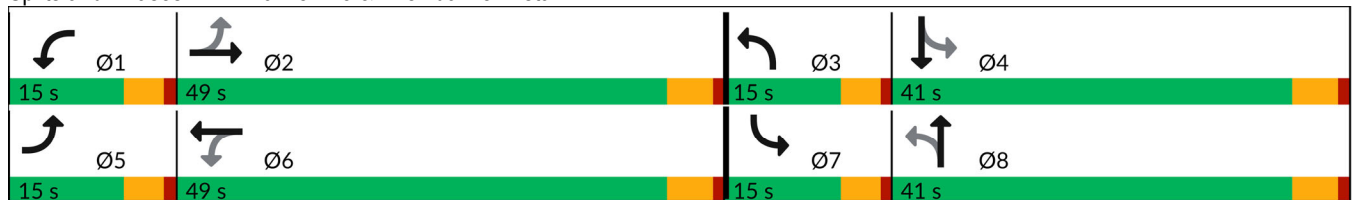


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 38 | 65 | 29 | 110 | 25 | 152 | 35 | 266 |
| Future Volume (vph) | 38 | 65 | 29 | 110 | 25 | 152 | 35 | 266 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 15.0 | 49.0 | 15.0 | 49.0 | 15.0 | 41.0 | 15.0 | 41.0 |
| Total Split (%) | 12.5% | 40.8% | 12.5% | 40.8% | 12.5% | 34.2% | 12.5% | 34.2% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 15.4 | 13.1 | 15.2 | 13.0 | 14.4 | 12.3 | 15.5 | 14.1 |
| Actuated g/C Ratio | 0.36 | 0.30 | 0.35 | 0.30 | 0.33 | 0.29 | 0.36 | 0.33 |
| v/c Ratio | 0.07 | 0.16 | 0.05 | 0.29 | 0.05 | 0.18 | 0.07 | 0.31 |
| Control Delay (s/veh) | 9.6 | 13.4 | 9.6 | 15.1 | 11.3 | 15.0 | 11.1 | 13.0 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 9.6 | 13.4 | 9.6 | 15.1 | 11.3 | 15.0 | 11.1 | 13.0 |
| LOS | A | B | A | B | B | B | B | B |
| Approach Delay (s/veh) | | 12.3 | | 14.2 | | 14.6 | | 12.8 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 43
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay (s/veh): 13.5
 Intersection LOS: B
 Intersection Capacity Utilization 44.6%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 04/16/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 38 | 65 | 22 | 29 | 110 | 45 | 25 | 152 | 25 | 35 | 266 | 77 |
| Future Volume (veh/h) | 38 | 65 | 22 | 29 | 110 | 45 | 25 | 152 | 25 | 35 | 266 | 77 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 0.99 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 40 | 68 | 12 | 31 | 116 | 31 | 26 | 160 | 21 | 37 | 280 | 63 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 460 | 390 | 69 | 512 | 347 | 93 | 383 | 730 | 94 | 463 | 697 | 154 |
| Arrive On Green | 0.04 | 0.25 | 0.25 | 0.04 | 0.24 | 0.24 | 0.03 | 0.23 | 0.23 | 0.04 | 0.24 | 0.24 |
| Sat Flow, veh/h | 1781 | 1546 | 273 | 1781 | 1420 | 379 | 1781 | 3151 | 406 | 1781 | 2879 | 636 |
| Grp Volume(v), veh/h | 40 | 0 | 80 | 31 | 0 | 147 | 26 | 89 | 92 | 37 | 171 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1819 | 1781 | 0 | 1799 | 1781 | 1777 | 1781 | 1781 | 1777 | 1738 |
| Q Serve(g_s), s | 0.7 | 0.0 | 1.5 | 0.6 | 0.0 | 3.0 | 0.5 | 1.8 | 1.9 | 0.7 | 3.6 | 3.7 |
| Cycle Q Clear(g_c), s | 0.7 | 0.0 | 1.5 | 0.6 | 0.0 | 3.0 | 0.5 | 1.8 | 1.9 | 0.7 | 3.6 | 3.7 |
| Prop In Lane | 1.00 | | 0.15 | 1.00 | | 0.21 | 1.00 | | 0.23 | 1.00 | | 0.37 |
| Lane Grp Cap(c), veh/h | 460 | 0 | 459 | 512 | 0 | 439 | 383 | 412 | 413 | 463 | 430 | 421 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.17 | 0.06 | 0.00 | 0.33 | 0.07 | 0.22 | 0.22 | 0.08 | 0.40 | 0.41 |
| Avail Cap(c_a), veh/h | 801 | 0 | 1806 | 867 | 0 | 1787 | 746 | 1443 | 1446 | 809 | 1443 | 1411 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.6 | 0.0 | 12.9 | 11.7 | 0.0 | 13.7 | 12.3 | 13.7 | 13.8 | 12.0 | 14.0 | 14.1 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.4 | 0.0 | 0.3 | 0.3 | 0.0 | 0.6 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.5 | 0.2 | 0.0 | 1.0 | 0.2 | 0.6 | 0.6 | 0.2 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 11.6 | 0.0 | 13.1 | 11.7 | 0.0 | 14.2 | 12.3 | 14.0 | 14.0 | 12.0 | 14.6 | 14.7 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 120 | | | 178 | | | 207 | | | 380 | |
| Approach Delay, s/veh | | 12.6 | | | 13.8 | | | 13.8 | | | 14.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.2 | 16.3 | 6.0 | 15.8 | 6.5 | 15.9 | 6.4 | 15.3 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 43.9 | 10.4 | 35.9 | 10.4 | 43.9 | 10.4 | 35.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 3.5 | 2.5 | 5.7 | 2.7 | 5.0 | 2.7 | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.0 | 2.0 | 0.0 | 0.8 | 0.0 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 13.9 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

**APPENDIX 6.2: OPENING YEAR CUMULATIVE (2027) WITH PROJECT
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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| Intersection | |
|---------------------------|-------|
| Intersection Delay, s/veh | 105.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 30 | 244 | 69 | 47 | 259 | 0 | 260 | 33 | 316 | 6 | 15 | 44 |
| Future Vol, veh/h | 30 | 244 | 69 | 47 | 259 | 0 | 260 | 33 | 316 | 6 | 15 | 44 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 36 | 294 | 83 | 57 | 312 | 0 | 313 | 40 | 381 | 7 | 18 | 53 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|-------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 35.3 | 30.4 | 191.7 | 13.8 |
| HCM LOS | E | D | F | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 43% | 9% | 15% | 9% |
| Vol Thru, % | 5% | 71% | 85% | 23% |
| Vol Right, % | 52% | 20% | 0% | 68% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 609 | 343 | 306 | 65 |
| LT Vol | 260 | 30 | 47 | 6 |
| Through Vol | 33 | 244 | 259 | 15 |
| RT Vol | 316 | 69 | 0 | 44 |
| Lane Flow Rate | 734 | 413 | 369 | 78 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.355 | 0.795 | 0.732 | 0.175 |
| Departure Headway (Hd) | 6.648 | 7.928 | 8.176 | 8.907 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 550 | 459 | 446 | 406 |
| Service Time | 4.654 | 5.928 | 6.176 | 6.907 |
| HCM Lane V/C Ratio | 1.335 | 0.9 | 0.827 | 0.192 |
| HCM Control Delay, s/veh | 191.7 | 35.3 | 30.4 | 13.8 |
| HCM Lane LOS | F | E | D | B |
| HCM 95th-tile Q | 32.5 | 7.2 | 5.9 | 0.6 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 40 | 48 | 31 | 568 | 262 | 18 |
| Future Vol, veh/h | 40 | 48 | 31 | 568 | 262 | 18 |
| Conflicting Peds, #/hr | 0 | 46 | 0 | 0 | 0 | 5 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 45 | 55 | 35 | 645 | 298 | 20 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 706 | 210 | 323 | 0 | 0 |
| Stage 1 | 313 | - | - | - | - |
| Stage 2 | 393 | - | - | - | - |
| 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 | 370 | 796 | 1233 | - | - |
| Stage 1 | 715 | - | - | - | - |
| Stage 2 | 651 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 354 | 757 | 1228 | - | - |
| Mov Cap-2 Maneuver | 354 | - | - | - | - |
| Stage 1 | 686 | - | - | - | - |
| Stage 2 | 648 | - | - | - | - |

| Approach | EB | NB | SB |
|-----------------------------|----|------|----|
| HCM Control Delay, s/v14.02 | | 0.65 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 186 | - | 499 | - | - |
| HCM Lane V/C Ratio | 0.029 | - | 0.201 | - | - |
| HCM Control Delay (s/veh) | 8 | 0.3 | 14 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.7 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 6 | 702 | 1 | 0 | 312 |
| Future Vol, veh/h | 0 | 6 | 702 | 1 | 0 | 312 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 7 | 763 | 1 | 0 | 339 |

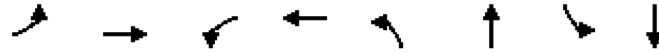
| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | - | 382 | 0 | 0 | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - | - |
| Pot Cap-1 Maneuver | 0 | 616 | - | - | 0 | - |
| Stage 1 | 0 | - | - | - | 0 | - |
| Stage 2 | 0 | - | - | - | 0 | - |
| Platoon blocked, % | | | - | - | - | - |
| Mov Cap-1 Maneuver | - | 616 | - | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | WB | NB | SB |
|-----------------------------|----|----|----|
| HCM Control Delay, s/v10.91 | | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 616 |
| HCM Lane V/C Ratio | - | - | 0.011 |
| HCM Control Delay (s/veh) | - | - | 10.9 |
| HCM Lane LOS | - | - | B |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024



| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 86 | 65 | 29 | 37 | 16 | 454 | 93 | 198 |
| Future Volume (vph) | 86 | 65 | 29 | 37 | 16 | 454 | 93 | 198 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 16.0 | 46.0 | 12.0 | 42.0 | 12.0 | 43.0 | 19.0 | 50.0 |
| Total Split (%) | 13.3% | 38.3% | 10.0% | 35.0% | 10.0% | 35.8% | 15.8% | 41.7% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 22.9 | 19.1 | 17.8 | 13.0 | 21.9 | 17.5 | 28.2 | 26.2 |
| Actuated g/C Ratio | 0.37 | 0.31 | 0.29 | 0.21 | 0.35 | 0.28 | 0.46 | 0.42 |
| v/c Ratio | 0.26 | 0.22 | 0.08 | 0.51 | 0.04 | 0.59 | 0.27 | 0.18 |
| Control Delay (s/veh) | 16.3 | 18.2 | 15.2 | 12.3 | 11.5 | 24.3 | 12.6 | 12.8 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 16.3 | 18.2 | 15.2 | 12.3 | 11.5 | 24.3 | 12.6 | 12.8 |
| LOS | B | B | B | B | B | C | B | B |
| Approach Delay (s/veh) | | 17.4 | | 12.7 | | 23.9 | | 12.8 |
| Approach LOS | | B | | B | | C | | B |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 61.8
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.59
 Intersection Signal Delay (s/veh): 17.9
 Intersection LOS: B
 Intersection Capacity Utilization 54.9%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 86 | 65 | 36 | 29 | 37 | 163 | 16 | 454 | 22 | 93 | 198 | 21 |
| Future Volume (veh/h) | 86 | 65 | 36 | 29 | 37 | 163 | 16 | 454 | 22 | 93 | 198 | 21 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 1.00 | 1.00 | | 0.98 | 0.99 | | 0.91 | 0.98 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 106 | 80 | 25 | 36 | 46 | 128 | 20 | 560 | 25 | 115 | 244 | 22 |
| Peak Hour Factor | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 | 0.81 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 411 | 340 | 106 | 465 | 92 | 255 | 473 | 927 | 41 | 376 | 1060 | 95 |
| Arrive On Green | 0.07 | 0.25 | 0.25 | 0.04 | 0.21 | 0.21 | 0.02 | 0.27 | 0.27 | 0.08 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 1366 | 427 | 1781 | 430 | 1198 | 1781 | 3449 | 154 | 1781 | 3295 | 294 |
| Grp Volume(v), veh/h | 106 | 0 | 105 | 36 | 0 | 174 | 20 | 288 | 297 | 115 | 131 | 135 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1792 | 1781 | 0 | 1628 | 1781 | 1777 | 1826 | 1781 | 1777 | 1812 |
| Q Serve(g_s), s | 2.4 | 0.0 | 2.5 | 0.8 | 0.0 | 5.0 | 0.4 | 7.5 | 7.5 | 2.4 | 2.8 | 2.9 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 2.5 | 0.8 | 0.0 | 5.0 | 0.4 | 7.5 | 7.5 | 2.4 | 2.8 | 2.9 |
| Prop In Lane | 1.00 | | 0.24 | 1.00 | | 0.74 | 1.00 | | 0.08 | 1.00 | | 0.16 |
| Lane Grp Cap(c), veh/h | 411 | 0 | 446 | 465 | 0 | 347 | 473 | 478 | 491 | 376 | 572 | 583 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.24 | 0.08 | 0.00 | 0.50 | 0.04 | 0.60 | 0.61 | 0.31 | 0.23 | 0.23 |
| Avail Cap(c_a), veh/h | 662 | 0 | 1385 | 645 | 0 | 1135 | 679 | 1272 | 1307 | 724 | 1507 | 1537 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.5 | 0.0 | 15.9 | 15.1 | 0.0 | 18.4 | 13.4 | 16.9 | 16.9 | 12.6 | 13.1 | 13.2 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 1.1 | 0.0 | 1.2 | 1.2 | 0.2 | 0.2 | 0.2 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.8 | 0.0 | 0.9 | 0.3 | 0.0 | 1.8 | 0.1 | 2.8 | 2.9 | 0.8 | 1.0 | 1.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 14.7 | 0.0 | 16.1 | 15.2 | 0.0 | 19.5 | 13.4 | 18.1 | 18.1 | 12.8 | 13.3 | 13.4 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 211 | | | 210 | | | 605 | | | 381 | |
| Approach Delay, s/veh | | 15.4 | | | 18.7 | | | 18.0 | | | 13.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.7 | 18.3 | 5.9 | 22.1 | 8.5 | 16.4 | 8.7 | 19.3 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 7.4 | 40.9 | 7.4 | 44.9 | 11.4 | 36.9 | 14.4 | 37.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 4.5 | 2.4 | 4.9 | 4.4 | 7.0 | 4.4 | 9.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.6 | 0.0 | 1.6 | 0.1 | 1.1 | 0.1 | 3.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 16.4 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | |
| Traffic Vol, veh/h | 4 | 175 | 220 | 0 | 1 | 10 |
| Future Vol, veh/h | 4 | 175 | 220 | 0 | 1 | 10 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 4 | 190 | 239 | 0 | 1 | 11 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 239 | 0 | - | 0 | 438 239 |
| Stage 1 | - | - | - | - | 239 - |
| Stage 2 | - | - | - | - | 199 - |
| 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 | 1328 | - | - | - | 576 800 |
| Stage 1 | - | - | - | - | 801 - |
| Stage 2 | - | - | - | - | 835 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1328 | - | - | - | 574 800 |
| Mov Cap-2 Maneuver | - | - | - | - | 574 - |
| Stage 1 | - | - | - | - | 798 - |
| Stage 2 | - | - | - | - | 835 - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.17 | 0 | 9.74 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 40 | - | - | - | 772 |
| HCM Lane V/C Ratio | 0.003 | - | - | - | 0.015 |
| HCM Control Delay (s/veh) | 7.7 | 0 | - | - | 9.7 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

| Intersection | |
|---------------------------|------|
| Intersection Delay, s/veh | 67.1 |
| Intersection LOS | F |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 39 | 356 | 97 | 175 | 289 | 7 | 82 | 22 | 168 | 7 | 32 | 8 |
| Future Vol, veh/h | 39 | 356 | 97 | 175 | 289 | 7 | 82 | 22 | 168 | 7 | 32 | 8 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 48 | 434 | 118 | 213 | 352 | 9 | 100 | 27 | 205 | 9 | 39 | 10 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|----|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 83.9 | 80 | 23.4 | 13.6 |
| HCM LOS | F | F | C | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 30% | 8% | 37% | 15% |
| Vol Thru, % | 8% | 72% | 61% | 68% |
| Vol Right, % | 62% | 20% | 1% | 17% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 272 | 492 | 471 | 47 |
| LT Vol | 82 | 39 | 175 | 7 |
| Through Vol | 22 | 356 | 289 | 32 |
| RT Vol | 168 | 97 | 7 | 8 |
| Lane Flow Rate | 332 | 600 | 574 | 57 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.657 | 1.069 | 1.053 | 0.138 |
| Departure Headway (Hd) | 7.387 | 6.659 | 6.852 | 9.105 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 491 | 552 | 534 | 396 |
| Service Time | 5.387 | 4.659 | 4.852 | 7.105 |
| HCM Lane V/C Ratio | 0.676 | 1.087 | 1.075 | 0.144 |
| HCM Control Delay, s/veh | 23.4 | 83.9 | 80 | 13.6 |
| HCM Lane LOS | C | F | F | B |
| HCM 95th-tile Q | 4.7 | 17.2 | 16.2 | 0.5 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | ↑↑ | | ↑↑ |
| Traffic Vol, veh/h | 27 | 31 | 20 | 241 | 316 | 40 |
| Future Vol, veh/h | 27 | 31 | 20 | 241 | 316 | 40 |
| Conflicting Peds, #/hr | 0 | 35 | 0 | 0 | 0 | 14 |
| 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 | 88 | 88 | 88 | 88 | 88 | 88 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 35 | 23 | 274 | 359 | 45 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 578 | 251 | 419 | 0 | 0 |
| Stage 1 | 396 | - | - | - | - |
| Stage 2 | 182 | - | - | - | - |
| 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 | 446 | 748 | 1137 | - | - |
| Stage 1 | 649 | - | - | - | - |
| Stage 2 | 831 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 425 | 714 | 1122 | - | - |
| Mov Cap-2 Maneuver | 425 | - | - | - | - |
| Stage 1 | 626 | - | - | - | - |
| Stage 2 | 820 | - | - | - | - |

| Approach | EB | NB | SB |
|------------------------|-------|------|----|
| HCM Control Delay, s/v | 12.56 | 0.78 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|------|-----|-------|-----|-----|
| Capacity (veh/h) | 276 | - | 542 | - | - |
| HCM Lane V/C Ratio | 0.02 | - | 0.122 | - | - |
| HCM Control Delay (s/veh) | 8.3 | 0.2 | 12.6 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.4 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 4 | 287 | 2 | 0 | 363 |
| Future Vol, veh/h | 0 | 4 | 287 | 2 | 0 | 363 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 312 | 2 | 0 | 395 |

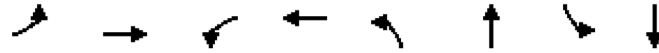
| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 157 | 0 | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 860 | - | - | 0 |
| Stage 1 | 0 | - | - | - | 0 |
| Stage 2 | 0 | - | - | - | 0 |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | - | 860 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | WB | NB | SB |
|------------------------|-----|----|----|
| HCM Control Delay, s/v | 9.2 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 860 |
| HCM Lane V/C Ratio | - | - | 0.005 |
| HCM Control Delay (s/veh) | - | - | 9.2 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

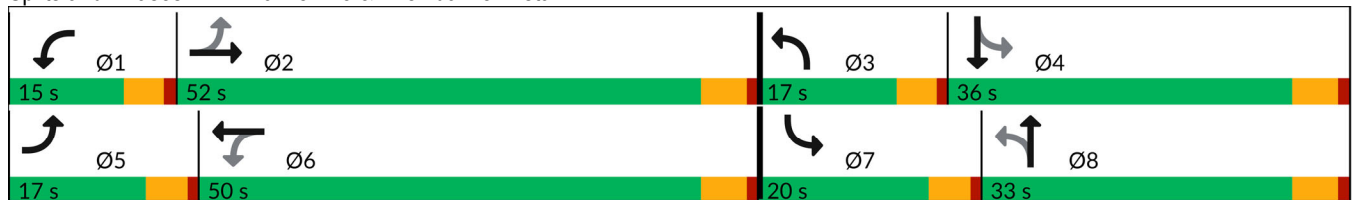


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 54 | 72 | 45 | 90 | 36 | 167 | 85 | 205 |
| Future Volume (vph) | 54 | 72 | 45 | 90 | 36 | 167 | 85 | 205 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 17.0 | 52.0 | 15.0 | 50.0 | 17.0 | 33.0 | 20.0 | 36.0 |
| Total Split (%) | 14.2% | 43.3% | 12.5% | 41.7% | 14.2% | 27.5% | 16.7% | 30.0% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 17.7 | 15.0 | 16.4 | 12.8 | 16.6 | 11.9 | 20.5 | 17.4 |
| Actuated g/C Ratio | 0.35 | 0.30 | 0.33 | 0.25 | 0.33 | 0.24 | 0.41 | 0.35 |
| v/c Ratio | 0.12 | 0.20 | 0.10 | 0.36 | 0.09 | 0.25 | 0.18 | 0.25 |
| Control Delay (s/veh) | 11.2 | 15.0 | 11.2 | 17.7 | 11.8 | 19.2 | 11.8 | 14.2 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 11.2 | 15.0 | 11.2 | 17.7 | 11.8 | 19.2 | 11.8 | 14.2 |
| LOS | B | B | B | B | B | B | B | B |
| Approach Delay (s/veh) | | 13.7 | | 16.3 | | 18.1 | | 13.7 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 50.4
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay (s/veh): 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 49.7%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 06/26/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 54 | 72 | 29 | 45 | 90 | 69 | 36 | 167 | 23 | 85 | 205 | 72 |
| Future Volume (veh/h) | 54 | 72 | 29 | 45 | 90 | 69 | 36 | 167 | 23 | 85 | 205 | 72 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 0.99 | | 0.98 | 0.99 | | 0.99 | 0.99 | | 0.92 | 0.94 | | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 58 | 77 | 16 | 48 | 97 | 56 | 39 | 180 | 23 | 91 | 220 | 62 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 439 | 355 | 74 | 489 | 255 | 147 | 450 | 764 | 96 | 495 | 753 | 207 |
| Arrive On Green | 0.06 | 0.24 | 0.24 | 0.05 | 0.23 | 0.23 | 0.04 | 0.24 | 0.24 | 0.07 | 0.27 | 0.27 |
| Sat Flow, veh/h | 1781 | 1496 | 311 | 1781 | 1107 | 639 | 1781 | 3141 | 393 | 1781 | 2749 | 756 |
| Grp Volume(v), veh/h | 58 | 0 | 93 | 48 | 0 | 153 | 39 | 100 | 103 | 91 | 140 | 142 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1807 | 1781 | 0 | 1745 | 1781 | 1777 | 1757 | 1781 | 1777 | 1728 |
| Q Serve(g_s), s | 1.2 | 0.0 | 2.0 | 1.0 | 0.0 | 3.6 | 0.8 | 2.2 | 2.3 | 1.8 | 3.0 | 3.2 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 2.0 | 1.0 | 0.0 | 3.6 | 0.8 | 2.2 | 2.3 | 1.8 | 3.0 | 3.2 |
| Prop In Lane | 1.00 | | 0.17 | 1.00 | | 0.37 | 1.00 | | 0.22 | 1.00 | | 0.44 |
| Lane Grp Cap(c), veh/h | 439 | 0 | 429 | 489 | 0 | 403 | 450 | 432 | 427 | 495 | 486 | 473 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.22 | 0.10 | 0.00 | 0.38 | 0.09 | 0.23 | 0.24 | 0.18 | 0.29 | 0.30 |
| Avail Cap(c_a), veh/h | 792 | 0 | 1737 | 781 | 0 | 1606 | 828 | 1016 | 1005 | 928 | 1125 | 1094 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.0 | 0.0 | 15.0 | 13.0 | 0.0 | 15.8 | 12.8 | 14.8 | 14.8 | 12.1 | 14.0 | 14.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 0.6 | 0.0 | 0.3 | 0.3 | 0.1 | 0.3 | 0.4 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.4 | 0.0 | 0.7 | 0.3 | 0.0 | 1.3 | 0.3 | 0.8 | 0.8 | 0.6 | 1.1 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 13.0 | 0.0 | 15.2 | 13.1 | 0.0 | 16.4 | 12.8 | 15.1 | 15.1 | 12.2 | 14.3 | 14.4 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 151 | | | 201 | | | 242 | | | 373 | |
| Approach Delay, s/veh | | 14.4 | | | 15.6 | | | 14.7 | | | 13.8 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.0 | 16.7 | 6.7 | 18.5 | 7.3 | 16.4 | 8.1 | 17.0 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 46.9 | 12.4 | 30.9 | 12.4 | 44.9 | 15.4 | 27.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.0 | 4.0 | 2.8 | 5.2 | 3.2 | 5.6 | 3.8 | 4.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.5 | 0.0 | 1.6 | 0.0 | 0.9 | 0.1 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.5 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↔ | ↔ | | ↔ | |
| Traffic Vol, veh/h | 10 | 171 | 197 | 1 | 1 | 7 |
| Future Vol, veh/h | 10 | 171 | 197 | 1 | 1 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 186 | 214 | 1 | 1 | 8 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 215 | 0 | - | 0 | 422 215 |
| Stage 1 | - | - | - | - | 215 - |
| Stage 2 | - | - | - | - | 208 - |
| 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 | 1355 | - | - | - | 588 825 |
| Stage 1 | - | - | - | - | 821 - |
| Stage 2 | - | - | - | - | 827 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1355 | - | - | - | 583 825 |
| Mov Cap-2 Maneuver | - | - | - | - | 583 - |
| Stage 1 | - | - | - | - | 814 - |
| Stage 2 | - | - | - | - | 827 - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.42 | 0 | 9.64 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 99 | - | - | - | 784 |
| HCM Lane V/C Ratio | 0.008 | - | - | - | 0.011 |
| HCM Control Delay (s/veh) | 7.7 | 0 | - | - | 9.6 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

| Intersection | |
|---------------------------|----|
| Intersection Delay, s/veh | 19 |
| Intersection LOS | C |

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 13 | 182 | 69 | 266 | 194 | 10 | 54 | 17 | 174 | 4 | 24 | 4 |
| Future Vol, veh/h | 13 | 182 | 69 | 266 | 194 | 10 | 54 | 17 | 174 | 4 | 24 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 14 | 202 | 77 | 296 | 216 | 11 | 60 | 19 | 193 | 4 | 27 | 4 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |

| Approach | EB | WB | NB | SB |
|----------------------------|------|------|------|------|
| Opposing Approach | WB | EB | SB | NB |
| Opposing Lanes | 1 | 1 | 1 | 1 |
| Conflicting Approach Left | SB | NB | EB | WB |
| Conflicting Lanes Left | 1 | 1 | 1 | 1 |
| Conflicting Approach Right | NB | SB | WB | EB |
| Conflicting Lanes Right | 1 | 1 | 1 | 1 |
| HCM Control Delay, s/veh | 13.1 | 25.8 | 13.3 | 10.3 |
| HCM LOS | B | D | B | B |

| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
|--------------------------|-------|-------|-------|-------|
| Vol Left, % | 22% | 5% | 57% | 13% |
| Vol Thru, % | 7% | 69% | 41% | 75% |
| Vol Right, % | 71% | 26% | 2% | 13% |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 245 | 264 | 470 | 32 |
| LT Vol | 54 | 13 | 266 | 4 |
| Through Vol | 17 | 182 | 194 | 24 |
| RT Vol | 174 | 69 | 10 | 4 |
| Lane Flow Rate | 272 | 293 | 522 | 36 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.436 | 0.451 | 0.788 | 0.067 |
| Departure Headway (Hd) | 5.769 | 5.534 | 5.434 | 6.814 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 621 | 648 | 663 | 529 |
| Service Time | 3.842 | 3.602 | 3.489 | 4.814 |
| HCM Lane V/C Ratio | 0.438 | 0.452 | 0.787 | 0.068 |
| HCM Control Delay, s/veh | 13.3 | 13.1 | 25.8 | 10.3 |
| HCM Lane LOS | B | B | D | B |
| HCM 95th-tile Q | 2.2 | 2.3 | 7.7 | 0.2 |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 18 | 31 | 28 | 214 | 355 | 53 |
| Future Vol, veh/h | 18 | 31 | 28 | 214 | 355 | 53 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 3 |
| 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 | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 32 | 29 | 221 | 366 | 55 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|------|--------|---|
| Conflicting Flow All | 564 | 213 | 424 | 0 | 0 |
| Stage 1 | 396 | - | - | - | - |
| Stage 2 | 168 | - | - | - | - |
| 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 | 455 | 792 | 1132 | - | - |
| Stage 1 | 649 | - | - | - | - |
| Stage 2 | 844 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 440 | 789 | 1129 | - | - |
| Mov Cap-2 Maneuver | 440 | - | - | - | - |
| Stage 1 | 629 | - | - | - | - |
| Stage 2 | 842 | - | - | - | - |

| Approach | EB | NB | SB |
|------------------------|-------|------|----|
| HCM Control Delay, s/v | 11.42 | 1.12 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|---------------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 417 | - | 612 | - | - |
| HCM Lane V/C Ratio | 0.026 | - | 0.083 | - | - |
| HCM Control Delay (s/veh) | 8.3 | 0.2 | 11.4 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0.1 | - | 0.3 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | | ↗ | ↕ | | | ↕ |
| Traffic Vol, veh/h | 0 | 4 | 238 | 3 | 0 | 389 |
| Future Vol, veh/h | 0 | 4 | 238 | 3 | 0 | 389 |
| 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 | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 4 | 259 | 3 | 0 | 423 |

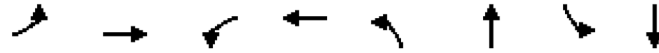
| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | - | 131 | 0 | 0 | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | 6.94 | - | - | - |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | 3.32 | - | - | - |
| Pot Cap-1 Maneuver | 0 | 894 | - | - | 0 |
| Stage 1 | 0 | - | - | - | 0 |
| Stage 2 | 0 | - | - | - | 0 |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | - | 894 | - | - | - |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | WB | NB | SB |
|------------------------|------|----|----|
| HCM Control Delay, s/v | 9.05 | 0 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBT |
|---------------------------|-----|----------|-------|
| Capacity (veh/h) | - | - | 894 |
| HCM Lane V/C Ratio | - | - | 0.005 |
| HCM Control Delay (s/veh) | - | - | 9 |
| HCM Lane LOS | - | - | A |
| HCM 95th %tile Q(veh) | - | - | 0 |

Timings
4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
06/26/2024

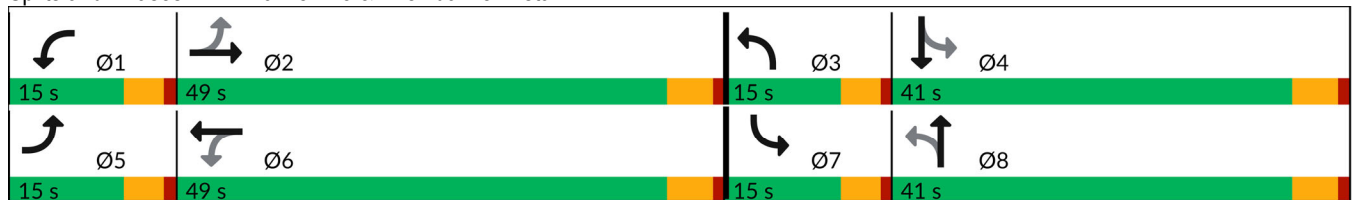


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | |
| Traffic Volume (vph) | 39 | 67 | 31 | 112 | 25 | 154 | 46 | 266 |
| Future Volume (vph) | 39 | 67 | 31 | 112 | 25 | 154 | 46 | 266 |
| Turn Type | pm+pt | NA | pm+pt | NA | pm+pt | NA | pm+pt | NA |
| Protected Phases | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 5 | 2 | 1 | 6 | 3 | 8 | 7 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 | 5.0 | 10.0 |
| Minimum Split (s) | 9.6 | 26.1 | 9.6 | 27.1 | 9.6 | 22.1 | 9.6 | 22.1 |
| Total Split (s) | 15.0 | 49.0 | 15.0 | 49.0 | 15.0 | 41.0 | 15.0 | 41.0 |
| Total Split (%) | 12.5% | 40.8% | 12.5% | 40.8% | 12.5% | 34.2% | 12.5% | 34.2% |
| Yellow Time (s) | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 | 3.6 | 4.1 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 |
| Lead/Lag | Lead | Lag | Lead | Lag | Lead | Lag | Lead | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | Min | None | Min | None | None | None | None |
| Act Effct Green (s) | 15.5 | 13.1 | 15.2 | 12.9 | 15.4 | 12.1 | 17.9 | 16.4 |
| Actuated g/C Ratio | 0.34 | 0.29 | 0.34 | 0.28 | 0.34 | 0.27 | 0.40 | 0.36 |
| v/c Ratio | 0.08 | 0.17 | 0.06 | 0.32 | 0.05 | 0.20 | 0.09 | 0.28 |
| Control Delay (s/veh) | 10.7 | 14.7 | 10.6 | 16.4 | 11.1 | 16.2 | 10.7 | 12.4 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay (s/veh) | 10.7 | 14.7 | 10.6 | 16.4 | 11.1 | 16.2 | 10.7 | 12.4 |
| LOS | B | B | B | B | B | B | B | B |
| Approach Delay (s/veh) | | 13.5 | | 15.5 | | 15.6 | | 12.3 |
| Approach LOS | | B | | B | | B | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 120 | |
| Actuated Cycle Length: 45.3 | |
| Natural Cycle: 70 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.33 | |
| Intersection Signal Delay (s/veh): 13.9 | Intersection LOS: B |
| Intersection Capacity Utilization 44.9% | ICU Level of Service A |
| Analysis Period (min) 15 | |

Splits and Phases: 4: Via Del Rio & Avenida Del Vista



HCM 7th Signalized Intersection Summary
 4: Via Del Rio & Avenida Del Vista

Via Del Rio (JN 15701)
 06/26/2024

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 39 | 67 | 22 | 31 | 112 | 48 | 25 | 154 | 27 | 46 | 266 | 77 |
| Future Volume (veh/h) | 39 | 67 | 22 | 31 | 112 | 48 | 25 | 154 | 27 | 46 | 266 | 77 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 0.99 | | 0.99 | 1.00 | | 0.97 | 0.99 | | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 41 | 71 | 12 | 33 | 118 | 35 | 26 | 162 | 23 | 48 | 280 | 63 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 451 | 388 | 65 | 506 | 334 | 99 | 388 | 715 | 100 | 472 | 716 | 158 |
| Arrive On Green | 0.04 | 0.25 | 0.25 | 0.04 | 0.24 | 0.24 | 0.03 | 0.23 | 0.23 | 0.05 | 0.25 | 0.25 |
| Sat Flow, veh/h | 1781 | 1557 | 263 | 1781 | 1383 | 410 | 1781 | 3117 | 434 | 1781 | 2879 | 636 |
| Grp Volume(v), veh/h | 41 | 0 | 83 | 33 | 0 | 153 | 26 | 91 | 94 | 48 | 171 | 172 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1821 | 1781 | 0 | 1793 | 1781 | 1777 | 1774 | 1781 | 1777 | 1738 |
| Q Serve(g_s), s | 0.8 | 0.0 | 1.6 | 0.6 | 0.0 | 3.2 | 0.5 | 1.9 | 1.9 | 0.9 | 3.6 | 3.7 |
| Cycle Q Clear(g_c), s | 0.8 | 0.0 | 1.6 | 0.6 | 0.0 | 3.2 | 0.5 | 1.9 | 1.9 | 0.9 | 3.6 | 3.7 |
| Prop In Lane | 1.00 | | 0.14 | 1.00 | | 0.23 | 1.00 | | 0.24 | 1.00 | | 0.37 |
| Lane Grp Cap(c), veh/h | 451 | 0 | 453 | 506 | 0 | 434 | 388 | 408 | 407 | 472 | 442 | 432 |
| V/C Ratio(X) | 0.09 | 0.00 | 0.18 | 0.07 | 0.00 | 0.35 | 0.07 | 0.22 | 0.23 | 0.10 | 0.39 | 0.40 |
| Avail Cap(c_a), veh/h | 786 | 0 | 1788 | 854 | 0 | 1761 | 748 | 1427 | 1425 | 797 | 1427 | 1396 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.8 | 0.0 | 13.2 | 11.8 | 0.0 | 14.0 | 12.5 | 14.0 | 14.0 | 12.0 | 14.0 | 14.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.3 | 0.3 | 0.0 | 0.6 | 0.6 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.2 | 0.0 | 0.6 | 0.2 | 0.0 | 1.1 | 0.2 | 0.7 | 0.7 | 0.3 | 1.2 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 11.8 | 0.0 | 13.4 | 11.9 | 0.0 | 14.5 | 12.5 | 14.3 | 14.3 | 12.0 | 14.5 | 14.6 |
| LnGrp LOS | B | | B | B | | B | B | B | B | B | B | B |
| Approach Vol, veh/h | | 124 | | | 186 | | | 211 | | | 391 | |
| Approach Delay, s/veh | | 12.9 | | | 14.1 | | | 14.1 | | | 14.2 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.3 | 16.2 | 6.0 | 16.2 | 6.6 | 15.9 | 6.8 | 15.4 | | | | |
| Change Period (Y+Rc), s | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | 4.6 | 5.1 | | | | |
| Max Green Setting (Gmax), s | 10.4 | 43.9 | 10.4 | 35.9 | 10.4 | 43.9 | 10.4 | 35.9 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 3.6 | 2.5 | 5.7 | 2.8 | 5.2 | 2.9 | 3.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.4 | 0.0 | 2.0 | 0.0 | 0.9 | 0.0 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | 14.0 | | | | | | | | | |
| HCM 7th LOS | | | B | | | | | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.6 | | | | | |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations | | ↕ | ↕ | | ↕ | |
| Traffic Vol, veh/h | 14 | 125 | 183 | 1 | 1 | 7 |
| Future Vol, veh/h | 14 | 125 | 183 | 1 | 1 | 7 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | 0 | - | 0 | - |
| Grade, % | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 136 | 199 | 1 | 1 | 8 |

| Major/Minor | Major1 | Major2 | Minor2 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 200 | 0 | - | 0 | 366 199 |
| Stage 1 | - | - | - | - | 199 - |
| Stage 2 | - | - | - | - | 166 - |
| 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 | 1372 | - | - | - | 634 842 |
| Stage 1 | - | - | - | - | 834 - |
| Stage 2 | - | - | - | - | 863 - |
| Platoon blocked, % | | - | - | - | |
| Mov Cap-1 Maneuver | 1372 | - | - | - | 626 842 |
| Mov Cap-2 Maneuver | - | - | - | - | 626 - |
| Stage 1 | - | - | - | - | 824 - |
| Stage 2 | - | - | - | - | 863 - |

| Approach | EB | WB | SB |
|------------------------|------|----|------|
| HCM Control Delay, s/v | 0.77 | 0 | 9.51 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR | SBLn1 |
|---------------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h) | 181 | - | - | - | 807 |
| HCM Lane V/C Ratio | 0.011 | - | - | - | 0.011 |
| HCM Control Delay (s/veh) | 7.7 | 0 | - | - | 9.5 |
| HCM Lane LOS | A | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | - | - | - | 0 |

**APPENDIX 6.3: OPENING YEAR CUMULATIVE (2027) WITHOUT
PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS
WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 Without Project Conditions - Weekday AM Peak Hour**

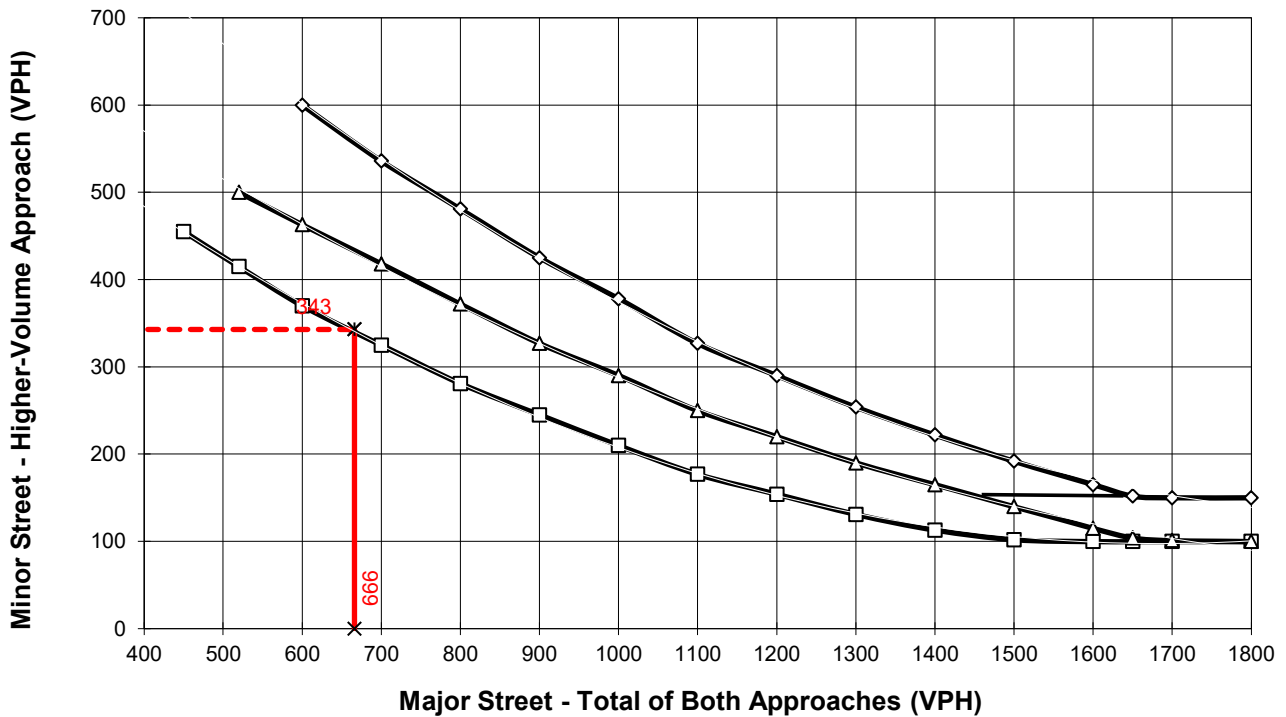
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **666**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Paseo Grande**

High Volume Approach (VPH) = **343**
 Number of Approach Lanes On Minor Street = **1**

WARRANTED FOR A SIGNAL



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 Without Project Conditions - Weekday AM Peak Hour**

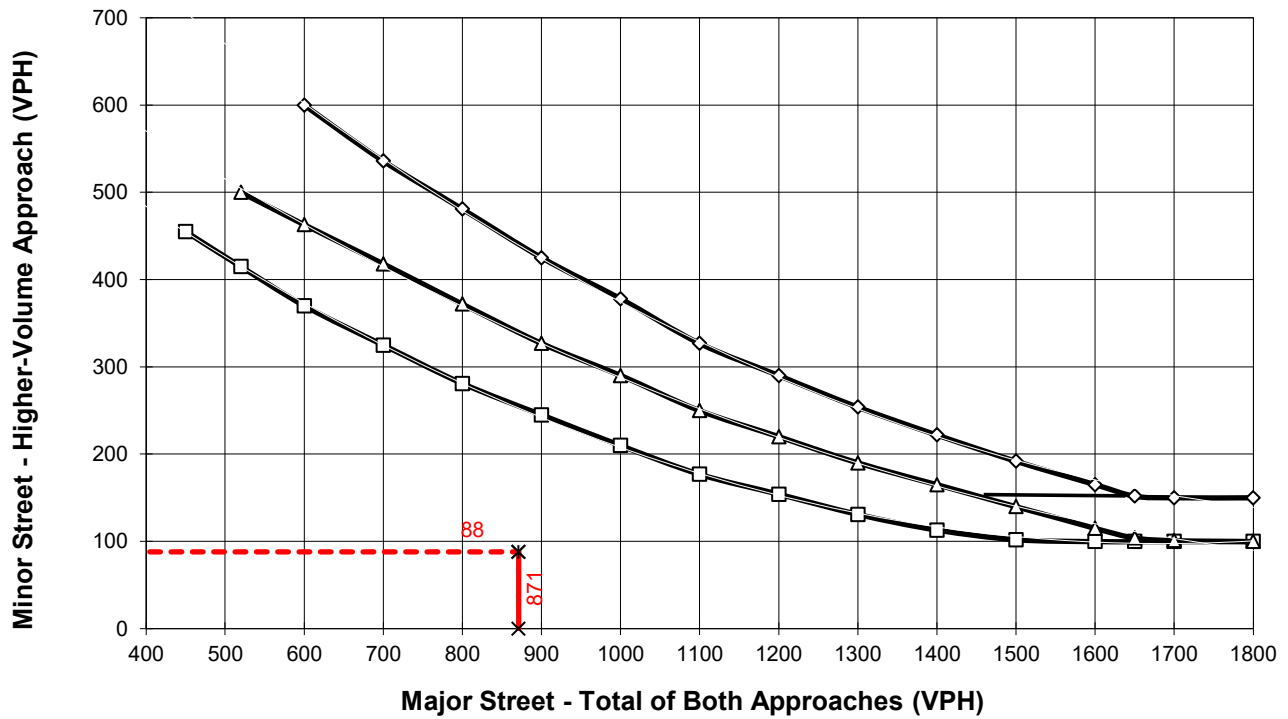
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **871**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Kirkwood Dr.**

High Volume Approach (VPH) = **88**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- x- Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

**APPENDIX 6.4: OPENING YEAR CUMULATIVE (2027) WITH PROJECT
CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS**

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Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 With Project Conditions - Weekday AM Peak Hour**

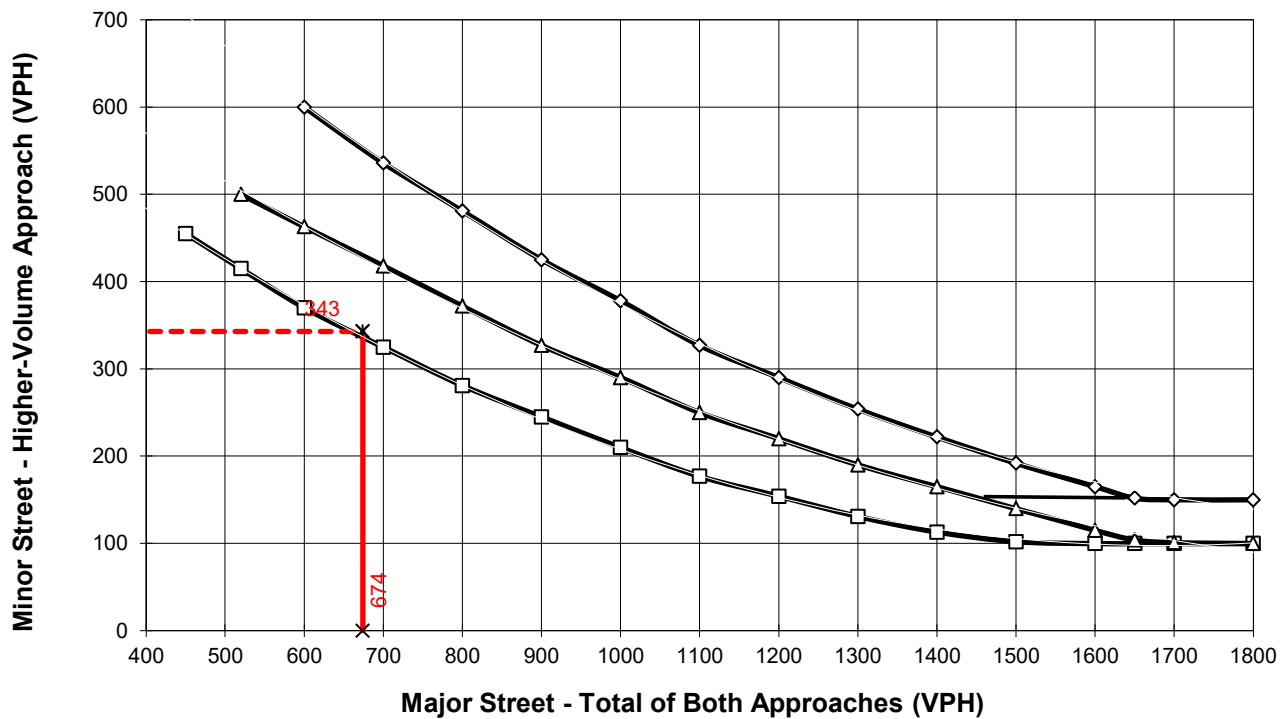
Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **674**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Paseo Grande**

High Volume Approach (VPH) = **343**
 Number of Approach Lanes On Minor Street = **1**

WARRANTED FOR A SIGNAL



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2027 With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Via del Rio**

Total of Both Approaches (VPH) = **879**

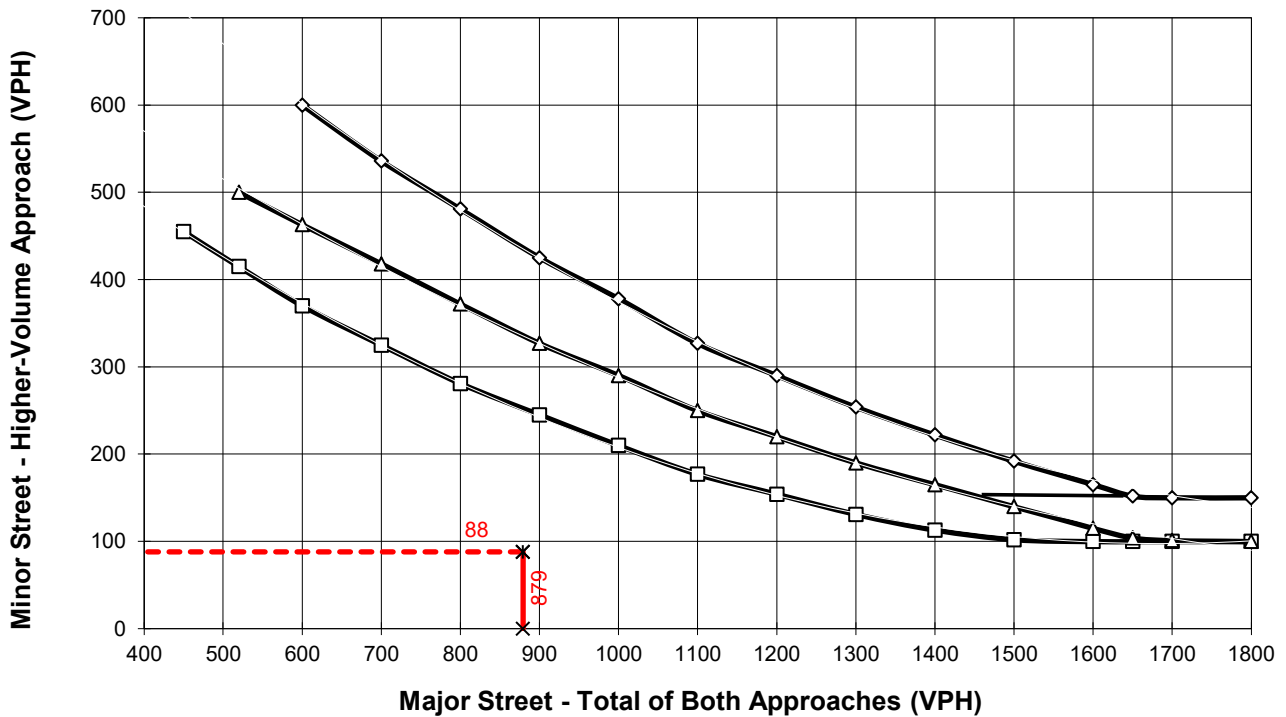
Number of Approach Lanes on Major Street = **1**

Minor Street Name = **Kirkwood Dr.**

High Volume Approach (VPH) = **88**

Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - - Minor Street Approaches

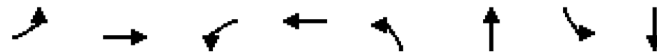
*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

**APPENDIX 6.5: OPENING YEAR CUMULATIVE (2027) WITH PROJECT
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS
WITH IMPROVEMENTS**

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Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

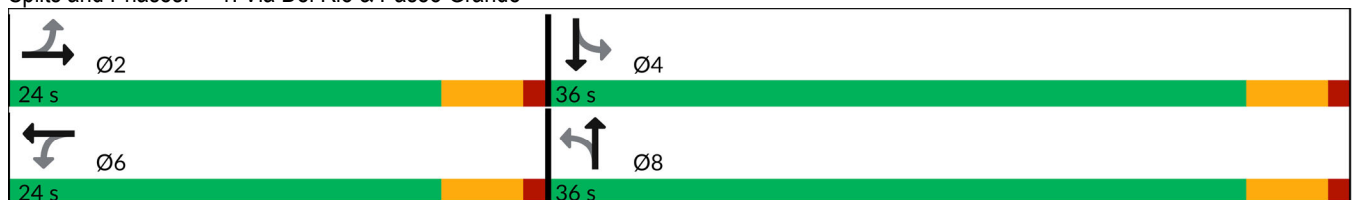


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 30 | 244 | 47 | 259 | 260 | 33 | 6 | 15 |
| Future Volume (vph) | 30 | 244 | 47 | 259 | 260 | 33 | 6 | 15 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 24.0 | 24.0 | 24.0 | 24.0 | 36.0 | 36.0 | 36.0 | 36.0 |
| Total Split (%) | 40.0% | 40.0% | 40.0% | 40.0% | 60.0% | 60.0% | 60.0% | 60.0% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 16.5 | | 16.5 | | 29.2 | | 22.1 |
| Actuated g/C Ratio | | 0.30 | | 0.30 | | 0.53 | | 0.40 |
| v/c Ratio | | 0.78 | | 0.77 | | 0.91 | | 0.11 |
| Control Delay (s/veh) | | 29.4 | | 31.4 | | 29.3 | | 3.9 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 29.4 | | 31.4 | | 29.3 | | 3.9 |
| LOS | | C | | C | | C | | A |
| Approach Delay (s/veh) | | 29.4 | | 31.4 | | 29.3 | | 3.9 |
| Approach LOS | | C | | C | | C | | A |

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 55.1
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay (s/veh): 28.6 Intersection LOS: C
 Intersection Capacity Utilization 76.3% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary
 1: Via Del Rio & Paseo Grande

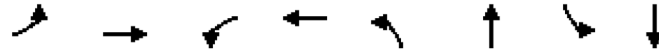
Via Del Rio (JN 15701)
 06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | | ↔ | | | ↔ | |
| Traffic Volume (veh/h) | 30 | 244 | 69 | 47 | 259 | 0 | 260 | 33 | 316 | 6 | 15 | 44 |
| Future Volume (veh/h) | 30 | 244 | 69 | 47 | 259 | 0 | 260 | 33 | 316 | 6 | 15 | 44 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 36 | 294 | 83 | 57 | 312 | 0 | 313 | 40 | 381 | 7 | 18 | 53 |
| Peak Hour Factor | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 | 0.83 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 100 | 373 | 100 | 128 | 436 | 0 | 424 | 58 | 414 | 114 | 253 | 620 |
| Arrive On Green | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.00 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 |
| Sat Flow, veh/h | 88 | 1337 | 358 | 174 | 1565 | 0 | 597 | 107 | 760 | 72 | 465 | 1137 |
| Grp Volume(v), veh/h | 413 | 0 | 0 | 369 | 0 | 0 | 734 | 0 | 0 | 78 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1784 | 0 | 0 | 1739 | 0 | 0 | 1464 | 0 | 0 | 1674 | 0 | 0 |
| Q Serve(g_s), s | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 11.1 | 0.0 | 0.0 | 9.9 | 0.0 | 0.0 | 23.8 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 |
| Prop In Lane | 0.09 | | 0.20 | 0.15 | | 0.00 | 0.43 | | 0.52 | 0.09 | | 0.68 |
| Lane Grp Cap(c), veh/h | 572 | 0 | 0 | 564 | 0 | 0 | 897 | 0 | 0 | 988 | 0 | 0 |
| V/C Ratio(X) | 0.72 | 0.00 | 0.00 | 0.65 | 0.00 | 0.00 | 0.82 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 729 | 0 | 0 | 717 | 0 | 0 | 977 | 0 | 0 | 1074 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 17.6 | 0.0 | 0.0 | 17.0 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 | 5.7 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.6 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 5.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.6 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | 7.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 20.2 | 0.0 | 0.0 | 18.5 | 0.0 | 0.0 | 15.9 | 0.0 | 0.0 | 5.7 | 0.0 | 0.0 |
| LnGrp LOS | C | | | B | | | B | | | A | | |
| Approach Vol, veh/h | | 413 | | | 369 | | | 734 | | | 78 | |
| Approach Delay, s/veh | | 20.2 | | | 18.5 | | | 15.9 | | | 5.7 | |
| Approach LOS | | C | | | B | | | B | | | A | |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 19.2 | | 33.1 | | 19.2 | | 33.1 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 19.4 | | 31.4 | | 19.4 | | 31.4 | | | | |
| Max Q Clear Time (g_c+I1), s | | 13.1 | | 3.2 | | 11.9 | | 25.8 | | | | |
| Green Ext Time (p_c), s | | 1.4 | | 0.4 | | 1.4 | | 2.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 17.1 | | | | | | | | |
| HCM 7th LOS | | | | B | | | | | | | | |

Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

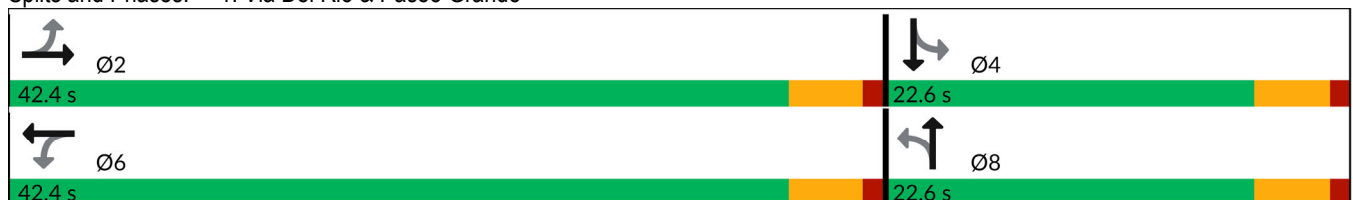


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 39 | 356 | 175 | 289 | 82 | 22 | 7 | 32 |
| Future Volume (vph) | 39 | 356 | 175 | 289 | 82 | 22 | 7 | 32 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 42.4 | 42.4 | 42.4 | 42.4 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (%) | 65.2% | 65.2% | 65.2% | 65.2% | 34.8% | 34.8% | 34.8% | 34.8% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 30.8 | | 30.8 | | 14.2 | | 14.1 |
| Actuated g/C Ratio | | 0.56 | | 0.56 | | 0.26 | | 0.26 |
| v/c Ratio | | 0.62 | | 0.85 | | 0.70 | | 0.12 |
| Control Delay (s/veh) | | 11.1 | | 25.9 | | 22.3 | | 16.0 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 11.1 | | 25.9 | | 22.3 | | 16.0 |
| LOS | | B | | C | | C | | B |
| Approach Delay (s/veh) | | 11.1 | | 26.0 | | 22.3 | | 16.0 |
| Approach LOS | | B | | C | | C | | B |

Intersection Summary

| | |
|---|------------------------|
| Cycle Length: 65 | |
| Actuated Cycle Length: 54.7 | |
| Natural Cycle: 65 | |
| Control Type: Actuated-Uncoordinated | |
| Maximum v/c Ratio: 0.86 | |
| Intersection Signal Delay (s/veh): 19.2 | Intersection LOS: B |
| Intersection Capacity Utilization 87.6% | ICU Level of Service E |
| Analysis Period (min) 15 | |

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary
 1: Via Del Rio & Paseo Grande

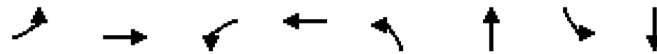
Via Del Rio (JN 15701)
 06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Volume (veh/h) | 39 | 356 | 97 | 175 | 289 | 7 | 82 | 22 | 168 | 7 | 32 | 8 |
| Future Volume (veh/h) | 39 | 356 | 97 | 175 | 289 | 7 | 82 | 22 | 168 | 7 | 32 | 8 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 0.97 | 1.00 | | 0.96 | 0.98 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 48 | 434 | 118 | 213 | 352 | 9 | 100 | 27 | 205 | 9 | 39 | 10 |
| Peak Hour Factor | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 | 0.82 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 129 | 679 | 176 | 329 | 466 | 11 | 208 | 66 | 267 | 129 | 382 | 86 |
| Arrive On Green | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| Sat Flow, veh/h | 77 | 1350 | 349 | 427 | 926 | 22 | 352 | 232 | 943 | 113 | 1351 | 305 |
| Grp Volume(v), veh/h | 600 | 0 | 0 | 574 | 0 | 0 | 332 | 0 | 0 | 58 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1776 | 0 | 0 | 1374 | 0 | 0 | 1527 | 0 | 0 | 1769 | 0 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 5.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 10.6 | 0.0 | 0.0 | 14.7 | 0.0 | 0.0 | 8.5 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Prop In Lane | 0.08 | | 0.20 | 0.37 | | 0.02 | 0.30 | | 0.62 | 0.16 | | 0.17 |
| Lane Grp Cap(c), veh/h | 984 | 0 | 0 | 806 | 0 | 0 | 541 | 0 | 0 | 597 | 0 | 0 |
| V/C Ratio(X) | 0.61 | 0.00 | 0.00 | 0.71 | 0.00 | 0.00 | 0.61 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1621 | 0 | 0 | 1293 | 0 | 0 | 743 | 0 | 0 | 821 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 8.0 | 0.0 | 0.0 | 8.6 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 11.4 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 0.0 | 1.2 | 0.0 | 0.0 | 1.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 3.1 | 0.0 | 0.0 | 3.3 | 0.0 | 0.0 | 2.7 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 8.6 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 | 15.2 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 |
| LnGrp LOS | A | | | A | | | B | | | B | | |
| Approach Vol, veh/h | | 600 | | | 574 | | | 332 | | | | 58 |
| Approach Delay, s/veh | | 8.6 | | | 9.8 | | | 15.2 | | | | 11.5 |
| Approach LOS | | A | | | A | | | B | | | | B |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 26.2 | | 16.8 | | 26.2 | | 16.8 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 37.8 | | 18.0 | | 37.8 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | | 12.6 | | 3.0 | | 16.7 | | 10.5 | | | | |
| Green Ext Time (p_c), s | | 4.8 | | 0.2 | | 5.0 | | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 10.5 | | | | | | | | |
| HCM 7th LOS | | | | B | | | | | | | | |

Timings
1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
06/26/2024

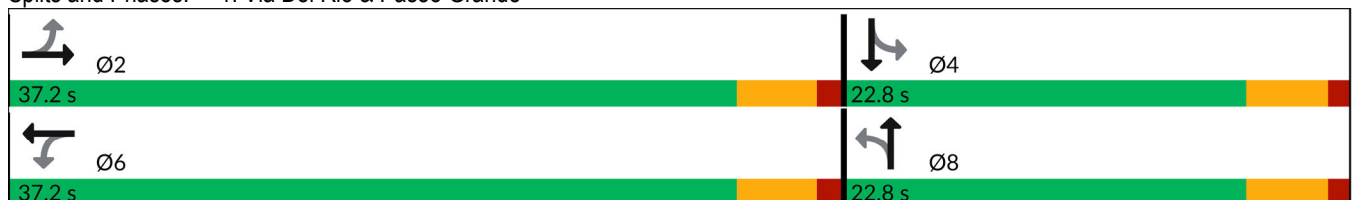


| Lane Group | EBL | EBT | WBL | WBT | NBL | NBT | SBL | SBT |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | ↕ | | ↕ | | ↕ | | ↕ |
| Traffic Volume (vph) | 13 | 182 | 266 | 194 | 54 | 17 | 4 | 24 |
| Future Volume (vph) | 13 | 182 | 266 | 194 | 54 | 17 | 4 | 24 |
| Turn Type | Perm | NA | Perm | NA | Perm | NA | Perm | NA |
| Protected Phases | | 2 | | 6 | | 8 | | 4 |
| Permitted Phases | 2 | | 6 | | 8 | | 4 | |
| Detector Phase | 2 | 2 | 6 | 6 | 8 | 8 | 4 | 4 |
| Switch Phase | | | | | | | | |
| Minimum Initial (s) | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| Minimum Split (s) | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| Total Split (s) | 37.2 | 37.2 | 37.2 | 37.2 | 22.8 | 22.8 | 22.8 | 22.8 |
| Total Split (%) | 62.0% | 62.0% | 62.0% | 62.0% | 38.0% | 38.0% | 38.0% | 38.0% |
| Yellow Time (s) | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Lost Time (s) | | 4.6 | | 4.6 | | 4.6 | | 4.6 |
| Lead/Lag | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | |
| Recall Mode | None | None | None | None | None | None | None | None |
| Act Effct Green (s) | | 22.6 | | 22.6 | | 11.7 | | 11.7 |
| Actuated g/C Ratio | | 0.51 | | 0.51 | | 0.27 | | 0.27 |
| v/c Ratio | | 0.31 | | 0.77 | | 0.49 | | 0.07 |
| Control Delay (s/veh) | | 5.9 | | 18.1 | | 9.3 | | 14.1 |
| Queue Delay | | 0.0 | | 0.0 | | 0.0 | | 0.0 |
| Total Delay (s/veh) | | 5.9 | | 18.1 | | 9.3 | | 14.1 |
| LOS | | A | | B | | A | | B |
| Approach Delay (s/veh) | | 6.0 | | 18.2 | | 9.4 | | 14.2 |
| Approach LOS | | A | | B | | A | | B |

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 43.9
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay (s/veh): 12.7
 Intersection LOS: B
 Intersection Capacity Utilization 73.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: Via Del Rio & Paseo Grande



HCM 7th Signalized Intersection Summary
 1: Via Del Rio & Paseo Grande

Via Del Rio (JN 15701)
 06/26/2024



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | ↔ | | | ↔ | | | ↔ | | | ↔ | |
| Traffic Volume (veh/h) | 13 | 182 | 69 | 266 | 194 | 10 | 54 | 17 | 174 | 4 | 24 | 4 |
| Future Volume (veh/h) | 13 | 182 | 69 | 266 | 194 | 10 | 54 | 17 | 174 | 4 | 24 | 4 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Lane Width Adj. | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.97 | 0.99 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | | No | | | No | | | No | | | No | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 14 | 202 | 77 | 296 | 216 | 11 | 60 | 19 | 193 | 4 | 27 | 4 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 122 | 585 | 213 | 509 | 306 | 14 | 188 | 63 | 302 | 133 | 420 | 56 |
| Arrive On Green | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.46 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| Sat Flow, veh/h | 28 | 1275 | 465 | 753 | 667 | 31 | 223 | 228 | 1100 | 62 | 1528 | 205 |
| Grp Volume(v), veh/h | 293 | 0 | 0 | 523 | 0 | 0 | 272 | 0 | 0 | 35 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1769 | 0 | 0 | 1450 | 0 | 0 | 1550 | 0 | 0 | 1795 | 0 | 0 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 6.1 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 3.7 | 0.0 | 0.0 | 9.8 | 0.0 | 0.0 | 5.2 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 |
| Prop In Lane | 0.05 | | 0.26 | 0.57 | | 0.02 | 0.22 | | 0.71 | 0.11 | | 0.11 |
| Lane Grp Cap(c), veh/h | 921 | 0 | 0 | 829 | 0 | 0 | 553 | 0 | 0 | 609 | 0 | 0 |
| V/C Ratio(X) | 0.32 | 0.00 | 0.00 | 0.63 | 0.00 | 0.00 | 0.49 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 1763 | 0 | 0 | 1477 | 0 | 0 | 935 | 0 | 0 | 1042 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 6.0 | 0.0 | 0.0 | 7.4 | 0.0 | 0.0 | 10.9 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 0.8 | 0.0 | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3), s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.9 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 1.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d), s/veh | 6.2 | 0.0 | 0.0 | 8.2 | 0.0 | 0.0 | 11.6 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 |
| LnGrp LOS | A | | | A | | | B | | | A | | |
| Approach Vol, veh/h | | 293 | | | 523 | | | 272 | | | | 35 |
| Approach Delay, s/veh | | 6.2 | | | 8.2 | | | 11.6 | | | | 9.3 |
| Approach LOS | | A | | | A | | | B | | | | A |
| Timer - Assigned Phs | | 2 | | 4 | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 20.4 | | 14.1 | | 20.4 | | 14.1 | | | | |
| Change Period (Y+Rc), s | | 4.6 | | 4.6 | | 4.6 | | 4.6 | | | | |
| Max Green Setting (Gmax), s | | 32.6 | | 18.2 | | 32.6 | | 18.2 | | | | |
| Max Q Clear Time (g_c+I1), s | | 5.7 | | 2.5 | | 11.8 | | 7.2 | | | | |
| Green Ext Time (p_c), s | | 2.0 | | 0.1 | | 4.1 | | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 7th Control Delay, s/veh | | | | 8.5 | | | | | | | | |
| HCM 7th LOS | | | | A | | | | | | | | |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 12.7 | | | |
| Intersection LOS | B | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 413 | 369 | 734 | 78 |
| Demand Flow Rate, veh/h | 422 | 376 | 749 | 79 |
| Vehicles Circulating, veh/h | 83 | 397 | 344 | 695 |
| Vehicles Exiting, veh/h | 691 | 696 | 161 | 78 |
| Ped Vol Crossing Leg, #/h | 1 | 10 | 2 | 6 |
| Ped Cap Adj | 1.000 | 0.999 | 1.000 | 0.999 |
| Approach Delay, s/veh | 6.0 | 8.8 | 19.1 | 6.7 |
| Approach LOS | A | A | C | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 422 | 376 | 749 | 79 |
| Cap Entry Lane, veh/h | 1268 | 920 | 972 | 679 |
| Entry HV Adj Factor | 0.979 | 0.981 | 0.980 | 0.983 |
| Flow Entry, veh/h | 413 | 369 | 734 | 78 |
| Cap Entry, veh/h | 1241 | 901 | 952 | 667 |
| V/C Ratio | 0.333 | 0.409 | 0.771 | 0.116 |
| Control Delay, s/veh | 6.0 | 8.8 | 19.1 | 6.7 |
| LOS | A | A | C | A |
| 95th %tile Queue, veh | 1 | 2 | 8 | 0 |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 9.8 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 600 | 574 | 332 | 58 |
| Demand Flow Rate, veh/h | 612 | 585 | 339 | 59 |
| Vehicles Circulating, veh/h | 266 | 179 | 501 | 678 |
| Vehicles Exiting, veh/h | 471 | 661 | 377 | 86 |
| Ped Vol Crossing Leg, #/h | 0 | 20 | 2 | 30 |
| Ped Cap Adj | 1.000 | 0.997 | 1.000 | 0.996 |
| Approach Delay, s/veh | 11.1 | 9.0 | 9.5 | 6.2 |
| Approach LOS | B | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 612 | 585 | 339 | 59 |
| Cap Entry Lane, veh/h | 1052 | 1150 | 828 | 691 |
| Entry HV Adj Factor | 0.981 | 0.981 | 0.981 | 0.987 |
| Flow Entry, veh/h | 600 | 574 | 332 | 58 |
| Cap Entry, veh/h | 1032 | 1125 | 812 | 679 |
| V/C Ratio | 0.582 | 0.510 | 0.410 | 0.086 |
| Control Delay, s/veh | 11.1 | 9.0 | 9.5 | 6.2 |
| LOS | B | A | A | A |
| 95th %tile Queue, veh | 4 | 3 | 2 | 0 |

| Intersection | | | | |
|-----------------------------|---------|---------|---------|---------|
| Intersection Delay, s/veh | 6.7 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 293 | 523 | 272 | 35 |
| Demand Flow Rate, veh/h | 299 | 533 | 277 | 36 |
| Vehicles Circulating, veh/h | 334 | 94 | 224 | 583 |
| Vehicles Exiting, veh/h | 285 | 407 | 409 | 44 |
| Ped Vol Crossing Leg, #/h | 2 | 6 | 1 | 3 |
| Ped Cap Adj | 1.000 | 0.999 | 1.000 | 1.000 |
| Approach Delay, s/veh | 6.9 | 7.2 | 5.7 | 5.3 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| A (Intercept) | 1380 | 1380 | 1380 | 1380 |
| B (Slope) | 1.02e-3 | 1.02e-3 | 1.02e-3 | 1.02e-3 |
| Entry Flow, veh/h | 299 | 533 | 277 | 36 |
| Cap Entry Lane, veh/h | 982 | 1254 | 1098 | 761 |
| Entry HV Adj Factor | 0.980 | 0.981 | 0.981 | 0.985 |
| Flow Entry, veh/h | 293 | 523 | 272 | 35 |
| Cap Entry, veh/h | 961 | 1228 | 1077 | 749 |
| V/C Ratio | 0.305 | 0.425 | 0.252 | 0.047 |
| Control Delay, s/veh | 6.9 | 7.2 | 5.7 | 5.3 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 1 | 2 | 1 | 0 |

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NOTICE OF EXEMPTION

| | |
|--|---|
| <p>TO:</p> <p><input type="checkbox"/> Office of Planning and Research P. O. Box 3044, Room 113 Sacramento, CA 95812-3044</p> | <p>FROM: Name: City of Corona, Planning & Development Department (Public Agency) Address: 400 S. Vicentia Ave., Suite 120, Corona, CA 92882 Telephone: 951-736-2434</p> |
| <p><input checked="" type="checkbox"/> Clerk of the Board of Supervisors or County Clerk (Riverside) Address: 2724 Gateway Dr. Riverside, CA 92507</p> | |

| | |
|--|--|
| <p>1. Project Title:</p> | <p>Major Conditional Use Permit – CUP2024-0003 Tentative Tract Map – TTM2024-0002 (TTM38934) Affordable House Density Bonus – AHDB2024-0001</p> |
| <p>2. Project Applicant:</p> | <p>Louisa Feletto, Meritage Homes of California, INC., 5 Peters Canyon Road #310, Irvine, CA 92606</p> |
| <p>3. Project Location – Identify Street address and cross streets or attach a map showing project site (preferably a USGS 15' or 7 1/2' topographical map identified by quadrangle name):</p> | <p>1717 Via Del Rio, Corona, CA 92882, (APN: 103-200-088, 089)</p> |
| <p>4. (a) Project Location – City: Corona</p> | <p>(b) Project Location – County: Riverside</p> |
| <p>5. Description of nature, purpose, and beneficiaries of Project:</p> | <p>CUP2024-0003: Conditional Use Permit to allow the construction of 57 residential condominiums, including three to be dedicated as affordable, on one lot located at 1717 Via Del Rio (APN 103-200-088 and 103-200-089) within the R-3 (Multiple-Family Residential) Zone. (Applicant: Louisa Feletto, Meritage Homes of California, Inc., 5 Peters Canyon Road, No.310, Irvine, CA 92606)</p> <p>TTM2024-0002 (TTM38934): Tentative Tract Map to allow individual ownership (airspace subdivision) of 57 residential condominiums, as well as the subdivision of one lot comprising 2.87 acres in area into four lettered lots</p> <p>AHDB2024-0001: Affordable Housing Density Bonus Agreement associated with TTM 38934 and CUP2024-0003, for a 57-unit residential condominium development to include three, dedicated affordable units.</p> |

| | |
|--|---|
| 6. Name of Public Agency approving project: | City of Corona |
| 7. Name of Person or Agency undertaking the project, including any person undertaking an activity that receives financial assistance from the Public Agency as part of the activity or the person receiving a lease, permit, license, certificate, or other entitlement of use from the Public Agency as part of the activity: | Louisa Feletto, Meritage Homes of California, INC., 5 Peters Canyon Road #310, Irvine, CA 92606 |
| 8. Exempt status: (check one) | |
| (a) <input type="checkbox"/> Ministerial project. | (Pub. Resources Code § 21080(b)(1); State CEQA Guidelines § 15268) |
| (b) <input type="checkbox"/> Not a project. | |
| (c) <input type="checkbox"/> Emergency Project. | (Pub. Resources Code § 21080(b)(4); State CEQA Guidelines § 15269(b),(c)) |
| (d) <input checked="" type="checkbox"/> Categorical Exemption. State type and section number: | California Environmental Quality Act (CEQA) – Per Section 15332 (Infill Development Projects) of the State Guidelines for Implementing the CEQA and Section 3.31 of the City’s Local CEQA Guidelines, a Notice of Exemption has been prepared as the project qualifies as a Class 32 Categorical Exemption, and further, that none of the six Exceptions to Exemptions cited in Guidelines Section 15300.2 are applicable. |
| (e) <input type="checkbox"/> Declared Emergency. | (Pub. Resources Code § 21080(b)(3); State CEQA Guidelines § 15269(a)) |
| (f) <input type="checkbox"/> Statutory Exemption. State Code section number: | |
| (g) <input type="checkbox"/> Other. Explanation: | |
| 9. Reason why project was exempt: | Per Section 15332 of the State Guidelines for Implementing the California Environmental Quality Act (CEQA) and Section 3.31 of the City’s Local CEQA Guidelines, a Notice of Exemption has been prepared as the project qualifies as a Class 32 (Infill Development Projects) categorical exemption. The project site is less than five acres, is consistent with the site’s General Plan land use designation of HDR and applicable General Plan Policies, and the property’s R-3 zoning designation, which indicates residential development is imminent on the site. The project would not result in significant impacts relating to traffic, noise, air quality, or water quality. Moreover, none of the six exceptions to exemptions cited in Guidelines Section 15300.2 (a – f) are applicable to the proposed project. |
| 10. Lead Agency Contact Person: Telephone: | Brendan Dalde, Associate Planner (951) 739-4918 |
| 11. If filed by applicant: Attach Preliminary Exemption Assessment (Form “A”) before filing. | |
| 12. Has a Notice of Exemption been filed by the public agency approving the project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | |

13. Was a public hearing held by the Lead Agency to consider the exemption? Yes No
If yes, the date of the public hearing was: May 8, 2025

Signature

Date: Click to enter date

Brendan
Name

Dalde

Title: Associate Planner

Signed by Lead Agency

Signed by Applicant

Date Received for Filing: Click to enter date

(Clerk Stamp Here)

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.