



City of Sunnyvale

Agenda Item

19-1079

Agenda Date: 10/16/2019

REPORT TO THE ZONING ADMINISTRATOR

SUBJECT

CONTINUED FROM SEPTEMBER 25, 2019

Proposed Project:

SPECIAL DEVELOPMENT PERMIT: to allow a childcare center providing preschool and after school care for 120 children within an existing 6,920 square foot building.

Location: 755 S. Bernardo Avenue (APN:198-16-006)

File #: 2019-7502

Zoning: C-2/PD

Applicant / Owner: JY International Education LLC (applicant)/ Atul S and Kusum A Sheth Trustee (owner)

Environmental Review: The Class 1, 3, and 32 Categorical Exemptions relieve this project from the requirements of CEQA.

Project Planner: Cindy Hom, 408-730-7411, chom@sunnyvale.ca.gov

BACKGROUND

The item was continued from the September 25, 2019 Zoning Administrator hearing to allow additional time to review and respond to public comments received in opposition to the proposed childcare center. The original staff report with report attachments is provided in Attachment 1. This staff report provides a supplemental discussion on the issues that were raised by the public and updates the recommended findings and conditions of approval provided in Attachment 2 and 3.

DISCUSSION

There were several public comments received in opposition to the project and referenced the following issues:

1. Increased traffic, safety hazard with blind spots, and incorrect trip generation

Staff Response:

A Traffic Operation Analysis (TOA) was prepared, which found that the project would generate less than 100 peak hour trips and would not result in a negative impact. The analysis determined all the study intersections are expected to operate within acceptable Levels of Service (LOS) during AM and PM peak hours. The anticipated queues for through-movement traffic do not spill back to the upstream intersections. All left-turn pockets have sufficient capacity to store the anticipated queue during both peak hours. The project was also found to add less than one car to the queues for all study intersections.

Based on the existing road configuration and layout of project site, staff also finds that there are no known blind spots or traffic hazard with existing roadway facilities and site improvements. The implementation of the project will not create new traffic hazards or affect sight distance for on-coming

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traffic due to the following:

- Potential conflicts for on-coming traffic on Bernardo Avenue would be minimized because the project will eliminate vehicle access from the north driveway and restrict the south driveway to emergency vehicle access only on Bernardo Avenue frontage.
- Designated pick-up and drop-off parking spaces will be located on-site.
- Primary vehicle access will be limited to an existing two-way driveway located on Brookfield Road which is located approximately 100-feet from the Bernardo/Brookfield intersection.
- Adequate sight distance is provided because there are no structures or parking spaces that encroach into the driveway or corner vision triangles.
- The project will be required to provide public frontage improvements that will help enhance vehicle and pedestrian safety which includes modifying the corner radius at the Brookfield Avenue and S. Bernardo Avenue intersection and reducing the crosswalk crossing distance; removal and replacement of the curb ramps at the northwest and southwest corners of the Brookfield and Bernardo intersection to be compliant with current development standards; and a photometric analysis to determine adequate street lighting is being met.

2. Locating sensitive receptors to nearby PG&E power lines and near busy street

Staff Response:

There are no Federal standards limiting residential or occupational exposure to Electromagnetic Force (EMF) from power lines. Moreover, there are no Sunnyvale Municipal Code (SMC) regulations that require a setback and/or land use restriction from power line. In addition, the existing PG&E wireless clearance easement on the property will be maintained.

Staff also finds that the proposed use is appropriate for the site. Most activity will occur inside the building, with limited outdoor activity. The outdoor play area will be enclosed and secured by a 6-foot tall metal fence, set back between 5 feet to 10 feet from the back of sidewalk. The setback would be landscaped to provide additional buffer from the public right-of-way. Air quality impacts are not anticipated because abutting roads are not major thoroughfares or freeways.

The proposed child care use is compatible with the neighborhood, which contains a mix of residential and commercial uses. The child care use would be neighborhood serving and is consistent with General Plan policies that encourages these types of uses, and complies with the Guidelines for Commercial Child Care Centers.

3. Potential impacts to the shared parking with First Orthodox Presbyterian Church located at 1210 Brookfield.

The First Orthodox Presbyterian Church's was built in the mid-1950s and expanded in 1963. City staff have not been able to locate a copy of the church's use permit. The minutes from the March 25, 1963 Planning Commission meeting indicate that the church was required to provide proof that the church has sufficient off-street parking to meet ordinance requirements. Staff has determined that the church would have needed 91 parking spaces at the time it was approved (the church has no parking on site). Letters submitted by the church in connection with its 1963 expansion indicated that

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parking for 150-200 cars was available in the Cherry Chase Shopping Center across the street, and that the shopping center would allow the church use the paved area “underneath the power line”. The owners of the Cherry Chase Center later sold off that parcel, which became the site of the commercial building at 755 S. Bernardo Ave. City staff have recently obtained a copy of the current parking license agreement between the church and the owners of 755 S. Bernardo which provides that the church can use the parking lot on Sundays only. The agreement is for a month-to-month term and does not specify the number of spaces available.

When the City approves a use permit subject to an offsite parking agreement, it is the permittee’s responsibility to ensure that parking remains available or to make other arrangements. This would not be a legal basis to deny the current application from the owners of 755 S. Bernardo. The church’s arrangement with 755 S. Bernardo does not entitle the church to parking in perpetuity or restrict the ability of the owners of 755 S. Bernardo to redevelop their property. Should lack of parking become a code enforcement issue, the church would need to secure adequate parking on another neighboring property.

4. The project is not eligible for a categorical exemption from the California Environmental Quality Act (CEQA) due to change in use and associate impacts related to traffic and noise.

Staff has determined that this project qualifies for three CEQA exemptions: Class 1, Existing Facilities (CEQA Guidelines, Section 15301), Class 3, New Construction and Conversion of Small Structures (CEQA Guidelines, Section 15303), and Class 32, Infill Development (CEQA Guidelines, Section 15332). Under CEQA, multiple exemptions can be combined to exempt a project, and each exemption is not required to cover the whole project, so long as the whole project is covered by the combined exemptions.

The Class 1 Categorical Exemption covers projects that involve “the operation ... permitting ... or minor alteration of existing ... private structures ... involving negligible or no expansion of existing or former use”. Based on staff’s analysis, the use of the building as a child care center is a negligible expansion of the former office use because there is no evidence that the child care center will have any significant environmental effects. The Traffic Operations Analysis used a vacant site as the baseline (i.e., without giving credit for the former use) but still does not find that the project will have any significant traffic or parking impacts. Likewise, the noise analysis finds that noise will be within acceptable thresholds and thus the noise (including noise of children playing) is not a significant impact under CEQA.

The Class 3 Categorical Exemption covers “... the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure.” Under subsection (c), the Class 3 exemption specifically applies to conversion of the use of four office or commercial buildings “not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive.” This project would convert an existing 6,920 square foot office/commercial building for use as a child care

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center, which is permitted use by the applicable zoning. The project would involve minor exterior and site modifications. The site is located in an urban area that is not environmentally sensitive, is adequately served by public services and facilities, and would not involve use of hazardous substances.

The project falls squarely within the rationale of *Waters v. City of Redondo Beach* (2016) 1 Cal.App.5th 809, where the court held that the Class 3 CEQA exemption applied to construction of a car wash and coffee shop in a commercial zone that abutted residential uses, because the building site was adequate to accommodate the proposed use; the proposed use had adequate street access and would not have a significant impact on traffic; the noise that will be generated by the car wash blowers and vacuum drops did not exceed the permitted interior and exterior limits; and there was nothing unusual about a car wash and coffee shop compared to other allowed commercial uses.

Finally, the project meets all the requirements of the Class 32 Categorical Exemption, which covers projects that are (a) consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations, (b) within city limits on a project site of no more than five acres substantially surrounded by urban uses, (c) the site has no value as habitat for endangered, rare or threatened species, (d) approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality, and (e) The site can be adequately served by all required utilities and public services.

Finally, the use of the categorical exemptions is not negated by Section 15300.2(c) (the “unusual circumstances” exception to the exemptions). The mere fact that a project could potentially have an environmental effect is not sufficient to create “unusual circumstances” (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086). There is no evidence that 755 S. Bernardo has any unusual features compared to other commercial sites, or that the configuration of Bernardo Ave. (including the “curve” in the roadway) or existing traffic volumes on Bernardo Ave. are unusual compared to other arterial streets in Sunnyvale. The mere fact that a project is located on heavily traveled streets or intersections is not an “unusual circumstance” where the project conforms to zoning requirements and the surrounding traffic volumes are commonplace for the urban area (*Telegraph Hill v. City and County of San Francisco* (2017) 16 Cal.App.5th 261).

The commenter’s additional arguments based on “health and safety problems” with the proposed child care center do not raise CEQA issues

PUBLIC CONTACT

270 notices were sent to surrounding property owners and residents adjacent to the subject site in addition to standard noticing practices, including advertisement in the Sunnyvale Sun Newspaper and on-site posting. Copies of the public comments received to date are provided in Attachment 4.

ALTERNATIVES

1. Approve the Special Development Permit with recommended Conditions in Attachment 3.
2. Approve the Special Development Permit with modifications.
3. Deny the Special Development Permit.

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RECOMMENDATION

Alternative 1. Approve the Special Development Permit with recommended Conditions in Attachment 2.

Prepared by: Cindy Hom, Associate Planner

Approved by: Noren Caliva-Lepe, Principal Planner

ATTACHMENTS

1. September 25, 2019 Zoning Administrator Staff Report and Attachments
2. Recommended Findings
3. Standard Requirements and Recommended Conditions of Approval
4. Public Comment Letters



City of Sunnyvale

Agenda Item

19-0975

Agenda Date: 9/25/2019

REPORT TO THE ZONING ADMINISTRATOR

SUBJECT

Proposed Project:

SPECIAL DEVELOPMENT PERMIT: to allow a childcare center providing preschool and after school care for 120 children within an existing 6,920 square foot building.

Location: 755 S. Bernardo Avenue (APN:198-16-006)

File #: 2019-7502

Zoning: C-2/PD

Applicant / Owner: JY International Education LLC (applicant)/ Atul S and Kusum A Sheth Trustee (owner)

Environmental Review: A Class 1 and 3 Categorical Exemption relieves this project from the CEQA provisions.

Project Planner: Cindy Hom, 408-730-7411, chom@sunnyvale.ca.gov

BACKGROUND

The applicant previously submitted a Special Development Permit application for a child care center for 120 kids at this location. On November 28, 2018, the Zoning Administrator denied the application because of the potential noise impact related to the operations of the outdoor play area in proximity to residential uses. The Zoning Administrator found that the project did not meet a California Environmental Quality Act (CEQA) Categorical Exemption and warranted further environmental review.

The applicant redesigned the project and submitted a new SDP application for consideration. The revisions to the plans consist of the relocation of the outdoor play area to the front yard to comply with required noise standards, and reconfiguration of the parking lot and access.

Description of Proposed Project

The project site is located on a 0.87-acre parcel that is bounded by S. Bernardo Avenue to the east, Brookfield Avenue to the south, Citra Apartments to the west and north. The subject site is developed with a 6,920-square foot one-story commercial building, surface parking and landscaping along the perimeter of the site. The applicant is requesting a SDP to allow for a childcare center providing preschool and after school care for 120 children and installation of various site improvements. See Attachment 1 for a map of the vicinity and mailing area for notices.

Previous Actions on the Site

The building was previously used as a medical office for Obstetrics/Gynecology and Pediatric Care from 2003 to 2014. Since then, the building has remained vacant. There have been multiple requests to utilize the facility for child care or school. Most recent approvals included Miscellaneous Plan Permit for a cultural learning and educational center and small child care center. Both permits were never exercised.

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ENVIRONMENTAL REVIEW

A Categorical Exemption Class 1 Section 15301 and Class 3, Section 15303 (New Construction and Conversion of Small Structures) relieves this project from CEQA provisions. Under CEQA, two exemptions can be combined to exempt a project, and each exemption is not required to cover the whole project, so long as the whole project is covered by the combined exemptions. The project entails the permitting of a child care facility within an existing 6,920 square foot office building. The project proposes a change in use of the building and installation of minor site improvements including a new trash enclosure, fencing, parking lot restriping and landscaping. Therefore, the project involves only minor site modification and negligible expansion of use.

As discussed in the staff report, the expected noise levels associated with this revised project is in compliance with noise standards. Therefore, no further environmental review is required.

DISCUSSION

Proposed Use

The application is to allow for the operation of a child care center providing preschool and after school care for 120 children Monday through Friday between the hours of 8:30 AM to 6:30 PM. The proposed child care will also host periodic special events such as graduations as well as spring and winter celebrations.

Site Layout, Access and Circulation

The existing one-story building is located near the northeast corner of the site and is surrounded by parking and drive aisles on the south, west and north side of the building. Mature trees and landscaping are located along the perimeter of the site. The applicant does not propose any layout changes to the building and will maintain the existing building setbacks.

Site access and circulation is currently provided by two driveways on S. Bernardo Avenue and one driveway on Brookfield Avenue. The internal site circulation is provided by drive aisles. Pedestrian circulation is provided by public sidewalks along the street frontages and concrete walkways located on the east and south side of the building.

To accommodate safe and efficient pick-up and drop off operations, the applicant proposes the following site circulation modifications:

- Removal of the northern driveway on S. Bernardo Avenue and utilize a portion as outdoor play area.
- Convert the full access east driveway on S. Bernardo to a restricted access for only emergency vehicles by installing removable steel bollards.
- Reconfigure parking lot and directionality of the drive aisles, so that it allows for one-way in and out of the drop off zone. Parking spaces will be striped to indicate drop-off/pick-up spaces, which are located closest to the main entrance.

Additionally, Public Works staff is recommending the following public frontage improvement to ensure

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pedestrian safety (Recommended Condition No: EP-6, EP-8 thru EP-10):

- Modifying corner radius at the Brookfield Avenue and S. Bernardo Avenue intersection and reducing the crosswalk crossing distance.
- Remove and install new curb ramps at the northwest and southwest corners of the Brookfield and Bernardo intersection to comply with current development standards.
- Conduct a photometric analysis to determine street lighting meets current City's Roadway Lighting Design Criteria.

Parking

The proposed project provides a total of 31 parking spaces. Based parking requirements for child care, 0.25 spaces are required for each child, which requires a total of 30 spaces. As proposed, the project complies with the parking requirements as demonstrated in the table below:

	Uses	Sq. Ft or # of Students	Parking Ratio	# of Spaces Required
Previous Use	Medical Office	6,920	3.3 per 1000	23
Proposed	Preschool/Child Care Center	120	.25 per child	30
Total number of spaces required for the proposed use				30
Total number of parking spaces provided				31

Trash Enclosure

The applicant is proposed to remove the existing trash enclosure that is on the northwest corner of the site and construct a new 203 square foot concrete masonry enclosure with a stucco finish and metal reveals. A roof cover is provided to conceal trash from the neighboring apartment buildings. The trash enclosure is proposed along the west property line. As proposed, it complies with the city's design standards and servicing requirements.

Tree Removal and Landscaping

The applicant is proposing the removal seven protected trees that are located along the building frontage which consist of Australian Willow trees and Flowering Plum tree. A tree is deemed protected if the tree trunk measures 38-inches in circumference. One out of the six Willow trees is dead. The Flowering Plum tree is in fair condition. Staff supports the removal of the trees because the Willow trees have been topped in the past and are show declining structure and demonstrate poor shape. These type of trees are also prone to losing branches. Three of the six trees are located within the play area and can be potential safety hazard. The other Willow trees are located in front landscaping area that will be replace with 15-gallon Crape Myrtle trees and other plantings for design continuity and consistent with the planting theme for the site. Staff recommends the planting plan is revised to install 24-inch box Crape Myrtle trees along the Bernardo frontage to help make up the loss of tree canopy (Recommended Condition No. PS-4).

According to the City's tree replacement standards, a total of (13) 24-inch box trees are required. As conditioned, the applicant will be installing a total of (11) 24-inch box trees and (4) 15-gallon size

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trees consisting of Chinese Pistache, Sycamore, and Crape Myrtle trees. As proposed, the enhanced landscaping improves the overall appearance of the site by adding different plant varieties, color, and texture.

The existing landscaping does not meet current minimum development standards and is considered legal, non-conforming. The applicant proposes to add approximately 2,471 square feet of new landscaping which improves the non-conformity.

The project site is unable to meet the parking lot shading requirement because majority of the parking lot is constrained by a 140-foot wide PG&E easement which restricts tall trees and structures. No trees are proposed for removal within the parking lot area and therefore, the proposed changes do not increase the non-conformity of the site.

Outdoor Play Area and Fence Wall

The applicant proposes to convert approximately 3,790 of existing paving into two play areas that will be improved with artificial turf, landscaping and metal wrought iron fencing. The outdoor play on the south of the building will be enclosed with a 4' tall metal fence and a 6-foot tall metal fence for the outdoor play on the north side of the building. Both fences will include a metal mesh playground gate. Staff recommends a condition requiring the following (recommended Condition PS-2):

1. Install a 6-foot tall masonry wall along the west and north property line.
2. Install bollards to provide additional protection between the drive aisle and of the west corner of the playground on the south side of the building.
3. Fencing around the outdoor play areas shall be a 6-feet in height.

Architecture

The applicant proposes minor exterior building façade modifications, consisting of replacing existing storefront glazing with new windows and doors to match existing. The applicant is proposing a new door opening on the front elevation. This opening is required to meet building and fire safety regulations. As proposed, the building substantially maintains the original architecture and design.

NEIGHBORHOOD IMPACTS/COMPATIBILITY:

In terms of land use compatibility, the proposed project would be neighborhood-serving with the surrounding land uses consisting of residential homes and would be a complementary use to the nearby commercial establishments, churches and Cherry Chase Elementary School. The proposed child center would be compatible with other churches in the immediate vicinity in that the peak use of will not conflict with church services that typically occur during the evening and weekends.

Noise

The project would result in a minimal noise impact to the adjacent residential apartments. Based on the Noise Study prepared by Edward J. Pack and Associates, dated May 7, 2019, the project-generated noise levels and noise exposures will be within the limits of the City of Sunnyvale Noise Ordinance and Noise Element standards and within the allowable noise increases of CEQA policy. The playground noise levels will range from 51 to 60 dBA at the most impacted property line of the Citra Apartments to the west, from 52 to 56 dBA at the Citra Apartments first floor patios and upper floor balconies to the west, from 57 to 60 dBA at the Citra Apartments property line to the north and from 56 to 59 dBA at the Citra Apartments upper floor balconies to the north. Thus, the short-term playground noise levels will be within the 60 dBA daytime standard of the City of Sunnyvale Noise Ordinance at the common property lines and at the exterior living areas of the adjacent apartment

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complex. Noise from project traffic on the local road network is expected to be negligible due to the small size of the project and low expected traffic volumes, project traffic is expected not to add to the existing noise exposures.

Traffic

A traffic operation analysis (TOA) was prepared by AECOM, dated September 2018. Based on the TOA, the proposed child care center will not generate over 100 peak hour vehicle trips and is expected to add less than one car to the queues during the peak hours. As such, the project will not negatively impact the level of service of adjacent roadways or generate operational issues with queuing of cars anticipated with the pick-up and drop-off operations. Furthermore, with implementation staff's recommended improvements, there should be minimal impacts related traffic.

PUBLIC CONTACT

270 notices were sent to surrounding property owners and residents adjacent to the subject site in addition to standard noticing practices, including advertisement in the Sunnyvale Sun Newspaper and on-site posting. Two letters were received from the public by staff and included in Attachment 8. One comment provided concerns related to the environmental analysis and land use compatibility and the other comment letter expressed general support for the proposed use.

ALTERNATIVES

1. Approve the Special Development Permit with recommended Conditions in Attachment 2.
2. Approve the Special Development Permit with modifications.
3. Deny the Special Development Permit.

RECOMMENDATION

Alternative 1. Approve the Special Development Permit with recommended Conditions in Attachment 2.

Prepared by: Cindy Hom, Assistant Planner

Approved by: Noren Caliva-Lepe, Principal Planner

ATTACHMENTS

1. Vicinity and Noticing Map
2. Project Data
3. Recommended Findings
4. Standard Requirements and Recommended Conditions of Approval
5. Site and Architectural Plans
6. Noise Study
7. Traffic Operational Analysis
8. Comment Letters

KNICKERBOCKER

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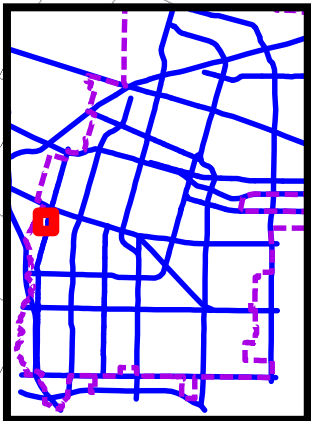
CITRON

BENNINGTON

BROOKFIELD

PARKINGTON

LYNN



2019-7502
755 S. Bernardo Ave (APN:198-16-006)
SPECIAL DEVELOPMENT PERMIT
300-ft Area

0 50 100 200 Feet



PROJECT DATA TABLE

	EXISTING	PROPOSED	REQUIRED/ PERMITTED
General Plan	<i>Commercial (COM)</i>	<i>Commercial (COM)</i>	--
Zoning District	<i>Neighborhood Business (C-1)</i>	<i>Neighborhood Business (C-1)</i>	--
Combining District	<i>Planned Development (PD)</i>	<i>Planned Development (PD)</i>	
Lot Size (s.f.)	37,887 sq. ft.	Same	None
Gross Floor Area (s.f.)	6,920 sq. ft.	Same	None
Lot Coverage	18%	Same	35%
Floor Area Ratio (FAR%)	6,920	Same	None
No. of Buildings On-Site	1	Same	NA
Building Height	25'-4"	Same	40'
No. of Stories	1	Same	2
Setbacks			
Front ¹	16'-7"	Same	70' min.
Left Side	112'4"	Same	0
Right Side	23'-2"	Same	15'
Rear	54'-9"	Same	10'
Landscaping			
Total Landscaping (s.f.)¹	4,047 sq. ft. (11%)	6518 sq. ft. (17%)	20%
% Based on Parking Lot¹	2,382 sq. ft. (6%)	3,401 (9%)	20%
Parking Lot Area Shading²	N/A	4401 sq. ft (25%)	50% min. in 15 years
Landscape buffer¹	4.5'	4.5'-10'	10'
Front Landscaping Strip¹	16'-7'	Same	15'
Parking			
Total Spaces	46	31	30
Electric Vehicle	0	1	3% or 1 stall
Rideshare	0	2	5% or 2 stalls
Bicycle Parking	0	8	5% or 2 stalls

¹ Legal, non-conforming. The front setback and landscaping was approved as part of the original development. Project does not increase existing deviations.

² SMC 19.46.120 (Parking lot design) (g) (1) (D) - Surfaces paved prior to January 1, 2002 are exempt from shading requirements.

RECOMMENDED FINDINGS

Special Development Permit

FINDINGS

In order to approve the Special Development Permit the following findings must be made:

1. The proposed use attains the objectives and purposes of the General Plan of the City of Sunnyvale as the project. Finding met.

The proposed project implements the City of Sunnyvale General Plan by encouraging child care in an area that would be neighborhood serving and compatible with the surrounding residential, quasi-public and commercial uses. The project is consistent with the below policy:

- Policy LT-14.12 - Recognize child care and places of assembly as essential services and land uses that support the diverse needs of the community. Avoid locating these sensitive uses near hazardous materials, noise, dust, etc.

2. The proposed use ensures that the general appearance of proposed structures, or the uses to be made of the property to which the application refers, will not impair either the orderly development of, or the existing uses being made of, adjacent properties. Finding met.

The proposed use is a desirable addition to the community, as it provides child care services that is conveniently located to residential and commercial uses. The proposed project provides the required parking as well as safe and adequate pick-up and drop-off circulation. The proposed outdoor play area will include a 6-8 foot tall masonry fence that will help minimize noise impacts. Therefore, the proposed use would not be detrimental to the public welfare or injurious to the property, improvements, or uses within the immediate vicinity.

Variance

1. Because of exceptional or extraordinary circumstances or conditions applicable to the property, or use, including size, shape, topography, location or surroundings, the strict application of the ordinance is found to deprive the property owner or privileges enjoyed by other properties in the vicinity and within the same zoning district. [Finding met]

A hardship finding can be made due the following unique circumstances:

- a. Limitations of the project site – the project proposes to re-purpose the existing building as a child care center. As such, the location of the building is fixed and limits viable areas for the outdoor play area that will not conflict with site circulation, remove required parking, and provides a safe play environment. Although the applicant studied an alternative location, the noise reduction is still not enough to meet the 60 dBA threshold.
- b. Infeasibility of noise barriers to shield the upper floor balconies – It is infeasible to build a sound wall to mitigate balconies that are on 2nd and 3rd floors. A tall wall would not be desirable or aesthetic and would not meet the City's design guidelines for neighborhood compatibility.
- c. There are no noise mitigation measures available to reduce the noise excesses at the balconies.

The outdoor play area will be utilized twice a day between the hours of 9:00AM to 11:00AM and again in the afternoon between the hours of 3:00 PM to 5:00PM. The outdoor play times are limited to 30-minute sessions consisting of group of 30 kids at any given time. The outdoor play times are consistent with the City's child care center guidelines in that it limits the outdoor play time to hours when neighbors are least likely to be disturbed (after 9:00 AM and before 5:00 PM).

2. The granting of the Variance will not be materially detrimental to the public welfare or injurious to the property, improvements or uses within the immediate vicinity and within the same zoning district. [Finding met]

The granting of the variance will not be materially detrimental to the public welfare or injurious to the property, improvements or uses within the immediate vicinity and within the same zoning district. The noise disturbance would be limited to certain hours of the day during the weekdays and only affect the second and third story balconies that are adjacent to the proposed outdoor play area.

3. Upon granting of the Variance, the intent and purpose of the ordinance will still be served and the recipient of the Variance will not be granted special privileges not enjoyed by other surrounding property owners within the same zoning district.

The granting of the variance would not constitute a special privilege not enjoyed by other surrounding property owners within the same zoning district since there are no other precedence for a variance to exceed operational noise standards in

the C-1 District or for other child care facilities to exceed the operational noise levels.

There are multiple child care sites that abut residential. The Tulip Daycare at 1279 Lawrence Station Rd. is located within a Mixed Use Residential development. The outdoor play is directly below balconies of residential units. As such, the siting of the outdoor play area would not be dissimilar to other approved child care facilities.

Furthermore, the General Plan encourages community serving uses such as child care center. The project is consistent with the City's Guidelines for Commercial Child Care Center and meets the following:

- a. Appropriately zoned.
- b. Adequately accommodates requirements for parking, site circulation and outdoor activity space.
- c. Located adjacent to residential areas on major collector and arterial streets.

Tentative Map

In order to approve the Tentative Map, the proposed subdivision must be consistent with the general plan. Staff finds that the Tentative Map is in conformance with the General Plan. However, if any of the following findings can be made, the Tentative Map shall be denied. Staff was not able to make any of the following findings and recommends approval of the Tentative Map.

1. That the subdivision is not consistent with the General Plan.
2. That the design or improvement of the proposed subdivision is not consistent with the General Plan.
3. That the site is not physically suitable for the proposed type of development.
4. That the site is not physically suitable for the proposed density of development.
5. That the design of the subdivision or proposed improvements is likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat.
6. That the design of the subdivision or type of improvements is likely to cause serious public health problems.
7. That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of property within the proposed subdivision.
8. That the map fails to meet or perform one or more requirements or conditions imposed by the "Subdivision Map Act" or by the Municipal Code

Staff was not able to make any of the findings (B.1-8), and recommends approval of the Tentative Map.

Council Policy Manual: Telecommunications (7.2.16)

The City of Sunnyvale's Council Policy Manual (CPM) is a compendium of policies established by City Council resolution or motion which provide guidelines for current or future City action. Such policies, when implemented, assist in achieving General Plan goals.

- **Policy Statement 1.A.5** - Support retention of local zoning authority for cellular towers, satellite dish antennas, and other telecommunications equipment, facilities and structures.
- **Policy Statement 2** - Promote universal access to telecommunications services for all Sunnyvale residents.

**RECOMMENDED
CONDITIONS OF APPROVAL AND
STANDARD DEVELOPMENT REQUIREMENTS
SEPTEMBER 25, 2019**

**Planning Application 2019-7502
755 S. Bernardo Ave.**

SPECIAL DEVELOPMENT PERMIT: To allow for the operations of a 6,920-square foot child care center within an existing one-story office building and installation of associated site improvements.

The following Conditions of Approval [COA] and Standard Development Requirements [SDR] apply to the project referenced above. The COAs are specific conditions applicable to the proposed project. The SDRs are items which are codified or adopted by resolution and have been included for ease of reference, they may not be appealed or changed. The COAs and SDRs are grouped under specific headings that relate to the timing of required compliance. Additional language within a condition may further define the timing of required compliance. Applicable mitigation measures are noted with "Mitigation Measure" and placed in the applicable phase of the project.

In addition to complying with all applicable City, County, State and Federal Statutes, Codes, Ordinances, Resolutions and Regulations, Permittee expressly accepts and agrees to comply with the following Conditions of Approval and Standard Development Requirements of this Permit:

GC: THE FOLLOWING GENERAL CONDITIONS AND STANDARD DEVELOPMENT REQUIREMENTS SHALL APPLY TO THE APPROVED PROJECT.

GC-1. CONFORMANCE WITH APPROVED PLANNING APPLICATION:

All building permit drawings and subsequent construction and operation shall substantially conform with the approved planning application, including: drawings/plans, materials samples, building colors, and other items submitted as part of the approved application. Any proposed amendments to the approved plans or Conditions of Approval are subject to review and approval by the City. The Director of Community Development shall determine whether revisions are considered major or minor. Minor changes are subject to review and approval by the Director of Community Development. Major changes are subject to review at a public hearing. [COA] [PLANNING]

GC-2. ENTITLEMENTS—EXERCISE AND EXPIRATION:

- The approved entitlements shall be null and void two years from the date of approval by the final review authority if the approval is not exercised, unless a written request for an extension is received prior to the expiration date and is approved by the Director of Community Development. [SDR] (PLANNING)
- GC-3. ENTITLEMENTS—DISCONTINUANCE AND EXPIRATION:
The entitlements shall expire if discontinued for a period of one year or more. [SDR] (PLANNING)
- GC-4. INDEMNITY:
The applicant/developer shall defend, indemnify, and hold harmless the City, or any of its boards, commissions, agents, officers, and employees (collectively, "City") from any claim, action, or proceeding against the City to attack, set aside, void, or annul, the approval of the project when such claim, action, or proceeding is brought within the time period provided for in applicable state and/or local statutes. The City shall promptly notify the developer of any such claim, action or proceeding. The City shall have the option of coordinating the defense. Nothing contained in this condition shall prohibit the City from participating in a defense of any claim, action, or proceeding if the City bears its own attorney's fees and costs, and the City defends the action in good faith. [COA] [OFFICE OF THE CITY ATTORNEY]
- GC-5. NOTICE OF FEES PROTEST:
As required by California Government Code Section 66020, the project applicant is hereby notified that the 90-day period has begun as of the date of the approval of this application, in which the applicant may protest any fees, dedications, reservations, or other exactions imposed by the city as part of the approval or as a condition of approval of this development. The fees, dedications, reservations, or other exactions are described in the approved plans, conditions of approval, and/or adopted city impact fee schedule. [SDR] [PLANNING / OCA]
- GC-6. SIGNS:
All existing/new signs shall be brought into conformance with Title 19 of the Sunnyvale Municipal Code. [PLANNING] [COA]
- GC-7. PUBLIC IMPROVEMENTS:
Developer shall install public improvements as required by the City, including but not limited to, curb & gutter, sidewalks, driveway approaches, curb ramps, street pavements, meters/vaults, trees and landscaping, striping, street lights, etc.

All public improvements shall be designed and constructed in accordance with current City design standards, standard details and specifications, and Americans with Disabilities Act (ADA) requirements where applicable, unless otherwise approved by the Department of Public Works. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process.

The developer is required to complete the installation of all public improvements and other improvements deemed necessary by the Public Works Department, prior to occupancy of the first building, or to the satisfaction of the Public Works Department.
[COA] [PUBLIC WORKS]

GC-8. OFF-SITE IMPROVEMENT PLANS:

Submit off-site improvement plans separate from the Building on-site improvement plans as the off-site improvement plans are approved through a Public Works Encroachment Permit process. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. [SDR] [PUBLIC WORKS]

GC-9. ENCROACHMENT PERMIT:

Prior to any work in the public right-of-way, obtain an encroachment permit with insurance requirements for all public improvements including a traffic control plan per the latest California Manual on Uniform Traffic Control Devices (MUTCD) standards to be reviewed and approved by the Department of Public Works. [COA] [PUBLIC WORKS]

<p>PS: THE FOLLOWING CONDITIONS SHALL BE MET PRIOR TO SUBMITTAL OF BUILDING PERMIT, AND/OR GRADING PERMIT.</p>

PS-1. EXTERIOR MATERIALS REVIEW:

Final exterior building materials and color scheme are subject to review and approval by the Director of Community Development prior to submittal of a building permit. [COA] [PLANNING]

PS-2. FENCING:

Prior to building permit issuance, the Permittee shall revise plans to incorporate the following:

- (1) Install a 6-foot tall masonry wall along the west and north property line if adjacent property owner provide consent.

(2) Install bollards to provide additional protection between the drive aisle and of the west corner of the playground on the south side of the building.

(3) Fencing around the outdoor play areas shall be a 6-feet in height.

PS-3. FRONTAGE TREES:

Prior to building permit issuance, the landscaping plan shall be revised to install 24-inch box Crape Myrtle trees along the Bernardo frontage to help make up the loss of tree canopy

PS-4. APPROVAL FROM UTILITY COMPANIES:

Prior to any plan check submittal, developer shall coordinate with utility companies for new private improvements in the existing PG&E easement present on the property.

Approval letters from the utility company is required for private improvements in the easement with recordation of a notice of covenant for private improvements located in the easement prior to building permit issuance.

Alternative arrangement may be considered to the City's satisfaction with consent from the utility companies. [COA] [PLANNING/PUBLIC WORKS]

BP: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS SUBMITTED FOR ANY DEMOLITION PERMIT, BUILDING PERMIT, GRADING PERMIT, AND/OR ENCROACHMENT PERMIT AND SHALL BE MET PRIOR TO THE ISSUANCE OF SAID PERMIT(S).

BP-1. CONDITIONS OF APPROVAL:

Final plans shall include all Conditions of Approval included as part of the approved application starting on sheet 2 of the plans. [COA] [PLANNING]

BP-2. RESPONSE TO CONDITIONS OF APPROVAL:

A written response indicating how each condition has or will be addressed shall accompany the building permit set of plans. [COA] [PLANNING]

BP-3. NOTICE OF CONDITIONS OF APPROVAL:

A Notice of Conditions of Approval shall be filed in the official records of the County of Santa Clara and provide proof of such recordation to the City prior to issuance of any City permit, allowed use of the

property, or Final Map, as applicable. The Notice of Conditions of Approval shall be prepared by the Planning Division and shall include a description of the subject property, the Planning Application number, attached conditions of approval and any accompanying subdivision or parcel map, including book and page and recorded document number, if any, and be signed and notarized by each property owner of record.

For purposes of determining the record owner of the property, the applicant shall provide the City with evidence in the form of a report from a title insurance company indicating that the record owner(s) are the person(s) who have signed the Notice of Conditions of Approval. [COA] [PLANNING]

BP-4. FEES AND BONDS:

The following fees and bonds shall be paid in full prior to issuance of building permit.

- a) TRANSPORTATION IMPACT FEE - Pay Traffic Impact fee for the net new trips resulting from the proposed project, estimated at \$8,172.52, prior to issuance of a Building Permit. (SMC 3.50). [SDR] [PLANNING]

BP-5. BLUEPRINT FOR A CLEAN BAY:

The building permit plans shall include a "Blueprint for a Clean Bay" on one full sized sheet of the plans. [SDR] [PLANNING]

BP-6. RECYCLING AND SOLID WASTE CONTAINER:

All recycling and solid waste containers shall be metal or State Fire Marshall listed non-metallic. The building permit plans shall provide details illustrating compliance with this condition. [COA] [PLANNING]

BP-7. SOLID WASTE AND RECYCLING ENCLOSURE:

The building permit plans shall include details for the installation of recycling and solid waste enclosures that are consistent with SMC 19.38.030. The solid waste disposal and recycling facilities within the enclosure area or within buildings shall be designed with adequate size, space and clearance based upon City's latest guidelines. The required enclosures shall:

- a) Match the design, materials and color of the main building;
- b) Be of masonry construction;
- c) Be screened from view;
- d) All gates, lids and doors shall be closed at all times;
- e) Shall not conflict with delivery/receiving areas;

- f) Shall be consistent with the approved Solid Waste and Recycling Management Plan;
 - g) Solid waste and recycling diversion systems shall be incorporated into the facilities and tenant improvements. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- BP-8. SOLID WASTE SERVICES:
Waste and recycling services shall be maintained under one account for each of the public domestic water meters that serve an occupied building held by the applicant, owner or landlord, unless otherwise approved by the city. The account holder is responsible for ensuring adequate services and that all locations, private sidewalks and streets are kept free of litter and stains. Requirements shall be specified in the approved documents and be submitted for approval by the city. [COA] [FINANCE/ENVIRONMENTAL SERVICES]
- BP-9. SOLID WASTE DISPOSAL AND RECYCLING DESIGN PLAN:
A detailed solid waste disposal and recycling design plan shall be submitted for review and approval by the Director of Community Development prior to issuance of building permit. The solid waste disposal plan and building permit plans shall demonstrate compliance with current City requirements and guidelines for non-residential projects. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- BP-10. ROOF EQUIPMENT:
Roof vents, pipes and flues shall be combined and/or collected together on slopes of roof or behind parapets out of public view as per Title 19 of the Sunnyvale Municipal Code and shall be painted to match the roof. [COA] [PLANNING]
- BP-11. EXHAUST AND OPENINGS:
No exhaust fans, doors, windows, or openings, of any kind shall be placed on the wall to the rear or where residential use is to the rear of the proposed building, except as may be required by the City, nor shall any machines or fans be placed on the roof of the building which exhaust dust or odors. The building permit plans shall clearly indicate the location of all exhaust equipment, doors and window and shall be subject to review and approval by the Planning Director. [COA] [PLANNING]
- BP-12. LANDSCAPE PLAN:
Landscape and irrigation plans shall be prepared by a certified professional, and shall comply with Sunnyvale Municipal Code Chapter 19.37 requirements. Landscape and irrigation plans are subject to review and approval by the Director of Community Development

through the submittal of a Miscellaneous Plan Permit (MPP). The landscape plan shall include the following elements:

- a) Ground cover shall be planted so as to ensure full coverage eighteen months after installation.

BP-13. TREE PROTECTION PLAN:

Prior to issuance of a Demolition Permit, a Grading Permit or a Building Permit, whichever occurs first, obtain approval of a tree protection plan from the Director of Community Development. Two copies are required to be submitted for review. The tree protection plan shall include measures noted in Title 19 of the Sunnyvale Municipal Code and at a minimum:

- a) An inventory shall be taken of all existing trees on the plan including the valuation of all 'protected trees' by a certified arborist, using the latest version of the "Guide for Plant Appraisal" published by the International Society of Arboriculture (ISA).
- b) All existing (non-orchard) trees on the plans, showing size and varieties, and clearly specify which are to be retained.
- c) Provide fencing around the drip line of the trees that are to be saved and ensure that no construction debris or equipment is stored within the fenced area during the course of demolition and construction.
- d) The tree protection plan shall be installed prior to issuance of any Building or Grading Permits, subject to the on-site inspection and approval by the City Arborist and shall be maintained in place during the duration of construction and shall be added to any subsequent building permit plans. [COA] [PLANNING/CITY ARBORIST]

BP-14. BEST MANAGEMENT PRACTICES - STORMWATER:

The project shall comply with the following source control measures as outlined in the BMP Guidance Manual and SMC 12.60.220. Best management practices shall be identified on the building permit set of plans and shall be subject to review and approval by the Director of Public Works:

- a) Storm drain stenciling. The stencil is available from the City's Environmental Division Public Outreach Program, which may be reached by calling (408) 730-7738.
- b) Landscaping that minimizes irrigation and runoff, promotes surface infiltration where possible, minimizes the use of pesticides and fertilizers, and incorporates appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping.

- c) Appropriate covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas.
- d) Covered trash, food waste, and compactor enclosures.
- e) Plumbing of the following discharges to the sanitary sewer, subject to the local sanitary sewer agency's authority and standards:
 - i) Discharges from indoor floor mat/equipment/hood filter wash racks or covered outdoor wash racks for restaurants.
 - ii) Dumpster drips from covered trash and food compactor enclosures.
 - iii) Discharges from outdoor covered wash areas for vehicles, equipment, and accessories.
 - iv) Swimming pool water, spa/hot tub, water feature and fountain discharges if discharge to onsite vegetated areas is not a feasible option.
 - v) Fire sprinkler test water, if discharge to onsite vegetated areas is not a feasible option. [SDR] [PLANNING]

BP-15. CITY STREET TREES:

The landscape plan shall including street trees and shall be submitted for review and approval by the City Arborist prior to issuance of building permit. [COA] [ENGINEERING/CITY ARBORIST]

BP-16. EXTERIOR LIGHTING PLAN:

Prior to issuance of a Building Permit submit an exterior lighting plan, including fixture and pole designs, for review and approval by the Director of Community Development. Driveway and parking area lights shall include the following:

- a) Pole heights to be uniform and compatible with the areas, including the adjacent residential areas. Light standards shall not exceed 18 feet on the interior of the project and 8 feet in height on the periphery of the project near residential uses.
- b) Provide photocells for on/off control of all security and area lights.
- c) All exterior security lights shall be equipped with vandal resistant covers.
- d) Wall packs shall not extend above the roof of the building.
- e) Lights shall have shields to prevent glare onto adjacent residential properties. [COA] [PLANNING]

BP-17. PARKING MANAGEMENT PLAN (NONRESIDENTIAL):

A Parking Management Plan shall be submitted for review and approval by the Director of Community Development prior to issuance of a

building permit. The Parking Management Plan shall include the following:

- a) Employee parking locations shall be away from the building, in parking spaces that are the least used.
- b) Specify the location and term of short-term parking.
- c) Allow the use of valet parking when appropriate on sites with limited parking.
- d) Employees shall be required to park on the site.
- e) Provide adequate signage to direct traffic and pedestrians [COA] [PLANNING]

BP-18. BICYCLE SPACES:

Provide eight Class II bicycle parking spaces per Citywide Design Guidelines and as approved by the Director of Community Development. Clearly indicate the location and the number of bicycle parking spaces on the Building Permit plans. [COA] [PLANNING]

BP-19. CARPOOL PARKING:

A total of two preferential parking spaces shall be reserved and so marked in the closest possible rows adjoining the building (allowing for visitor, disabled and pool van parking) for exclusive use by carpool vehicles carrying at least two employees per vehicle. [COA] [PLANNING]

BP-20. CONSTRUCTION MANAGEMENT PLAN:

The project applicant shall implement a Construction Management Plan (CMP) to minimize impacts of construction on surrounding residential uses to the extent possible. The CMP shall be subject to review and approval by the Director of Community Development prior to issuance of a demolition permit, grading permit, or building permit. The CMP shall identify measures to minimize the impacts of construction including the following:

- a) Measures to control noise by limiting construction hours to those allowed by the SMC, avoiding sensitive early morning and evening hours, notifying residents prior to major construction activities, and appropriately scheduling use of noise-generating equipment.
- b) Use 'quiet' models of air compressors and other stationary noise sources where such technology exists.
- c) Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.

- d) Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences or other noise-sensitive land uses.
- e) Locate staging areas and construction material areas as far away as possible from residences or noise-sensitive land uses.
- f) Route all construction traffic to and from the project site via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible. Obtain approval of proposed construction vehicle truck routes from the Department of Public Works.
- g) Manage construction parking so that neighbors are not impacted by construction vehicles. When the site permits, all construction parking shall be on-site and not on the public streets.
- h) Prohibit unnecessary idling of internal combustion engine-driven equipment and vehicles.
- i) Notify all adjacent business, residents, and noise-sensitive land uses of the construction schedule in writing. Notify nearby residences of significant upcoming construction activities at appropriate stages in the project using mailing or door hangers.
- j) Designate a “disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. [COA] [PLANNING]

BP-21. CONSTRUCTION MATERIAL AND STAGING:

All construction related materials, equipment, and construction workers parking need to be managed on-site and not located in any public right-of-ways or public easements. [COA] [PUBLIC WORKS]

BP-22. DEMOLITION/CONSTRUCTION/RECYCLING WASTE REPORT FORM:

To mitigate the impacts of large projects on local waste disposal and recycling levels, demolition waste weights/volumes, construction weights/volumes, and recycling weights/volumes are to be reported to the City using Sunnyvale.wastetracking.com hosted by Green Halo. As part of the project’s construction specifications, the developer shall track the type, quantity, and disposition of materials generated, and submit these records through the website both periodically and at project completion [COA][ENVIRONMENTAL SERVICES]

BP-23. STORMWATER MANAGEMENT PLAN:

Submit two copies of a Stormwater Management Plan subject to review and approval by Director of Community Development, pursuant to SMC 12.60, prior to issuance of building permit. The Stormwater Management Plan shall include an updated Stormwater Management Data Form. [COA] [PLANNING/ENVIRONMENTAL SERVICES]

- BP-24. STORMWATER MANAGEMENT PLAN THIRD-PARTY CERTIFICATION: Third-party certification of the Stormwater Management Plan is required per the following guidance: City of Sunnyvale – Stormwater Quality BMP Applicant Guidance Manual for New and Redevelopment Projects - Addendum: Section 3.1.2 Certification of Design Criteria Third-Party Certification of Stormwater Management Plan Requirements. The third-party certification shall be provided prior to building permit issuance. [SDR] [PLANNING/ENVIRONMENTAL SERVICES]

EP: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED AS PART OF AN ENCROACHMENT PERMIT APPLICATION.

- EP-1. COMPLETE OFF-SITE IMPROVEMENT PLAN SET:
A complete plan check set applicable to the project, which may include street improvement plans, streetscape plans, streetlight plans, photometric analysis, striping plans, erosion control plans, and traffic control plans shall be submitted as part of the first off-site improvement plans, including on-site and off-site engineering cost estimate and the initial Engineer and Inspection plan review fee. Joint trench plans may be submitted at a later date. No partial sets are allowed unless otherwise approved by the Department of Public Works. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. See Improvement Plan Checklist and Improvement Plan Submittal Checklist at the following 2 links:
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=24002>
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23625> [COA] [PUBLIC WORKS]
- EP-2. UPGRADE OF EXISTING PUBLIC IMPROVEMENTS:
As part of the off-site improvement plan review and approval, any existing public improvements to be re-used by the project, which are not in accordance with current City standards and are not specifically identified in the herein project, shall be upgraded to current City standards and as required by the Department of Public Works. [COA] [PUBLIC WORKS]

- EP-3. BENCHMARKS:
The improvement plans shall be prepared by using City's latest benchmarks (NAVD88) available on City's website <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23803> Plans based on NGVD29 will not be accepted. [COA] [PUBLIC WORKS]
- EP-4. UTILITY CONNECTION:
This project requires connection to all City utilities or private utilities operating under a City or State franchise which provide adequate levels of service. [COA] [PUBLIC WORKS]
- EP-5. EXISTING UTILITY ABANDONMENT/RELOCATION:
Developer is responsible for research on all existing utility lines to ensure that there are no conflicts with the project. All existing utility lines (public or private) and/or their appurtenances not serving the project and/or have conflicts with the project, shall be capped, abandoned, removed, relocated and/or disposed of to the satisfaction of the City. Existing public facilities within the street right-of-way shall be abandoned per City's Abandonment Notes and procedures, including abandonment by other utility owners. [COA] [PUBLIC WORKS]
- EP-6. MODIFICATIONS TO EXISTING PUBLIC UTILITIES:
Developer is required to pay for all changes or modifications to existing City utilities, streets and other public utilities within or adjacent to the project site, including but not limited to utility facilities/conduits/vaults relocation due to grade change in the sidewalk area, caused by the development. [COA] [PUBLIC WORKS]
- EP-7. DRY UTILITIES:
Submit dry utility plans and/or joint trench plans (PG&E, telephone, cable TV, fiber optic, etc.) to the Public Works Department for review and approval prior to issuance of any permits for utility work within any public right-of-way or public utility easements. Separate encroachment permits shall be required for various dry utility construction. [SDR] [PUBLIC WORKS]
- EP-8. WET UTILITIES:
All wet utilities (water, sanitary sewer, storm drain) on private property shall be privately owned and maintained. The fire and domestic water systems shall be privately owned and maintained beyond the meter. [COA] [PUBLIC WORKS]
- EP-9. RE-USE OF EXISTING CITY UTILITY SERVICE LINES:

- Re-use of existing City sanitary sewer and storm drain service lines and appurtenances is subject to City's review and approval. Developer's contractor shall expose the existing facilities during construction for City's evaluation or provide video footage of the existing pipe condition. Developer's contractor shall replace any deficient facilities as deemed necessary by Public Works Department. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. [COA] [PUBLIC WORKS]
- EP-10. **SANITARY SEWER CLEANOUT:**
Install new sanitary sewer cleanout at the street right-of-way lines for all existing and proposed sanitary sewer laterals to be used for the project. [SDR] [PUBLIC WORKS]
- EP-11. **SANITARY SEWER AND STORM DRAIN TRIBUTARY PATTERN:**
This project is required to follow the existing sanitary sewer and storm drain tributary pattern. Any deviations would require additional analysis and be subject to approval by the Department of Public Works as part of the off-site improvement plan review process. This project shall not cause any negative impact on the drainage pattern for adjacent properties. [COA] [PUBLIC WORKS]
- EP-12. **CATCH BASIN TRASH CAPTURE DEVICES AND STENCILING:**
Pursuant to SMC 12.60.130, install full trash capture devices on the project site, prior to connecting to the City's storm drain collection system. The developer shall be responsible for perpetual maintenance of those trash capture devices. All storm drain inlet facilities located in the public right-of-way shall be stenciled that read "NO DUMPING". Stencils may be borrowed and returned by coordinating with the Environmental Services Department by calling 408-730-7738. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- EP-13. **UTILITY METER/VAULT:**
No existing or new utility meters or vaults shall be located within the new driveway approach areas. All existing or new utility vaults serving the project site shall be located on-site and not within the public utility easement, if any. [COA] [PUBLIC WORKS]
- EP-14. **DRIVEWAY APPROACHES:**
Remove existing driveway approach on Brookfield Avenue and install new driveway approach to comply with Americans with Disabilities Act (ADA) requirements and per city standard details and specifications.
- The two unused existing driveway approaches along the Bernardo Avenue frontage shall be replaced with new curb, gutter and sidewalk. [COA] [PUBLIC WORKS]

EP-15. CURB RAMPS:

Remove and replace existing curb ramp and install new curb ramp at the northwest corner of Bernardo Ave and Brookfield Ave. Additional re-grading of asphalt may be required to ensure there are no localized low points and positive surface runoff occurs along the flow line. [COA] [PUBLIC WORKS]

EP-16. STREETSCAPE IMPROVEMENTS:

Remove existing curb, gutter, and sidewalk along the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue and install new curb, gutter, and sidewalk per City of Sunnyvale standard details with a curb return radius of 30 feet at the face of curb, or as directed by Public Works.

Remove existing curb, gutter, and sidewalk along Bernardo Avenue between the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue and the north edge of the existing southernmost driveway approach along the project frontage and install new curb, gutter, and 9.5-foot sidewalk (not including 6-inch curb) per City of Sunnyvale standard detail 9C, or as directed by Public Works.

Remove existing curb, gutter, and sidewalk along Brookfield Avenue from the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue to a point 20 feet west of said curb return and install new curb, gutter, and 6-foot sidewalk per City of Sunnyvale standard detail 9C, or as directed by Public Works. [COA] [PUBLIC WORKS]

EP-17. STREET PARKING:

Vehicle parking, passenger loading and unloading, and vehicle stopping are not permitted along Bernardo Avenue project frontage as well as Brookfield Avenue project frontage. Installation of signage is subject to review and approval by Public Works. [COA] [PUBLIC WORKS]

EP-18. INTERSECTION CORNER RADIUS AND CROSSWALK DISTANCE:

The corner radius at the northwest corner of the intersection of Bernardo Avenue and Brookfield Avenue shall be reduced to 30 feet measured at the face of curb, or as directed by the Department of Public Works. Additionally, the crosswalk crossing distance shall be reduced. Removal, addition, and or relocation of striping will be required to the satisfaction of the Department of Public Works. Removal of existing striping will require pavement grinding and slurry seal restoration. [COA] [PUBLIC WORKS]

EP-19. CIRCULATION PLAN:

Provide a pedestrian and vehicle circulation plan as part of the off-site improvement plans. Include fire truck turning templates, truck turning templates (WB-40), and garbage truck turning templates for both off-site and on-site turning movements. [COA] [PUBLIC WORKS]

EP-20. PHOTOMETRIC ANALYSIS:

The developer is required to provide a photometric analysis based upon LED fixtures for S Bernardo Avenue and Brookfield Avenue so as to determine that the street lighting meets current City's Roadway Lighting Design Criteria. Roadway, sidewalk and crosswalk Illuminance calculations shall be calculated separately from each other.

The roadway and sidewalk illuminance values required to be met for S Bernardo Avenue are:

1. Minimum Maintained Average Illuminance ≥ 0.4 fc
2. Uniformity Ratio (Avg/Min) ≤ 6.0
3. Max/Min ratio ≤ 20
4. Desirable lighting level for marked crosswalks is 2.2 fc. However, if this is not achievable the developer shall install at least one safety light on each side of the crosswalk.

The roadway and sidewalk illuminance values required to be met for Brookfield Avenue are:

1. Minimum Maintained Average Illuminance ≥ 0.6 fc
2. Uniformity Ratio (Avg/Min) ≤ 4.0
3. Max/Min ratio ≤ 20
4. Desirable lighting level for marked crosswalks is 2.2 fc. However, if this is not achievable the developer shall install at least one safety light on each side of the crosswalk.

The photometric analysis shall include all existing streetlights on both sides of S Bernardo Avenue and Brookfield Avenue along the project frontage, with streetlight being LED fixtures. Developer shall relocate existing streetlights or install new ones along the project frontage based upon City approved photometric analysis, unless otherwise directed by the City.

The developer shall upgrade all existing streetlight fixtures along the S Bernardo Avenue and Brookfield Avenue project frontage to LED fixtures. All LED fixtures shall be of the same make and model (current approved manufacturers are GE and Philips).

If the photometric analysis shows the need to relocate or install new street lights, the developer shall also replace all existing streetlight conduits, wires and pull boxes with new ones along the Bordeaux

project frontage per City's current standards, unless otherwise directed by the City.

The light lost factor (LLF) to be used is 0.95. The LED fixture should have an efficiency of at least 90 lumens/watt and should have the International Dark-Sky Association (IDA) fixture seal of approval (FSA) and be on their IDA-Approved™ Products list. Along with the photometric analysis the developer shall provide cut sheets for proposed fixture, ies files used to perform analysis, test results from certified independent lab, and electronic copy of the photometric analysis in AGi32 format. All LED fixtures shall have a 10-year warranty.

Submit separate streetlight plans concurrently with the off-site improvement plan review to include installation of new conduits, existing and/or new locations of power source connection and new service pedestal, conductors, pull boxes, voltage drop and load calculations, and any other streetlight equipment as required to be installed by the Developer per latest City standard details and specifications and National Electric Code.

Developer shall comply with City street light design guidelines and plan check submittal requirements as provided by the City upon request.

Obtain PG&E's approval for new service pedestal, if required, prior to Encroachment Permit issuance.

Upon Completion of the streetlight improvements, developer shall provide photometric file in IES format. [COA] [PUBLIC WORKS]

EP-21. SIGNING AND STRIPING PLANS:

Submit a signing and striping plan in accordance with the latest edition of the CA MUTCD to City for review and approval by the Public Works Department for the required restriping of the crosswalk and . [SDR] [PUBLIC WORKS]

EP-22. TRAFFIC CONTROL PLAN:

Submit a traffic control plan with the off-site improvement plans for review and approval. Per the City's Temporary Traffic Control Checklist, the traffic control plan shall include a summary of the traffic control types, dates, times and blocks affected. All construction related materials, equipment, and construction workers parking need to be stored on-site and the public streets need to be kept free and clear of construction debris. [COA] [PUBLIC WORKS]

EP-23. SCHOOL ZONE:

At no point shall this site operate as a public or private educational institution recognized by the state education authority for one or more grades K through 12 or as otherwise defined by the State without the approval from Department of Public Works, Division of Transportation and Traffic. Such modification may require traffic analysis (scoped by the City and funded by the applicant) and signing and striping improvements to be funded by the applicant. These improvements may include, but are not limited to those identified in Part 7 of the 2014 CA MUTCD to establish a school zone per State requirements. The design and implementation are to be funded by the applicant. The conceptual design will be done by a City-selected consultant and the final design shall be submitted to the City as off-site improvement plans. The signing and striping design shall be done by a Professional Traffic Engineer per CA MUTCD. [COA] [PUBLIC WORKS]

EP-24. VISION TRIANGLES:

The site plan design shall comply with the requirements per Sunnyvale Municipal Code Section 19.34.060 for driveway and corner vision triangles. [COA] [PUBLIC WORKS]

EP-25. CITY STREET TREES:

The developer shall install required street trees along the project frontage as follows: S Bernardo Ave: tree species to be provided to the developer at a later date; Brookfield Ave: existing trees to be protected in place. Street trees and frontage landscaping shall be included in the detailed landscape and irrigation plan subject to review and approval by the Department of Public Works prior to issuance of encroachment permit. New street trees shall be 24-inch box size or 15 gallon size. The city tree spacing should be approximately 35 feet apart. A continuous root barrier shall be installed along the parkstrip area. No trees are to be planted within 10' of a sanitary sewer lateral and within any existing or proposed Public Utility Easement. [SDR] [PUBLIC WORKS]

EP-26. PROTECTION OF EXISTING TREES:

No utility trench shall be allowed within 15' radius of an existing mature tree. Boring, air spade or other excavation method as approved by the City Arborist shall be considered to protect existing mature tree. Consult with the City Arborist prior to adjusting locations of utility lines. [SDR] [PUBLIC WORKS]

EP-27. DAMAGE TO EXISTING PUBLIC IMPROVEMENTS:

Developer shall be responsible to rectify any damage to the existing public improvements fronting and adjacent to the project site as a result of project construction to City's satisfaction by the Department of Public Works. All existing traffic detector loops and conduits shall be protected in place during construction. Any damaged detector loops

shall be replaced within 7 days at the expense of the developer. [COA]
[PUBLIC WORKS]

EP-28. RECORD DRAWINGS:

Stamped and signed hard copy record drawings of the off-site improvements (including off-site street, storm drain, and landscaping plans) shall be submitted to the City prior to encroachment permit sign-off. In addition, streetlight record drawings shall be in AutoCAD format & GIS format. Developer shall pay the record drawing fee. [COA]
[PUBLIC WORKS]

EP-29. PUBLIC WORKS DEVELOPMENT FEES:

Developer shall pay all applicable Public Works development fees associated with the project, including but not limited to, utility frontage and/or connection fees, off-site improvement plan check and inspection fees, prior to any permit issuance. The exact fee amount shall be determined based upon the fee rate at the time of fee payment. [COA] [PUBLIC WORKS]

EP-30. IMPROVEMENT AGREEMENT AND IMPROVEMENT SECURITIES:

Developer shall execute an Improvement Agreement and provide improvement securities and/or cash deposit(s) for all proposed public improvements prior to any permit issuance. [COA] [PUBLIC WORKS]

EP-31. OFF-SITE IMPROVEMENT COST ESTIMATE:

Provide an itemized engineer's estimate for all off-site public improvements for the entire project. [COA] [PUBLIC WORKS]

EP-32. BERNARDO AVENUE PAVEMENT MORATORIUM:

Bernardo Avenue is currently under a three-year pavement moratorium. Any work that significantly disrupts condition of pavement may require restoration as determined by Department of Public Works. [COA] [PUBLIC WORKS]

PF: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS AND/OR SHALL BE MET PRIOR TO RELEASE OF UTILITIES OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

PF-1. LANDSCAPING AND IRRIGATION:

All landscaping and irrigation as contained in the approved building permit plan shall be installed prior to occupancy. [COA] [PLANNING]

PF-2. IRRIGATION METERS:

For commercial and industrial projects, to ensure appropriate sewer billing (water used for irrigation may not be billed for sewer), the

developer may provide separate (irrigation and other) intake meters. Such meters could be installed prior to occupancy of the building. [COA] [PLANNING]

- PF-3. PARKING LOT STRIPING:
All parking lot striping, guest spaces, and compact spaces shall be striped as per the approved building permit plans and Public Works standards prior to occupancy. [COA] [PLANNING/PUBLIC WORKS]
- PF-4. COMPLETION OF PUBLIC IMPROVEMENTS:
Developer shall complete all required public improvements in accordance with City approved plans, prior to any building occupancy. [COA] [PUBLIC WORKS]
- PF-5. NEW PUBLIC EASEMENTS LOCATED ON-SITE:
AT-1. Any new easements required for public use purpose shall be either shown on the recorded parcel map or on a separate recorded Easement Deed deemed necessary by the Department of Public Works prior to any building occupancy. [COA] [PUBLIC WORKS]
- PF-6. PARKING LOT STRIPING:
All parking lot striping, guest spaces, and compact spaces shall be striped as per the approved building permit plans and Public Works standards prior to occupancy. [COA] [PLANNING/PUBLIC WORKS]
- PF-7. COMPLETION OF PUBLIC IMPROVEMENTS:
Developer shall complete all required public improvements in accordance with City approved plans, prior to any building occupancy. [COA] [PUBLIC WORKS]

DC: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

- DC-1. BLUEPRINT FOR A CLEAN BAY:
The project shall be in compliance with stormwater best management practices for general construction activity until the project is completed and either final occupancy has been granted. [SDR] [PLANNING]
- DC-2. TREE PROTECTION:
All tree protection shall be maintained, as indicated in the tree protection plan, until construction has been completed and the installation of landscaping has begun. [COA] [PLANNING]
- DC-3. CLIMATE ACTION PLAN – OFF ROAD EQUIPMENT REQUIREMENT:

OR 2.1: Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]), or less. Clear signage will be provided at all access points to remind construction workers of idling restrictions.

OR 2.2: Construction equipment must be maintained per manufacturer's specifications.

OR 2.3: Planning and Building staff will work with project applicants to limit GHG emissions from construction equipment by selecting one of the following measures, at a minimum, as appropriate to the construction project:

- a) Substitute electrified or hybrid equipment for diesel- and gasoline-powered equipment where practical.
- b) Use alternatively fueled construction equipment on-site, where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.
- c) Avoid the use of on-site generators by connecting to grid electricity or utilizing solar-powered equipment.
- d) Limit heavy-duty equipment idling time to a period of 3 minutes or less, exceeding CARB regulation minimum requirements of 5 minutes. [COA] [PLANNING]

DC-4. DUST CONTROL:

At all times, the Bay Area Air Quality Management District's CEQA Guidelines and "Basic Construction Mitigation Measures Recommended for All Proposed Projects", shall be implemented. [COA] [PLANNING]

AT: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES THAT THE USE PERMITTED BY THIS PLANNING APPLICATION OCCUPIES THE PREMISES.

AT-2. HOURS OF OPERATION:

The hours of operation are limited to 7:30 a.m. to 7:00PM. Changes to hours of operation shall require approval of the Director of Community Development through a Miscellaneous Plan Permit. [COA] [PLANNING]

AT-3. DELIVERY HOURS:

Delivery hours for the approved use shall comply with SMC 19.42.030:

- a) Delivery hours are limited to daytime (period from 7:00 a.m. to 10:00 p.m. daily) only.
- b) Nighttime delivery (period from 10 p.m. to 7:00 a.m. daily) is prohibited. [SDR] [PLANNING]

AT-4. RECYCLING AND SOLID WASTE:
All exterior recycling and solid waste shall be confined to approved receptacles and enclosures. [COA] [PLANNING]

AT-5. LOUDSPEAKERS PROHIBITED:
Out-of-door loudspeakers shall be prohibited at all times. [COA] [PLANNING]

AT-6. EXTERIOR EQUIPMENT:
All unenclosed materials, equipment and/or supplies of any kind shall be maintained within approved enclosure area. Any stacked or stored items shall not exceed the height of the enclosure. Individual air conditioning units shall be screened with architecture or landscaping features. [COA] [PLANNING]

AT-7. LANDSCAPE MAINTENANCE:
All landscaping shall be installed in accordance with the approved landscape plan and shall thereafter be maintained in a neat, clean, and healthful condition. Trees shall be allowed to grow to the full genetic height and habit (trees shall not be topped). Trees shall be maintained using standard arboriculture practices. [COA] [PLANNING]

AT-8. PARKING LOT MAINTENANCE:
The parking lot shall be maintained in accordance with the approved plans and as follows:

- a) Clearly mark all employee, customer, and compact spaces. This shall be specified on the Building Permit plans and completed prior to occupancy.
- b) Maintain all parking lot striping and marking.
- c) Assure that adequate lighting is available in parking lots to keep them safe and desirable for the use.
- d) Require signs to direct vehicles to additional parking spaces on-site, as needed.



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marekstoklosa@sbcglobal.net

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:
PROJECT NO: 17-025
MODEL FILE: JINYWG-2.VWX
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REVIEWED BY: MS

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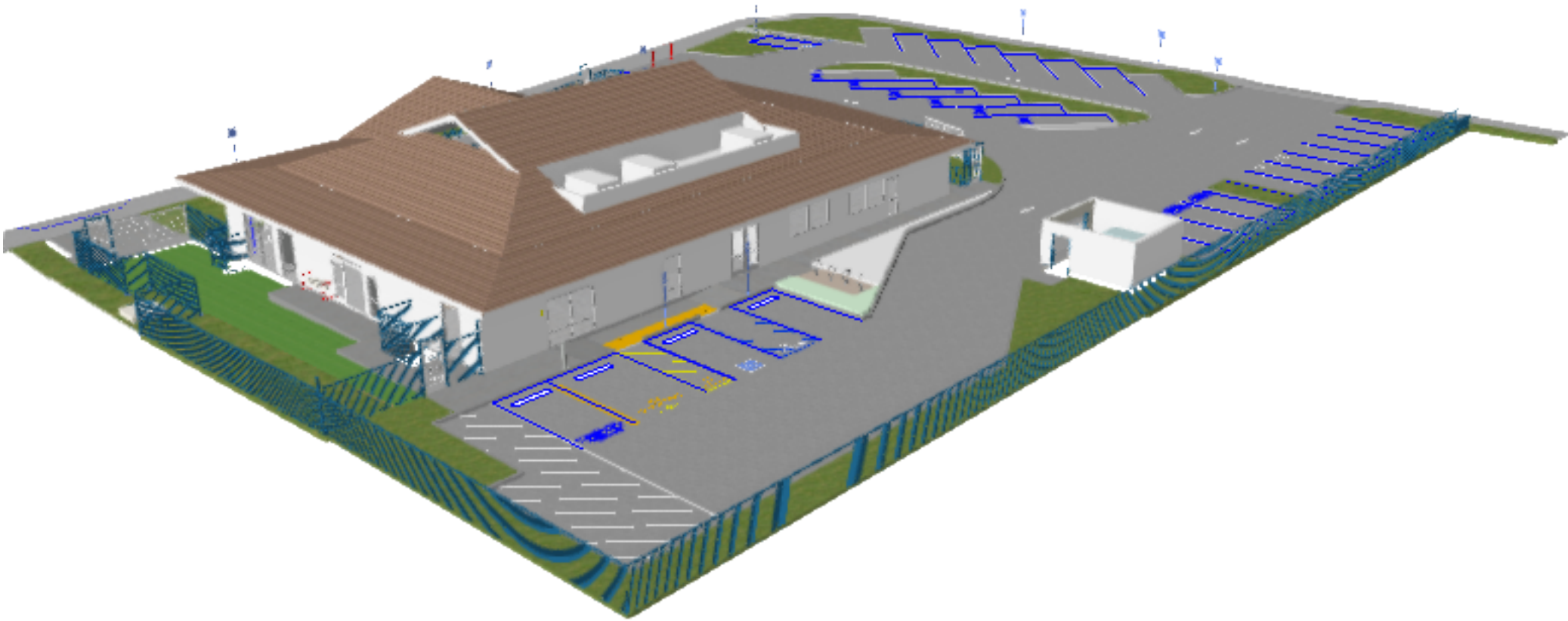
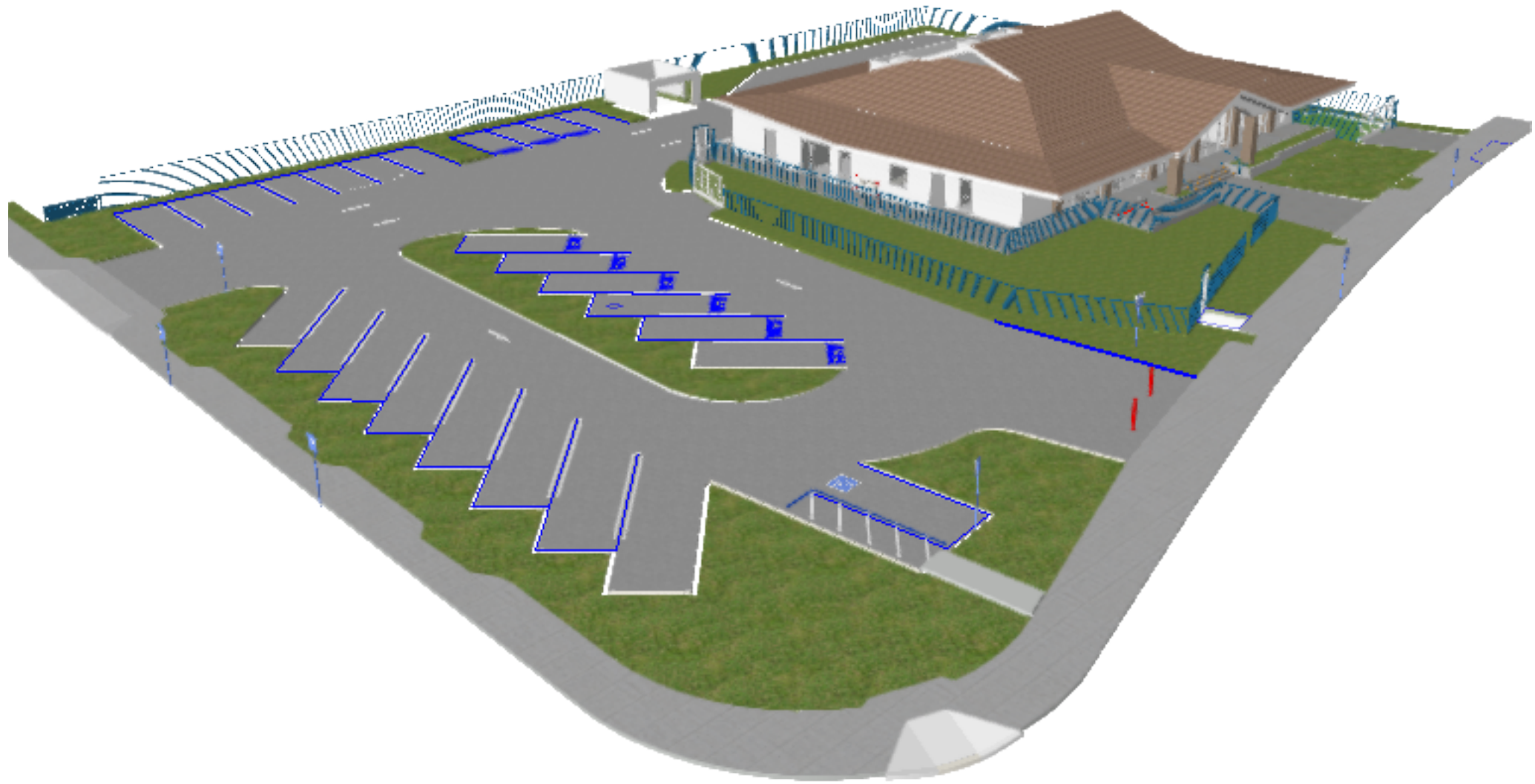
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DESIGN DATA

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A-001

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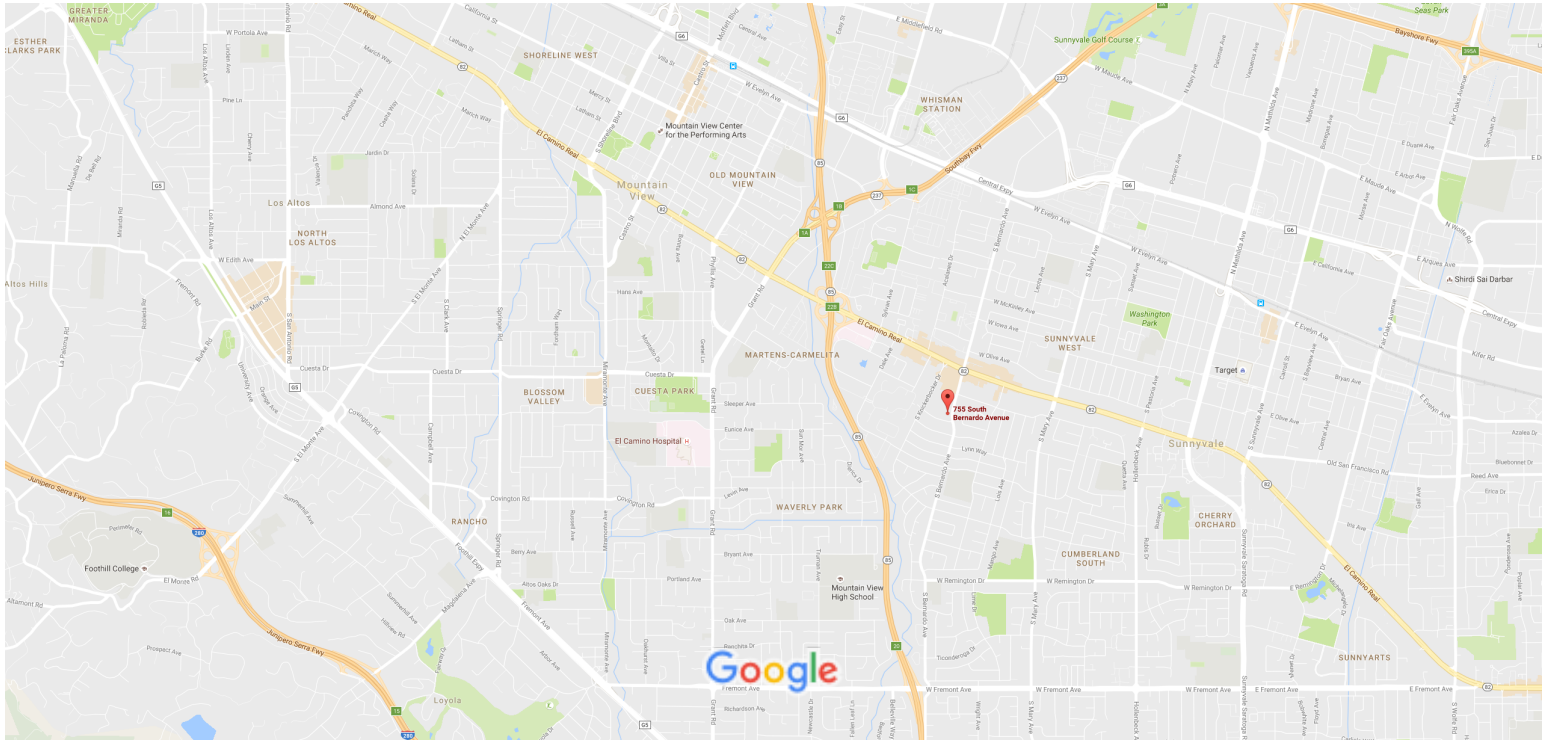
NOTES:
A. DEVELOPER IS RESPONSIBLE FOR RESTORING AND REPLACING ANY DAMAGE IN THE PUBLIC RIGHT OF WAY OR ANY DAMAGE TO THE TRAFFIC CONTROL DEVICES CAUSED DUE TO CONSTRUCTION ACTIVITIES.
B. DEVELOPER IS RESPONSIBLE FOR RESEARCH ON ALL EXISTING UTILITY LINES TO ENSURE THAT THERE ARE NO CONFLICTS WITH THE PROJECT. ALL EXISTING UTILITY LINES (PUBLIC OR PRIVATE) AND/OR THEIR APPURTENANCES NOT SERVING THE PROJECT SHALL BE CAPPED, ABANDONED, REMOVED, RELOCATED AND / OR DISPOSED OF TO THE SATISFACTION OF THE CITY. EXISTING PUBLIC FACILITIES WITHIN THE STREET RIGHT OF WAY, SHALL BE ABANDONED PER CITY'S ABANDONMENT NOTES, INCLUDING ABANDONMENT BY OTHER UTILITY OWNERS.
C. THIS PROJECT IS REQUIRED TO FOLLOW THE EXISTING SANITARY SEWER AND STORM DRAIN TRIBUTARY PATTERN. ANY DEVIATIONS WOULD REQUIRE ADDITIONAL ANALYSIS AND SUBJECT APPROVAL BY DIRECTOR OF PUBLIC WORKS AS PART OF THE OFF SITE IMPROVEMENT PLAN REVIEW PROCESS. THIS PROJECT SHALL NOT CAUSE ANY NEGATIVE IMACT ON THE DRAINAGE PATTERN FOR ADJACENT PROPERTIES.

SCOPE OF WORK:
1. TENANT IMPROVEMENT, FOR PROPOSED PRE-SCHOOL FACILITY WITHIN EXISTING BUILDING.
2. NO ALTERATIONS TO EXISTING BUILDING, EXCEPT INSTALLATION OF NEW EXIT DOORS IN PLACE OF EXISTING AND REPLACEMENT OF DOORS BY WINDOWS OF SAME SIZE. INSTALLATION OF NEW EXIT DOOR IN FRONT WALL LEADING FROM A CLASSROOM.
3. REPLACEMENT/RECONFIGURATION OF EXISTING FRONT STAIR, SIDEWALK AT THE BUILDING SIDE AND FRONT OF THE BUILDING FOR COMPLIANCE TO ACCESSIBILITY STANDARDS
4. MODIFICATION TO EXISTING PARKING FOR ACCESSIBILITY STANDARDS.
5. INSTALLATION OF NEW PLAYGROUND PERIMETER FENCING AT BUILDING REAR AND SIDE, INCLUDING GATES AND EMERGENCY VEHICLE ACCESS GATE.
6. NEW ACCESSIBLE PARKING AND SITE SIGNAGE WITHIN SIGNAGE PROGRAM OF THE PRE-SCHOOL.
7. INSTALLATION OF NEW PLAYGROUND AT REAR WITHIN EXISTING OPEN SPACE. EXISTING DRAINAGE WILL BE MAINTAINED.
8. PLAYGROUND WILL HAVE ARTIFICIAL TURF WITH BIKE ROUTE IN ASPHALT-CONCRETE.
RECONFIGURE / ENHANCE LANDSCAPING IN AREA AROUND PROPOSED PLAYGROUND, PARKING AND FRONT ENTRANCE.

PLANNING APPROVALS

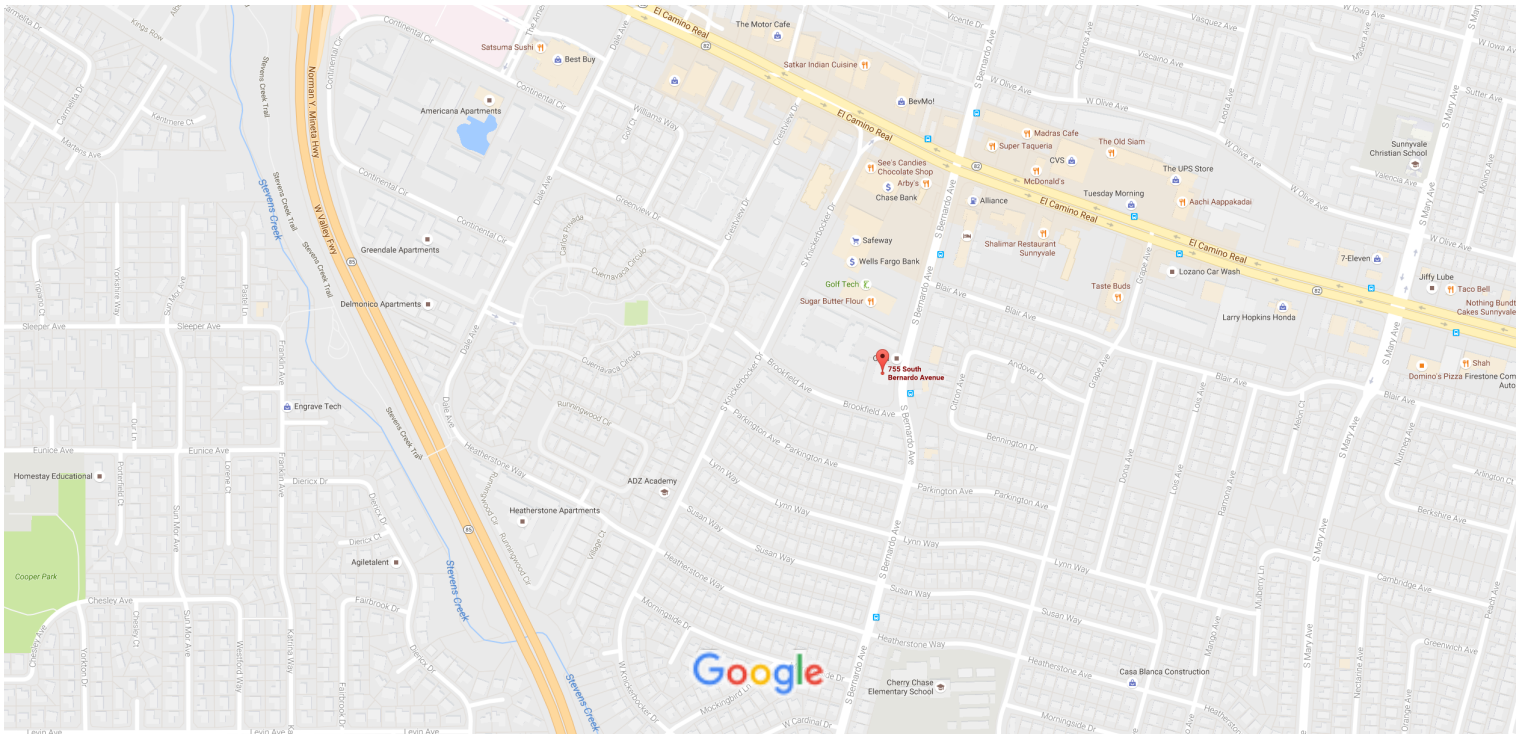
BUILDING DEPARTMENT APPROVALS

Google Maps 755 S Bernardo Ave



LOCATION PLAN

Google Maps 755 S Bernardo Ave



VICINITY PLAN

OWNER:
JY INTERNATIONAL GROUP, INC
660 SOUTH BERNARDO AVE
SUNNYVALE, CA 94087

ZONING:
CUPD

SITE AREA:
37,887 SQ.FT.

EXISTING BUILDING AREA:
6520.3 SQ.FT.

LOT COVERAGE:
6520.3 / 37,887 = 0.182= 18%

FAR:
0.18 = 18%

STUDENTS:
120

STAFF:
12

PARKING:
30 STALLS PROVIDED
REQUIRED PARKING IS
0.25 STALL PER CHILD = 120 X 0.25 = 30

BICYCLE PARKING:
5% OF TOTAL PARKING. 5% OF 31 STALLS = 1.6 = 2 STALLS

ELECTRIC VEHICLE PARKING:
3% OF TOTAL PARKING. 3% OF 31 STALLS = 0.93 = 1 STALL

RIDESHARE PARKING:
5% OF TOTAL PARKING. 5% OF 31 STALLS = 1.6 = 2 STALLS

PRESCHOOL-STUDENTS:
120 STUDENTS AGES 2 TO 6

LANDSCAPE AREAS:
LANDSCAPING PROVIDED 6694.9 SQ.FT.
(REQUIRED: 20% OF PARKING AREA=20% OF 17,004.2 SQ.FT. = 3,400.84 SQ.FT.)
LANDSCAPE - WALKWAY AREA:
2472 SQ.FT.

TOTAL OF ALL LANDSCAPE =9066.9 SQ.FT.
20% OF SITE AREA = 37,887 X 20% = 7577.4 SQ.FT.
IN RELATION TO SITE:
LANDSCAPE TOTAL WITH PLAYGROUND TURF = 13,653.4 SQ.FT.

PARKING AREA:
17,004.2 SQ.FT.

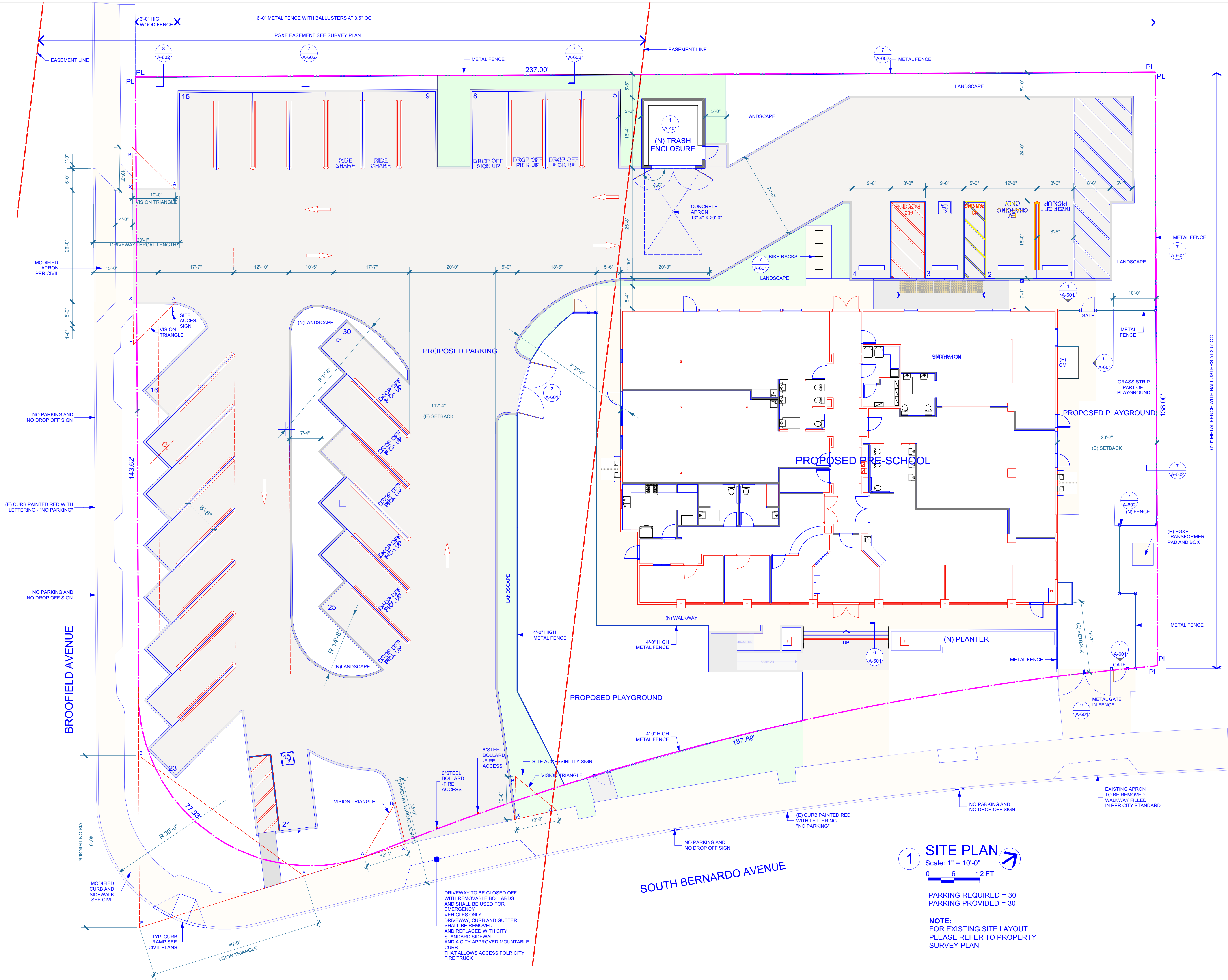
PLAYGROUND AREA:
4,586.5 SQ.FT.

EXISTING LANDSCAPING:
3049.1 SQ.FT

EXISTING IMPERVIOUS AREA:
34,837.9 SQ.FT
(BUILDING DRIVEWAYS, WALKWAYS)

EXISTING PARKING:
49 (TWO FOR DISABLED PERSONS)

DESIGN DATA



1 SITE PLAN
Scale: 1" = 10'-0"
0 6 12 FT

PARKING REQUIRED = 30
PARKING PROVIDED = 30

NOTE:
FOR EXISTING SITE LAYOUT
PLEASE REFER TO PROPERTY
SURVEY PLAN



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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

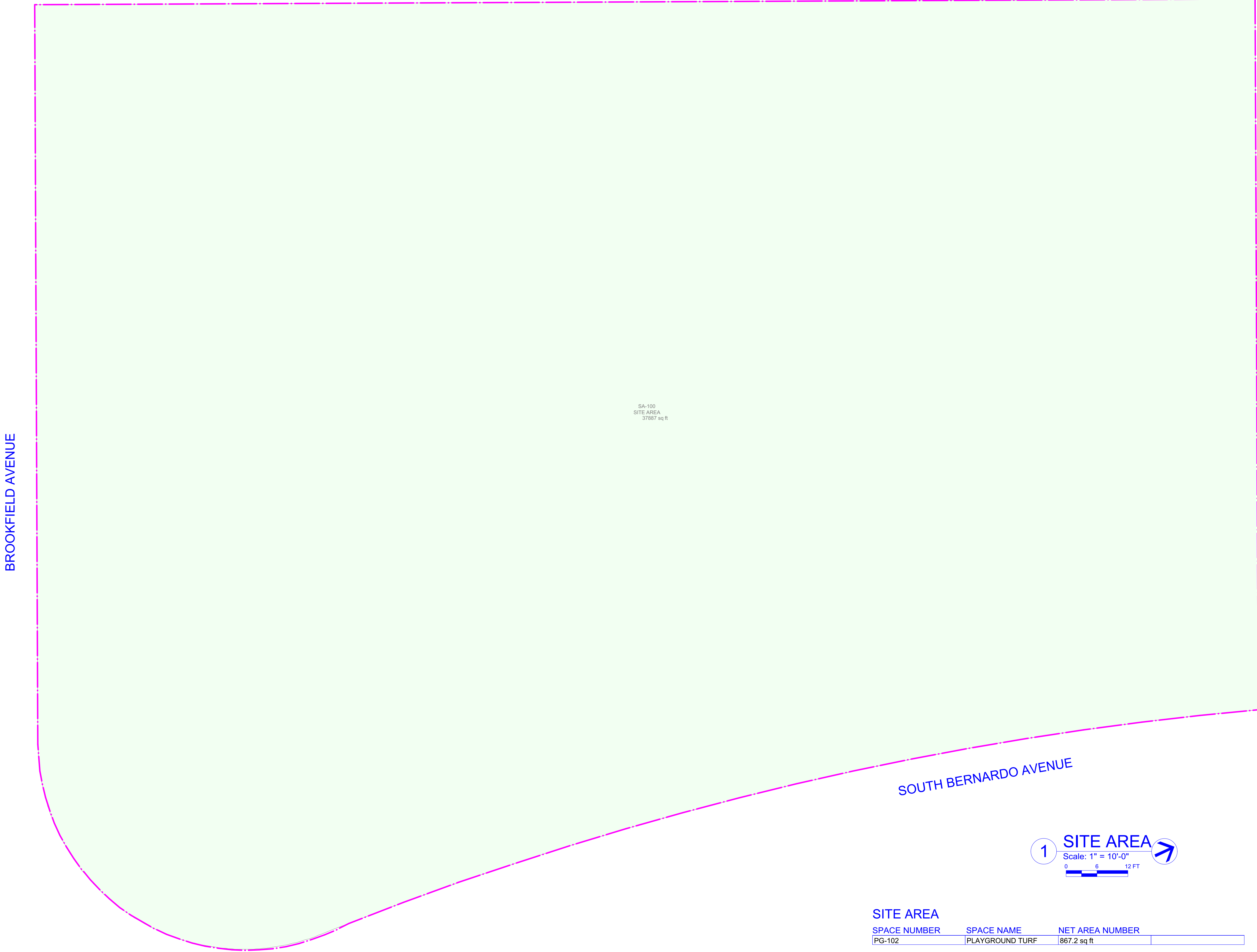
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SCALE:	
PROJECT NO:	17-025
MODEL FILE:	JINYING-2.VWX
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DRAWING TITLE:
SITE AREA

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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

BROOKFIELD AVENUE

SOUTH BERNARDO AVENUE

DROP OFF
PICK UP

L-107
LANDSCAPE
204.9 sq ft

L-110
LANDSCAPE
850 sq ft

L-111
LANDSCAPE
549.7 sq ft

L-112
LANDSCAPE
393.5 sq ft

L-113
LANDSCAPE
465.8 sq ft

L-105
LANDSCAPE
23.7 sq ft

L-104
LANDSCAPE
135.2 sq ft

L-103
LANDSCAPE
359.6 sq ft

LANDSCAPE AREAS

SPACE NUMBER	SPACE NAME	NET AREA	NUMBER
L-101	LANDSCAPE	2649.1 sq ft	
L-102	LANDSCAPE	224.4 sq ft	
L-103	LANDSCAPE	359.6 sq ft	
L-104	LANDSCAPE	135.2 sq ft	
L-105	LANDSCAPE	23.7 sq ft	
L-106	LANDSCAPE	82.7 sq ft	
L-107	LANDSCAPE	204.9 sq ft	
L-109	LANDSCAPE	494.5 sq ft	
L-110	LANDSCAPE	850 sq ft	
L-111	LANDSCAPE	549.7 sq ft	
L-112	LANDSCAPE	393.5 sq ft	
L-113	LANDSCAPE	465.8 sq ft	

6,518.3 SQ.FT

PG-101	PLAYGROUND TURF	2923.2 sq ft	
PG-102	PLAYGROUND TURF	867.2 sq ft	

3790.4 SQ.FT.

TOTAL=10,308.7 SQ.FT.

1

LANDSCAPE AREAS

Scale: 1" = 10'-0"

0

6

12 FT

NOT FOR CONSTRUCTION

BROOKFIELD AVENUE

SOUTH BERNARDO AVENUE

1

BUILDING-PLAYGROUND-PAVING AREAS

Scale: 1" = 10'-0"

0 6 12 FT

SITE AREAS-PAVING, BUILDINGS, PLAYGROUND

SPACE NUMBER	SPACE NAME	AREA NUMBER	
TR-101	TRASH	244.8 sq ft	
PLG-101	PLAYGROUND	2934.7 sq ft	
PLG-102	PLAYGROUND	1651.8 sq ft	
PS-101	PRE-SCHOOL	6920.3 sq ft	
W-101	WALKWAY	2472 sq ft	
PA-101	PARKING	17582.4 sq ft	

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BUILDING
PLAYGROUND
PAVING AREAS

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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

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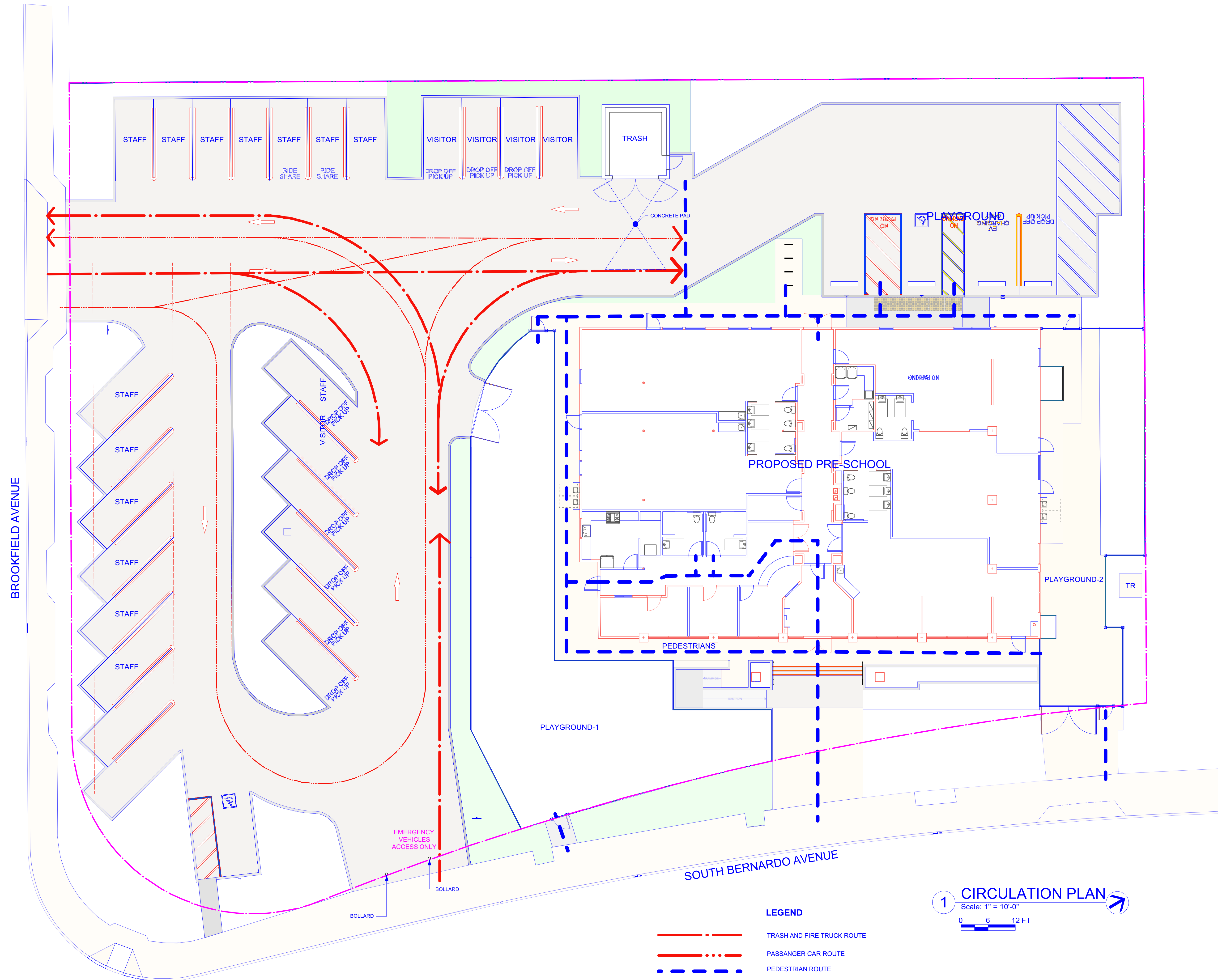
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CIRCULATION PLAN

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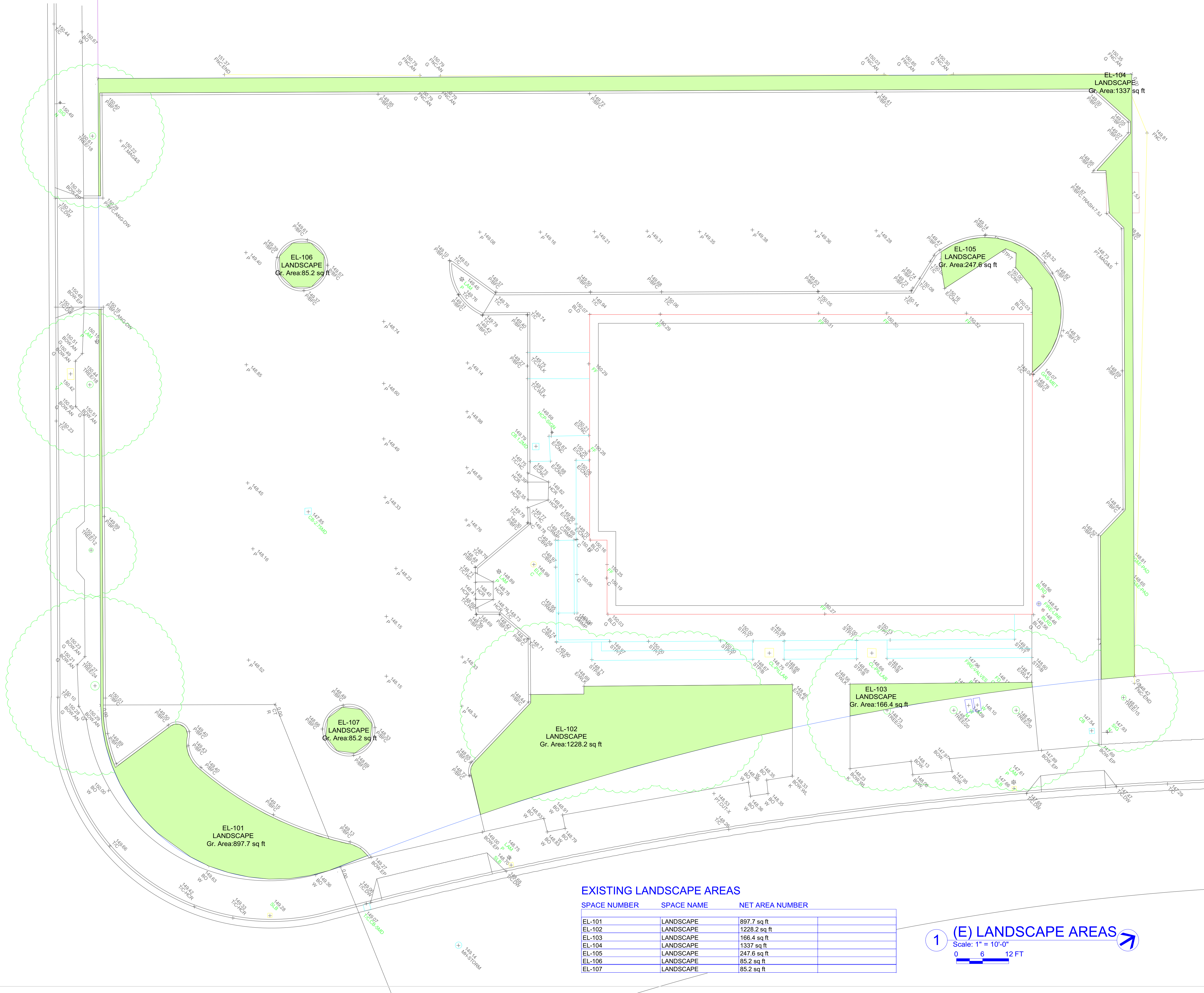




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DRAWING TITLE:
(E) LANDSCAPE
AREAS

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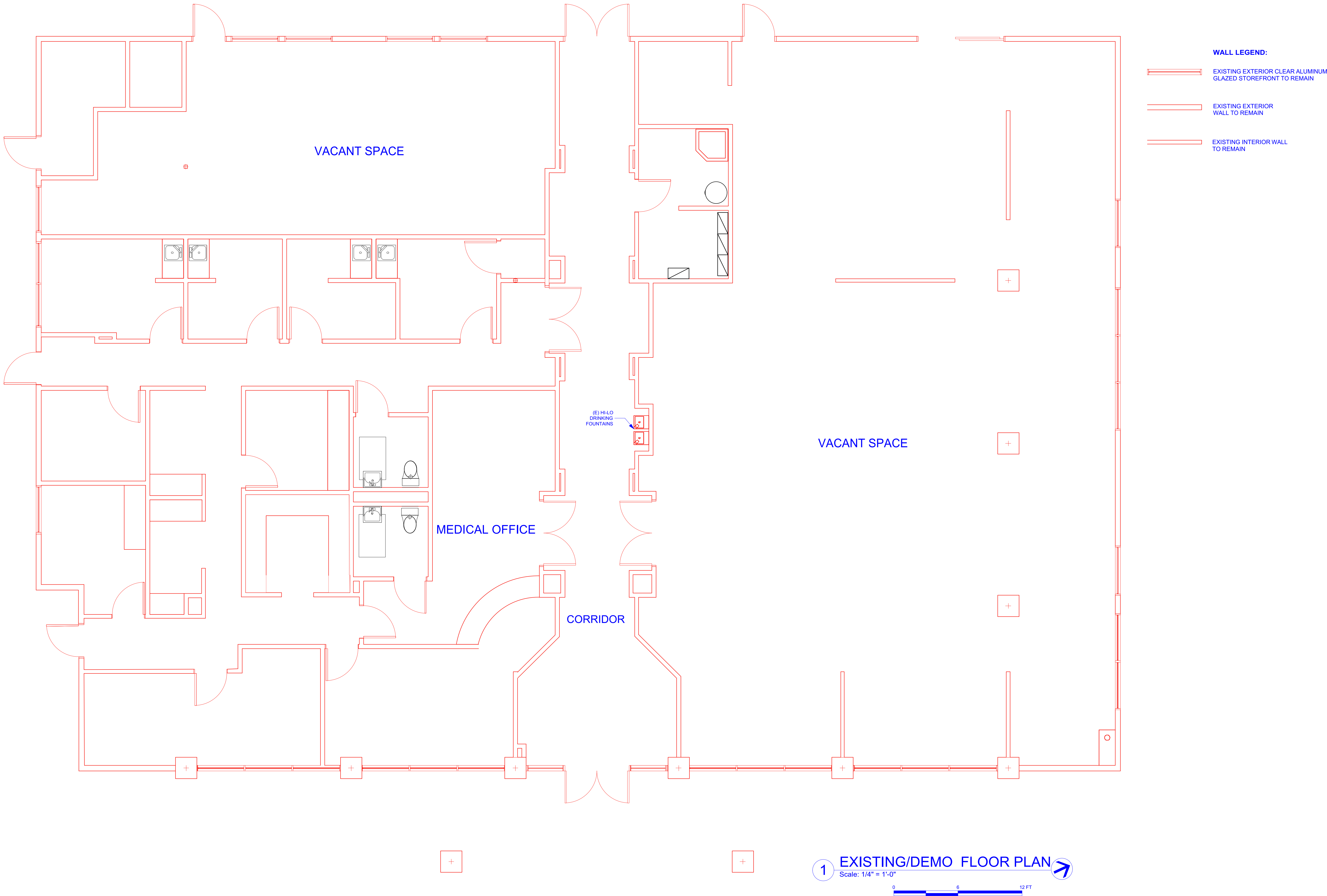
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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:
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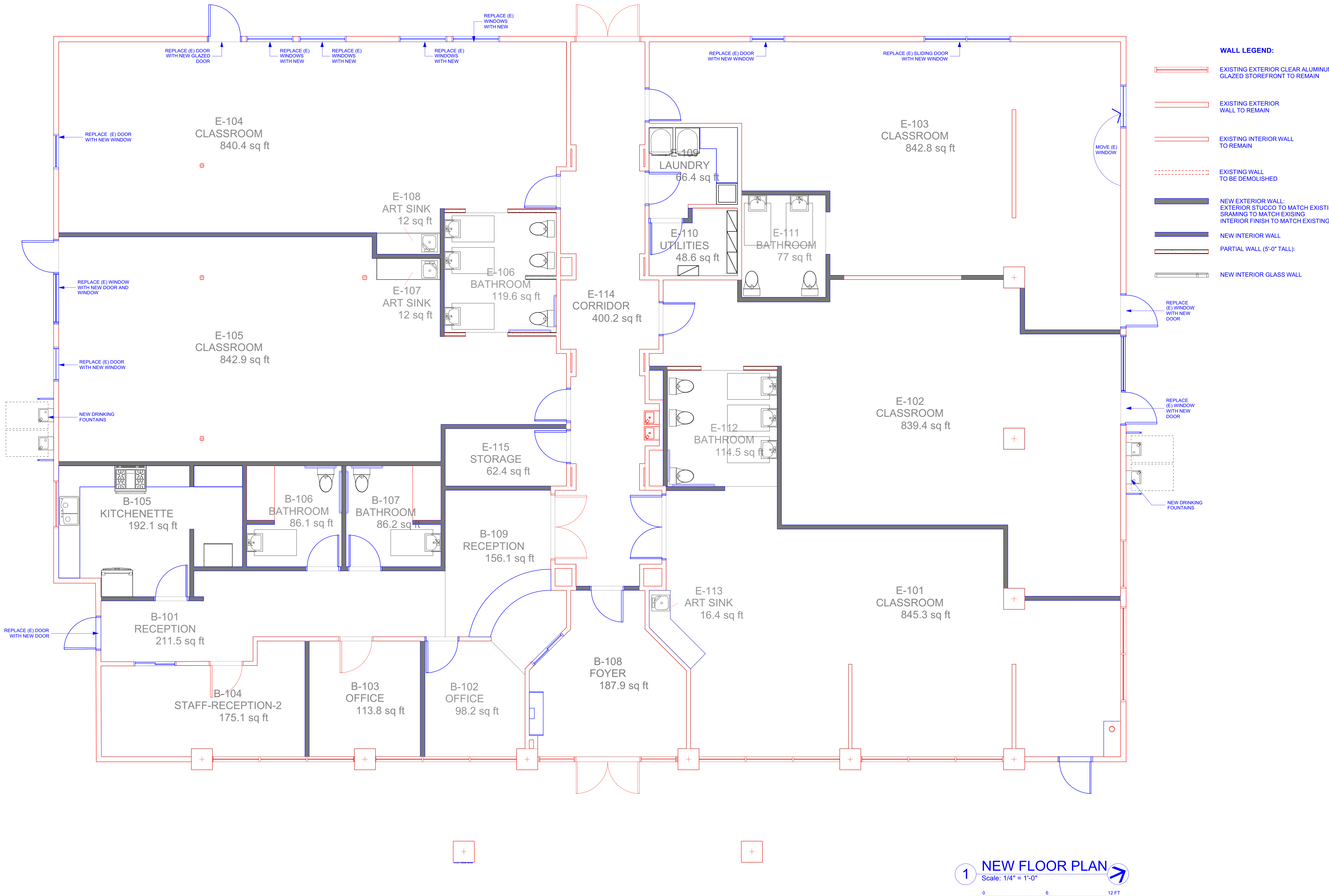
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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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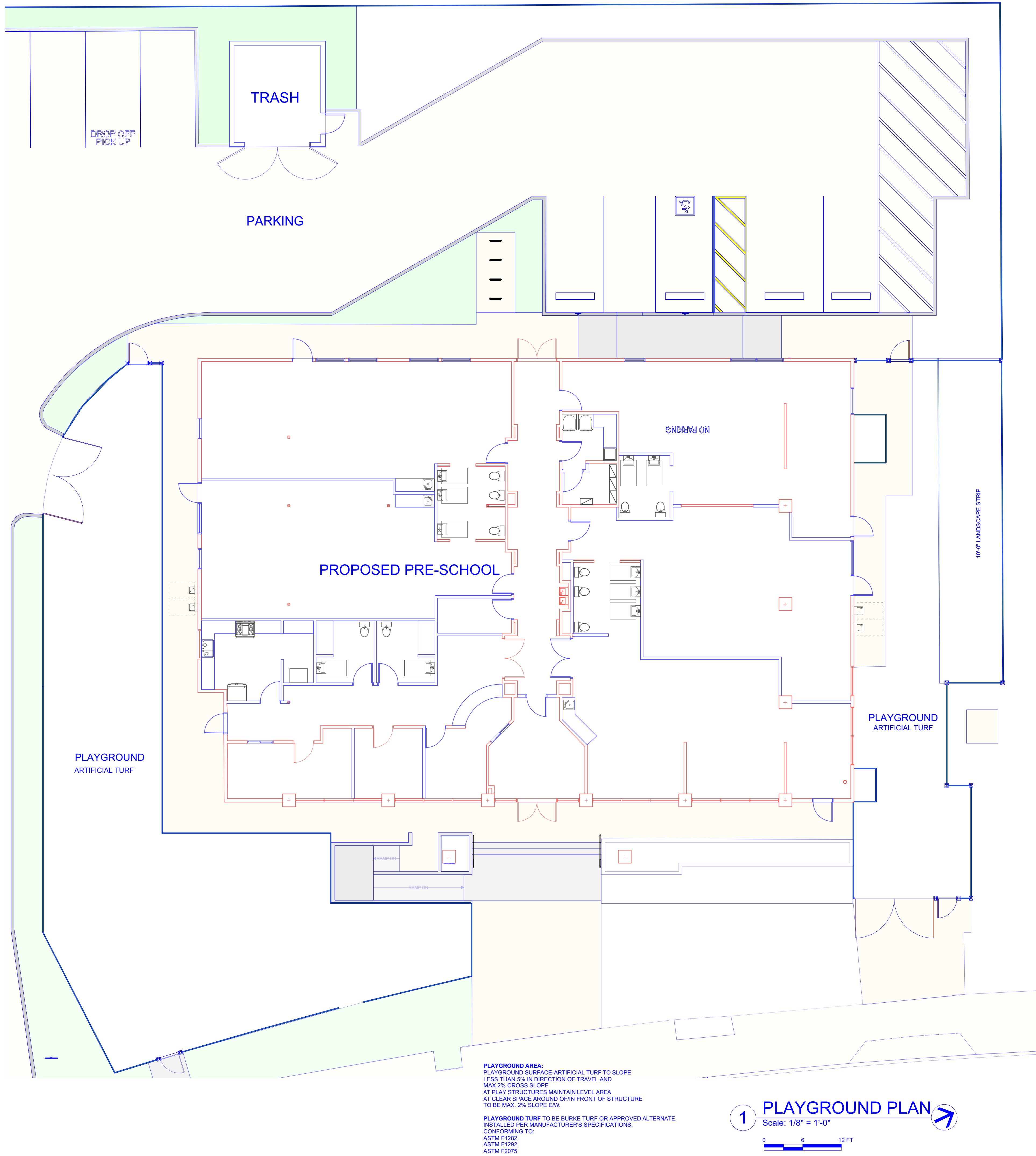
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DRAWING TITLE:
PLAYGROUND PLAN
AND
PLAYGROUND EQUIPMENT

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PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

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PROJECT NO:	17-025	
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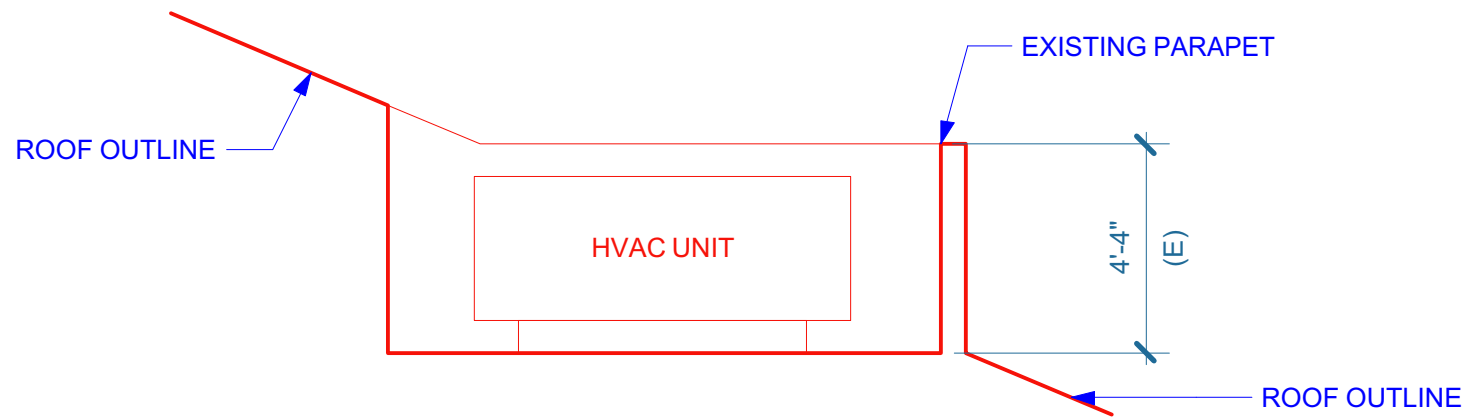
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DRAWING TITLE:

ROOF PLAN

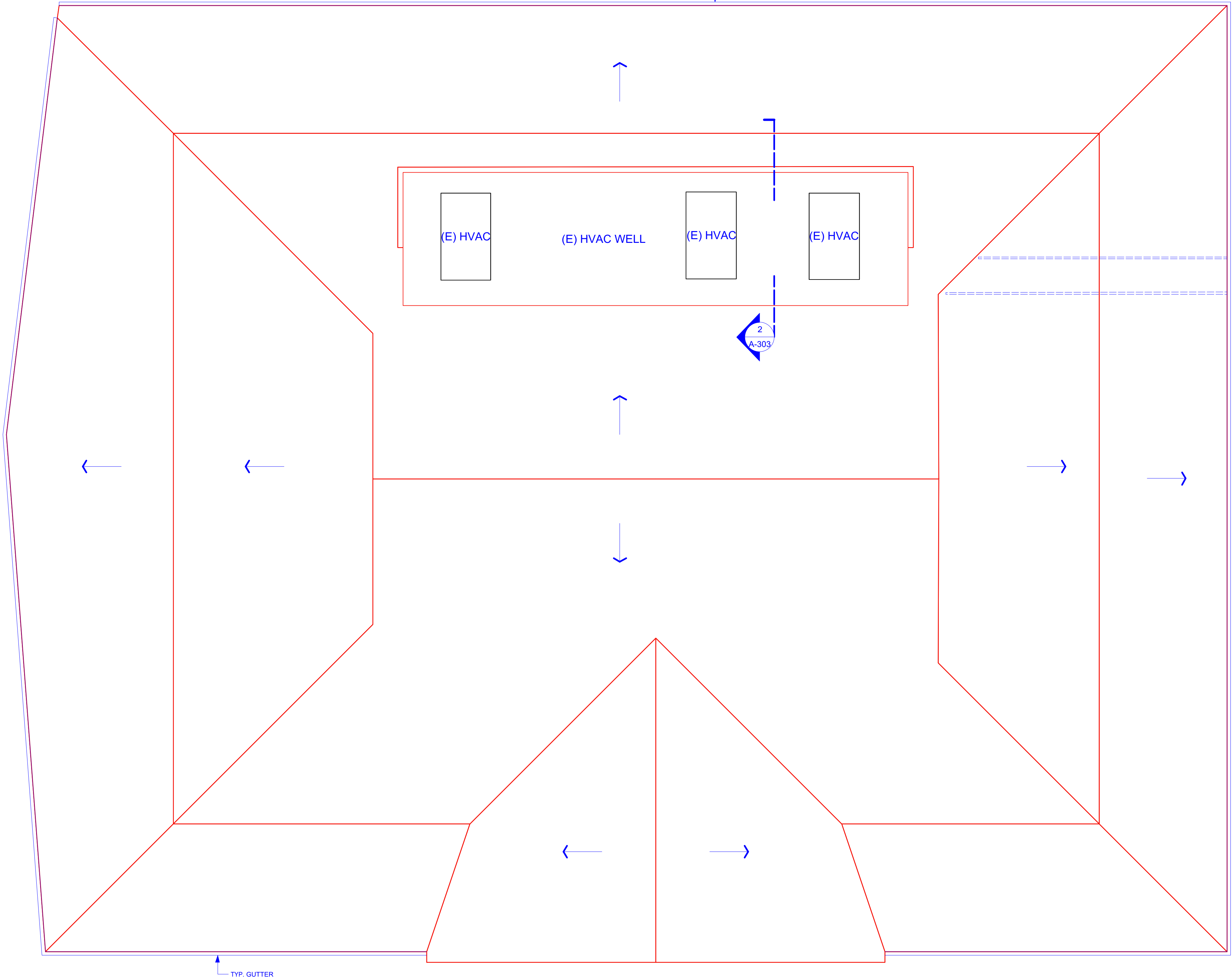
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A-303
SHEET OF



2 HVAC WELL
Scale: 1/4" = 1'-0"

TYP. GUTTER



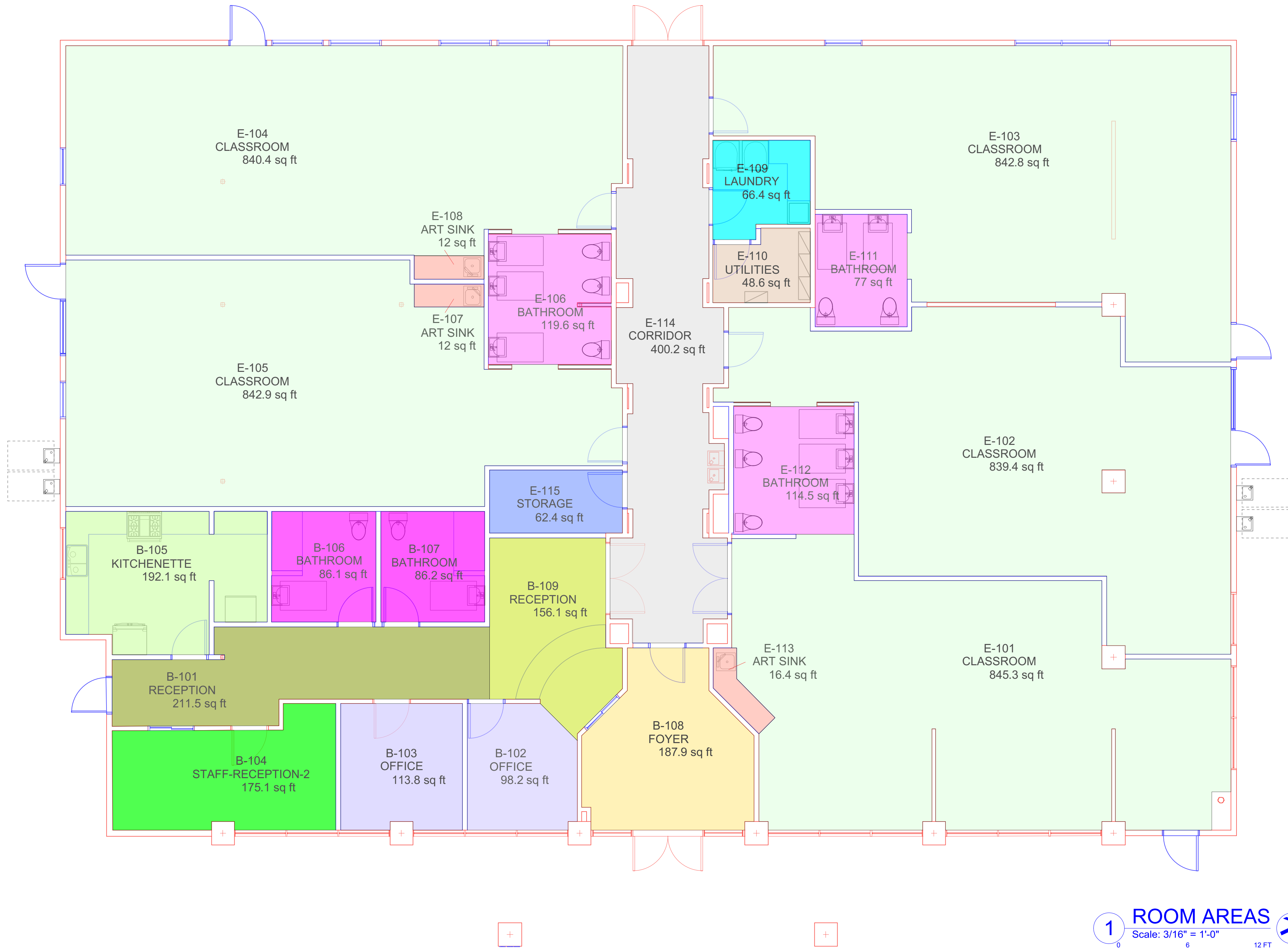
1 ROOF PLAN
Scale: 3/16" = 1'-0"





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SUITE-B
SAN JOSE, CA 95128
408 260 6896 W
925 368 7270 C
marekstoklosa@sbcglobal.net



ROOM AREAS

Space Number	Space Name	Net Area Number	
108	LANDSCAPE	75.2 sq ft	
B-101	RECEPTION	211.5 sq ft	
B-102	OFFICE	98.2 sq ft	
B-103	OFFICE	113.8 sq ft	
B-104	STAFF-RECEPTION-2	175.1 sq ft	
B-105	KITCHENETTE	192.1 sq ft	
B-106	BATHROOM	86.1 sq ft	
B-107	BATHROOM	86.2 sq ft	
B-108	FOYER	187.9 sq ft	
B-109	RECEPTION	156.1 sq ft	
E-101	CLASSROOM	845.3 sq ft	
E-102	CLASSROOM	839.4 sq ft	
E-103	CLASSROOM	842.8 sq ft	
E-104	CLASSROOM	840.4 sq ft	
E-105	CLASSROOM	842.9 sq ft	
E-106	BATHROOM	119.6 sq ft	
E-107	ART SINK	12 sq ft	
E-108	ART SINK	12 sq ft	
E-109	LAUNDRY	66.4 sq ft	
E-110	UTILITIES	48.6 sq ft	
E-111	BATHROOM	77 sq ft	
E-112	BATHROOM	114.5 sq ft	
E-113	ART SINK	16.4 sq ft	
E-114	CORRIDOR	400.2 sq ft	
E-115	STORAGE	62.4 sq ft	
EL-101	LANDSCAPE	897.7 sq ft	

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:	
PROJECT NO:	17-025
MODEL FILE:	JINYING-2.VWX
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REVIEWED BY:	MS

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DRAWING TITLE:
ROOM AREAS

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A-304

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ARCHITECT
INC

351 SOUTH BAYWOOD AVE
SUITE-B
SAN JOSE, CA 95128
408 260 6896 W
925 368 7270 C
markstoklosa@sbcglobal.net

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:	
PROJECT NO:	17-025
MODEL FILE:	JINYING-2.VWX
DRAWN BY:	MS
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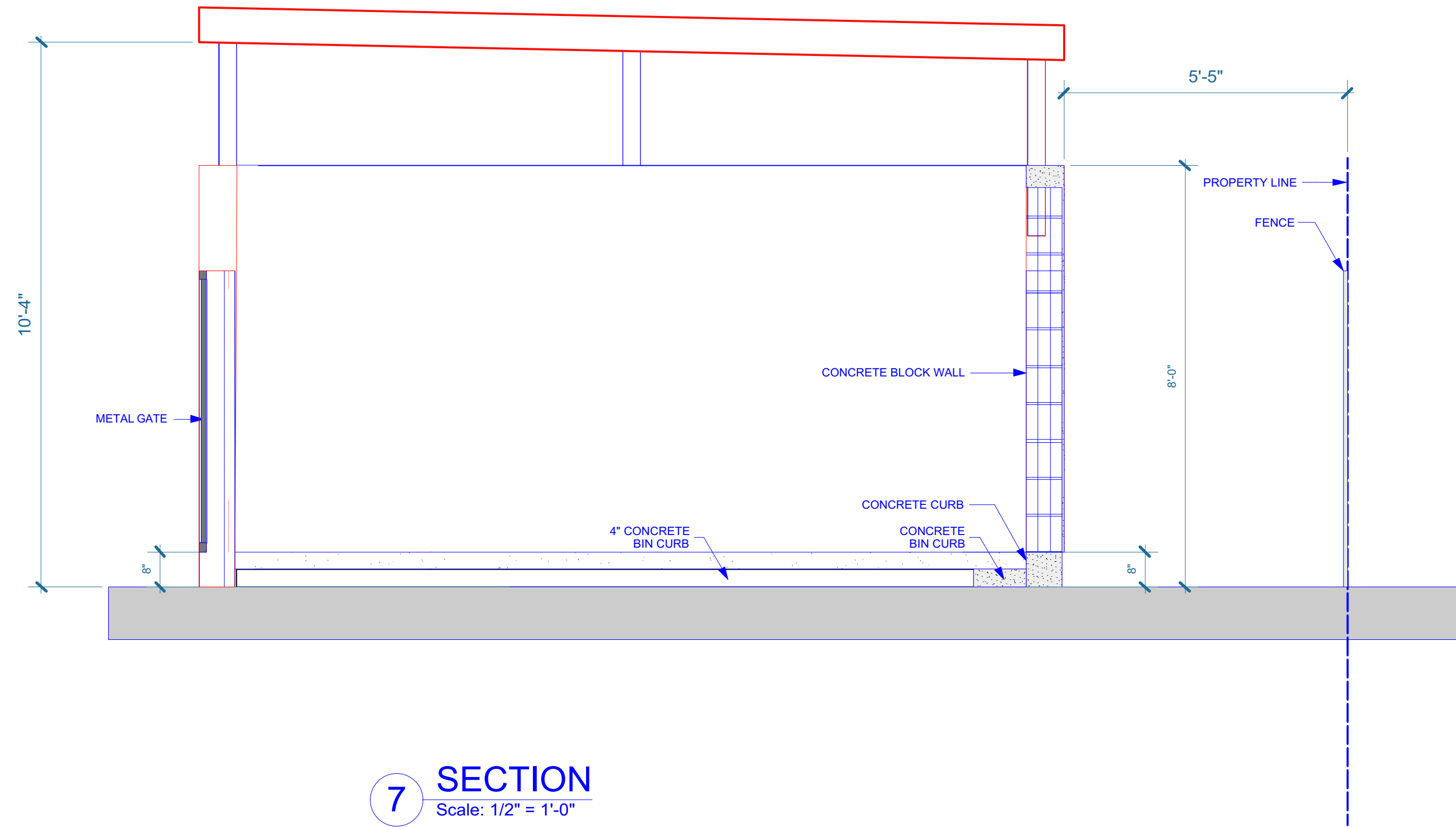
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TRASH DETAILS

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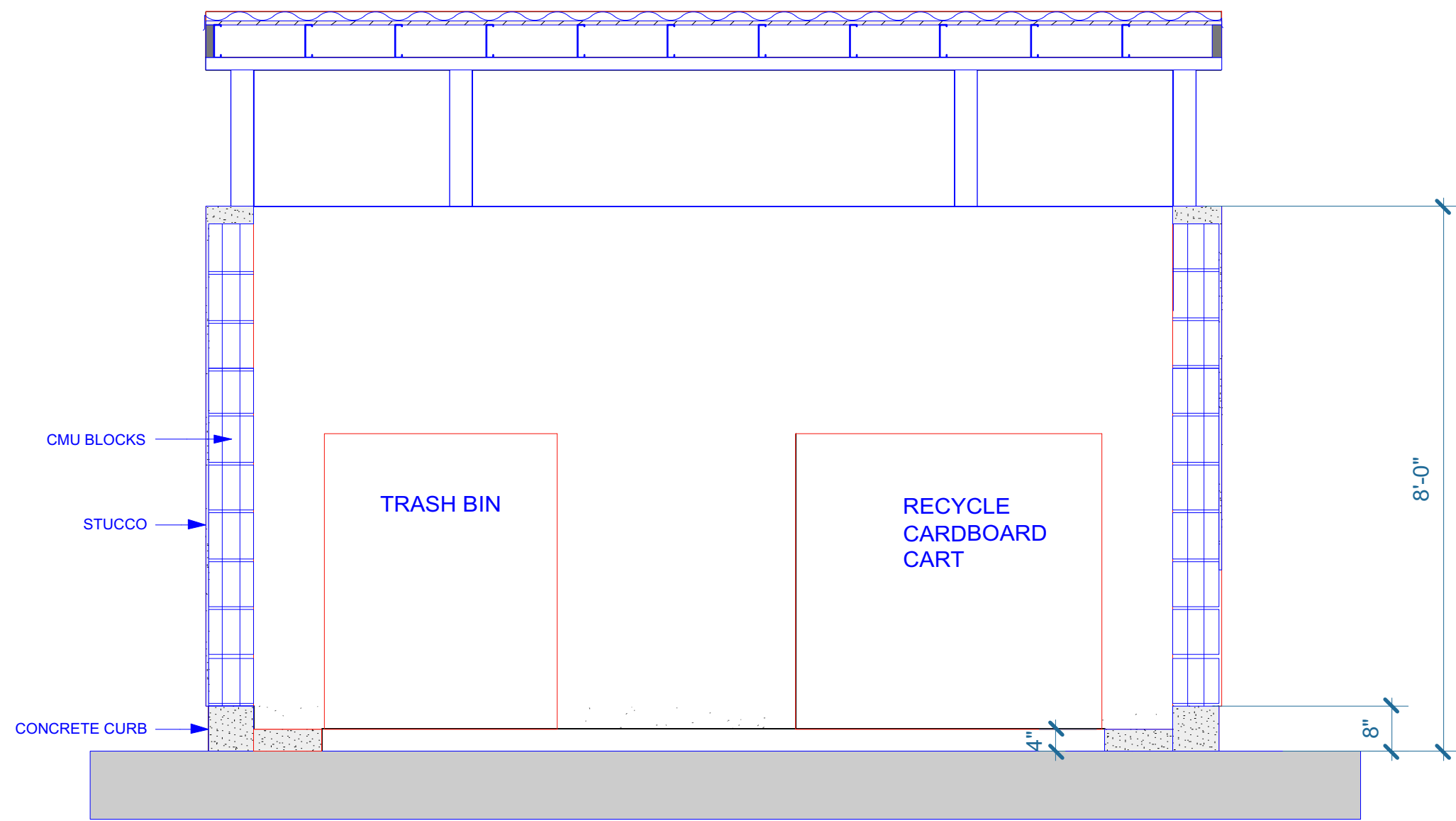


7 SECTION
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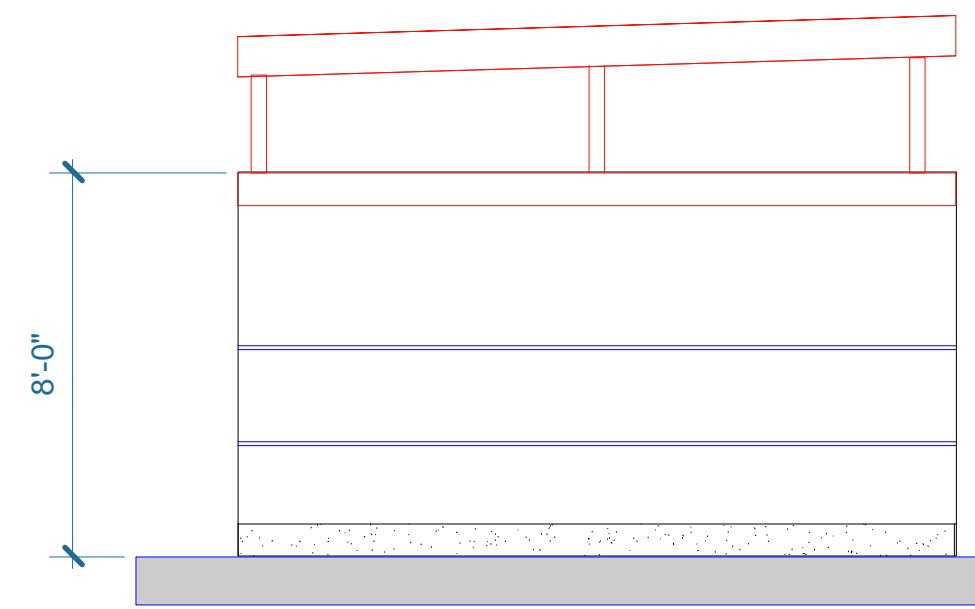
TRASH ENCLOSURE DATA:

ONE 3 CUBIC YARD BIN FOR TRASH
ONE 1 CUBIC YARD FOR COMPOST/FOOD SCRAPS
FOUR 96 GAL CARTS FOR RECYCLING

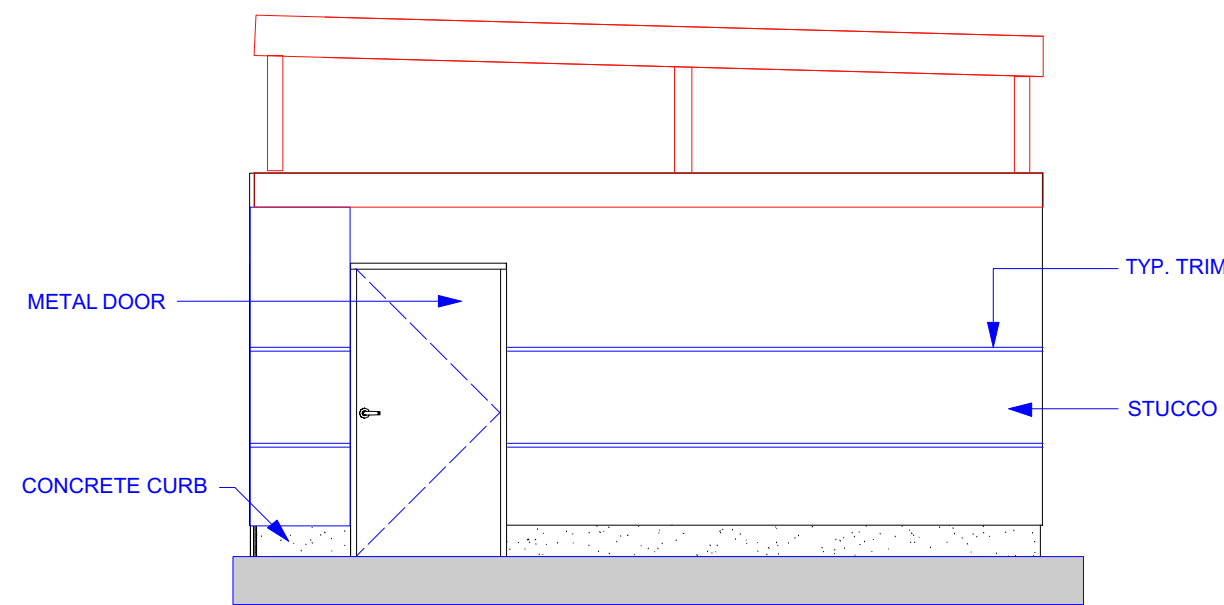
TRASH ENCLOSURE SIZE = 15'-0" X 13'-6"



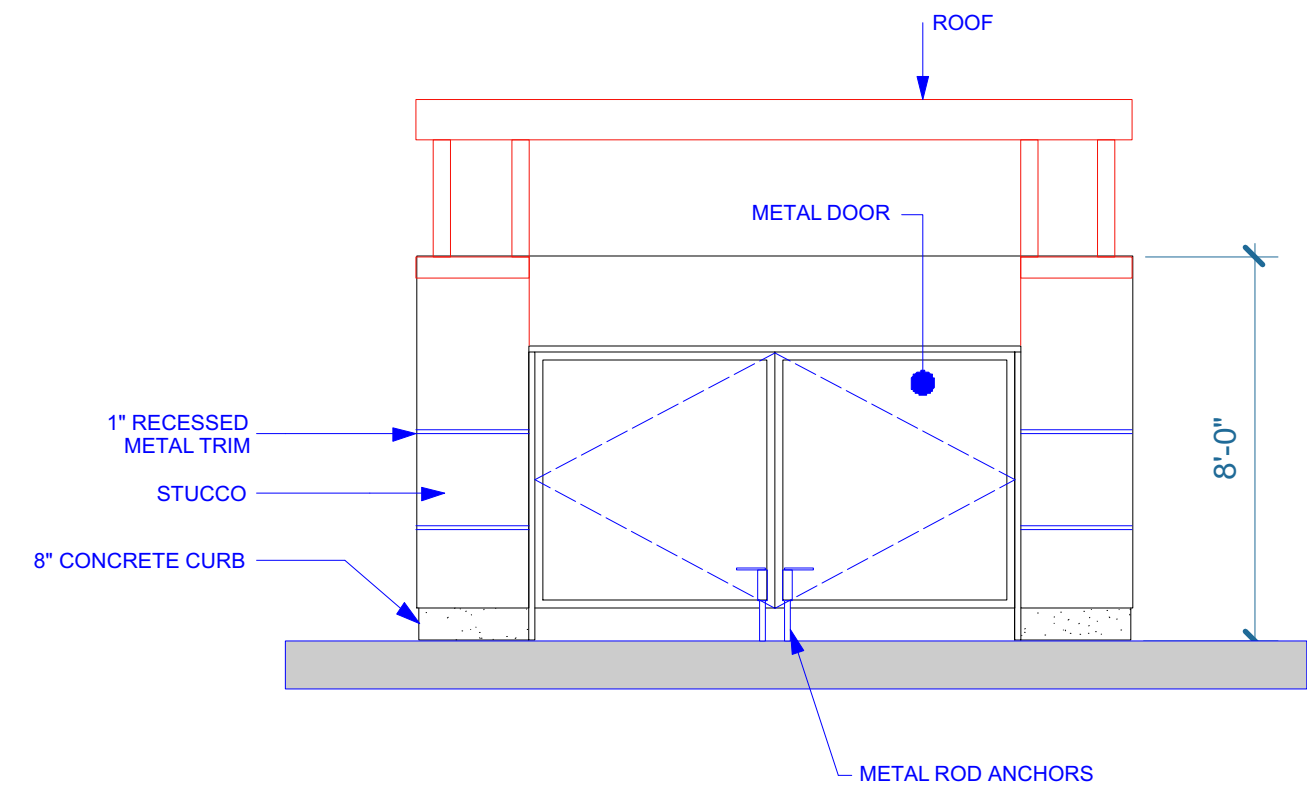
6 SECTION
Scale: 1/2" = 1'-0"



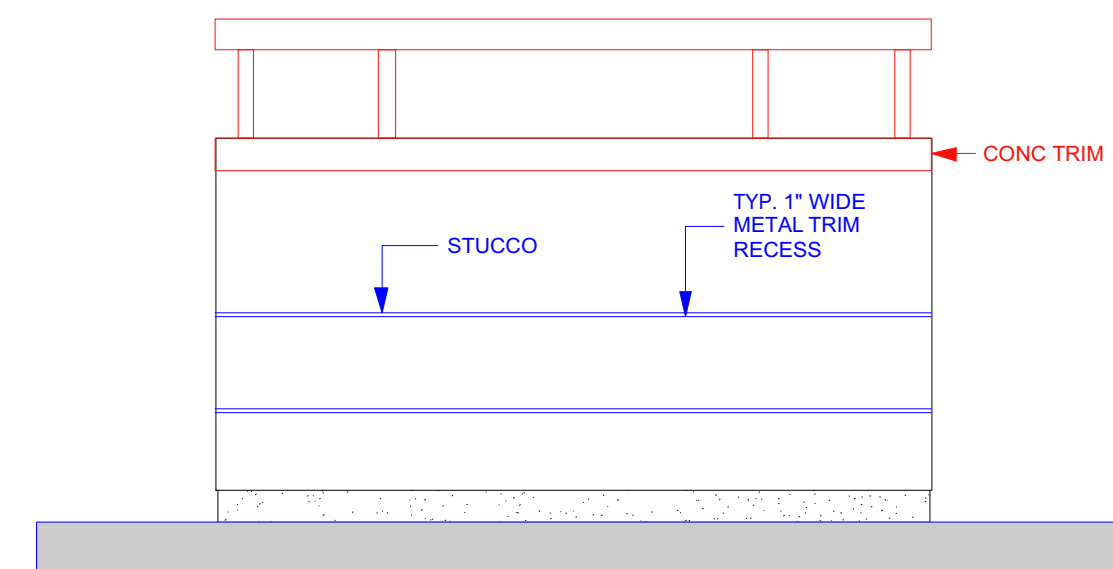
5 LEFT ELEVATION
Scale: 1/4" = 1'-0"



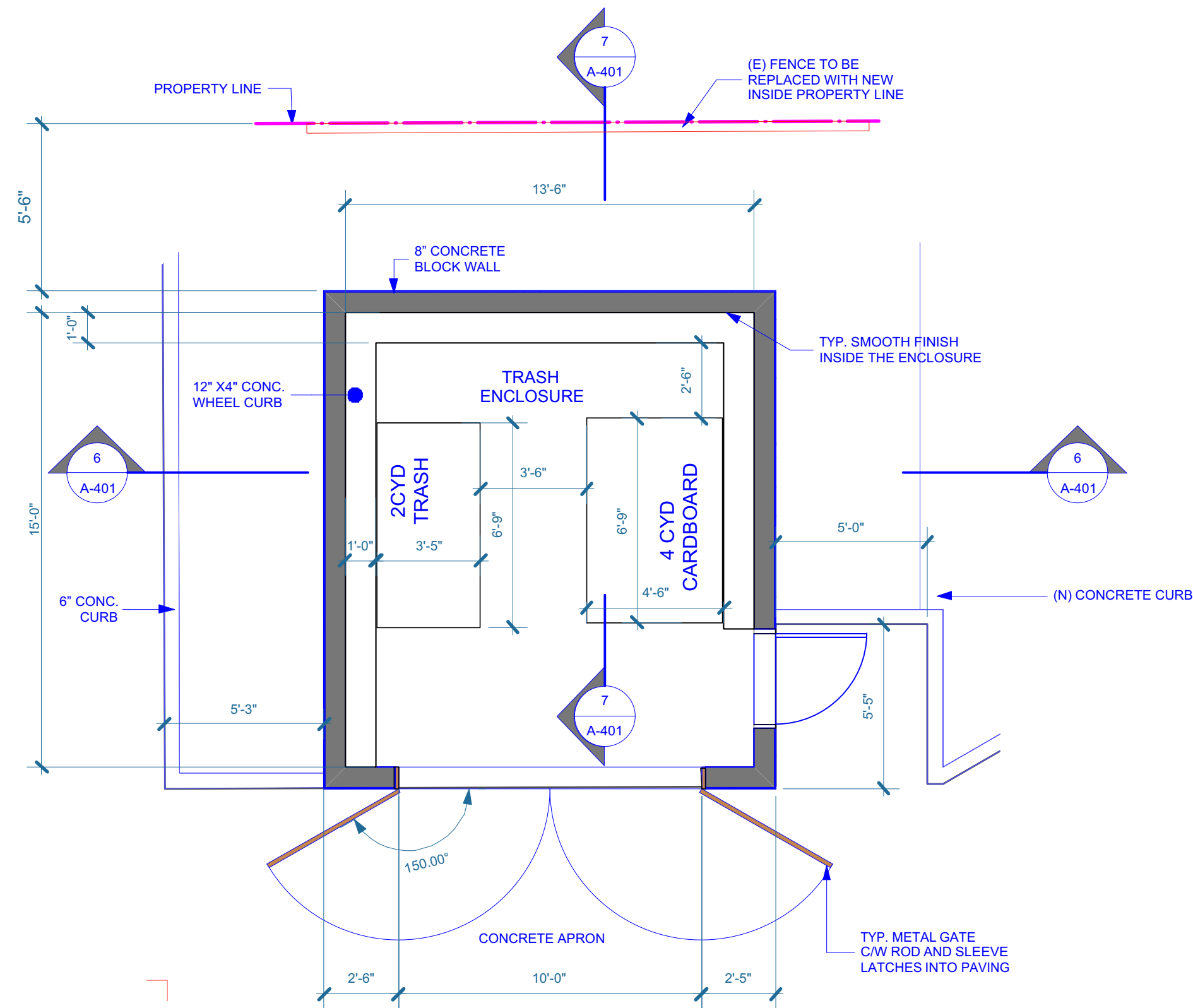
4 RIGHT ELEVATION
Scale: 1/4" = 1'-0"



2 FRONT ELEVATION
Scale: 1/4" = 1'-0"



3 REAR ELEVATION
Scale: 1/4" = 1'-0"



1 ENCLOSURE PLAN
Scale: 1/4" = 1'-0"



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1 RIGHT SIDE ELEVATION
Scale: 3/16" = 1'-0"



2 FRONT ELEVATION
Scale: 3/16" = 1'-0"

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
------	------	-------------

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DRAWING TITLE:
ELEVATIONS

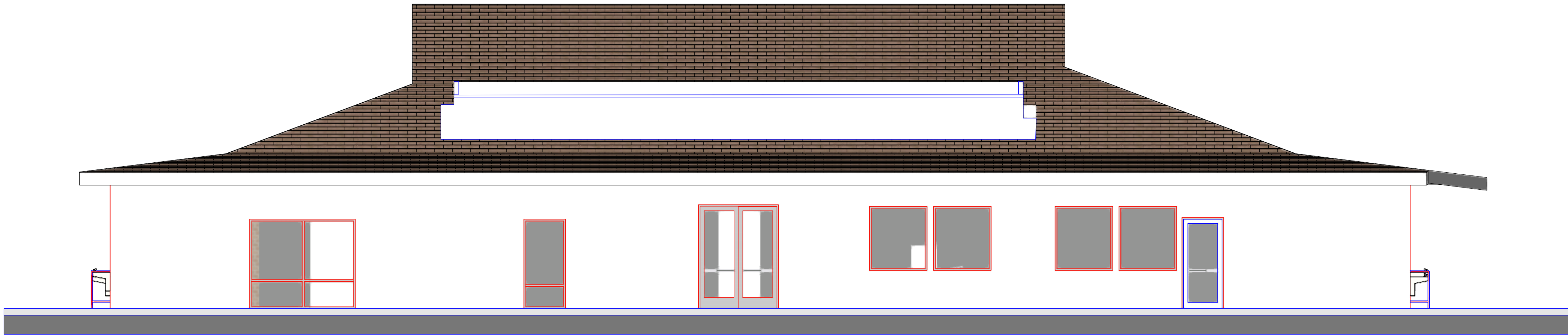
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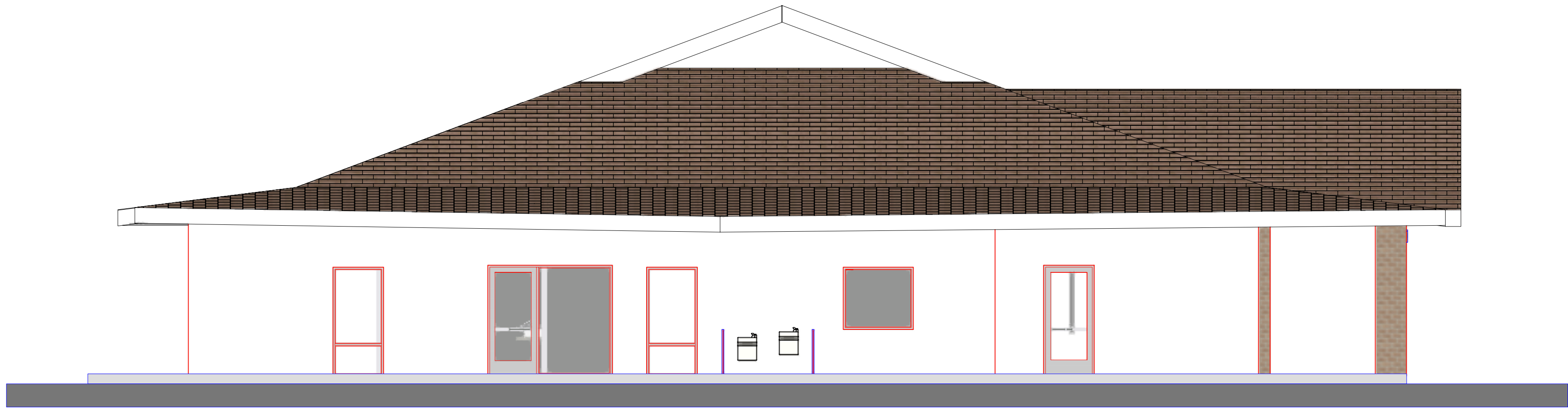


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ARCHITECT
INC

351 SOUTH BAYWOOD AVE
SUITE-B
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408 260 6896 W
925 368 7270 C
marekstoklosa@sbcglobal.net



1 BACK ELEVATION
Scale: 3/16" = 1'-0"



2 LEFT ELEVATION
Scale: 3/16" = 1'-0"

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:
PROJECT NO: 17-025
MODEL FILE: JINYING-2.VWX
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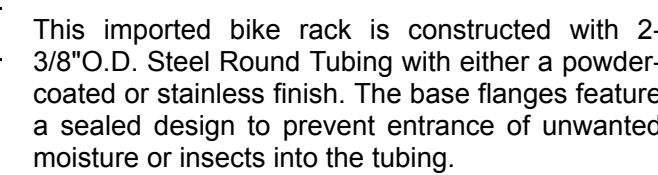
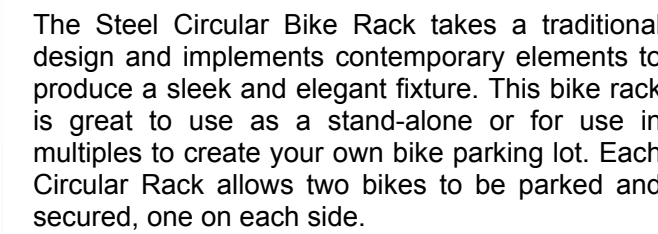
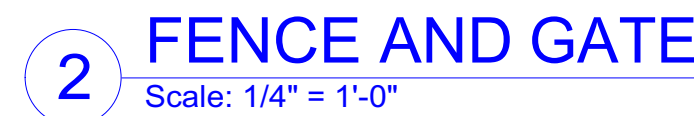
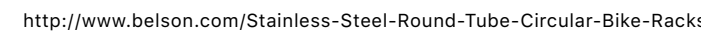
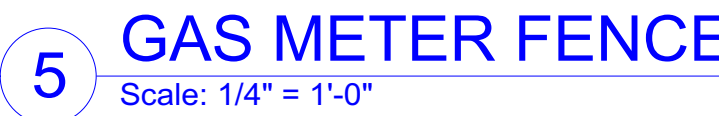
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ARCHITECT, INC

DRAWING TITLE:
ELEVATIONS

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A-502

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SAN JOSE, CA 95128
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925 368 7270 C
marekstoklosa@sbcglobal.net

PROPOSED PRE-SCHOOL
AT 755 S. BERNARDO AVE
SUNNYVALE, CA 94087
FOR JY INTERNATIONAL GROUP, INC

MARK	DATE	DESCRIPTION
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SCALE:
PROJECT NO: 17-025
MODEL FILE: JINYING-2.VWX
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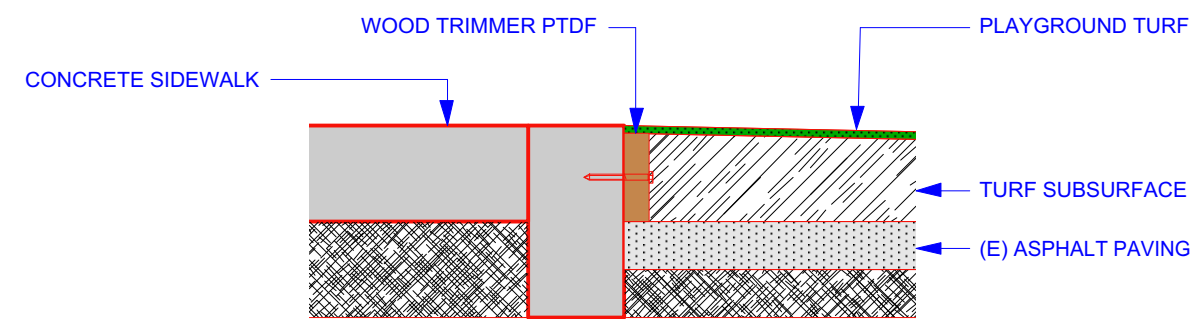
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ARCHITECT, INC

DRAWING TITLE:
DETAILS

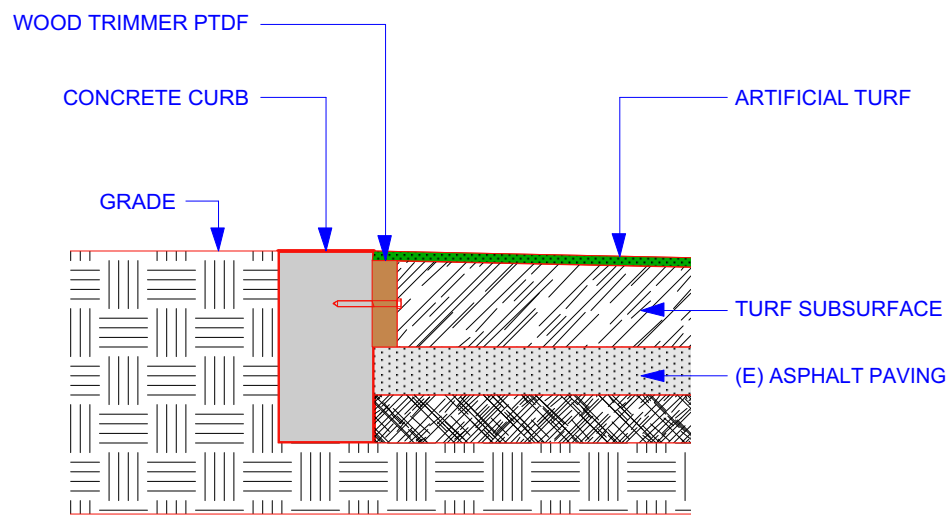
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A-602

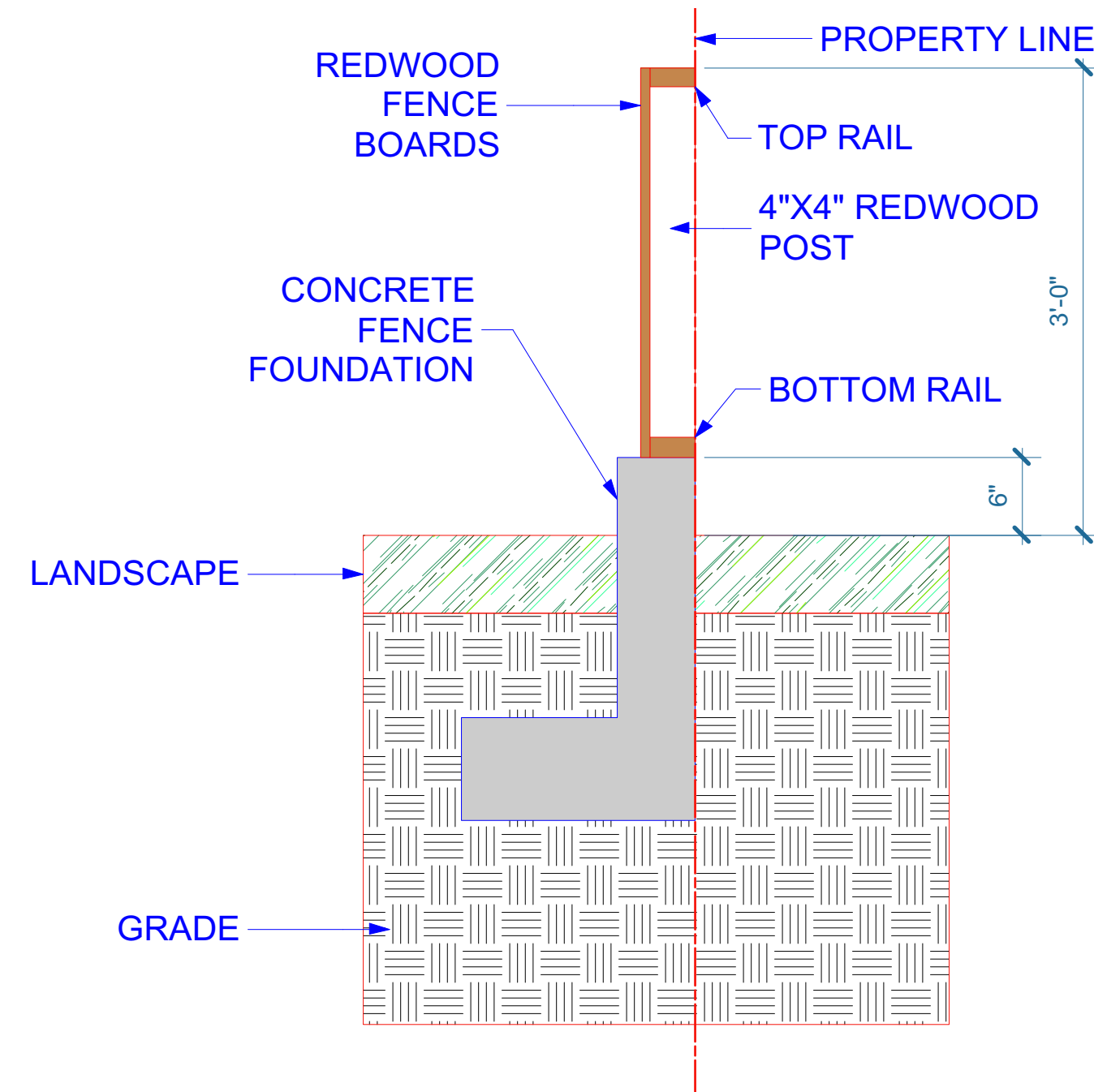
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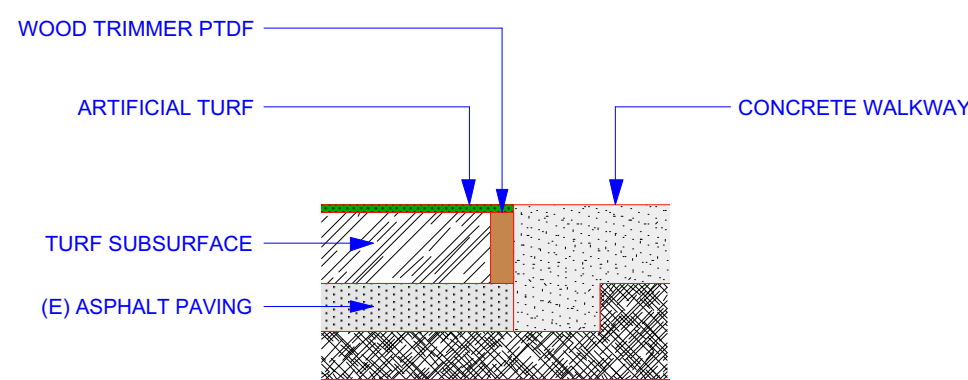
1 DETAIL
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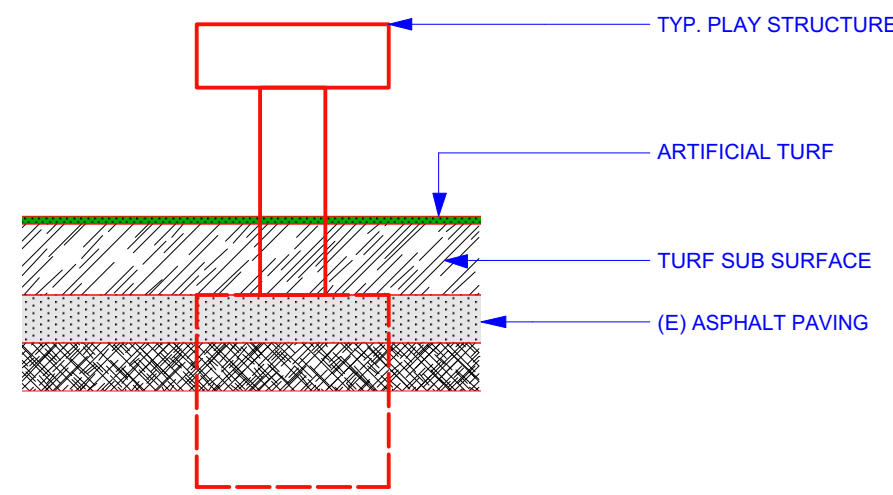
2 DETAIL
Scale: 1" = 1'-0"



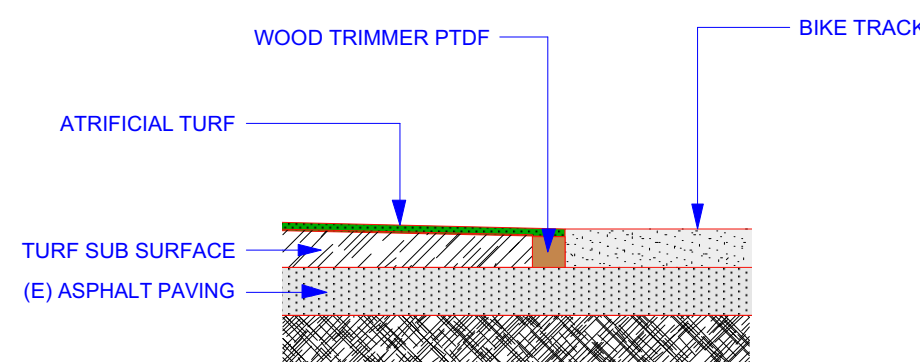
8 SHORT FENCE
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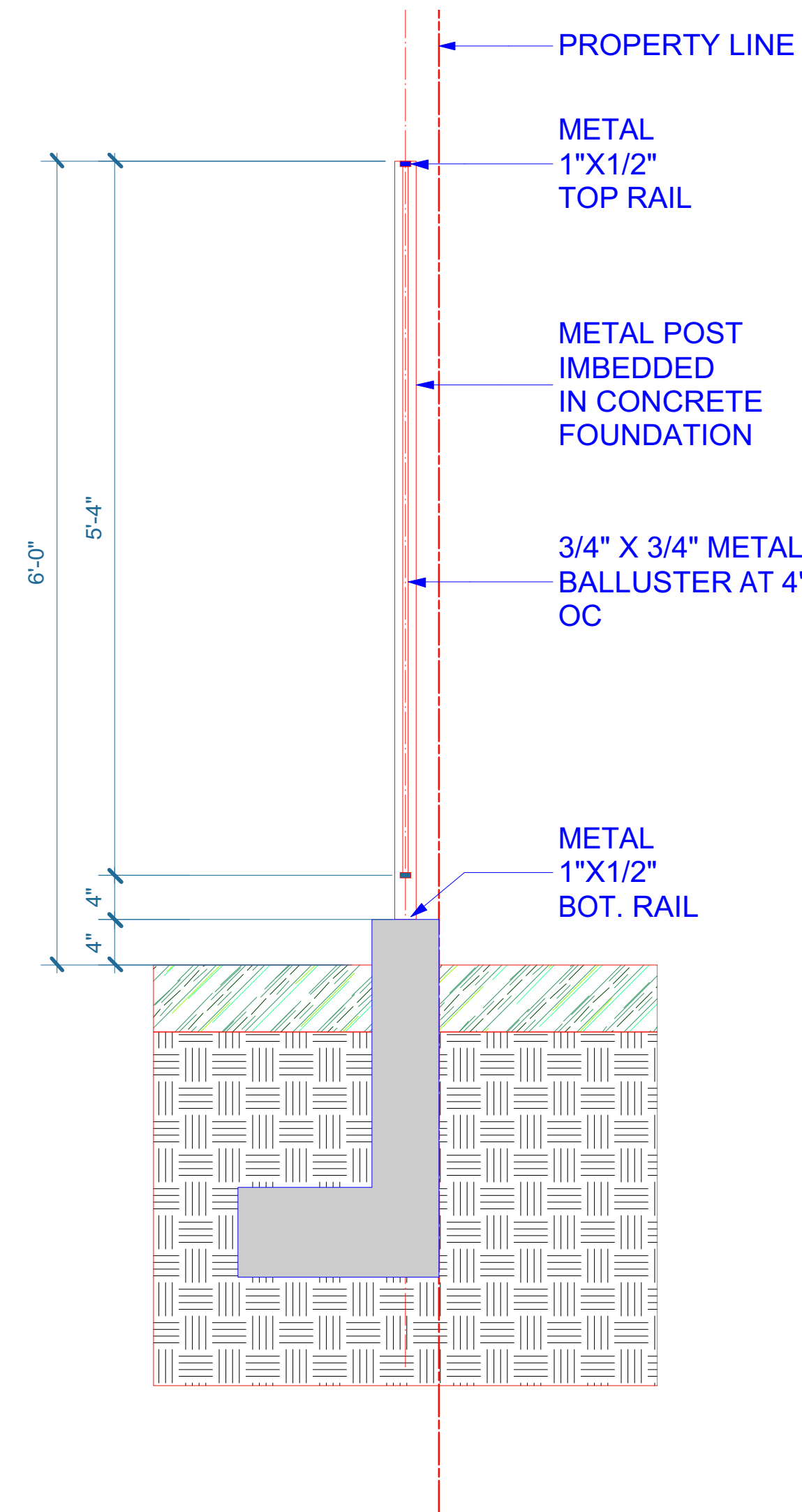
4 DETAIL
Scale: 1" = 1'-0"



5 DETAIL
Scale: 1" = 1'-0"



3 DETAIL
Scale: 1" = 1'-0"



7 METAL FENCE
Scale: 1" = 1'-0"

STEVAN NAKASHIMA
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STEVAN H. NAKASHIMA
C26597
R04/31/20
CIVIL
STATE OF CALIFORNIA
Stevan Nakashima

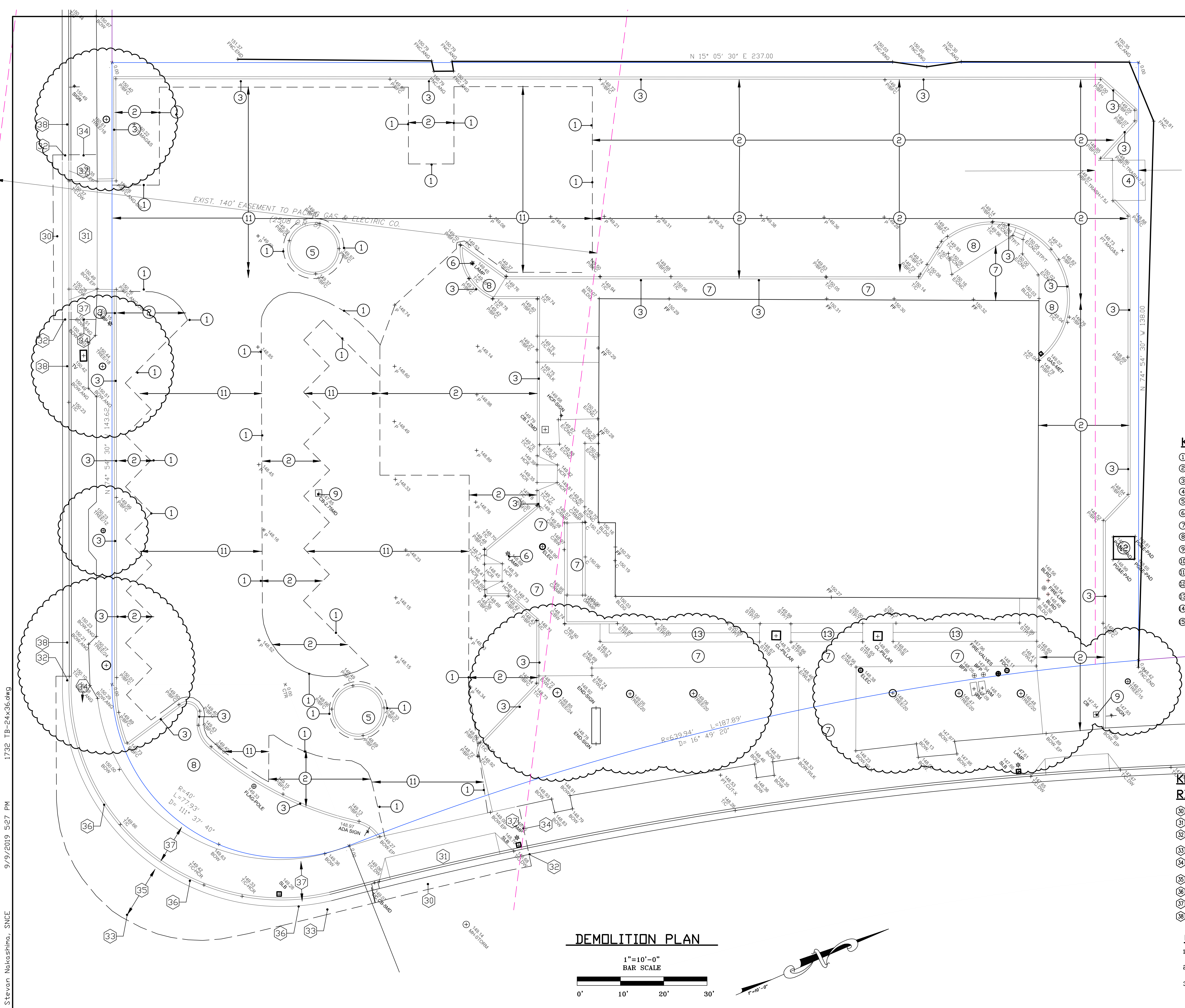
JINGYING INTERNATIONAL EDUCATION LLC
755 BERNARDO AVE
SUNNYVALE, CALIFORNIA 94087
CIVIL PLAN

DEMOLITION PLAN
OWNER: **JINGYING INTERNATIONAL CHINESE SCHOOL**
ZINGQIANG WANG

Date: 09-11-2019
Scale: AS SHOWN
Drawn By: FN
Job No.: 17.025/1732

Revisions	

Sheet Number:
C-01



PROPOSED **EXISTING**

TC	TC (E)
EP	EP (E)
FL	FL (E)
CNC	CONCRETE
AC	ASPHALIC CONCRETE
GRD	GROUND SURFACE
TW	TOP OF WALL
BOT	BOTTOM OF WALL
BW	BACK OF WALK
R	R
E	E
SD	SD
SS	SS
W	W
CB	CB
JB	JB
COTG	COTG
SDMH	SDMH
SSMH	SSMH

LEGEND
SCALE: NONE

- KEY NOTES**
- SAWCUT (E) AC PAVING.
 - REMOVE (E) AC PAVING.
 - REMOVE (E) CONCRETE CURB/CURB & GUTTER.
 - REMOVE (E) TRASH ENCLOSURE, INCLUDING SLAB AND FOUNDATION.
 - REMOVE (E) PLANTER, INCLUDING CURB, LANDSCAPING AND IRRIGATION.
 - REMOVE (E) LIGHT STANDARD, LAMP AND FOUNDATION.
 - REMOVE (E) CONCRETE WALK/SLAB.
 - REMOVE (E) LANDSCAPING.
 - EXISTING STORM DRAIN TO REMAIN. SEE GENERAL NOTE 3.
 - (E) CURB TO REMAIN.
 - (E) AC PAVING TO REMAIN. REFER TO C-11 FOR AC OVERLAY.
 - EXISTING TRANSFORMER AND TRANSFORMER PAD TO REMAIN.
 - REMOVE EXISTING STEPS.
 - EXISTING WATER BACKFLOW VALVES TO REMAIN.
 - EXISTING FIRE BACKFLOW VALVE, PIV AND FDC TO REMAIN.

- KEY NOTES FOR WORK ON PUBLIC RIGHT-OF-WAY**
- SAWCUT (E) AC PAVING 1' FROM LIP OF GUTTER AND REMOVE.
 - REMOVE (E) DRIVE APRON
 - SAWCUT (E) CURB AND GUTTER AT NEAREST CONSTRUCTION JOINT. VIF.
 - SAWCUT (E) AC PAVING.
 - SAWCUT (E) CONCRETE WALK AT NEAREST CONSTRUCTION JOINT. VIF.
 - REMOVE (E) AC PAVING.
 - REMOVE (E) CURB AND GUTTER.
 - REMOVE (E) CONCRETE WALK.
 - (E) CURB AND GUTTER TO REMAIN.
- GENERAL NOTE:**
- REFER TO ELECTRICAL DRAWINGS FOR DISPOSITION OF ALL ELECTRICAL COMMUNICATION LINES/STRUCTURES/BOXES.
 - REFER TO TREE PROTECTION AND REMOVAL PLAN FOR THE DISPOSITION OF ALL (E) TREES.
 - PROTECT ALL EXISTING UTILITIES TO REMAIN.

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JINGYING INTERNATIONAL EDUCATION LLC
755 BERNARDO AVE
SUNNYVALE, CALIFORNIA 94087

CIVIL PLAN

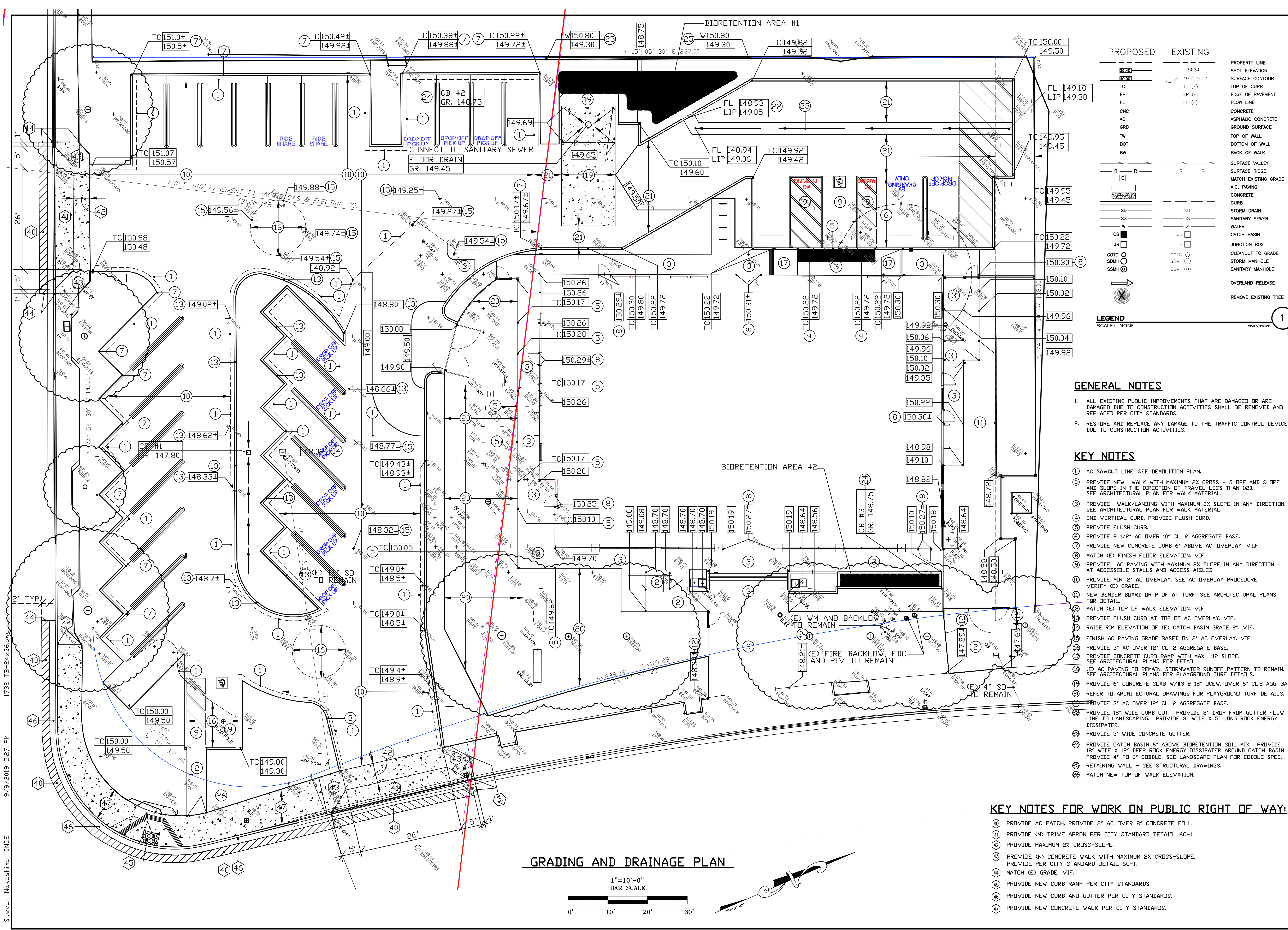
GRADING & DRAINAGE PLAN

OWNER:
JINGYING INTERNATIONAL CHINESE SCHOOL
ZINGQIANG WANG

Date: 09-11-2019
Scale: AS SHOWN
Drawn By: FN
Job No.: 17-025/1732

Revisions		

Sheet Number:
C-11



PROPOSED	EXISTING	PROPERTY LINE
TC	TC (E)	SPOT ELEVATION
EP	EP (E)	SURFACE CONTOUR
FL	FL (E)	TOP OF CURB
CNC		EDGE OF PAVEMENT
AC		CONCRETE
GRD		ASPHALTIC CONCRETE
TW		GROUND SURFACE
BOT		TOP OF WALL
BW		BOTTOM OF WALL
		BACK OF WALK
		SURFACE VALLEY
		SURFACE RIDGE
		MATCH EXISTING GRADE
		A.C. PAVING
		CONCRETE
		CURB
		STORM DRAIN
		SANITARY SEWER
		WATER
		CATCH BASIN
		JUNCTION BOX
		CLEANOUT TO GRADE
		STORM MANHOLE
		SANITARY MANHOLE
		OVERLAND RELEASE
		REMOVE EXISTING TREE

LEGEND
SCALE: NONE

GENERAL NOTES

- ALL EXISTING PUBLIC IMPROVEMENTS THAT ARE DAMAGED OR ARE DAMAGED DUE TO CONSTRUCTION ACTIVITIES SHALL BE REMOVED AND REPLACED PER CITY STANDARDS.
- RESTORE AND REPLACE ANY DAMAGE TO THE TRAFFIC CONTROL DEVICES DUE TO CONSTRUCTION ACTIVITIES.

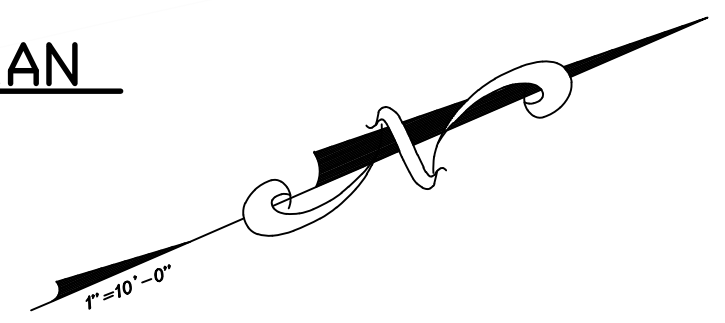
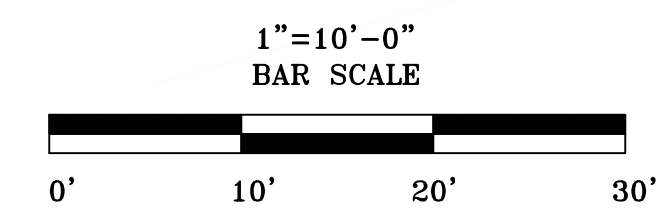
KEY NOTES

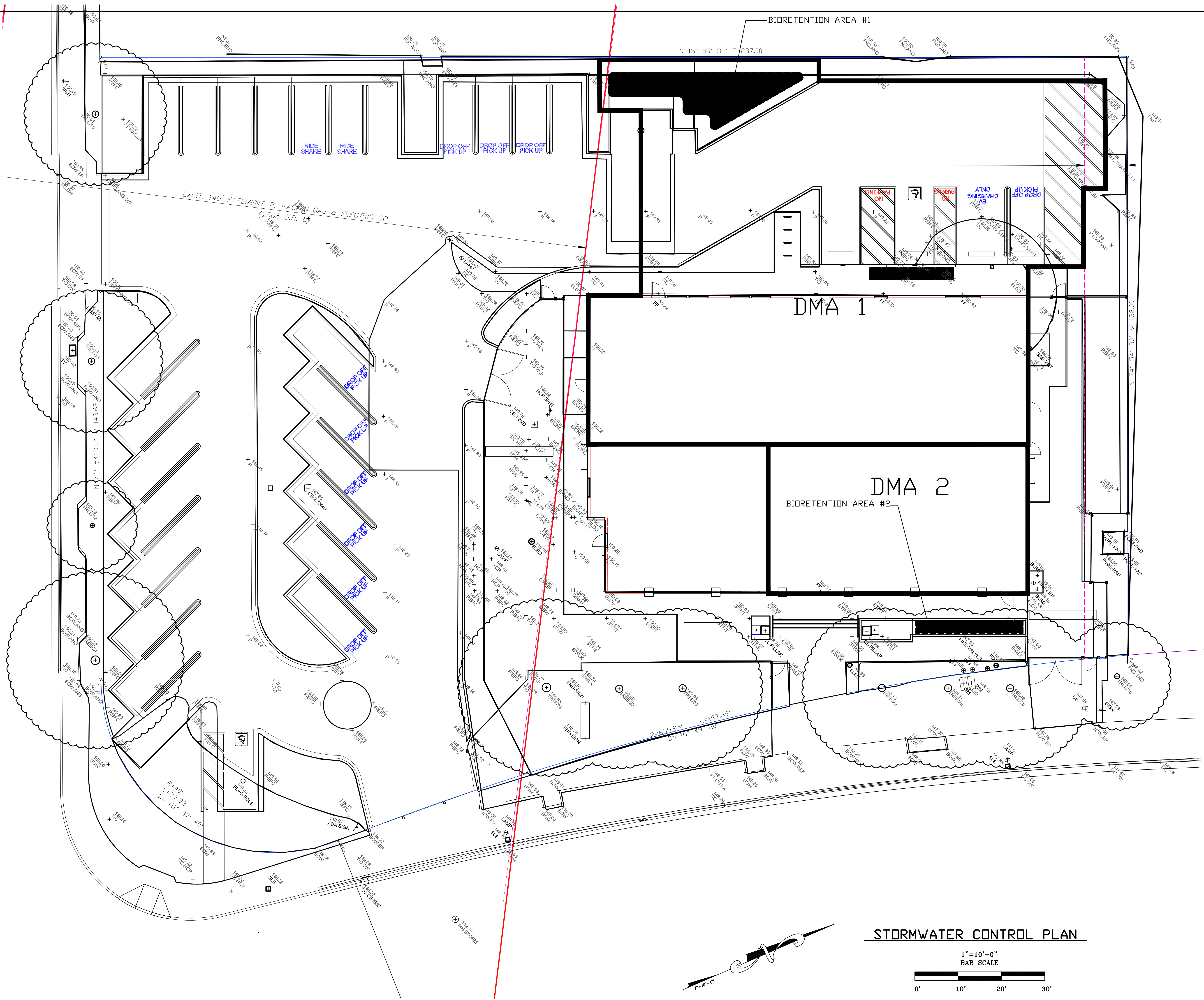
- AC SAWCUT LINE. SEE DEMOLITION PLAN.
- PROVIDE NEW WALK WITH MAXIMUM 2% CROSS - SLOPE AND SLOPE AND SLOPE IN THE DIRECTION OF TRAVEL LESS THAN 1:20. SEE ARCHITECTURAL PLAN FOR WALK MATERIAL.
- PROVIDE WALK/LANDING WITH MAXIMUM 2% SLOPE IN ANY DIRECTION. SEE ARCHITECTURAL PLAN FOR WALK MATERIAL.
- END VERTICAL CURB. PROVIDE FLUSH CURB.
- PROVIDE FLUSH CURB.
- PROVIDE 2 1/2" AC OVER 10" CL. 2 AGGREGATE BASE.
- PROVIDE NEW CONCRETE CURB 6" ABOVE AC. OVERLAY. V.I.F.
- MATCH (E) FINISH FLOOR ELEVATION. V.I.F.
- PROVIDE AC PAVING WITH MAXIMUM 2% SLOPE IN ANY DIRECTION AT ACCESSIBLE STALLS AND ACCESS AISLES.
- PROVIDE MIN. 2" AC OVERLAY. SEE AC OVERLAY PROCEDURE. VERIFY (E) GRADE.
- NEW BENDER BOARD OR PTDF AT TURF. SEE ARCHITECTURAL PLANS FOR DETAIL.
- MATCH (E) TOP OF WALK ELEVATION. V.I.F.
- PROVIDE FLUSH CURB AT TOP OF AC OVERLAY. V.I.F.
- RAISE RIM ELEVATION OF (E) CATCH BASIN GRATE 2". V.I.F.
- FINISH AC PAVING GRADE BASED ON 2" AC OVERLAY. V.I.F.
- PROVIDE 3" AC OVER 12" CL. 2 AGGREGATE BASE.
- PROVIDE CONCRETE CURB RAMP WITH MAX. 1:12 SLOPE. SEE ARCHITECTURAL PLANS FOR DETAIL.
- (E) AC PAVING TO REMAIN. STORMWATER RUNOFF PATTERN TO REMAIN. SEE ARCHITECTURAL PLANS FOR PLAYGROUND TURF DETAILS.
- PROVIDE 6" CONCRETE SLAB W/#3 @ 18" O.C.W. OVER 6" CL.2 AGG. BASE.
- REFER TO ARCHITECTURAL DRAWINGS FOR PLAYGROUND TURF DETAILS.
- PROVIDE 3" AC OVER 12" CL. 2 AGGREGATE BASE.
- PROVIDE 18" WIDE CURB CUT. PROVIDE 2" DROP FROM GUTTER FLOW LINE TO LANDSCAPING. PROVIDE 3" WIDE X 5' LONG ROCK ENERGY DISSIPATER.
- PROVIDE 3" WIDE CONCRETE GUTTER.
- PROVIDE CATCH BASIN 6" ABOVE BIORETENTION SOIL MIX. PROVIDE 18" WIDE X 12" DEEP ROCK ENERGY DISSIPATER AROUND CATCH BASIN PROVIDE 4" TO 6" COBBLE. SEE LANDSCAPE PLAN FOR COBBLE SPEC.
- RETAINING WALL - SEE STRUCTURAL DRAWINGS.
- MATCH NEW TOP OF WALK ELEVATION.

KEY NOTES FOR WORK ON PUBLIC RIGHT OF WAY:

- PROVIDE AC PATCH. PROVIDE 2" AC OVER 8" CONCRETE FILL.
- PROVIDE (N) DRIVE APRON PER CITY STANDARD DETAIL 6C-1.
- PROVIDE MAXIMUM 2% CROSS-SLOPE.
- PROVIDE (N) CONCRETE WALK WITH MAXIMUM 2% CROSS-SLOPE. PROVIDE PER CITY STANDARD DETAIL 6C-1.
- MATCH (E) GRADE. V.I.F.
- PROVIDE NEW CURB RAMP PER CITY STANDARDS.
- PROVIDE NEW CURB AND GUTTER PER CITY STANDARDS.
- PROVIDE NEW CONCRETE WALK PER CITY STANDARDS.

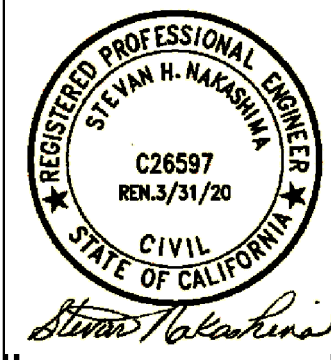
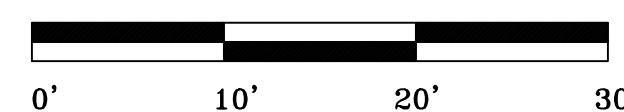
GRADING AND DRAINAGE PLAN





STORMWATER CONTROL PLAN

1"=10'-0"
BAR SCALE



JINGYING INTERNATIONAL EDUCATION LLC
755 BERNARDO AVE
SUNNYVALE, CALIFORNIA 94087

STORMWATER CONTROL PLAN
JINGYING INTERNATIONAL CHINESE SCHOOL
ZINGQIANG WANG

Date: 09-11-2019
Scale: AS SHOWN
Drawn By: PN
Job No: 17.025/1732

Revisions	

Sheet Number:
C-12

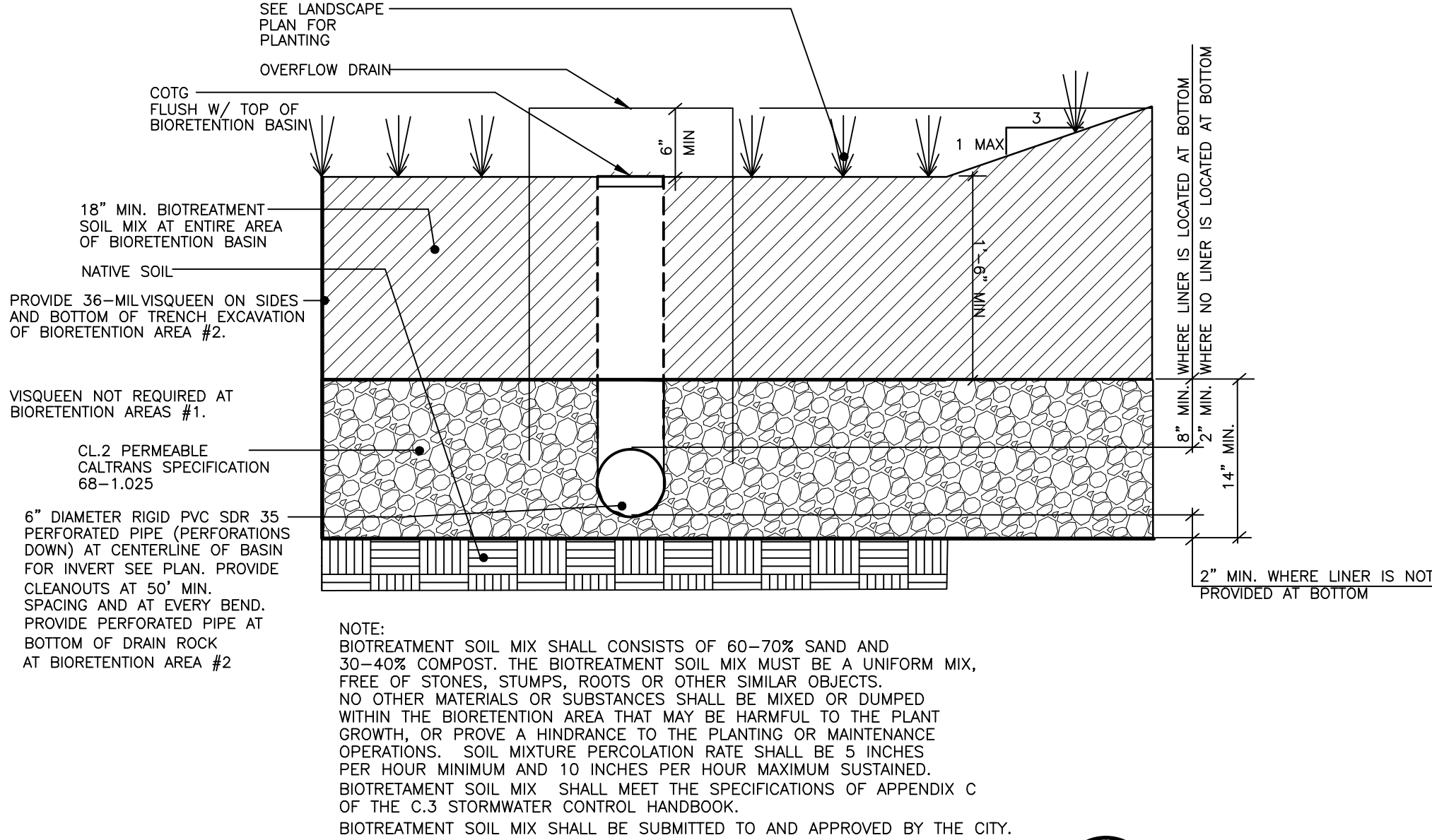
SUMMARY OF MAINTENANCE REQUIREMENTS

ENTITY RESPONSIBLE FOR THE MAINTENANCE OF THE STORMWATER CONTROL MEASURES:

ZINGQIANG WANG
JY INTERNATIONAL GROUP,INC.
660 SOUTH BERNARDO AVE., SUNNYVALE CA. 94087
OFFICE 408-212-0918
CELL 408-348-9618
jingying <info@jyus.org>

BIORETENTION BASINS REMOVE POLLUTANTS PRIMARILY BY FILTERING RUNOFF SLOWLY THROUGH AN ACTIVE LAYER OF SOIL. ROUTINE MAINTENANCE IS NEEDED TO INSURE THAT FLOW IS UNOBSTRUCTED, THAT EROSION IS PREVENTED, AND THAT SOILS ARE HELD TOGETHER BY PLANT ROOTS AND ARE BIOLOGICALLY ACTIVE. TYPICAL ROUTINE MAINTENANCE CONSISTS OF THE FOLLOWING:

- INSPECT INLETS, EXPOSURE OF SOILS, OR OTHER EVIDENCE OF EROSION. CLEAR ANY OBSTRUCTIONS AND REMOVE ANY ACCUMULATION OF SEDIMENT. EXAMINE ROCK OR OTHER MATERIAL USED AS A SPLASH PAD AND REPLENISH IF NECESSARY.
- INSPECT OUTLETS FOR EROSION OR UNPLUGGING.
- INSPECT SIDE SLOPES FOR EVIDENCE OF INSTABILITY OR EROSION AND CORRECT AS NECESSARY.
- OBSERVE SOIL IN THE BASINS FOR UNIFORM PERCOLATION THROUGHOUT. IF PORTIONS OF THE SWALE OR FILTER DO NOT DRAIN WITHIN 48 HOURS AFTER THE END OF A STORM, THE SOIL SHOULD BE TILLED AND REPLANTED. REMOVE ANY DERBIS OR ACCUMULATIONS OF SEDIMENT.
- EXAMINE THE VEGETATION TO INSURE THAT IT IS HEALTHY AND DENSE ENOUGH TO PROVIDE FILTERING AND TO PROTECT SOILS FROM EROSION. REPLENISH MUCH AS NECESSARY, REMOVE FALLEN LEAVES AND DEBRIS, PRUNE LARGE SHRUBS OR TREES, AND MOW TURF AREAS. CONFIRM THAT IRRIGATION IS ADEQUATE AND NOT EXCESSIVE. REPLACE DEAD PLANTS AND REMOVE INVASIVE VEGETATION.
- ABATE ANY POTENTIAL VECTORS BY FILLING HOLES IN THE GROUND IN AND AROUND THE SWALE AND BY INSURING THAT THERE ARE NOT AREAS WHERE WATER STANDS LONGER THAN 48 HOURS FOLLOWING A STORM. IF MOSQUITO LARVAE ARE PRESENT AND PERSISTENT, CONTACT THE SANTA CLARA COUNTY VECTOR CONTROL DISTRICT FOR INFORMATION AND ADVICE. MOSQUITO LARVICIDES SHOULD BE APPLIED ONLY WHEN ABSOLUTELY NECESSARY AND THEN ONLY BY A LICENSED INDIVIDUAL OR CONTRACTOR.



BIORETENTION BASIN WITH SUBDRAIN 1

COMBINATION FLOW AND VOLUME DESIGN BASIS CALCULATIONS

MAP =14
MAP ADJUSTMENT FACTOR = 14/13.9 = 1.007
FIGURE B-5 UNIT BASIN STORAGE VOLUME FOR SAN JOSE AIRPORT RAIN GAGE =.56
ADJUSTED UNIT BASIN STORAGE VOLUME X MAP ADJUSTMENT FACTOR
1.007 X .56 = .564 INCHES
DURATION RAIN EVENT .564/0.2 = 2.82 HOURS

BIORETENTION AREA #1
PERVIOUS AREA 917 SF
IMPERVIOUS AREA 7,988 SF
TOTAL AREA 8,905 SF
EFFECTIVE IMPERVIOUS AREA = (7,988)(1)+(917)(.1) = 8,080 SF
ASSUME BASIN SIZE =8,080 X .04 = 323 SF
VOLUME OF TREATED RUNOFF = 323 X 5/12 X 2.82 = 380 CF
ASSUME BASIN SIZE = 8,080 X .04 X .67 = 217 SF
VOLUME OF TREATED RUNOFF = 217 X 5/12 X 2.82 = 255 CF
DIFFERENCE IN VOLUME 380- 255 = 125 CF
PONDING DEPTH 125/255 = .49 FT = 6 '
MINIMUM SIZE OF BIORETENTION AREA = 323 X .75 = 242 SF

BIORETENTION AREA #2
PERVIOUS AREA 70 SF
IMPERVIOUS AREA 2,065 SF
TOTAL AREA 2,135 SF
EFFECTIVE IMPERVIOUS AREA = (2,065)(1)+(70)(.1) = 2,072 SF
ASSUME BASIN SIZE =2,072 X .04 = 83 SF
VOLUME OF TREATED RUNOFF = 83 X 5/12 X 2.82 = 98 CF
ASSUME BASIN SIZE = 2,072 X .04 X .667 = 55 SF
VOLUME OF TREATED RUNOFF = 55 X 5/12 X 2.82 = 65 CF
DIFFERENCE IN VOLUME 98 - 65 = 33 CF
PONDING DEPTH 33/65 = .508 FT = 6 '
MINIMUM SIZE OF BIORETENTION AREA = 83 X .75 = 62 SF

2. PROJECT DATA:

PERVIOUS AND IMPERVIOUS SURFACES COMPARISON TABLE			
A. PROJECT PHASE NUMBER (N/A, 1, 2, 3, ETC.):	N/A	B. TOTAL SITE (AREA):	.87
C. TOTAL SITE EXISTING IMPERVIOUS SURFACES (SQUARE FEET):	33,913	D. TOTAL AREA OF SITE DISTURBED (ACRES):	.46

E. IMPERVIOUS SURFACES	EXISTING CONDITION OF SITE AREA DISTURBED (SQUARE FEET):	PROPOSED CONDITION OF SITE AREA DISTURBED (SQUARE FEET)	
		REPLACED	CREATED
ROOF AREA(S)	6,910	-	-
PARKING	23,195	5,939	589
SIDEWALKS, PATIOS, PATHS	3,808	3,198	326
STREETS (PUBLIC)	-	-	-
STREETS (PRIVATE)	-	-	-
TOTAL IMPERVIOUS SURFACES:	E.1: 33,913	E.2: 9,137	E.3: 915

F. PERVIOUS SURFACES			
LANDSCAPED AREAS	3,974	1,955	4,175
PERVIOUS PAVING	-	-	-
OTHER PERVIOUS SURFACES (PLAYGROUND, TURF, ETC.)	-	1,215	2,646
TOTAL PERVIOUS SURFACES:	F.1: 3,974	F.2: 3,170	F.3: 6,821

G. TOTAL PROPOSED REPLACED + NEW IMPERVIOUS SURFACES (E.2+E.3):	10,052
H. TOTAL PROPOSED REPLACED + NEW PERVIOUS SURFACES (F.2+F.3):	9,991

I. PERCENT OF REPLACEMENT OF IMPERVIOUS AREA IN REDEVELOPMENT PROJECTS (E.2÷C X 100):	26.94%
---	--------

J. PRE-CONSTRUCTION IMPERVIOUS AREA	33,913 SQ FT
POST-CONSTRUCTION IMPERVIOUS AREA	27,888 SQ FT

TOTAL MPERVIOUS SURFACE CREATED AND/OR REPLACED FOR PARKING AREA
539 SF (CREATED) + 5,939 (REPLACED) = 6,528 SF IS MORE THAN 5,000 SF
STORMWATER CONTROL MEASURES USED

- | SITE DESIGN MEASURES | SOURCE CONTROL MEASURE |
|---|---|
| 1. DISCONNECT DOWNSPOUTS | 1. BENEFICIAL LANDSCAPING (MINIMIZES IRRIGATION, RUNOFF, PESTICIDES & FERTILLIZERS) PROMOTES TREATMENT) |
| 2. MINIMIZE CHANGE IN RUNOFF HYDROGRAPH | 2. MAINTENANCE (STREET SWEEPING, CATCH BASIN CLEANING) |
| 3. MINIMIZE LAND DISTURBANCE | 3. COVERED DUMPSTER AREA, DRAIN TO SANITARY SEWER |
| 4. MINIMIZE IMPERVIOUS SURFACES | 4. STORM DRAIN LABELING |

TABLE 1-TREATMENT CONTROL MEASURE (TCM) SUMMARY TABLE AREA*									
AREA ID	SURFACE	PERVIOUS AREA (s.f.)	IMPERVIOUS AREA (s.f.)	TOTAL AREA (s.f.)	SIZING ** FACTOR	BIORETENTION AREA REQUIRED(s.f.)	BIORETENTION AREA PROVIDED(s.f.)	TREATMENT METHOD YES	IMPERMEABLE LINER ON BOTTOM (YES/NO)
DMA 1	ROOF PAVING CONCRETE	917 SF	7,988 SF	8,905 SF	COMBINATION FLOW AND VOLUME	242 SF	322 SF	BIORETENTION AREA #1	NO
DMA 2	ROOF	70 SF	2,065 SF	2,072 SF	COMBINATION FLOW AND VOLUME	62 SF	70 SF	BIORETENTION AREA #2	YES
DMA 3	NEW IMPROVEMENTS ALONG PROJECT FRONTAGE							ROADWAY* PROJECT	NO

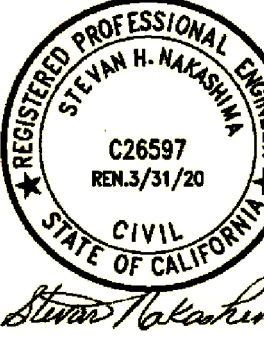
TOTAL IMPERVIOUS AREA SERVED BY BMPS 10,053 SF

*PER CHAPTER 2.3 OF THE C.3 STORMWATER HANDBOOK ROADWAY PROJECT THAT ADD NEW SIDEWALK ALONG AN EXISTING ROADWAY ARE EXEMPT FROM PROVISION C.3.c OF THE MUNICIPAL STORMWATER PERMIT.

**REFER TO COMBINATION FLOW AND VOLUME BASED CALCULATIONS ON THIS SHEET.



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JINGYING INTERNATIONAL EDUCATION LLC
755 BERNARDO AVE
SUNNYVALE, CALIFORNIA 94087
CIVIL PLAN

IMPERVIOUS SURFACE DATA
OWNER: JINGYING INTERNATIONAL CHINESE SCHOOL
ZINGQIANG WANG

Date: 09-11-2019
Scale: AS SHOWN
Drawn By: FN
Job No.: 17.025/1732

Revisions	
-	-

Sheet Number:

C-13



TEUCRIUM ACHILLEA SALVIA FESTUCA ROSA



NANDINA PITTOSPORUM DIETES SALVIA ASPARAGUS



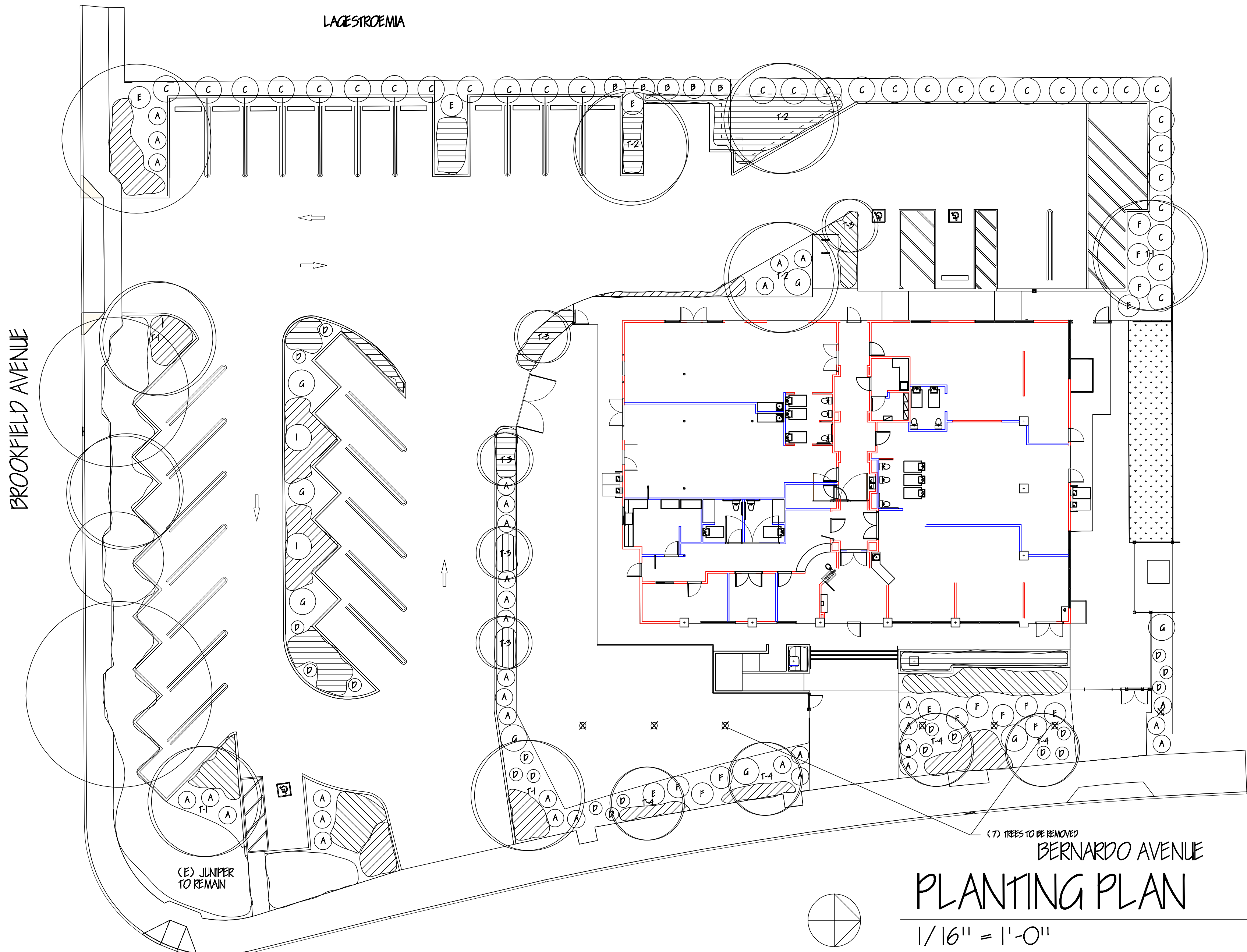
PITTOSPORUM PHORMIUM COTINUS



PISTACHIA PLATANUS



LAGESTROEMIA



PLANT LEGEND AND NOTES

Sym	Botanical Name/ Common Name	Size	Water	WUCOLS
	Teucrium chamraedys/ Germander @ 5' oc	1 gallon	low	.3
	Achillea Moonshine/ Yellow Yarrow @ 5' oc	1 gallon	low	.2
	Salvia Bee's Bliss @ 4' oc	1 gallon	low	.3
	Carex divulsa/ Berkeley Sedge @ 3' oc	1 gallon	low	.3
A	Rosa/ White Carpet Rose	5 gallon	low	.3
B	Nandina domestica	5 gallon	low	.3
C	Pittosporum tenuifolium	5 gallon	low	.3
D	Dietes vegeta/ Fortnight Lily	5 gallon	low	.3
E	Salvia leucantha/ Sage	5 gallon	low	.3
F	Pittosporum tobira Wheelers Dwarf	5 gallon	low	.3
G	Phormium tenax Apricot Queen/ Flax	5 gallon	low	.3
H	Asparagus/ Asparagus Fern	5 gallon	med	.5
I	Cotinus Golden Spirit/ Smoke Tree	15 gallon	low	.3
T-1	Pistachia chinense Keith Davey/ Chinese Pistache	24" box	low	.3
T-2	Platanus acerifolia Yarwood/ Sycamore	24" box	low	.3
T-3	Lagostroemia Muskoee std/ Grape Myrtle	15 gallon	low	.3
T-4	Lagostroemia Tuscorora/ Grape Myrtle	15 gallon	low	.3

- 1) Verify placement of all proposed plant material and protect existing trees and plants to remain.
- 2) All existing tree stumps to be ground and removed.
- 3) For existing site soil, break up and amend thoroughly prior to planting. Recommend soil fertility analysis for soil preparation recommendations.
- 4) For new parking lot planters, all asphalt and existing gravel base to be removed. Thoroughly break up subsoil and place import clay loam topsoil. Thoroughly mix import soil into native and amend.
- 5) Incorporate 3" of approved compost at all planting areas as an alternative to the soil preparation recommendations.
- 6) Spread 3" of approved earth tone wood chip mulch at all planting areas after planting installation is complete.
- 7) I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan.

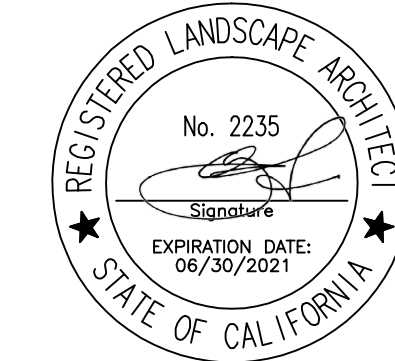
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JINGYING
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EDUCATION, LLC
for:

JINGYING INTERNATIONAL
EDUCATIONAL LLC
755 BERNARDO AVE.
SUNNYVALE, CA. 94087

PLANTING PLAN

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drawn by: WJH
job no. 21802
sheet

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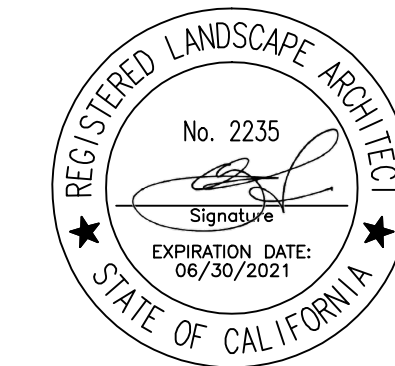
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for:
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SUNNYVALE, CA. 94087

PARKING LOT SHADING

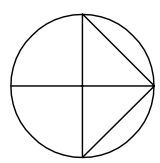
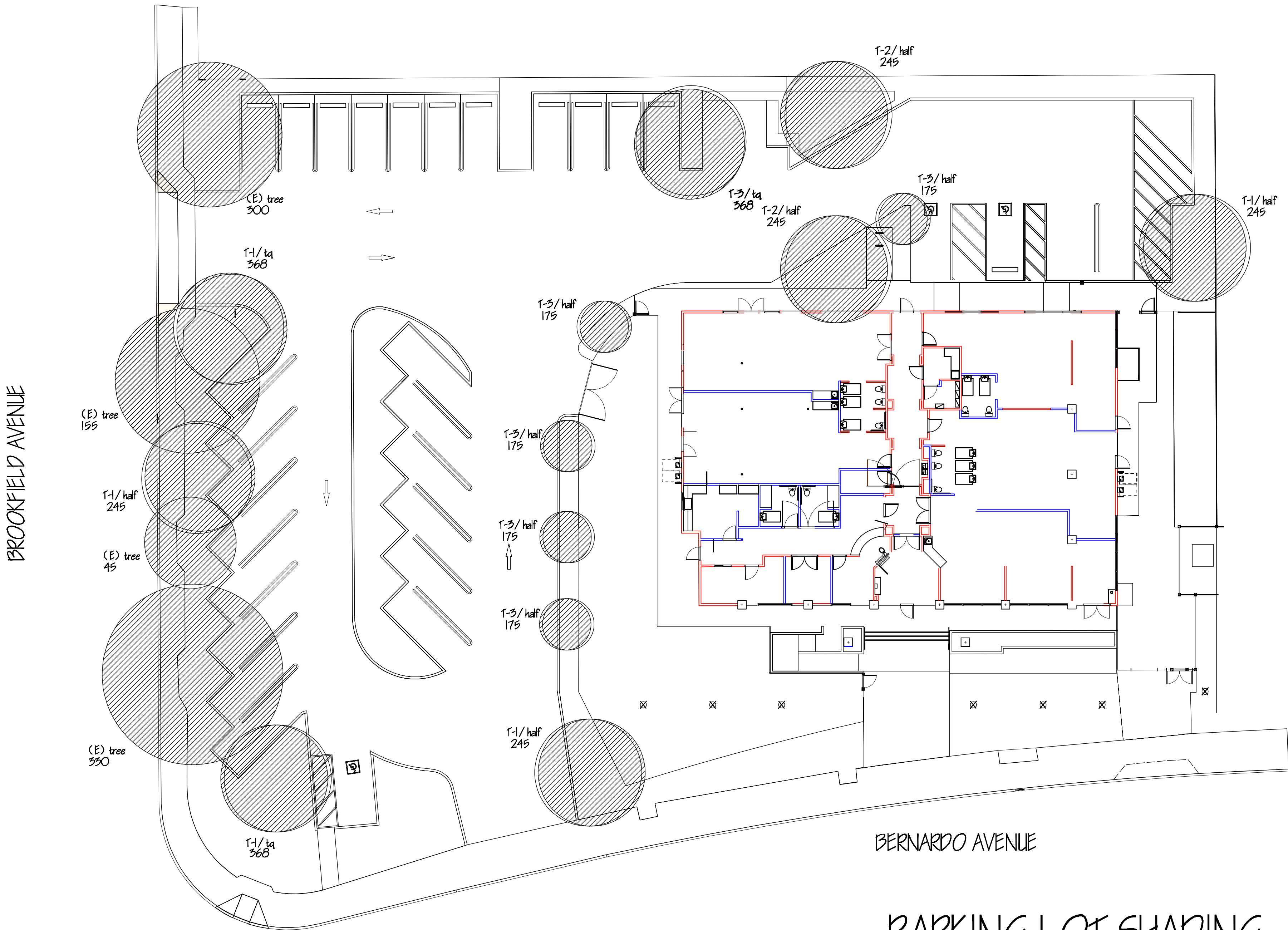
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PISTACHIA PLATANUS LAGERSTROEMIA

SHADED CALCULATION TABLE						
Sum	Botanical Name/ Common Name	Full sf	3/4	1/2	1/4	Total sf
T-1	Pistachia chinensis Keith Davey/ Chinese Pistache	1 @ 368 sf		6 @ 245 sf		1838 sf
T-2	Platanus acerifolia Yarwood/ Yarwood Sycamore	1 @ 368		2 @ 245 sf		858 sf
T-3	Lagerstroemia Muskoquee/ Grape Nurple			5 @ 175 sf		875 sf
(E)	Existing Tree Varieties					830 sf

Total Tree Shade: 4401 sf
Total Paved Area: 17,419 sf (50% = 8710 sf required)
Percent Shaded: 25% due to limited planting area based on PU&E easement



PARKING LOT SHADING
1/16" = 1'-0"

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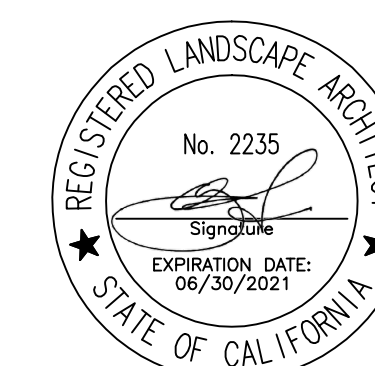
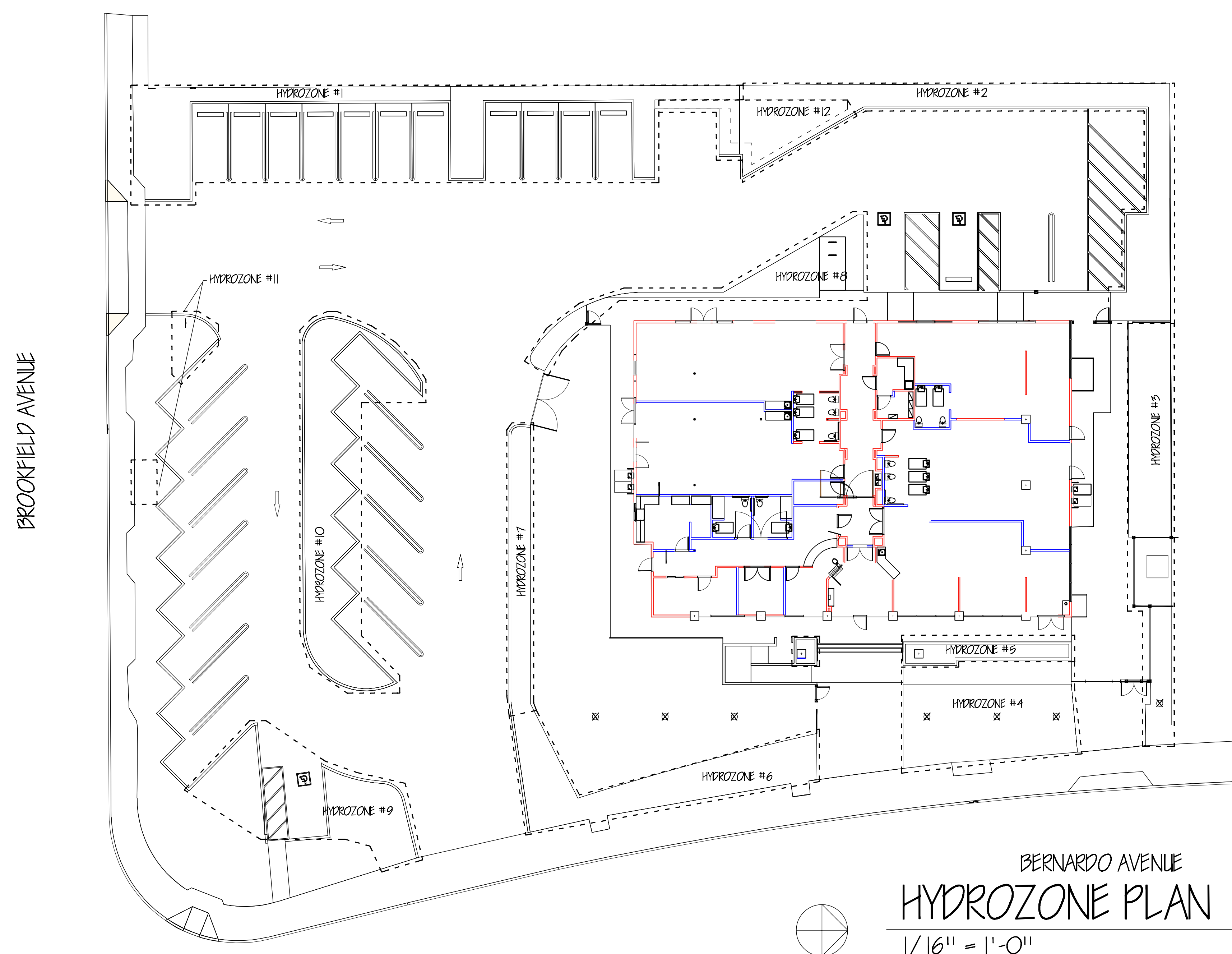
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0.45	Non-Residential
0.55	Residential
0.81	Drip
0.75	Overhead

California Water Efficient Landscape Worksheet								0.45
Reference Evapotranspiration (ET _r)		45.3	Project Type		Non-Residential			
Hydrozone # / Planting Description ^a	Plant Factor (PF)	Irrigation Method ^b	Irrigation Efficiency (IE) ^c	ETAF (PF/IE)	Landscape Area (Sq. Ft.)	ETAF x Area	Estimated Total Water Use (ETWU) ^d	
Regular Landscape Areas								
#1 low	0.3	Drip	0.81	0.37	865	320	899	
#2 low	0.3	Drip	0.81	0.37	770	285	801	
#3 high lawn	0.7	Overhead	0.75	0.93	580	541	1520	
#4 low	0.3	Drip	0.81	0.37	905	335	941	
#5 low bio retention	0.3	Drip	0.81	0.37	140	52	145	
#6 low	0.3	Drip	0.81	0.37	675	250	702	
#7 low	0.3	Drip	0.81	0.37	300	111	312	
#8 low	0.3	Drip	0.81	0.37	375	139	390	
#9 low	0.3	Drip	0.81	0.37	500	185	520	
#10 low	0.3	Drip	0.81	0.37	785	291	816	
#11 low	0.3	Drip	0.81	0.37	145	54	150	
#12 low bio retention	0.3	Drip	0.81	0.37	360	133	374	
			0.75	0.00		0		
			0.75	0.00		0		
			0.75	0.00		0		
			0.75	0.00		0		
			0.75	0.00		0		
			0.75	0.00		0		
			0.75	0.00		0		
Totals					6400	2897	7574	
Special Landscape Areas								
			1		0	0		
			1		0	0		
			1		0	0		
			1		0	0		
Totals					0	0		
ETWU Total							7574	
Maximum Allowed Water Allowance (MAWA) ^e							8088	

		Maximum Allowed Wwater Allowance
ETAF Calculations		
Regular Landscape Areas		Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential
Total ETAF x Area	2697	
Total Area	6400	
Average ETAF	0.42	

All Landscape Areas	
Total ETAF x Area	269
Total Area	640
Average ETAF	0.42



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HYDROZONE PLAN

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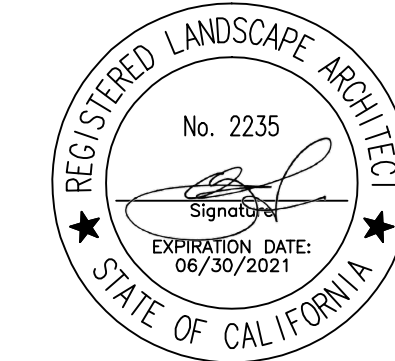
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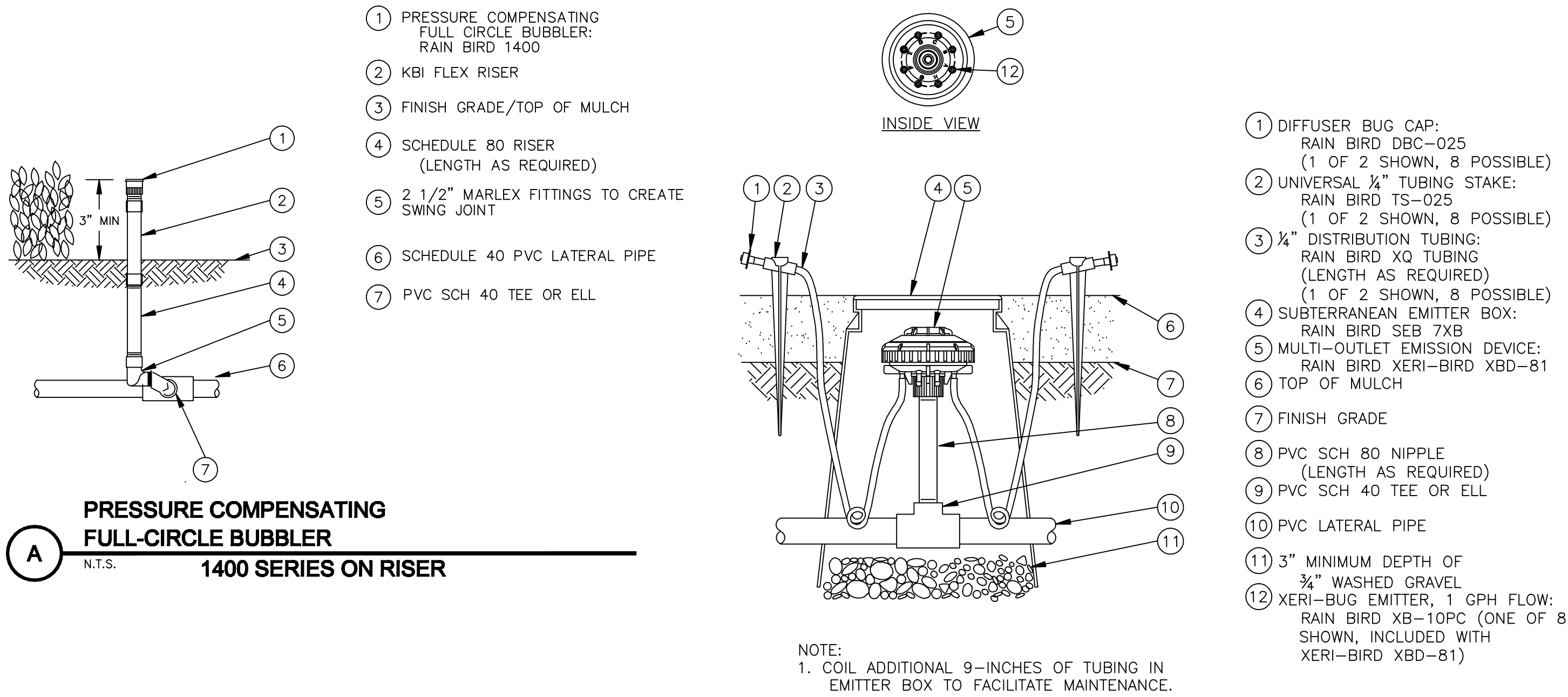
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IRRIGATION PLAN

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sheet

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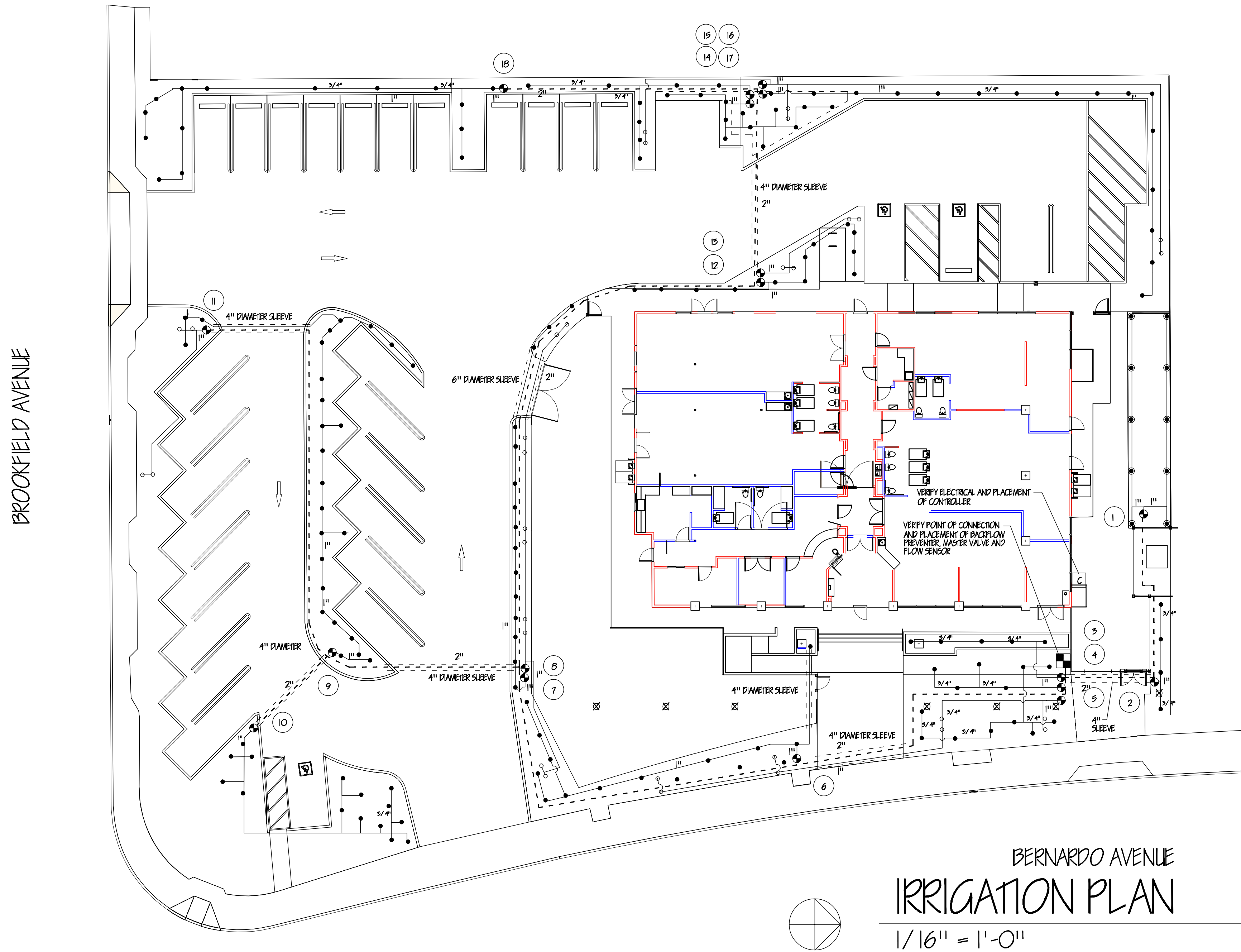


EIGHT-OUTLET MANIFOLD WITH XERI-BUG EMITTERS, 1/4" TUBING, STAKE AND BUG CAP
OPTION 2A
1-13-10
N.T.S.

IRRIGATION LEGEND

- C Hunter Pro with Solar Sync and rain sensor - verify electrical source and placement
WM 1" Water Meter for irrigation only - verify size and location
Febco #825Y- 1" reduced pressure backflow preventer - provide lockable cover with Watts Master Valve with Flow Sensor sized per point of connection/ verify manufacturer with city
Schedule 40 pvc mainline - 1 1/2" - min. depth 18"
Schedule 40 pvc sleeving
Rainbird PEB series control valves with in line pressure reducer set to 35 psi and Y filter for drip circuits and without for bubbler and rotor circuits
Schedule 40 pvc lateral lines - 3/4" unless noted- min. depth 12"
Rainbird Xeri-Bug Octa Bubbler
Rainbird #1400 series bubbler for trees - two per tree on separate circuits
Hunter MP Rotator on 6" pop up for lawn area only - verify nozzle size in field
Control valve number

- 1) Verify water and electrical services for point of connection.
2) Verify site water pressure of 65 psi at point of connection - notify architect prior to construction if found to be different.
3) Verify electrical source and placement of controller. Follow all grounding instructions per controller installation guide and flow meter specifications guide.
4) Contractor shall provide all necessary safety precautions throughout construction. This shall include signage and barriers.
5) Verify operation of system before backfilling trenches. Drip line to be secured to grade with stakes at base of each plant.
6) System layout is diagrammatic, actual field conditions will dictate final layout, addition of drip line, etc.
7) Verify control wire placement and access under pavement and extension of additional wires for future expansion.
8) Verify rain sensor in field.
9) Contractor shall be responsible for setting and monitoring irrigation system to apply adequate water for establishment, but to eliminate runoff and soil saturation.
10) Contractor to submit maintenance and irrigation schedule to Owner at completion of installation and maintenance/ warranty period.
11) Contractor shall verify location of all underground utilities prior to any trenching or excavation.
12) Verify and coordinate installation of sleeving and/ or mainline and control wire conduit access under all pavement. Verify with paving contractor. Piping under road shall be installed a minimum of 24" deep with piping surrounded by a 6" sand envelope.
13) Trees shall be irrigated on separate circuits and with two 1/2 gpm bubblers, one at the surface, the other in a perforated vertical tube set adjacent to the root ball.



BERNARDO AVENUE
IRRIGATION PLAN
1/16" = 1'-0"



EDWARD L. PACK ASSOCIATES. INC.

1975 HAMILTON AVENUE
SUITE 26
SUNNYVALE, CA 95125

Acoustical Consultants

TEL: 408-371-1195
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SECOND REVISED NOISE ASSESSMENT STUDY FOR THE PLANNED

JINGYING INTERNATIONAL SCHOOL

755 SOUTH BERNARDO AVENUE, SUNNYVALE

Prepared for
Jingying International Preschool

Prepared by
Jeffrey K. Pack

May 7, 2019
Project No. 50-027-2

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- 1 -

I. Executive Summary

This report presents the results of a second revised noise assessment study, in compliance with the California Environmental Quality Act, for the proposed Jingying International Preschool at 755 South Bernardo Avenue in Sunnyvale. The purpose of this revision is to re-analyze the project-generated noise impacts to the noise sensitive uses around the site subsequent to the relocation of the main playground. This study includes an analysis of traffic noise impacts to the school site and project-generated noise impacts from playground activity to the residences adjacent to the west and north of the site. Project-generated noise impacts to the residences across Brookfield Avenue to the south of the site are not an issue due to the large separation distance from the playground to these residences. Parking lot activity, which includes school drop offs and pick-ups are not included in this analysis as these activities are a current use on the site.

The plans for the school include remodeling of the existing building on the site, the construction of the playground and preparation of the parking lot. The playground area will be relocated from the westerly side of the site behind the building to the south side of the building facing Brookfield Avenue and wrapping the front corner of the building along South Bernardo Avenue. The following report includes background information on acoustics, noise standards applicable to the project, project-generated noise impacts, project construction noise impacts and noise reduction measures for noise impacted residential receptor locations. Noise impacts to the project site are evaluated against the City of Sunnyvale noise limits established in the City of Sunnyvale General Plan Noise Element. The project-generated noise impacts were evaluated against the standards contained in the Noise Element and in the City of Sunnyvale Noise Ordinance. The Noise Element also contains the quantitative criteria to define significant noise impacts for environmental review under the California Environmental Quality Act (CEQA).

The results of this study reveal that the noise exposures at the site exceed the Normally Acceptable standard for school land use. However, there are no noise sensitive exterior areas of the project that are exposed to excessive noise and the site is within the Conditionally Acceptable range of the Noise Element.

- 2 -

Project-generated noise will occur from playground activity. The project-generated noise levels and noise exposures will be in compliance with the Noise Element and Noise Ordinance. standards at the property lines to the west and north of the site and at the patios and balconies of the adjacent Citra Apartments. Exterior noise excesses in terms of the Noise Ordinance will occur at the upper floor balconies of the apartment complex directly adjacent to the site to the west. The project will not cause increases in the ambient noise environment at adjacent residences. The noise impacts will be less than significant. Noise mitigation measures for this project will not be required.

In terms of the CEQA compliance checklist, the project results in the following:

- | | |
|---|-----------------------|
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | Less Than Significant |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | No impact |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | Less Than Significant |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | Less Than Significant |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | No impact |

- 3 -

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? No impact

II. Background Information on Acoustics

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing.

Most of the sounds which we hear in our normal environment do not consist of a single frequency, but rather a broad range of frequencies. As humans do not have perfect hearing, environmental sound measuring instruments have an electrical filter built in so that the instrument's detector replicates human hearing. This filter is called the "A-weighting" network and filters out low and very high frequencies. All environmental noise is reported in terms of A-weighted decibels, notated as "dBA". All sound levels used in this report are A-weighted unless otherwise noted. Table I, below, shows the typical human response and noise sources for A-weighted noise levels.

Although the A-weighted noise level may adequately indicate the level of noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a mixture of noise from distant sources that create a relatively steady background noise from which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_1 , L_{10} , L_{50} and L_{90} are often used. They are the A-weighted noise levels exceeded for 1%, 10%, 50% and 90% of a stated time period. The continuous equivalent-energy level (L_{eq}) is that level of a steady state noise which has the same sound energy as a time-varying noise. It is often considered the average noise level and is used to calculate the Day-Night Levels (DNL) and the Community Noise Equivalent Level (CNEL) described below.

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TABLE I

**The A-Weighted Decibel Scale, Human Response,
and Common Noise Sources**

<u>Noise Level, dBA</u>	<u>Human Response</u>	<u>Noise Source</u>
120-150+	Painfully Loud	Sonic Boom (140 dBA)
100-120	Physical Discomfort	Motorcycle at 20 ft. (110 dBA) Nightclub Music (105 dBA)
70-100	Annoying	Diesel Pump at 100 ft. (95 dBA) Freight Train at 50 ft. (90 dBA) Food Blender (90 dBA) Jet Plane at 1000 ft. (85 dBA) Freeway at 50 ft. (80 dBA) Alarm Clock (80 dBA)
50-70	Intrusive	Average Traffic at 100 ft. (70 dBA) Pass. Car, 30 mph @ 25 ft. (65 dBA) Vacuum Cleaner (60 dBA) Suburban Background (55 dBA)
0-50	Quiet	Normal Conversation (50 dBA) Light Traffic at 100 ft. (45 dBA) Refrigerator (45 dBA) Desktop Computer (40 dBA) Whispering (35 dBA) Leaves Rustling (20 dBA) Threshold of Hearing (0 dBA)

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In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, most people sleep at night and are very sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, the Day-Night Level (DNL) noise descriptor was developed. The DNL is also called the L_{dn} . Either is acceptable, however, DNL is more popular worldwide. The DNL divides the 24-hour day into the daytime period of 7:00 a.m. to 10:00 p.m. and the nighttime period of 10:00 p.m. to 7:00 a.m. The nighttime noise levels are penalized by 10 dB to account for the greater sensitivity to noise at night. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes a 5 dB evening (7:00 p.m. - 10:00 p.m.) penalty and a 10 dB nighttime penalty. Both the DNL and the CNEL average the daytime, evening and nighttime noise levels over a 24-hour period to attain a single digit *noise exposure*. The proper notations for the Day-Night Level and the Community Noise Equivalent Level are dB DNL and dB CNEL, respectively, as they can only be calculated using A-weighted decibels. It is, therefore, considered redundant to notate dB(A) DNL or dB(A) CNEL.

The effects of noise on people can be listed in three general categories:

- subjective effects of annoyance, nuisance, dissatisfaction;
- interference with activities such as speech, sleep, learning, relaxing;
- physiological effects such as startling, hearing loss.

The levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in industrial plants, airports, etc., can experience noise in the last category. Unfortunately, there is, as yet, no completely satisfactory way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily due to the wide variation in individual thresholds of annoyance and differing individual past experiences with noise.

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An important way to determine a person's subjective reaction to a new noise is to compare it to the existing environment to which one has adapted, i.e., the "ambient". In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by the receivers.

With regard to increases in A-weighted noise levels, the Environmental Protection Agency has determined the following relationships that will be helpful in understanding this report.

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived.
- Outside of the laboratory, a 3 dB change is considered a just-perceptible difference.
- A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- A 10 dB change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

The adding or subtracting of sound levels is not simply arithmetic. The sound levels, in decibels, must be converted to Bels, the anti-log's of which are then calculated. The manipulation is then performed (arithmetic addition or subtraction), the logarithm of the sum or difference is calculated. The final number is then multiplied by 10 to convert Bels to decibels. The formula for adding decibels is as follows:

$$\text{Sum} = 10\log(10^{\text{SL}/10} + 10^{\text{SL}/10}) \quad \text{where, SL is the Sound Level in decibels.}$$

For example, 60 dB + 60 dB = 63 dB, and 60 dB + 50 dB = 60 dB. Two sound sources of the same level are barely noisier than just one of the sources by itself. When one source is 10 dB higher than the other, the less noisy source does not add to the noisier source.

III. Noise Standards, Goals & Policies

A. City of Sunnyvale General Plan

The noise assessment results presented in the findings were evaluated against the City of Sunnyvale General Plan Noise Element, Ref. (a), which utilize the Day-Night Level (DNL) 24-hour noise descriptor. The Noise Element contains land use compatibility standards for various land uses throughout the City. For school land use, the Normally Acceptable limit is 60 dB DNL. Exterior noise exposures up to 75 dB DNL are considered “Conditionally Acceptable”, i.e., the land use is compatible provided that noise control measures are included in the design.

The Noise Element also specifies a Normally Acceptable land use compatibility standard of 60 dB DNL for residential land use. The, the project-generated noise exposures at the adjacent residences are limited to 60 dB DNL.

B. City of Sunnyvale Noise Ordinance

The project-generated noise levels were also evaluated against the standards of Section 19.42.030 of the City of Sunnyvale Municipal Code (Noise Ordinance), Ref. (b), which limits project-generated short-term noise levels to 60 dBA at residential property lines during daytime hours and to 50 dBA during nighttime hours.

C. California Environmental Quality Act (CEQA)

The project-generated noise exposures were evaluated against the guidelines of the California Environmental Quality Act (CEQA). CEQA does not limit noise levels or noise exposures nor does it quantify noise exposure or noise level increases over the ambient to define noise impacts. CEQA evaluates a project as a significant noise impact if it “...causes a substantial increases in the ambient noise levels...”.

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The quantification of the threshold of significance is left up to the local jurisdiction. The City of Sunnyvale Noise Element provides thresholds of significance. The thresholds of significance shall be applied at the existing residential area to the south, north and west of the site.

The City of Sunnyvale policy for noise increases is shown below.

In addition to reviewing proposed development for compliance with noise standards, all proposed development must be reviewed to see if it results in a “significant noise impact” on existing development. To determine if a proposed noise increase is considered “significant” under CEQA, the following standards should be used.

Figure 6-6: Significant Noise Impacts from New Development on Existing Land Use

Ldn Category of Existing Development Per figure 6-4	Noise Increase Considered “Significant over Existing Noise Levels
Normally Acceptable	An increase of more than 3 dBA and the total Ldn exceeds the “normally acceptable” category
Normally Acceptable	An increase of more than 5 dBA
Conditionally Acceptable	An increase of more than 3 dBA
Unacceptable	An increase of more than 3 dBA

If the project causes either of the above criteria to occur, the project will be considered a significant noise impact to the areas where it occurs and noise reduction measures will be required. Table II summarizes the quantitative noise limits applied on the residential side of the property lines at the first floor elevations. Note that the values shown in Table II are the noise limits (the limit of acceptability) applicable to the project. Noise exposures or increases greater than what are shown in the Table result in noise impacts.

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TABLE II	
Project-Generated Noise Limits	
Allowable Noise Increase (CEQA) (based on ambient +5)	55 dB DNL at West Property Line (Playground Noise)
Allowable Noise Increase (CEQA) (based on ambient +3)	59 dB DNL at North Property Line (Playground Noise)
Noise Ordinance	60 dBA (daytime)

IV. Acoustical Setting

A. Site and Noise Source Descriptions

The planned project site is located at 755 South Bernardo Avenue in Sunnyvale. The site is relatively flat and at-grade with the surrounding roadways and land uses. The site currently contains a vacant commercial building that will be remodeled for the use of the preschool. Surrounding land-uses include the 3-story Citra Apartments adjacent to the west and north, single-family and multi-family residential across Brookfield Avenue to the south and commercial uses across South Bernardo Avenue to the east. The Citra Apartments have first floor patios and second and third floor balconies that have open rail fences and railings that are immediately adjacent to the project site.

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The primary source of noise at the site is traffic on South Bernardo Avenue with a minor influence from Brookfield Avenue traffic. Other sources of noise in the project vicinity, such as the Valero Service Station across South Bernardo Avenue and the Safeway shopping center do not add significantly to the noise environment at the project site.

B. Project Description

The planned project, as shown on the Site Plan, Ref. (c), includes minor site preparation, the remodeling of the existing building, the construction of the playground and parking lot surface work. The main play area will be located along the south side of the building and wrapping the southeasterly corner and extending into a portion of the front of the building, but outside of the existing 60 dB DNL noise contour. A secondary play area will be located along the north side of the building. Parking will be located on the south and west sides of the site. There will be 11 parking spaces along the west property line and 5 spaces abutting the west side of the building in the former playground area. Fourteen parking spaces will be located to the south of the building and new playground area. A 6 ft. high CMU barrier, which will be acoustically-effective, will be located on the north property line. The noise reduction provided by this barrier is included in this analysis for the north property line and building setback receptor locations to the north.

As the parking lot is an existing use of the site, Ref. (d), parking lot operations associated with the proposed project are not included in this analysis

The current Site Plan is shown as Figure 1 on page 11.

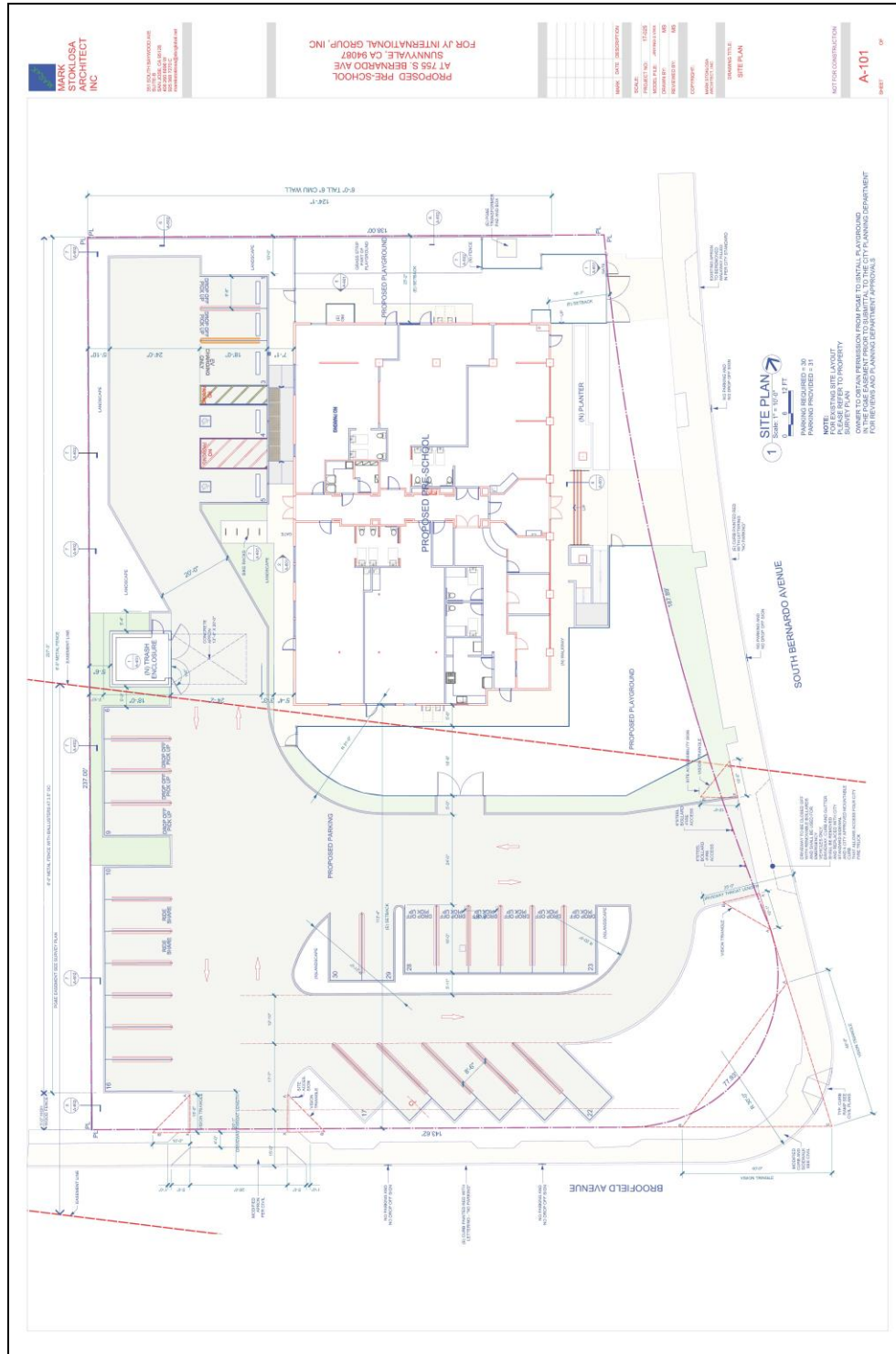


FIGURE 1 – Site Plan

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The pre-school is reported to have 120 children ranging in age from 2 to 5 years old. Operational hours of the school will be 6:00 AM to 6:00 PM. Precise operational information is not currently available. However, the project operational information that was available was provided by the project architect, Ref. (e).

From information and experience with other preschool projects, we are making the following estimates:

A group of 30 2-3 year old children will play outdoors in the main play area for 30 minutes. This group will divide into two groups of 15 children, with one group near the center of the south façade of the building and the other group playing at the front of the building along South Bernardo Avenue. Then, a second group of 30 2-3 year old children will play in the main play area in the same fashion. In the 10:00 AM hour, two groups of 30 4-5 year old children will play outside for 30 minutes each using the same scenario as for the 2-3 year olds. In the afternoon, the number of children remaining is expected to be 70 and will typically play outdoors between 3:00 and 5:00 PM.

For the secondary play area on the north side of the building, we are assuming that up to 10 children will play for 30 minutes every half hour between 9:00 AM and 11:00 AM and up to 15 children between 3:00 and 5:00 PM.

V. Existing Noise Environment (Without the Project)

A. Existing Noise Levels

To determine the existing noise environment at the site, continuous recordings of the sound levels were made on-site at three locations. Location 1 was along the north property line near the existing transformer, 87 ft. from the centerline of South Bernardo Avenue. The transformer was quiet. Location 2 was along the west property line, 24 ft. from the north property line at the planned playground location. Location 3 was at the sidewalk in front of the residences across Brookfield Avenue, 220 ft. from the centerline of South Bernardo Avenue and 27 ft. from the centerline of Brookfield Avenue. The measurement locations are shown on Figure 2 on page 14.

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The measurements were made on July 30-31, 2018 for a continuous period of 24 hours at each location and included measurements during the daytime and nighttime periods of the DNL index.

The sound levels were recorded and processed using Larson-Davis Model 812 Precision Integrating Sound Level Meters. The meters yield, by direct readout, a series of descriptors of the sound levels versus time, which include the L_1 , L_{10} , L_{50} , and L_{90} , i.e., those levels that are exceeded 1%, 10%, 50%, and 90% of the time. The meters also yield the maximum and minimum levels, and the continuous equivalent-energy levels (L_{eq}), which are used to calculate the DNL's. The measured L_{eq} 's are shown in the data tables in Appendix C.

The L_{eq} 's at measurement Location 1 along the north property line ranged from 51.0 to 63.8 dBA during the daytime and from 41.8 to 56.9 dBA at night. During the operational hours of 6:00 AM to 6:00 PM, the L_{eq} 's ranged from 53.7 to 58.4 dBA.

The L_{eq} 's at measurement Location 2 along the west property line ranged from 44.7 to 56.7 dBA during the daytime and from 39.3 to 46.9 dBA at night. During the operational hours of 6:00 AM to 6:00 PM, the L_{eq} 's ranged from 45.1 to 56.7 dBA.

The L_{eq} 's at measurement Location 3 along the residential property line to the south ranged from 50.7 to 61.5 dBA during the daytime and from 39.2 to 50.3 dBA at night. During the operational hours of 6:00 AM to 6:00 PM, the L_{eq} 's ranged from 50.3 to 61.5 dBA.

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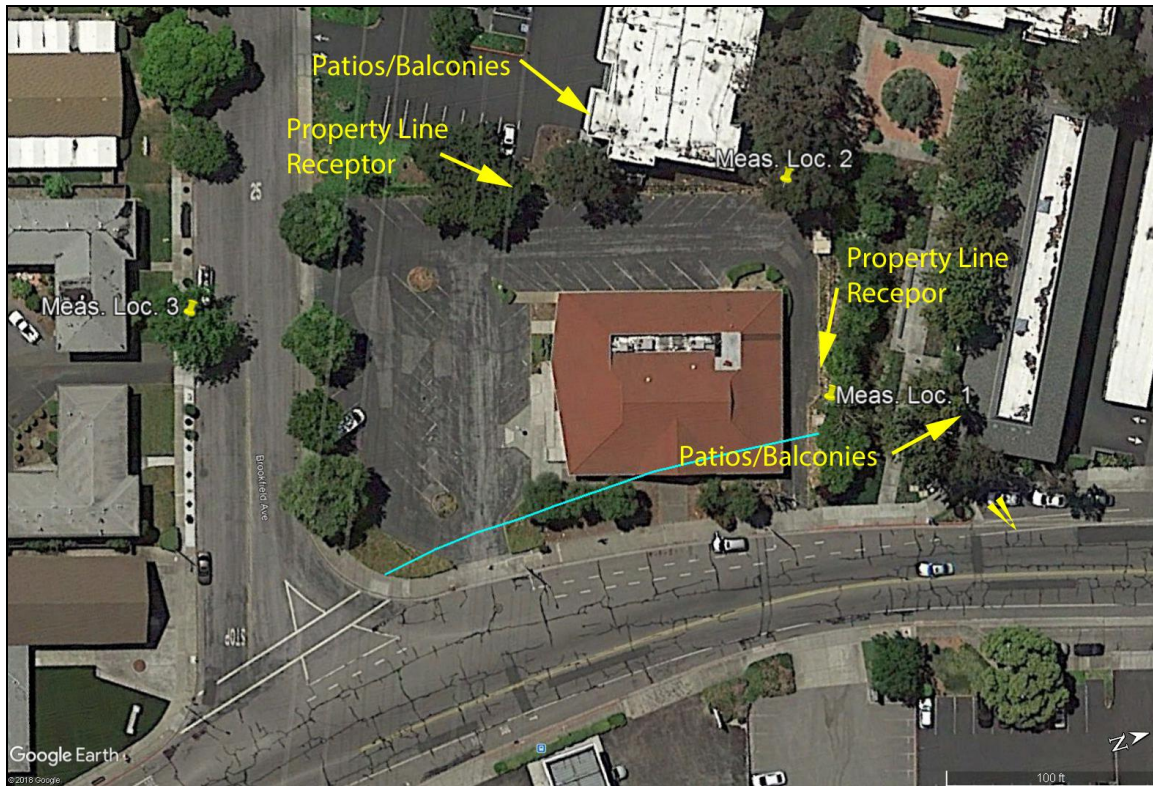


FIGURE 2 – Noise Measurement Locations

B. Existing Noise Exposures

To determine the acceptability of the site for the intended use and the existing ambient noise environments at the adjacent residential receptors, the DNL's for the survey locations were calculated by decibel averaging of the L_{eq} 's as they apply to the daily time periods of the DNL index. A 10 decibel nighttime weighting factor was applied and the DNL was calculated using the formula shown in Appendix B. The measured L_{eq} 's and DNL calculations are shown in the data tables in Appendix C.

Table III on the following page provides the results of the DNL calculations.

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TABLE III	
Existing Ambient Noise Exposures	
West Property Line (2)	52 dB DNL
North Property Line (1)	59 dB DNL
Residences to the South (3)	56 dB DNL

The existing 60 dB DNL noise contour from South Bernardo Avenue traffic is shown as the light blue line on Figure 2.

Note that due to the relocation of the play area, the new west property line and patio/balcony receptor locations are also shifted to the south where it is closer to Brookfield Avenue and less shielded by the project building. The existing ambient noise exposure at the new west property line remains at 52 dB DNL.

VI. Noise Impacts

A. Impacts to the Project

The City of Sunnyvale Noise Element specifies land use compatibility guidelines for institutional uses. The “Normally Acceptable” noise exposure limit is 60 dB DNL and the “Conditionally Acceptable noise exposure limit is 75 dB DNL.

The exterior noise exposure at the project site is up to 61 dB DNL. Thus, the noise exposures are up to 1 dB in excess of the 60 dB DNL “Normally Acceptable” limit of the City of Sunnyvale Noise Element standards, but are within the Conditionally Acceptable limit. This noise exposure occurs at the small corner of the building and planter area at the front of the building closest to South Bernardo Avenue. However, there are no exterior noise sensitive spaces on the site exposed to noise greater than 60 dB DNL. The site should be considered acceptable as noise reduction measures to resolve the 1 decibel excess are not practical. CEQA has no requirement for addressing noise impacts to a project from off-site sources.

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B. Project-Generated Noise Impacts

Potential noise impacts from the project to the area surrounding the proposed school will include playground activity. Mechanical equipment noise associated with the building and noise increases from project traffic on local streets are expected to be negligible.

Project Mechanical Equipment

There is no information on mechanical equipment for the buildings. Thus, an analysis of the project mechanical equipment could not be performed. However, the mechanical equipment will be located in the existing roof-top well.

Project Traffic Noise

Noise from project traffic on the local road network is expected to be negligible as the project would need to add at least 15% of the existing daily traffic volume on any given roadway. Due to the small size of the project and low expected traffic volumes, project traffic is expected not to add to the existing noise exposures.

Impact: Less Than Significant

Playground Noise Impacts

Noise from playground activity was determined from past noise studies of similar facilities in the area, Ref's (f, g, h). The reference facilities contained similar play environments for the age groups corresponding to the proposed project. A noise control barrier along the north property line is part of the project and is included in this analysis.

Table IV provides the reference sound levels for each age group, the number of children at play, the distance to the center of the play area and the name of the facility. Note that the noise levels used for this analysis are the energy-averages for each playground scenario over the course of the play time. Since decibels are a logarithmic function (high levels carry more weight), the sound levels shown below and utilized in this study represent the total amount of noise created during the play time integrated over the play time duration.

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TABLE IV					
Children Playing Reference Sound Levels					
Sport	# of Children	Age	Dist.	Sound Level	Location
Playground	23	2-3	42	64	A Creative Playschool
Playground	23	4-5	42	66	St. Martin of Tours
Playground	14	3-5	45	53	Most Holy Trinity

None of the past studies had children playing outside that were younger than 2 years old. For the purposes of this study, we have grouped the 2 and 3 year olds together and the 4 and 5 year olds together. We are also assuming that there are an equal number of children in each age group as there are no data indicating otherwise.

The change in overall sound level from a change in the number of children playing is calculated by the formula:

$$\Delta dB = 10 \log_{10}(V_1/V_2) \text{ where, } V = \text{the number of children.}$$

The attenuation of sound from children playing is calculated by the formula:

$$\Delta dB = 20 \log_{10}(r_1/r_2) \text{ where, } r = \text{the distance from the (acoustic) center of the play area to the measurement or receptor location.}$$

The data acquired at the reference noise study locations reveal that older children make more noise than younger children. Over the course of a play period, a group of 4-5 year old children will produce of a noise level 2 dB higher than a group of 2-3 year olds given all other parameters the same. The primary sources of noise from children playing are voices.

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Table V on page 19 provides the analysis for the outdoor playground activity derived from the information provided in Table IV. The playground noise source consists of children at general play, including running around, playing tag, kicking and throwing balls and climbing on short apparatus. The distances shown are for the receptors that have both shielded (by a barrier) and unshielded views (over the barrier) to the playground. Also included in the Table are the noise reduction factors provided by the north property line noise control barrier.

As shown in Table V, the playground noise levels will range from 51 to 60 dBA at the most impacted property line of the Citra Apartments to the west, from 52 to 56 dBA at the Citra Apartments first floor patios and upper floor balconies to the west, from 57 to 60 dBA at the Citra Apartments property line to the north and from 56 to 59 dBA at the Citra Apartments upper floor balconies to the north. Thus, the short-term playground noise levels will be within the 60 dBA daytime standard of the City of Sunnyvale Noise Ordinance at the common property lines and at the exterior living areas of the adjacent apartment complex.

Since the south side play area is being divided up into two centralized areas, one being near the center of the south façade of the building just west of the gate and the other being near the front of the building along South Bernardo Avenue, the residential receptor locations for the property line and the patios/balconies are different. The property line location has a view to both south side play areas while the patios and balconies do not have a view to the portion of the play area toward South Bernardo Avenue. Therefore, the children playing closer to South Bernardo Avenue are not included in the analysis for the patios and balconies to the west of the site. They are included in the property line to west analysis. See the yellow arrows on Figure 2.

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TABLE V											
PLAYGROUND SOUND LEVELS, dBA											
120 student		WEST RECEPTOR 1			WEST RECEPTOR 2		NORTH RECEPTOR 1			NORTH RECEPTOR 2	
Time Period	Ages	# of Children	Dist., ft. Source to PL	Sound Level @ Prop. Line	Dist., ft. Source to Balcony	Sound Level @ Patio/Balcony	# of Children	Dist., ft. Source to PL	Sound Level @ Prop. Line*	Dist., ft. Source to Bldg.	Sound Level @ Balconies**
9:00	2-3	15	98	55	128	52	5	17	57	71	56
9:00	2-3	15	145	51							
9:30	2-3	15	98	55	128	52	5	17	57	71	56
9:30	2-3	15	145	51							
10:00	4-5	15	98	57	128	52	5	17	57	71	56
10:00	4-5	15	145	53							
10:30	4-5	15	98	57	128	52	5	17	57	71	56
10:30	4-5	15	145	53							
3:00	2-3	35	98	58	128	56	10	17	60	71	59
3:00	2-3	35	145	55							
3:30	2-3	35	98	58	128	56	10	17	60	71	59
3:30	2-3	35	145	55							
4:00	4-5	35	98	60	128	56	10	17	60	71	59
4:00	4-5	35	145	57							
4:30	4-5	35	98	60	128	56	10	17	60	71	59
4:30	4-5	35	145	57			*Includes -11 B factor for PL barrier			The Sound Level in the Patios is 8 dB Lower	

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To calculate the play area noise exposures in terms of the DNL, the L_{eq} 's shown in Table V were combined to obtain the hourly L_{eq} 's.

For instance, 30 minutes of 60 dBA plus 30 minutes of 60 dBA equals 60 minutes of 60 dBA also written as 60 dBA $L_{eq(h)}$. The noise exposure calculation tables are provided in Appendix C.

Table VI, below, provides the results of the project-generated DNL calculations, the existing ambient noise exposures, the combined noise exposures (ambient + project), the increase over the existing ambient and the CEQA evaluation.

Sound levels (exposures) are combined using the formula:

$$\text{Sum} = 10\log_{10}(10^{(SL1/10)} + 10^{(SL2/10)})$$

TABLE VI					
Project-Generated Noise Exposure Evaluation					
Location	Project-generated DNL	Existing Ambient DNL	Combined DNL	Excess Over Ambient, dB	Impact?
West PL	51	52	54	2	No
West Patios/Balconies	46	52	53	1	No
North PL	50	59	60	1	No
North Bldg. Setback	49	59	59	0	No

As shown in Table VI, the increases in the ambient noise environment at the adjacent and most impacted property lines, first floor elevations and upper floor elevations of the adjacent Citra Apartments will be within the ambient + 5 dB limit of the City of Sunnyvale Noise Element/CEQA standard for the apartments to the west and within the ambient + 3 dB limit for the apartments to the north. The combined noise exposures will also be with the 60 dB DNL Normally Acceptable limit of the Noise Element. This is considered a **Less Than Significant Impact**.

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As the project-generated noise levels and noise exposures will be within the limits of the City of Sunnyvale Noise Ordinance and Noise Element standards and within the allowable noise increases of CEQA policy, noise mitigation measures will not be required.

VII. Conclusions

In conclusion, noise impacts to the project will be within the “Conditionally Acceptable” standard of the City of Sunnyvale. Reducing the noise exposures to the Normally Acceptable level will not be practical.

Play area noise will be in compliance with the standards.

This report presents the results of the second revised noise assessment study for the planned “Jingying International Preschool at 755 South Bernardo Avenue in Sunnyvale. The study findings for existing conditions are based on field measurements and other data and are correct to the best of our knowledge. Future noise projections are based on information provided by the project sponsor. Significant deviations in the predicted school enrollment, site planning, future changes in school activity levels, noise regulations or other future changes beyond our control may produce long-range noise results different from our estimates.

Report Prepared By:

EDWARD L. PACK ASSOC., INC.

A handwritten signature in blue ink, reading "Jeffrey K. Pack", is written over a horizontal line.

Jeffrey K. Pack
President

APPENDIX A

References

- (a) City of Sunnyvale General Plan, Consolidated in 2011, Chapter 6, Safety and Noise - Noise
- (b) City of Sunnyvale Municipal Code, Section 19.42.030 – Noise or Sound Level
- (c) Site Plan, Proposed Preschool at 755 S. Bernardo Ave, by Mark Stoklosa Architect, Inc., May 6, 2019
- (d) Parking Lot Activity Noise Exemption Information Provided by Ms. Cindy Hom, City of Sunnyvale Planning Department to Edward L. Pack Associates, Inc., by email, October 24, 2018
- (e) Information on the Proposed Jingying International Preschool Provided by Marek Stoklosa, Mark Stoklosa Architects, Inc. by email to Edward L. Pack Associates, Inc., June 23, 2018
- (f) “Noise Assessment Study of the A Creative Playschool Playground Activity, Amador Valley Boulevard, Dublin”, by Edward L. Pack Associates, Inc., Project No. 30-011, February 18, 1998
- (g) “Noise Assessment Study for the Planned ‘Most Holy Trinity Preschool’, 2033 Nassau Drive, Sunnyvale”, by Edward L. Pack Associates, Inc., Project No. 45-021, June 12, 2013
- (h) “Noise Assessment Study for the Planned ‘St. Martin of Tours Day-Care Center’, 2570 Bailey Avenue, Sunnyvale”, by Edward L. Pack Associates, Inc., Project No. 45-041, August 30, 2013

APPENDIX B

Noise Standards, Terminology, Instrumentation,

1. Noise Standards

A. City of Sunnyvale Noise Element Standards

The noise criteria for residential uses in the City of Sunnyvale are specified in the Noise Element of the General Plan, Chapter 6, “Safety and Noise”, as approved by the City Council, July, 2011. These standards include the following:

- Attempt to achieve an outdoor limit of 60 dB DNL for common recreation areas, backyards, patios, and useable balconies. This standard does not apply where the noise source is a railroad or airport.
- Enforce the California Code of Regulations, Title 24 noise standard of 45 dB DNL multi-family for interiors. This standard shall also be applied to single-family interiors.
- When the noise source is a railroad, 70 dB DNL is acceptable for exteriors. Attempt to achieve maximum instantaneous noise levels (L_{\max}) of 50 dBA for bedrooms and 55 dBA for other living spaces when the noise source is a railroad or aircraft and the exterior DNL exceeds 55 dB.

The City of Sunnyvale Land Use Compatibility Chart is shown below

Figure 6-5: State of California Noise Guidelines for Land Use Planning Summary of Land Use Compatibility for Community Noise Environment

	EXTERIOR NOISE EXPOSURE (dB DNL)					
Land Use Category	55	60	65	70	75	80
Residential, Hotels and Motels						
Outdoor Sports and Recreation, Neighborhood Parks, Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Commercial and Professional Business						
Auditoriums, Concert Halls, Amphitheaters						
Public and Quasi-Public Auditoriums, Concert Halls, Amphitheaters						

	Normally Acceptable
	Conditionally Acceptable
	Unacceptable

2. Terminology

A. Statistical Noise Levels

Due to the fluctuating character of urban traffic noise, statistical procedures are needed to provide an adequate description of the environment. A series of statistical descriptors have been developed which represent the noise levels exceeded a given percentage of the time. These descriptors are obtained by direct readout of the Sound Level Meters and Noise Analyzers. Some of the statistical levels used to describe community noise are defined as follows:

- L_1 - A noise level exceeded for 1% of the time.
- L_{10} - A noise level exceeded for 10% of the time, considered to be an “intrusive” level.
- L_{50} - The noise level exceeded 50% of the time representing an “average” sound level.
- L_{90} - The noise level exceeded 90 % of the time, designated as a “background” noise level.
- L_{eq} - The continuous equivalent-energy level is that level of a steady-state noise having the same sound energy as a given time-varying noise. The L_{eq} represents the decibel level of the time-averaged value of sound energy or sound pressure squared and is used to calculate the DNL and CNEL.

B. Day-Night Level (DNL)

Noise levels utilized in the standards are described in terms of the Day-Night Level (DNL). The DNL rating is determined by the cumulative noise exposures occurring over a 24-hour day in terms of A-Weighted sound energy. The 24-hour day is divided into two subperiods for the DNL index, i.e., the daytime period from 7:00 a.m. to 10:00 p.m., and the nighttime period from 10:00 p.m. to 7:00 a.m. A 10 dB weighting factor is applied (added) to the noise levels occurring during the nighttime period to account for the greater sensitivity of people to noise during these hours. The DNL is calculated from the measured L_{eq} in accordance with the following mathematical formula:

$$DNL = \left[\left[(10 \log_{10}(10^{\sum L_{eq}(7-10)})) \times 15 \right] + \left[((10 \log_{10}(10^{\sum L_{eq}(10-7)})) + 10) \times 9 \right] \right] / 24$$

C. A-Weighted Sound Level

The decibel measure of the sound level utilizing the "A" weighted network of a sound level meter is referred to as "dBA". The "A" weighting is the accepted standard weighting system used when noise is measured and recorded for the purpose of determining total noise levels and conducting statistical analyses of the environment so that the output correlates well with the response of the human ear.

3. Instrumentation

The on-site field measurement data were acquired by the use of one or more of the precision acoustical instruments shown below. The acoustical instrumentation provides a direct readout of the L exceedance statistical levels including the equivalent-energy level (L_{eq}). Input to the meters was provided by a microphone extended to a height of 5 ft. above the ground. The meter conforms to ANSI S1.4 for Type 1 instruments. The "A" weighting network and the "Fast" response setting of the meter were used in conformance with the applicable ISO and IEC standards. All instrumentation was acoustically calibrated before and after field tests to assure accuracy.

Brüel & Kjær 2231 Precision Integrating Sound Level Meter
Larson Davis LDL 812 Precision Integrating Sound Level Meter
Larson Davis 2900 Real Time Analyzer
Larson Davis 831 Precision Integrating Sound Level Meter

APPENDIX C

Noise Measurement Data and Calculation Tables

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 7/30-31/2018
SOURCE: EXISTING AMBIENT

LOCATION 1 North Prop. Line Dist to Source 87 ft.			
TIME		10 ^{Leq} /10	
7:00 AM	57.1	512861.4	
8:00 AM	58.4	691831.0	
9:00 AM	57.6	575439.9	
10:00 AM	55.6	363078.1	
11:00 AM	54.7	295120.9	
12:00 PM	54.7	295120.9	
1:00 PM	53.7	234422.9	
2:00 PM	53.8	239883.3	
3:00 PM	54.4	275422.9	
4:00 PM	55.4	346736.9	
5:00 PM	56.6	457088.2	
6:00 PM	56.2	416869.4	
7:00 PM	54.3	269153.5	
8:00 PM	63.8	2398832.9	
9:00 PM	51.0	125892.5	SUM= 7497755
10:00 PM	49.4	87096.4	Ld= 68.7
11:00 PM	45.7	37153.5	
12:00 AM	46.0	39810.7	
1:00 AM	43.0	19952.6	
2:00 AM	41.8	15135.6	
3:00 AM	46.0	39810.7	
4:00 AM	49.2	83176.4	
5:00 AM	51.7	147910.8	
6:00 AM	56.9	489778.8	SUM= 959826
		Ln=	59.8
Daytime Level= 68.7			
Nighttime Level= 69.8			
DNL= 59			
24-Hour Leq= 55.5			

LOCATION 2 West Prop. Line Dist to Source 187 ft.			
TIME	Leq	10 ^{Leq} /10	
7:00 AM	45.1	32359.4	
8:00 AM	47.6	57942.9	
9:00 AM	47.9	61659.5	
10:00 AM	48.5	70794.6	
11:00 AM	46.9	48977.9	
12:00 PM	48.1	64565.4	
1:00 PM	49.3	85113.8	
2:00 PM	48.8	75857.8	
3:00 PM	50.5	112201.8	
4:00 PM	49.7	93325.4	
5:00 PM	56.7	467735.1	
6:00 PM	51.6	144544.0	
7:00 PM	47.0	50118.7	
8:00 PM	53.4	218776.2	
9:00 PM	44.7	29512.1	SUM= 1613485
10:00 PM	43.0	19952.6	Ld= 62.1
11:00 PM	41.0	12589.3	
12:00 AM	39.3	8511.4	
1:00 AM	40.7	11749.0	
2:00 AM	43.5	22387.2	
3:00 AM	45.1	32359.4	
4:00 AM	45.3	33884.4	
5:00 AM	40.4	10964.8	
6:00 AM	46.9	48977.9	SUM= 201376
		1.0 Ln=	53.0
Daytime Level= 62.1			
Nighttime Level= 63.0			
DNL= 52			
24-Hour Leq= 48.8			

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 7/30-31/2018
SOURCE: EXISTING AMBIENT

LOCATION 3 Brookfield Ave			
Dist to Source 27 ft.			
TIME		10 [^] Leq/10	
7:00 AM	50.7	117489.8	
8:00 AM	55.8	380189.4	
9:00 AM	54.4	275422.9	
10:00 AM	54.7	295120.9	
11:00 AM	53.7	234422.9	
12:00 PM	56.0	398107.2	
1:00 PM	61.5	1412537.5	
2:00 PM	59.2	831763.8	
3:00 PM	56.4	436515.8	
4:00 PM	55.1	323593.7	
5:00 PM	54.5	281838.3	
6:00 PM	54.0	251188.6	
7:00 PM	54.2	263026.8	
8:00 PM	59.4	870963.6	
9:00 PM	50.8	120226.4	SUM= 6492408
10:00 PM	48.1	64565.4	Ld= 68.1
11:00 PM	46.0	39810.7	
12:00 AM	43.9	24547.1	
1:00 AM	40.9	12302.7	
2:00 AM	39.2	8317.6	
3:00 AM	39.9	9772.4	
4:00 AM	49.3	85113.8	
5:00 AM	45.2	33113.1	
6:00 AM	50.3	107151.9	SUM= 384695
		1.0 Ld=	55.9
Daytime Level=		68.1	
Nighttime Level=		65.9	
DNL=		56	
24-Hour Leq=		54.6	

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027-1
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 5/6/2019
SOURCE: **PROJECT GENERATED**

Location	Citra Apts to West - Property Line	
Distance	98 ft.	
Source	Playground	
TIME	10 ⁴ Leq/10	
7:00 AM		1.0
8:00 AM		1.0
9:00 AM	56.4	438335.5
10:00 AM	58.4	694715.0
11:00 AM		1.0
12:00 PM		1.0
1:00 PM		1.0
2:00 PM		1.0
3:00 PM	60.1	1022782.9
4:00 PM	59.1	810500.8
5:00 PM		1.0
6:00 PM		1.0
7:00 PM		1.0
8:00 PM		1.0
9:00 PM		1.0 SUM= 2966345
10:00 PM		1.0 Ld= 64.7
11:00 PM		1.0
12:00 AM		1.0
1:00 AM		1.0
2:00 AM		1.0
3:00 AM		1.0
4:00 AM		1.0
5:00 AM		1.0
6:00 AM		1.0 SUM= 9
		Ld= 9.5
Daytime Level= 64.7		
Nighttime Level= 19.5		
DNL= 51		
24-Hour Leq= 50.9		

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027-1
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 5/6/2019
SOURCE: **PROJECT GENERATED**

Location	Citra Apts to West - Patios/Balconies	
Distance	145 ft.	
Source	Playground	
TIME	10 ⁴ Leq/10	
7:00 AM		1.0
8:00 AM		1.0
9:00 AM	52.5	176377.0
10:00 AM	52.5	176377.0
11:00 AM		1.0
12:00 PM		1.0
1:00 PM		1.0
2:00 PM		1.0
3:00 PM	56.1	411546.4
4:00 PM	53.1	205773.2
5:00 PM		1.0
6:00 PM		1.0
7:00 PM		1.0
8:00 PM		1.0
9:00 PM		1.0 SUM= 970085
10:00 PM		1.0 Ld= 59.9
11:00 PM		1.0
12:00 AM		1.0
1:00 AM		1.0
2:00 AM		1.0
3:00 AM		1.0
4:00 AM		1.0
5:00 AM		1.0
6:00 AM		1.0 SUM= 9
		Ld= 9.5
Daytime Level= 59.9		
Nighttime Level= 19.5		
DNL= 46		
24-Hour Leq= 46.1		

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027-1
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 5/6/2019
SOURCE: **PROJECT GENERATED**

Location	Citra Apts to North - Property Line		
Distance	17 ft.		
Source	Playground		
TIME		10 [^] Leq/10	
7:00 AM		1.0	
8:00 AM		1.0	
9:00 AM	57.2	528254.1	
10:00 AM	57.2	528254.1	
11:00 AM		1.0	
12:00 PM		1.0	
1:00 PM		1.0	
2:00 PM		1.0	
3:00 PM	60.2	1056508.3	
4:00 PM	57.2	528254.1	
5:00 PM		1.0	
6:00 PM		1.0	
7:00 PM		1.0	
8:00 PM		1.0	
9:00 PM		1.0	SUM= 2641282
10:00 PM		1.0	Ld= 64.2
11:00 PM		1.0	
12:00 AM		1.0	
1:00 AM		1.0	
2:00 AM		1.0	
3:00 AM		1.0	
4:00 AM		1.0	
5:00 AM		1.0	
6:00 AM		1.0	SUM= 9
			Ld= 9.5
Daytime Level=		64.2	
Nighttime Level=		19.5	
DNL=		50	
24-Hour Leq=		50.4	

DNL CALCULATIONS

CLIENT: JINGYING INTERNATIONAL PRESCHOOL
FILE: 50-027-1
PROJECT: JINGYING INTERNATIONAL PRESCHOOL
DATE: 5/6/2019
SOURCE: **PROJECT GENERATED**

Location	Citra Apts to North - Patios/Balconies		
Distance	71 ft.		
Source	Playground		
TIME		10 [^] Leq/10	
7:00 AM		1.0	
8:00 AM		1.0	
9:00 AM	55.8	381262.5	
10:00 AM	55.8	381262.5	
11:00 AM		1.0	
12:00 PM		1.0	
1:00 PM		1.0	
2:00 PM		1.0	
3:00 PM	58.8	762524.9	
4:00 PM	55.8	381262.5	
5:00 PM		1.0	
6:00 PM		1.0	
7:00 PM		1.0	
8:00 PM		1.0	
9:00 PM		1.0	SUM= 1906323
10:00 PM		1.0	Ld= 62.8
11:00 PM		1.0	
12:00 AM		1.0	
1:00 AM		1.0	
2:00 AM		1.0	
3:00 AM		1.0	
4:00 AM		1.0	
5:00 AM		1.0	
6:00 AM		1.0	SUM= 9
			Ld= 9.5
Daytime Level=		62.8	
Nighttime Level=		19.5	
DNL=		49	
24-Hour Leq=		49.0	

FINAL

**755 S Bernardo Avenue Child Care Facility
Transportation Operations Analysis**

Prepared for:

City of Sunnyvale

Prepared by:

AECOM

September 2018

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1.0 EXECUTIVE SUMMARY

This report presents the results of a Traffic Operation Analysis (TOA) conducted for the proposed conversion of a currently vacant medical building to a childcare/preschool located at 755 S Bernardo Avenue in the City of Sunnyvale, California.

The project involves conversion of an empty building to a childcare/preschool for up to 120 children with 24 teachers and staff. The site will provide 32 parking spots that include two ADA compliant stalls, one Electrical Vehicle (EV) charging stall and two rideshare stalls. Twelve of the stalls are designated for pick-up/drop-off parking.

The impacts of the proposed project were evaluated following the guidelines of the City of Sunnyvale and the Santa Clara Valley Transportation Authority (VTA) which is the Congestion Management Agency for Santa Clara County. Roadway system operations were evaluated under the following study scenarios:

- Existing Conditions
- Existing plus Project Conditions
- Background Conditions
- Background plus Project Conditions

Pedestrian, bicycle and transit facilities were also evaluated.

1.1 Project Trip Generation

Project generated trips were estimated using vehicle trip rates published by the Institute of Transportation Engineers (ITE, 10th Edition). The proposed project is estimated to generate 94 AM peak hour vehicle trips (50 inbound trips and 44 outbound trips) and 95 PM peak hour vehicle trips (45 inbound trips and 50 outbound trips).

1.2 Project Impacts

This analysis identifies potentially significant adverse impacts of the proposed project if any, on the surrounding transportation system and recommends measures to mitigate significant impacts. The project is not expected to create a significant impact.

1.2.1 Existing Plus Project Conditions

Intersection Analysis

Under this scenario, all the study intersections are expected to operate within acceptable Levels of Service (LOS) during both peak hours. Therefore, the proposed development is not expected to create a significant impact and no mitigation measures are recommended at the study intersections.

Queuing Analysis

The anticipated queues for through-movement traffic do not spill back to the upstream intersections. All left-turn pockets have sufficient capacity to store the anticipated queue during both peak hours except for the eastbound left-turn at S Bernardo Avenue and W El Camino Real (W ECR) which is near capacity during the PM peak hour. However, the project was found to add less than one car to the queues for all

study intersections during the AM and PM peak hours. As such, the project is not expected to adversely impact the existing queuing conditions.

1.2.2 Background Plus Project Conditions

Intersection Analysis

Under this scenario, all the study intersections are expected to operate at acceptable LOS during both peak hours. Therefore, the proposed development is not expected to create a significant impact and no mitigation measures are recommended at the study intersections.

Queuing Analysis

The anticipated queues for through-movement traffic do not spill back to the upstream intersections and all left-turn pockets have sufficient capacity to store the anticipated queue during both peak hours except the eastbound left-turn at S Bernardo Avenue and W ECR. It is near capacity during the PM peak hour but the project was found to add less than one car to the queues for all study intersections during the AM and PM peak hours. As such, the project is not expected to adversely impact the queuing conditions under the Background conditions.

1.2.3 Pedestrian, Bicycle and Transit Analysis

The proposed project does not conflict with existing and planned pedestrian facilities. In addition, the existing pedestrian facilities in the project vicinity are expected to have the capacity to accommodate future demand based on the observations of current usage. The project would provide minor improvements to the sidewalks adjacent to the project accesses to comply with city standards.

The proposed project does not conflict with existing and planned bicycle facilities and would not adversely impact the safety of the cyclists as there are no hazardous design features impeding the use of bicycles. Therefore, the project is expected to have a less-than-significant impact on cyclists.

The proposed project is not expected to conflict with planned transit facilities. The existing or planned pedestrians and bicycle access to transit routes and stops are expected to accommodate the project usage. The added project trips could increase the transit vehicle delay at some study intersections by 1.5 seconds but the overall impact is still less than significant.

Therefore, the project is not expected to adversely impact the pedestrian, bicycle and transit facilities in the vicinity of the project site.

1.2.4 Site Access and On-site Circulation

The project will provide an emergency vehicle access along S Bernardo Avenue that is closed off to regular traffic through the use of removable bollards. The main access will be along Brookfield Avenue. The design for both accesses is adequate, meeting city standards and emergency vehicle requirements. The internal roadway width is also adequate for parking maneuvers as well as emergency vehicle access. The project is also conveniently located, accessible via ECR from the regional freeways and Central Expressway.

It is recommended that the project applicant implement the following improvements:

- The proposed 2-way segment of the internal roadway in front of the school building entrance be converted to 1-way, to make it safer for drop-off and pick-up.
- Shorten the crosswalk at the Brookfield Avenue intersection by removing the pork chop island and extending the northwest corner of the intersection to further enhance safety adjacent the project site.

1.2.5 Parking

The project proposes to provide 32 parking spaces to meet city's requirement of 30 parking spaces. The proposed number of spaces will include two ADA compliant stalls, one EV charging stall and two rideshare stalls. These provisions satisfy city standards. Twelve of the stalls are marked for pick-up/drop-off parking. Currently, no parking issues have been observed. The project is therefore not expected to significantly impact the parking situation in the vicinity. It is recommended that the project applicant implement the following improvements:

- Parking/loading be prohibited on both sides of the proposed project driveway along Brookfield Avenue (north side), from the intersection with S Bernardo Avenue to the adjacent apartment complex driveway, to ensure sufficient sight distance for vehicles.
- Landscaping features must not obstruct the view of the driveway.
- Parking/loading be prohibited on the west side of Bernardo Avenue along the project frontage.

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2.0 INTRODUCTION

This report presents the results of a Transportation Operations Analysis (TOA) conducted for the proposed conversion of a one-story medical office building to a preschool/daycare facility located at 755 S Bernardo Avenue in the City of Sunnyvale, California.

The purpose of this TOA is to evaluate the potential transportation impacts, identify short-term roadway circulation needs, determine potential mitigation measures and identify any critical traffic issues that should be addressed. The scope of work was prepared in consultation with the City of Sunnyvale staff.

2.1 Project Description

Existing Site

The site is located at 755 S Bernardo Avenue near W El Camino Real (W ECR) and the existing building is currently vacant. The site currently has three driveways; two on S Bernardo Avenue and one along Brookfield Avenue.

Proposed Site

The project proposes to convert the one-story building to a child care/preschool that can accommodate up to 120 children and 24 teachers. The site will provide 32 parking spaces with ADA and electric vehicle provisions. **Figure 2-1** shows the Project site plan. The main access to the site will be provided along Brookfield Avenue and an emergency vehicle access will be provided along S Bernardo Avenue.

2.2 Study Area

The study area is bounded by W ECR to the north, S Bernardo Avenue to the east, W Knickerbocker Drive to the south and S Knickerbocker to the west.

The roadway impacts of the proposed Project were evaluated by measuring the effect project traffic would have on intersection operations. A total of six intersections, as shown on **Figure 2-2** and listed below, were selected as study locations in consultation with the City of Sunnyvale staff. The study intersections have a standard Level of Service (LOS) at level D as they are all operated by the City of Sunnyvale.

- | | |
|---|---|
| 1. S Knickerbocker Dr / Brookfield Ave* | 4. S Bernardo Ave / Brookfield Ave* |
| 2. S Bernardo Ave / W ECR | 5. S Bernardo Ave / Heatherstone Way |
| 3. S Bernardo Ave / Blair Ave* | 6. S Bernardo Ave / W Knickerbocker Dr* |

*unsignalized intersection

2.3 Study Scope and Approach

The following four scenarios were evaluated to identify the potential transportation impacts of the project on the study intersections:

1. Existing Conditions - Existing intersection volumes based on traffic counts collected by AECOM in May 2018.
2. Existing plus Project Conditions – Existing volumes plus the trips from this proposed project.

3. Background Conditions – Existing volumes plus trips from approved but not completed projects. This is defined as the Background without project conditions.
4. Background plus Project Conditions – Background volumes from *Scenario 3* plus the trips from this proposed project.

Intersection LOS was analyzed for the weekday AM peak hour and PM peak hour.

2.4 Analysis Methodology

The level of service method approved by Santa Clara County Valley Transportation Authority (VTA) and adopted by the City of Sunnyvale for signalized intersections is the method described in Chapter 16 of the 2000 Highway Capacity Manual (HCM) (Special Report 209, Transportation Research Board) with adjusted saturation flow rates to reflect conditions in Santa Clara County. This method bases signalized intersection operations on the average control vehicular delay.

Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay. The average control delay for signalized intersections is calculated using TRAFFIX analysis software and is correlated to a LOS designation as shown in **Table 2-1**.

In order to ensure that the existing conditions use for analysis reflects the reality, a SYNCHRO model was set up and calibrated to match the field observed queueing conditions for signalized study intersections. The TRAFFIX model, with which the project effects are being analyzed, was calibrated to match the existing intersection delays generated by SYNCHRO. With this, the existing conditions from the TRAFFIX model was set to be used for analyzing the ‘background’ and ‘with project’ scenarios. A comparison of the intersection delays between the SYNCHRO and TRAFFIX models is provided in **Appendix A**.

Levels of service at an intersection range from A, free flow or excellent conditions with insignificant delays, to F, congested or over-saturated conditions with unacceptable delays. **Table 2-1** shows the level of service thresholds for signalized intersections.

Table 2-1 Level of Service Thresholds for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)
A	$\text{delay} \leq 10.0$
B+	$10.0 < \text{delay} \leq 12.0$
B	$12.0 < \text{delay} \leq 18.0$
B-	$18.0 < \text{delay} \leq 20.0$
C+	$20.0 < \text{delay} \leq 23.0$
C	$23.0 < \text{delay} \leq 32.0$
C-	$32.0 < \text{delay} \leq 35.0$
D+	$35.0 < \text{delay} \leq 39.0$
D	$39.0 < \text{delay} \leq 51.0$
D-	$51.0 < \text{delay} \leq 55.0$
E+	$55.0 < \text{delay} \leq 60.0$
E	$60.0 < \text{delay} \leq 75.0$
E-	$75.0 < \text{delay} \leq 80.0$
F	$\text{delay} > 80.0$

Source: Traffic Level of Service Analysis Guidelines, VTA, June 2003 and HCM 2000.

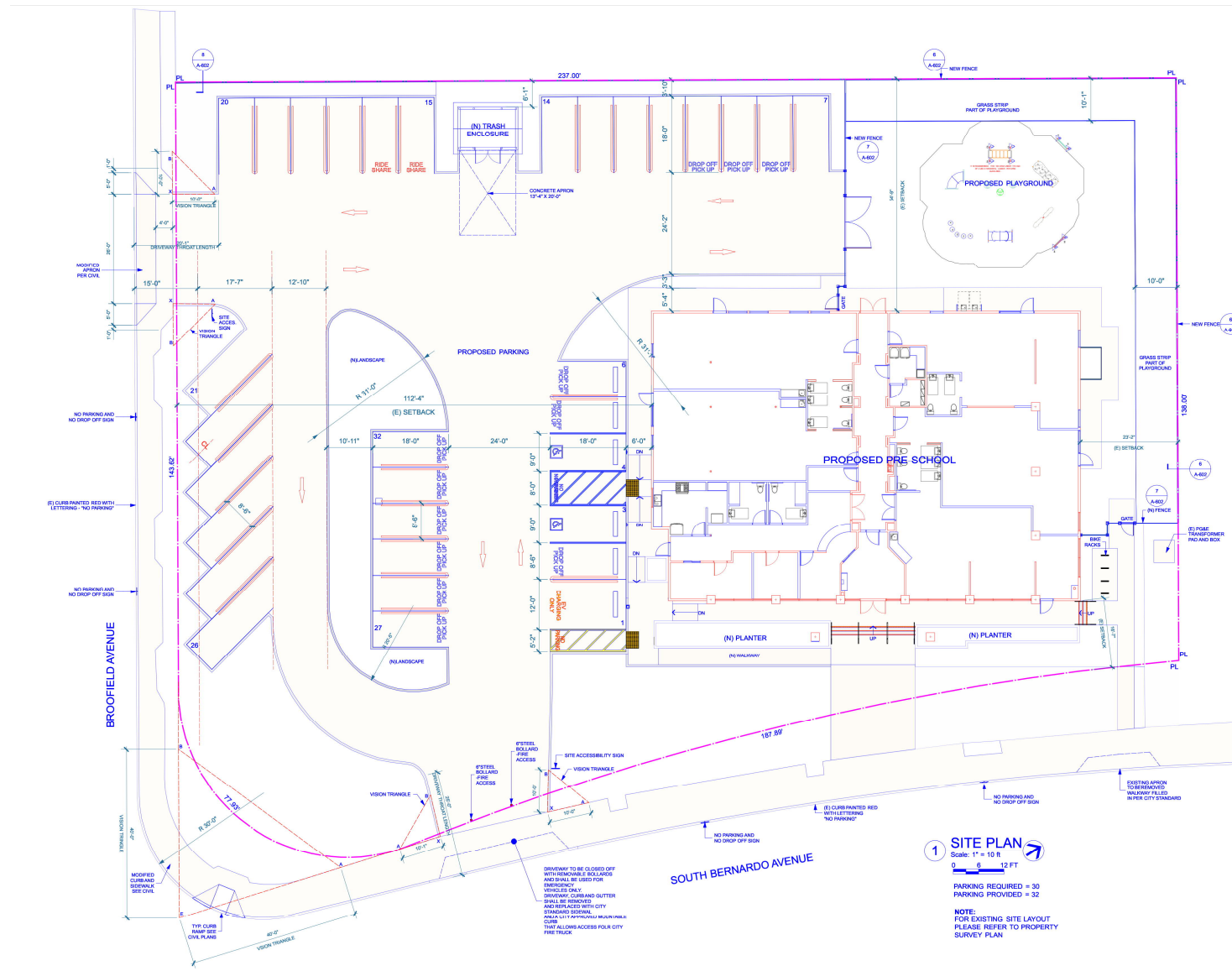


Figure 2-1 Project Site Plan



Figure 2-2 Project Vicinity and Intersections

LOS rating for unsignalized intersection is based on the weighted average control delay expressed in seconds per vehicle for all approaches. Control delay includes initial deceleration delay, queue move-up time, stopped delay and final acceleration. For single lane approaches, the control delay is computed as the average of all movements in that lane. At two-way or side-street controlled intersections, the average control delay is calculated for each stopped movement and not for the intersection as a whole.

For this report purpose, the 2000 Highway Capacity Manual (HCM) methodology for unsignalized intersection (supported by TRAFFIX software) was used for the unsignalized intersection LOS calculations. **Table 2-2** shows the thresholds for the different LOS conditions at unsignalized intersections. In addition, the City of Sunnyvale uses the 2014 California Manual on Uniform Traffic Control Devices (CA MUTCD) peak hour volume signal warrant to evaluate operations at unsignalized intersections.

Table 2-2 Unsignalized Intersection Level of Service Definitions

Level of Service	Description	Average Control Delay (seconds/vehicle)
A	Little or no delay	$\text{delay} \leq 10.0$
B	Short traffic delays	$10.0 < \text{delay} \leq 15.0$
C	Average traffic delays	$15.0 < \text{delay} \leq 25.0$
D	Long traffic delays	$25.0 < \text{delay} \leq 35.0$
E	Very long traffic delays	$35.0 < \text{delay} \leq 50.0$
F	Extreme traffic delays with intersection capacity exceeded	$\text{delay} > 50.0$

Source: HCM 2000.

2.5 Significance Criteria

The LOS standard for the City of Sunnyvale signalized intersections is LOS D or better. As such, for this report, a traffic impact would be considered significant if the project results will:

- cause a local (City of Sunnyvale) signalized intersection to deteriorate below Level of Service (LOS) D; or
- cause the average control delay for the critical movements of a local signalized intersection already operating at LOS E or F to deteriorate by four seconds or more, and the critical V/C ratio value to increase by 0.01 or more.

For unsignalized intersections, the City's LOS standard is also level D. Significant impacts are defined to occur when the addition of project traffic causes the LOS of an unsignalized intersection to degrade to LOS E or worse. Project impacts are also considered significant if the intersection satisfies the peak hour traffic signal warrant from the CA MUTCD. For an all-way stop intersection already operating at LOS E or F without the project, significant impacts are deemed to have occurred if the average intersection delay increases by four seconds or more and the V/C ratio value increases by 0.01 or more. For a side-street stop controlled intersection already operating at LOS E or F without the project, project impacts will be considered significant if the worst movement delay increases by four seconds or more and the critical V/C value increases by 0.01 or more.

For the purpose of this study, a peak hour signal warrant analysis will be conducted for any unsignalized intersections if the existing LOS is at D or worse.

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3.0 EXISTING AND BACKGROUND CONDITIONS

This section describes the existing conditions in the vicinity of the project in terms of the existing roadways, traffic operations, transit, pedestrian and bicycle facilities.

3.1 Major Roadways in Study Area

Local access to the Project site is provided by W ECR, S Bernardo Avenue, W Knickerbocker Drive and Brookfield Avenue. Direct access to the project site is from S Bernardo Avenue (for emergency vehicle use) and Brookfield Avenue. These roadways are described below.

W El Camino Real (W ECR) is a six-lane divided east-west arterial with a posted speed of 40 mph in the project vicinity. It is classified as a Class I Arterial in the City. Sidewalks are provided on both sides of the street with driveways that provide direct access to businesses and residential developments on both sides of the road. There is a pair of bus stops along W ECR next to the intersection with S Bernardo Avenue. The bus-stops serve VTA Line 22 and Line 522.

S Bernardo Avenue is classified as a residential collector in the City, providing direct access to development adjacent to the road. It is a two-lane undivided roadway immediately abutting the project site, but widens to four lanes between Blair Avenue and W ECR. Sidewalks and Class II bike lanes are provided along both directions of the street. There are three pairs of bus-stops along S Bernardo Avenue between W ECR and W Knickerbocker Drive serving VTA Line 53. In general, on-street parking is allowed along S Bernardo Avenue in the project vicinity. The project will have an emergency access along this road.

W Knickerbocker - S Knickerbocker Drive is a 25 mph undivided two-lane residential collector. It provides direct access to residential and commercial developments on both sides of the street. Sidewalks and Class II bike lanes are provided along both sides of W and S Knickerbocker Drive and W Knickerbocker Drive intersects with W ECR with a 'right-in/right-out' configuration.

Brookfield Avenue is a 25 mph undivided two-lane street where the main ingress/egress of the project will be provided. This street provides connection between S Bernardo Avenue to the east and S Knickerbocker Drive to the west. Parking is allowed on both sides of the street and sidewalks are available.

3.2 Field Observations

Traffic conditions in the field were observed in May 2018, two weeks before the Memorial Day holiday weekend, to validate the existing intersection level of service. Traffic conditions along the roads surrounding the project site were generally between light to moderate, except for W ECR.

The prevailing traffic direction along W ECR in the AM peak is westbound and in the PM peak is eastbound. Though traffic volumes along W ECR were high during the peak hours, the conditions were well managed. Most vehicles encountering the red phase at the S Bernardo Avenue intersection could clear within the first cycle. In addition, the rightmost lane for both approaches (along W ECR) was wide enough for right-turning vehicles to turn exclusively. Vehicles did not block the intersection as there was sufficient capacity downstream in all approaches to receive them. Left-turn pockets along W ECR have sufficient capacity to accommodate left-turning vehicles and no spill-backs obstructing through traffic were observed during both peak hours. Occasional conflicts were observed at the bus-stop along eastbound W ECR in the evening peak when a bus stopped at the bus stop and right-turn vehicles were

trying to inch out from the stop-controlled intersection of S Knickerbocker Drive. However, this problem is not frequent due to the low right-turn volume.

Light traffic and parking conditions were observed along S Bernardo Avenue, Brookfield Avenue and S Knickerbocker Drive during both peak hours. Vehicles encountering the red phase at the intersection of S Bernardo and Heatherstone Way during both the AM and PM peak hours could clear within one cycle. Some queuing was observed at the all-way stop controlled intersection of S Bernardo Avenue and W Knickerbocker Avenue. The longest queue was observed in the AM peak, for the northbound direction (along S Bernardo Avenue); up to ten cars were seen in line of the moving queue. In the PM peak, slightly shorter queues in the southbound direction were observed; up to seven cars were seen to be in line of the moving queue.

No parking issues were observed in the project vicinity during both the AM and PM peak hours. Very few cars were observed to be parking along Brookfield Avenue, in particular, that will provide direct access to the project site. The apartments surrounding the project site apparently have sufficient parking to accommodate their residents and visitors such that there was limited spill over to the surrounding streets. Marked parking spaces were provided along S Knickerbocker Drive, between Brookfield Avenue and W ECR. It was observed that less than 30% were occupied during the AM peak hour and the PM peak hour occupancy was observed to be about 65%.

3.3 Existing Intersection Operations

Existing traffic counts for the six study intersections were conducted during the weekday morning (7:00-10:00 AM) and evening (4:00-7:00 PM) peak periods in May 2018. Detailed traffic counts are provided in **Appendix B**. **Figure 3-1** and **Figure 3-2** show the intersection geometry and existing traffic volumes respectively. The performance of each intersection is presented in **Table 3-1**. The results of the LOS calculations indicate that all of the study intersections operate at acceptable levels of service.

Since all unsignalized intersections perform better than the standard LOS of D, no separate signal warrant analysis was conducted. The signal warrant analysis results from TRAFFIX indicate that the unsignalized study intersections do not warrant a traffic signal during both the peak hours. Details of the intersection analysis are presented in **Appendix C**.

Table 3-1 Intersection Performance – Existing Conditions

	Intersection	Peak Hour	LOS Standard	LOS	Average Delay (sec)	Critical V/C
1	S Knickerbocker Dr / Brookfield Ave*	AM	D	A	9.00	0.023
		PM		B	10.00	0.022
2	S Bernardo Ave / W ECR	AM	D	D	45.80	0.720
		PM		D	45.80	0.664
3	S Bernardo Ave / Blair Ave*	AM	D	B	12.00	0.055
		PM		B	11.70	0.039
4	S Bernardo Ave / Brookfield Ave*	AM	D	B	12.10	0.047
		PM		B	13.90	0.054
5	S Bernardo Ave / Heatherstone Way	AM	D	A	8.40	0.357
		PM		A	5.30	0.400

Intersection		Peak Hour	LOS Standard	LOS	Average Delay (sec)	Critical V/C
6	S Bernardo Ave / W Knickerbocker Dr**	AM	D	B	12.80	0.625
		PM		C	16.40	0.752

*LOS and delay reported for worst movement for 2-way stop controlled intersections

**Overall delay reported for AWS controlled intersection

Source: AECOM 2018

3.4 Existing Transit Facilities

The proposed project is about one-third of a mile walking distance from the nearest transit stops along W ECR which serve VTA Lines 22 and 522. Line 22 is a regular VTA service and Line 522 is the 'limited-stop' version of Line 22. Another pair of transit stops are about 300 feet from the project site along S Bernardo Avenue that serves VTA Line 53. **Table 3-2** describes the span of services and frequency of service during the average weekday.

Table 3-2 Existing Transit Details

Route	From	To	Weekdays		Weekends	
			Operating Hours	Peak Hour Headway (Minutes)	Operating Hours	Peak Hour Headway (Minutes)
22	Palo Alto Transit Center	Eastridge Transit Center	24 hours	15	24 hours	15
522	Palo Alto Transit Center	Eastridge Transit Center	4:42 AM – 11:45 PM	12	6:02 AM – 11:37 PM	15
53	West valley College	Sunnyvale Transit Center	6:55 AM – 7:06 PM	varies	N/A	N/A

Source: AECOM 2018

Caltrain is a commuter rail service between San Francisco and Gilroy. The nearest station to the project is approximately two and a half miles away at the Sunnyvale Caltrain Station, located along Evelyn Avenue, northeast of the project site. VTA Line 53 connects the project site to the Sunnyvale Caltrain Station directly. **Figure 3-3** presents the transit facilities in the vicinity of the project site.

3.5 Existing Pedestrian and Bicycle Facilities

Sidewalks are provided along all the streets surrounding the project site. W ECR, S Bernardo Avenue, Brookfield Avenue and S Knickerbocker Drive all have sidewalks on both sides of the street which provide for safe and convenient access to the nearby bus stops. In addition, the intersection of W ECR and S Bernardo Avenue is signalized with crosswalks on all four approaches, providing safe access for pedestrians in the area.

The existing bicycle network consists of three classifications of facilities:

- Class I (bike path) provides an exclusive right-of-way for bicyclists and pedestrians, with cross flows of motorists minimized.

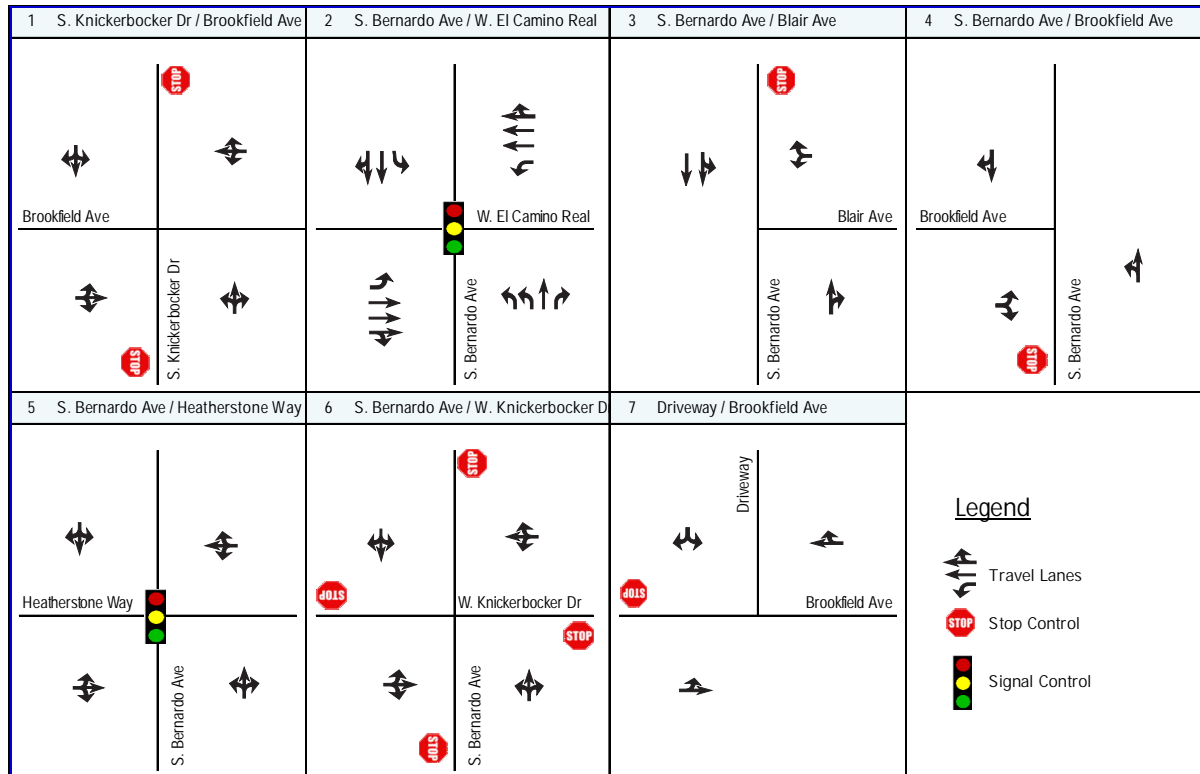


Figure 3-1 Intersection Geometry

1 S. Knickerbocker Dr / Brookfield Ave		2 S. Bernardo Ave / W. El Camino Real		3 S. Bernardo Ave / Blair Ave		4 S. Bernardo Ave / Brookfield Ave	
<div><div><div>↑ 0 (6)</div><div>↓ 51 (168)</div><div>↔ 6 (36)</div></div><div>Brookfield Ave</div></div> <div><div>↔ 11 (5)</div><div>↑ 0 (1)</div><div>↔ 20 (14)</div></div>		<div><div><div>↑ 395 (263)</div><div>↓ 122 (319)</div><div>↔ 63 (107)</div></div><div>W. El Camino Real</div></div> <div><div>↔ 87 (132)</div><div>↑ 1291 (816)</div><div>↔ 68 (162)</div></div>		<div><div><div>↓ 173 (527)</div><div>↔ 8 (38)</div></div><div>Blair Ave</div></div> <div><div>↔ 32 (16)</div><div>↔ 8 (18)</div></div>		<div><div><div>↔ 19 (27)</div><div>↓ 171 (517)</div></div><div>Brookfield Ave</div></div> <div><div>↔ 20 (20)</div><div>↔ 14 (21)</div></div>	
<div><div><div>↔ 1 (1)</div><div>↔ 1 (2)</div><div>↓ 0 (2)</div></div><div>S. Knickerbocker Dr</div></div> <div><div>↔ 0 (2)</div><div>↔ 31 (19)</div><div>↔ 5 (7)</div></div>		<div><div><div>↔ 152 (428)</div><div>↔ 578 (1391)</div><div>↔ 58 (178)</div></div><div>S. Bernardo Ave</div></div> <div><div>↔ 295 (137)</div><div>↔ 209 (141)</div><div>↔ 99 (99)</div></div>		<div><div><div>↔ 491 (250)</div><div>↔ 4 (13)</div></div><div>S. Bernardo Ave</div></div> <div><div>↔ 12 (7)</div><div>↔ 455 (226)</div><div>↔ 11 (5)</div></div>		<div><div><div>↔ 12 (7)</div><div>↔ 455 (226)</div><div>↔ 11 (5)</div></div><div>S. Bernardo Ave</div></div>	
5 S. Bernardo Ave / Heatherstone Way		6 S. Bernardo Ave / W. Knickerbocker		7 Driveway / Brookfield Ave		XX(YY) - AM(PM) Peak Hour Volumes	
<div><div><div>↑ 8 (6)</div><div>↓ 193 (494)</div><div>↔ 16 (29)</div></div><div>Heatherstone Way</div></div> <div><div>↔ 55 (23)</div><div>↑ 56 (9)</div><div>↔ 33 (13)</div></div>		<div><div><div>↑ 3 (15)</div><div>↓ 201 (459)</div><div>↔ 36 (30)</div></div><div>W. Knickerbocker</div></div> <div><div>↔ 55 (15)</div><div>↑ 48 (20)</div><div>↔ 57 (27)</div></div>		<div><div><div>↔ 0 (0)</div><div>↑ 31 (34)</div></div><div>Driveway</div></div> <div><div>↔ 0 (0)</div><div>↔ 34 (41)</div></div>			
<div><div><div>↔ 12 (4)</div><div>↔ 29 (32)</div><div>↓ 6 (19)</div></div><div>S. Bernardo Ave</div></div> <div><div>↔ 10 (7)</div><div>↔ 306 (201)</div><div>↔ 60 (24)</div></div>		<div><div><div>↔ 28 (5)</div><div>↔ 22 (47)</div><div>↓ 75 (214)</div></div><div>S. Bernardo Ave</div></div> <div><div>↔ 105 (47)</div><div>↔ 298 (227)</div><div>↔ 32 (13)</div></div>					

Figure 3-2 Existing Traffic Volumes

- Class II (bike lane) provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross flows by pedestrians and motorists permitted.
- Class III (bike route) provides a right-of-way designated by signs or permanent markings indicating the roadway is shared by pedestrians and motorists.

Bicycles are allowed on all streets in the City of Sunnyvale except freeways. The nearest Class I bike path is provided along Stevens Creek Trail, west of the project site. Class II bike lanes are provided along S Bernardo Avenue and S Knickerbocker Drive. A Bike Boulevard is also provided in the vicinity of the project, on part of Heatherstone Way, continuing to The Americana and Sylvan Avenue, to encourage cycling. Bike Boulevards are streets prioritized for bicycle use through advisory warning to motorists, traffic calming measures and guidance to encourage bicycle use over less attractive routes.

Existing bicycle facilities in the vicinity of the project site are illustrated in **Figure 3-4**.

3.6 Approved Projects

Approved projects (as obtained from the City of Sunnyvale) within a one-mile radius of the proposed project having more than 20 residential units or greater than 10,000 square feet office / commercial will be included in the Background traffic conditions. Only one project, satisfying the above criteria, was identified. It is a mixed use development at 803 W ECR, consisting of 49 residential units, almost 6000 square feet of commercial space and 51-room expansion of the Grand Hotel. Construction for this project is currently underway.

Background condition traffic volumes were developed by adding the trips generated by the above project to the existing traffic volumes. **Appendix D** presents the approved project trips. Only one study intersection, S Bernardo Avenue / W ECR (#2), carries trips from this approved project. All other study intersections remain unchanged from the existing conditions. Background condition traffic volumes for the AM and PM peak hours for study intersection #2 are presented in **Figure 3-5**.

3.7 Background Conditions

Based on the existing traffic volumes and approved project trips presented earlier, intersection analysis was performed at all the study intersections for the Background conditions. Lane geometries for this scenario are same as that of the existing condition. **Table 3-3** presents the analysis results and the analysis details are presented in **Appendix E**. Note that the results for all intersections are similar to the existing conditions except for the intersection of S Bernardo Avenue / W ECR (#2) which sees a slight increase in the V/C ratio due to the additional trips from the approved project on W ECR described above.

Since all unsignalized intersections perform better than the standard LOS D, no separate signal warrant analysis was conducted. The signal warrant analysis results from TRAFFIX indicate that the unsignalized study intersections do not warrant a traffic signal during both of the peak hours.

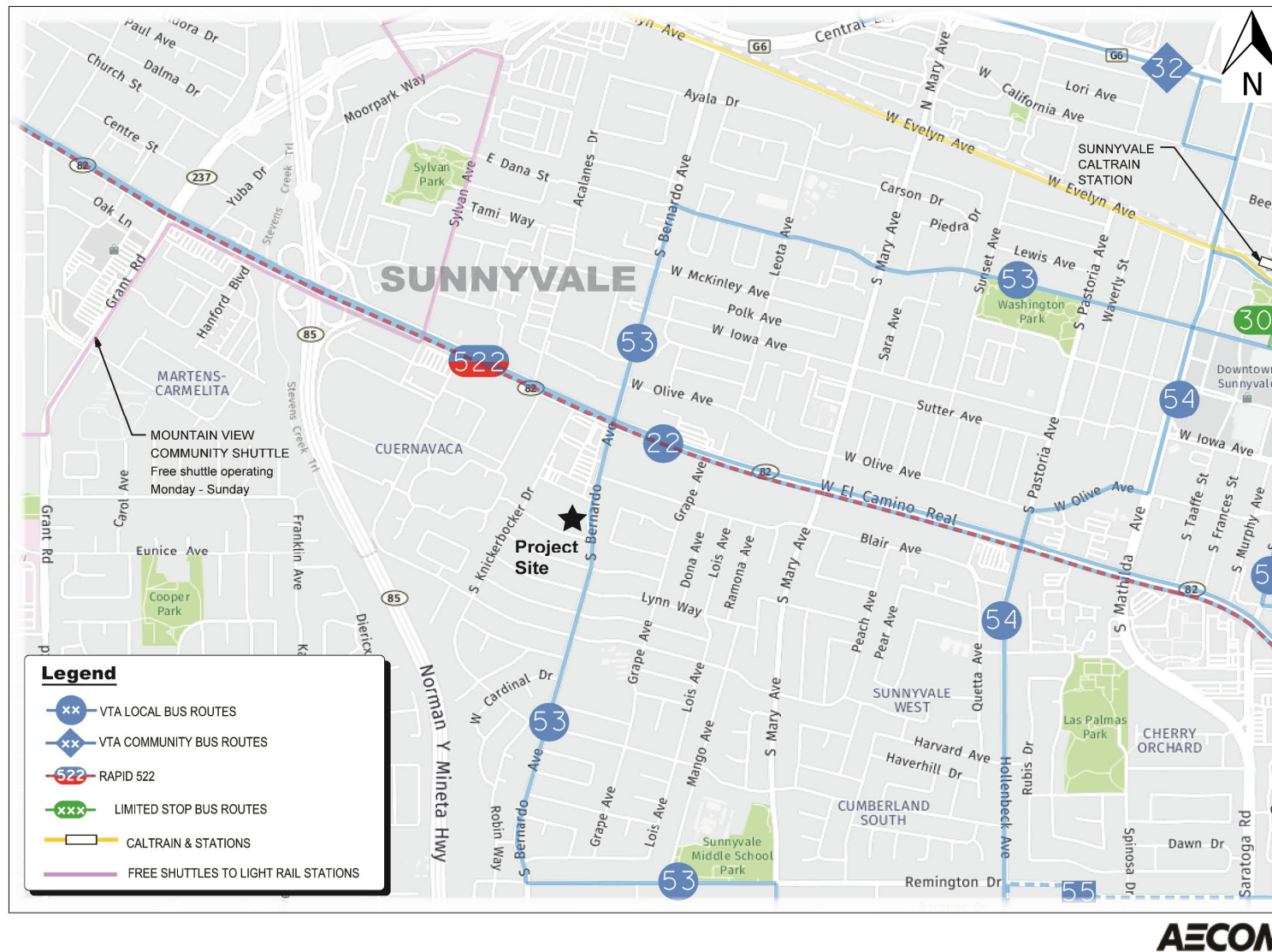


Figure 3-3 Existing Transit Facilities



Figure 3-4 Existing Bicycle Facilities

Intersection		Peak Hour	LOS Standard	LOS	Average Delay (sec)	Critical V/C
1	S Knickerbocker Dr / Brookfield Ave*	AM	D	A	9.00	0.023
		PM		B	10.00	0.022
2	S Bernardo Ave / W ECR	AM	D	D	45.8	0.723
		PM		D	45.8	0.667
3	S Bernardo Ave / Blair Ave*	AM	D	B	12.00	0.055
		PM		B	11.70	0.039
4	S Bernardo Ave / Brookfield Ave*	AM	D	B	12.10	0.047
		PM		B	13.90	0.054
5	S Bernardo Ave / Heatherstone Way	AM	D	A	8.40	0.357
		PM		A	5.30	0.400
6	S Bernardo Ave / W Knickerbocker Dr**	AM	D	B	12.8	0.625
		PM		C	16.4	0.752

Source: AECOM 2018

2 S. Bernardo Ave / W. El Camino Real		XX(YY) - AM(PM) Peak Hour Volumes
<div><div>↑ 395 (263)</div><div>↓ 122 (319)</div><div>↘ 63 (107)</div></div>	<div><div>↗ 87 (132)</div><div>← 1304 (834)</div><div>↙ 68 (162)</div></div> <div>W. El Camino Real</div>	
<div><div>152 (428) ↗</div><div>589 (1411) →</div><div>58 (178) ↘</div></div>	<div><div>S. Bernardo Ave</div><div>↗ 295 (137)</div><div>↑ 209 (141)</div><div>↘ 99 (99)</div></div>	

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4.0 PLUS PROJECT CONDITIONS

This chapter looks at the future transportation conditions in the study area as a result of the proposed project. Trips generated by the proposed development are added to the ‘no project’ scenarios discussed in the earlier chapter to determine the effects of this project. Any mitigation measures necessary to alleviate potential impacts will also be discussed.

4.1 Trip Generation, Trip Distribution and Project-Only Trip Assignment

This section presents the number of trips generated by the proposed development. Trip generation rates from the Institute of Transportation Engineers’ (ITE) *Trip Generation Manual* (10th Edition, 2017) were used for determining the number of trips of the future land use. Trip generation rates and estimates are summarized in **Table 4-1**. Since the medical building is currently vacant, there are no ‘existing’ trips. The proposed project is estimated to generate 94 AM peak hour vehicle trips (50 inbound trips and 44 outbound trips) and 95 PM peak hour vehicle trips (45 inbound trips and 50 outbound trips). These will be the net new trips to be generated at this site and will be considered ‘project trips’.

Table 4-1 Trip Generation for Proposed Project

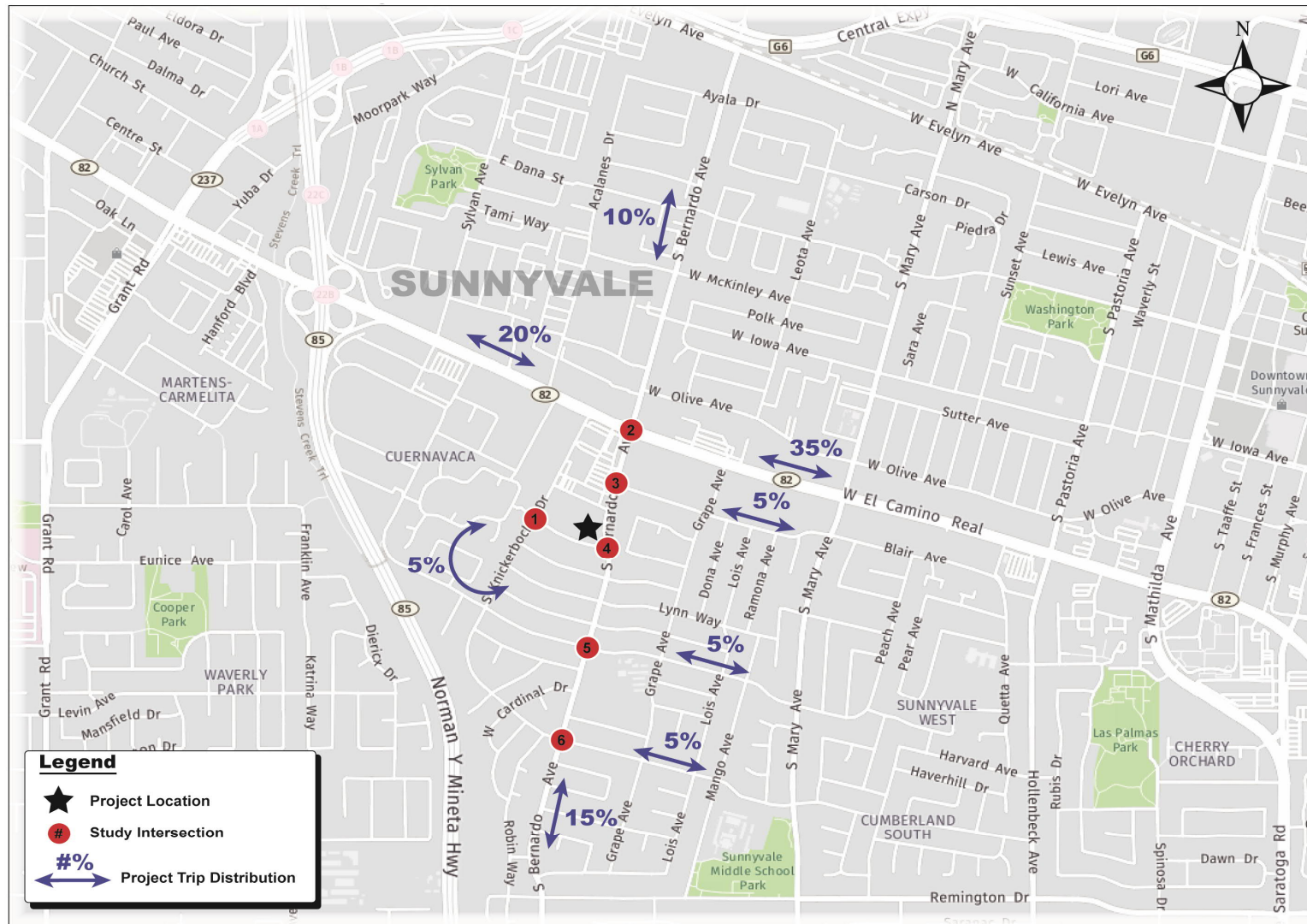
Land Use	Size	Unit	AM Peak Hour						PM Peak Hour					
			Rate	In%	In	Out %	Out	Total	Rate	In%	In	Out %	Out	Total
Existing														
Medical Office ¹			Currently vacant						Currently vacant					
Proposed														
Day Care center ¹	120	Students	0.78	53%	50	47%	44	94	0.79	47%	45	53%	50	95
Net New Trips					50		44	94			45		50	95
Notes:														
All rates are from Institute of Transportation Engineers, Trip Generation, 10th Edition														
1. Land Use Code 565: Day Care Center (average rates, expressed in trips per student)														
This project is not eligible for trip reductions based on VTA TIA Guidelines.														

Trip distribution is defined as the direction of approach and departure that vehicles would use to arrive at and depart from the site. The trip distribution pattern of the traffic generated by the project onto the roadway system was based on knowledge of the area, prevailing traffic patterns and the site access locations. The project trips were distributed and assigned to the study intersections for traffic impact determination based on the trip distribution percentages shown in **Figure 4-1**. The resulting project only volumes at each of the study intersections are presented in **Figure 4-2**.

4.2 Existing plus Project Traffic Conditions – Intersection Operations

A Project impact is determined by comparing the operating conditions of ‘plus project’ and the ‘no project’ scenarios. The comparison table is shown in **Table 4-2**. The total ‘plus project’ traffic volumes for all the study intersections under the Existing Conditions are presented in **Figure 4-3**. The main project driveway at Brookfield Avenue is also being analyzed as an unsignalized intersection (#7).

The results show that all study intersections are expected to operate within acceptable LOS with the proposed project during both peak hours.

**AECOM****Figure 4-1 Project Trip Distribution**

1 S. Knickerbocker Dr / Brookfield Ave	2 S. Bernardo Ave / W. El Camino Real	3 S. Bernardo Ave / Blair Ave	4 S. Bernardo Ave / Brookfield Ave
<div> <div>8 (7)</div> <div>2 (3)</div> <div>Brookfield Ave</div> <div> <div>S. Knickerbocker Dr</div> <div>3 (2)</div> </div> </div>	<div> <div>5 (5)</div> <div>18 (16)</div> <div>W. El Camino Real</div> <div> <div>S. Bernardo Ave</div> <div>9 (10)</div> <div>4 (5)</div> <div>15 (18)</div> </div> <div>2 (2)</div> </div>	<div> <div>25 (22)</div> <div>3 (2)</div> <div>Blair Ave</div> <div> <div>S. Bernardo Ave</div> <div>29 (33)</div> <div>2 (3)</div> </div> </div>	<div> <div>27 (24)</div> <div>31 (35)</div> <div>11 (13)</div> <div>Brookfield Ave</div> <div> <div>S. Bernardo Ave</div> <div>13 (11)</div> </div> </div>
5 S. Bernardo Ave / Heatherstone Way	6 S. Bernardo Ave / W. Knickerbocker	7 Driveway / Brookfield Ave	XX(YY) - AM(PM) Peak Hour Volumes
<div> <div>9 (10)</div> <div>2 (3)</div> <div>Heatherstone Way</div> <div> <div>S. Bernardo Ave</div> <div>10 (9)</div> </div> </div>	<div> <div>7 (8)</div> <div>2 (3)</div> <div>W. Knickerbocker</div> <div> <div>S. Bernardo Ave</div> <div>8 (7)</div> </div> </div>	<div> <div>2 (3)</div> <div>42 (48)</div> <div>Driveway</div> <div> <div>Brookfield Ave</div> <div>11 (9)</div> </div> </div>	

Figure 4-2 Project Only Traffic Volumes

1 S. Knickerbocker Dr / Brookfield Ave	2 S. Bernardo Ave / W. El Camino Real	3 S. Bernardo Ave / Blair Ave	4 S. Bernardo Ave / Brookfield Ave
<div> <div>0 (6)</div> <div>51 (166)</div> <div>14 (43)</div> <div>Brookfield Ave</div> <div> <div>S. Knickerbocker Dr</div> <div>0 (2)</div> <div>31 (19)</div> <div>8 (9)</div> </div> </div>	<div> <div>395 (263)</div> <div>127 (324)</div> <div>63 (107)</div> <div>W. El Camino Real</div> <div> <div>S. Bernardo Ave</div> <div>304 (147)</div> <div>213 (146)</div> <div>114 (117)</div> </div> </div>	<div> <div>198 (549)</div> <div>8 (38)</div> <div>Blair Ave</div> <div> <div>S. Bernardo Ave</div> <div>520 (283)</div> <div>6 (16)</div> </div> </div>	<div> <div>46 (51)</div> <div>171 (517)</div> <div>Brookfield Ave</div> <div> <div>S. Bernardo Ave</div> <div>25 (18)</div> <div>455 (226)</div> </div> </div>
5 S. Bernardo Ave / Heatherstone Way	6 S. Bernardo Ave / W. Knickerbocker	7 Driveway / Brookfield Ave	XX(YY) - AM(PM) Peak Hour Volumes
<div> <div>8 (6)</div> <div>202 (504)</div> <div>18 (32)</div> <div>Heatherstone Way</div> <div> <div>S. Bernardo Ave</div> <div>10 (7)</div> <div>316 (210)</div> <div>60 (24)</div> </div> </div>	<div> <div>3 (15)</div> <div>208 (467)</div> <div>38 (33)</div> <div>W. Knickerbocker</div> <div> <div>S. Bernardo Ave</div> <div>105 (47)</div> <div>306 (234)</div> <div>32 (13)</div> </div> </div>	<div> <div>2 (3)</div> <div>42 (48)</div> <div>Driveway</div> <div> <div>Brookfield Ave</div> <div>34 (41)</div> </div> </div>	

Figure 4-3 Existing + Project Traffic Volumes

Table 4-2 Comparison of Study Intersections LOS – Existing plus Project Conditions

Intersection		Peak Hour	Existing Conditions				Existing + Project Conditions				Δ Delay	Δ Crit V/C	Δ Avg Crit delay	Impact ? Y / N
			LOS	Delay (sec)	Critical V/C	Avg Crit Delay (sec)	LOS	Delay (sec)	Critical V/C	Avg Crit Delay (sec)				
1	S Knickerbocker Dr / Brookfield Ave*	AM	A	9.00	0.023	2.7	A	9.10	0.026	3.0	0.1	0.003	0.3	N
		PM	B	10.00	0.022	2.0	B	10.2	0.027	2.2	0.2	0.005	0.2	N
2	S Bernardo Ave / W ECR	AM	D	45.8	0.720	49.0	D	45.9	0.723	49.2	0.1	0.003	0.2	N
		PM	D	45.8	0.664	54.2	D	46.4	0.669	54.3	0.6	0.005	0.1	N
3	S Bernardo Ave / Blair Ave*	AM	B	12.00	0.055	0.8	B	12.5	0.057	0.8	0.5	0.002	0.0	N
		PM	B	11.70	0.039	0.8	B	12.2	0.046	0.8	0.5	0.007	0.0	N
4	S Bernardo Ave / Brookfield Ave*	AM	B	12.10	0.047	0.7	B	13.7	0.126	1.6	1.6	0.079	0.9	N
		PM	B	13.90	0.054	0.8	C	16.4	0.157	1.8	2.5	0.103	1.0	N
5	S Bernardo Ave / Heatherstone Way	AM	A	8.4	0.357	9.0	A	8.4	0.365	9.1	0.0	0.008	0.1	N
		PM	A	5.3	0.400	5.1	A	5.3	0.409	5.1	0.0	0.009	0.0	N
6	S Bernardo Ave / W Knickerbocker Dr*	AM	B	12.8	0.625	12.8	B	13.2	0.640	13.2	0.4	0.015	0.4	N
		PM	C	16.4	0.752	16.4	C	17.2	0.772	17.2	0.8	0.020	0.8	N
7	Project Driveway / Brookfield Ave**	AM	N/A				A	9.2	0.050	3.0	9.20	0.050	3.0	N
		PM					A	9.3	0.050	3.2	9.30	0.050	3.2	N

*LOS and delay reported for worst movement for 2-way stop controlled intersections

**Overall delay reported for AWS controlled intersection

Source: AECOM, 2018

In addition, the ‘plus project’ scenario would not bring about significant changes in both delay and critical V/C ratio to be considered an impact. As such, the proposed project would not adversely affect the existing conditions. No separate peak hour signal warrant analysis was performed for the unsignalized intersections as they are expected to operate within acceptable LOS. Moreover, the signal warrant analysis results from TRAFFIX show that the warrants are not met and signalization is not needed for all unsignalized intersections. Details of this analysis are presented in **Appendix F**.

4.3 Existing plus Project Traffic Conditions - Transit Facilities Impacts

The existing transit facilities in the project vicinity are expected to support the project usage under the ‘plus project’ conditions. Based on current observation, the bus service would continue to serve the project vicinity and the proposed project is not expected to adversely affect public transit services. Since this is a childcare/preschool development, many of the students and their parents are not expected to use public transit. Teachers and other staff members may be public transit users, but their number is expected to be small. The delay due to the proposed project, during both peak hours, along W ECR (in both directions) on which VTA Line 22 and Line 522 run, is no more than 1.4 seconds at intersection #2. VTA Line 53, which runs along S Bernardo Avenue, is expected to experience no more than 1.4 seconds of delay due to the project trips at any of the study intersection. **Table 4-3** summarizes the movement delays through the intersections along the routes of lines 22, 522 and 53 within the study area. In addition, the project is not expected to conflict with the planned transit facilities and the existing pedestrian and bicycle facilities are adequate for users to access transit stops.

Table 4-3 Transit Impact Analysis - Existing plus Project Conditions

VTA Line	Intersection		Direction/ Movement	Existing Delay (sec)		Existing plus Project Delay (sec)		Δ Delay (sec)	
				AM	PM	AM	PM	AM	PM
22 & 522	2	S Bernardo Ave / W ECR	EBT	45.0	35.1	45.1	36.5	0.1	1.4
			WBT	44.0	56.6	44.2	56.7	0.2	0.1
53	2	S Bernardo Ave / W ECR**	NBT	47.2	58.1	46.9	58.2	-0.3	0.1
			SBT	35.3	55.3	35.6	55.2	0.3	-0.1
	3	S Bernardo Ave / Blair Ave*	NBT	0.0	0.0	0.0	0.0	0	0
			SBT	0.0	0.0	0.0	0.0	0	0
	4	S Bernardo Ave / Brookfield Ave*	NBT	0.0	0.0	0.0	0.0	0	0
			SBT	0.0	0.0	0.0	0.0	0	0
	5	S Bernardo Ave / Heatherstone Way	NBT	5.6	2.5	5.7	2.5	0.1	0
			SBT	5.0	3.2	5.0	3.3	0	0.1
	6	S Bernardo Ave / W Knickerbocker Dr*	NBT	15.5	12.9	16.0	13.2	0.5	0.3
			SBT	11.1	21.4	11.4	22.8	0.3	1.4

*unsignalized intersection

**Average delay decreases with project as more green time was apportioned to the NBT and SBT movements in the AM and PM respectively. This is because of the actuated & coordinated settings, where demand and gap out time changes between existing and plus project conditions.

Source: AECOM, 2018

4.4 Existing plus Project Traffic Conditions - Pedestrian and Bicycle Facilities Impacts

The project will provide minor improvements to the existing sidewalks surrounding the project site. The current curb ramp for the egress along S Bernardo Avenue, at the northeast corner of the parcel, will be removed and the sidewalk will be filled in as part of the project, according to City standards. Similarly, the curb ramp for the proposed emergency access along S Bernardo Avenue and for the main access along Brookfield Avenue will also be improved to meet city standards as part of the project. As mentioned earlier, due to the nature of the proposed use, this project is not expected to generate a high pedestrian number since the age of the students at this facility will be under 5 years old. While some children may walk from the nearby residential neighborhoods with their caregivers to the project site, the number is expected to be very small. Similarly, only a small number of teachers or other staff members are expected to walk to the project site. Therefore, based on observation of the current situation, the existing sidewalks and crosswalks in the project vicinity, including the crosswalk nearest to the project (at intersection #1), are expected to accommodate the usage under the 'plus project' conditions.

Similarly, this project would not generate a high number of cyclists due to the nature of the facility proposed. Therefore, based on the observations of current conditions, the existing bicycle facilities in the project vicinity presented earlier would be sufficient to meet the expected demand of the proposed project. The proposed project would not adversely impact the safety of the cyclists as there are no hazardous design features impeding the use of bicycles. Therefore, the project is expected to have a less-than-significant impact on pedestrians and cyclists.

4.5 Existing plus Project Traffic Conditions - Queuing Impacts

The queuing conditions at the study intersections under the Existing plus Project Traffic conditions were compared with the existing conditions to identify if there is any queue that spills back to the upstream intersections or out of the turn pockets. A typical vehicle length of 25 feet was used for the queuing analysis. An operational deficiency is assumed to occur if the queue increases by one or more vehicles and if the queue exceeds the turn pocket length or extends close to the upstream intersection. Summary of the queueing results is provided in **Appendix G**.

Table 4-4 summarizes the queues under the existing plus project conditions for the two signalized study intersections (#2 & #5) as well as the all-way-stop control intersection (#6). The average queue length is being reported. The 95 percentile queues calculated by TRAFFIX for the 3 two-way stop controlled intersections are less than 1 vehicle under both with and without the project scenarios. They are therefore not presented in the Table 4-4. Based on visual observation of the existing traffic condition, the westbound (prevailing AM) left-turn pocket for the S Bernardo Avenue / W ECR intersection (#2) has sufficient capacity to accommodate the turning vehicles. The project is only expected to add less than one vehicle to this movement and can therefore still be accommodated. In the PM peak, the eastbound (prevailing) left-turn pocket can accommodate existing left-turn vehicles most of the time although it was observed that occasionally, the number of left-turn vehicles exceeded the storage capacity. The average eastbound left-turn queue is almost at the capacity of the storage length as a result. The project is expected to add less than one vehicle eastbound left-turn vehicles to this movement and can therefore be accommodated.

Table 4-4 Queuing Analysis – Existing plus Project Conditions

Intersection	Storage Length (ft)	Movement	Existing*		Existing plus Project*	
			AM Peak Hour (ft)	PM Peak Hour (ft)	AM Peak Hour (ft)	PM Peak Hour (ft)
2 S Bernardo Ave / W ECR	510	NBL	180	90	195	100
	510	NBT	180	145	190	150
	140	SBL	60	125	60	125
	345	SBT	95	335	100	340
	480	EBL	210	465	210	465
	2190	EBT	180	415	180	425
	490	WBL	70	205	90	225
	960	WBT	430	315	430	315
5 S Bernardo Ave / Heatherstone Way	980	NBLTR	40	10	60	10
	2365	SBLTR	25	95	30	100
	1115	EBLTR	20	30	20	30
	725	WB	55	25	55	25
6 S Bernardo Ave / W Knickerbocker Dr	1745	NBLTR	40	20	20	20
	975	SBLTR	15	65	15	70
	4320	EBLTR	10	20	10	20
	810	WBLTR	10	5	10	5

*Average queue length rounded up to nearest 5 feet
Source: AECOM, 2018

4.6 Parking, Site Access and Circulation Analysis

Table 4-5 presents the parking evaluation for the proposed project. Based on the Sunnyvale Municipal Code Chapter 19.46, Table 19.46.100(c), a Child Care Center would need to provide at least 0.25 parking spots per child. As such, in order to meet the city requirement, the minimum number of parking spaces to be provided by the project would 30. The project will satisfy this by providing 32 parking stalls which include two ADA accessible stalls and, one electrical vehicle parking stall. There are no bicycle parking requirements for this facility.

Table 4-5 Parking Provision

Land Use	Size	Project Supply	City requirement	
			Min	
Child Care	120 students		0.25 /student	30
Total		32		30

Out of the 29 regular parking stalls, 12 stalls are reserved for pick-up/drop-off parking and two stalls are reserved for ride-sharing vehicles. There are currently no observed parking issues surrounding the project site. However, project parking should not be allowed on S Bernardo Avenue along the frontage. In addition, as there are no crosswalk and center median along S Bernardo Avenue adjacent to the project, visitors (to the project site) risk having to cross several lanes of traffic; it would be even more dangerous

when they are with young children. Therefore, parking on the west side of Bernardo Avenue is discouraged. As for parking along Brookfield Avenue, though the current observed number of vehicles parking along this road is low, it is recommended that parking be prohibited adjacent to the project driveway on the north side of Brookfield Avenue. As the access is fairly close (approximately 105 feet; 4-car length) to the S Bernardo Avenue / Brookfield Avenue intersection (#4), vehicles parked between the intersection and project driveway would conflict with turning vehicles as well as would obstruct the driveway sight distance. Parking along this section should therefore be prohibited. Similarly the project driveway is also very close to the driveway of the adjacent apartment complex (approximately 75 feet; 3-car length). Vehicles parked between the two driveways will obstruct the sight distance for both developments. As such, parking should also be prohibited. Along the south side of Brookfield Avenue fronting the project, no additional or new parking restrictions are being recommended. However, the project applicant should discourage project parking along the section as sufficient parking is being provided on site. It should also remind its visitors to be cautious when crossing the road and make use of the available crosswalk, especially when with young children. The above proposed parking restrictions would not lead to parking deficiency in the area as the current on-street parking usage is low and the project is expected to accommodate its parking needs on-site.

There are currently 3 driveways for the project site. One is an egress at the northeast corner of the parcel along S Bernardo Avenue, the second one is a full movement driveway located along S Bernardo Avenue and the third one is a full movement driveway located along Brookfield Avenue. The project proposes to close the egress and convert the full movement driveway along S Bernardo Avenue for emergency vehicle use only. The emergency access along S Bernardo Avenue will be closed off to regular traffic using two removable 6-inch steel bollards. The emergency access design is adequate for fire truck access.

The main access for the site will therefore be the full movement driveway along Brookfield Avenue. It will be 26 feet wide which is sufficient to accommodate two vehicles; one entering and one exiting at the same time. Landscaping features adjacent to the access, not available at the time of this report preparation, should not include tall plants or large trees that would obstruct the view of the access.

The daycare/preschool hours are from 8:30AM to 6:30PM, on Mondays to Fridays. Traffic and parking in the immediate vicinity around the project site (along S Bernardo Avenue, Brookfield Avenue and S Knickerbocker Drive) was observed to be relatively light at about 8:30AM and between 6:00-6:30PM under existing conditions. The expected pick-up/drop-off movements due to the project therefore would not adversely impact the traffic conditions on a typical weekday. The project is proposing to stagger the evening pick-up, with the younger children (up to 3 years old) being picked up by 6PM and the older group (4-5 years old) being picked up at around 6:30PM. This is a good way to spread out the pick-up activities and avoiding a large congregation of parents and children over a short period of time.

The proposed internal circulation of the parking area allows for 2-way traffic fronting the main entrance to the school building. All the parking spots in the area are for pick-up and drop-off except for the 2 ADA compliant spots and 1 EV charging station. High pedestrian movements, involving young children, are therefore expected in this area. AECOM recommends that the 1-way circulation from the access be continued to the pick-up/drop-off area in front of the school building (instead of 2-way) to reduce vehicular and pedestrian conflict in this area. This is to make it safer, especially for parents with young children, to navigate around the pick-up/drop-off area. The internal road way widths (13' for the one-way segment and 24' for the 2-way segment) are adequate for parking maneuver as well as emergency vehicle access.

The intersection of S Bernardo and Brookfield Avenue (#4) is expected to carry most of the foot traffic to the proposed child care/preschool. This unsignalized intersection, which has adequate sight-distance, provides a marked cross-walk across Brookfield Avenue which is stop-controlled. Even though the foot traffic generated by the project is not expected to increase significantly, it is recommended that the project applicant implement some improvements to further enhance the safety, especially for the expected young children. The distance of the crosswalk can be reduced by removing the pork chop island and extending the northwest corner of the intersection. The southbound right-turn into westbound Brookfield Avenue from S Bernardo Avenue will be at a right-angle. AECOM performed an AUTOTURN analysis demonstrating that a 48-foot trailer truck will still be able to negotiate the intersection under the proposed improvement. In that case, the crosswalk distance will be reduced by approximately 22 feet and the crossing time will be shortened by about 7 seconds. **Appendix H** presents the proposed layout of the modifications and the truck dimension details used in the analysis.

4.7 Background plus Project Traffic Conditions – Intersection Operations

The Background plus Project conditions do not differ from the Existing plus Project conditions except for the intersection of S Bernardo Avenue and W ECR (#2). **Table 4-6** compares the intersection performance with and without project under the Background Conditions. There are no changes in the results for all other study intersections except for intersection #2. **Figure 4-4** presents only the volumes for intersection #2. Intersection #2 is expected to operate without significant change in delay and V/C ratio even with the proposed project. As such, the project therefore has no significant impact on all the study intersections under this scenario and signalization is not warranted for any of the unsignalized intersections under the ‘plus project’ scenario. The details are presented in **Appendix I**.

2 S. Bernardo Ave / W. El Camino Real		
<div> <div> <div>395 (263)</div> <div>127 (324)</div> <div>63 (107)</div> </div> <div> <div>↑</div> <div>↓</div> <div>↘</div> </div> </div>	<div> <div>↑ 87 (132)</div> <div>← 1304 (834)</div> <div>↘ 86 (178)</div> </div> <div>W. El Camino Real</div>	XX(YY) - AM(PM) Peak Hour Volumes
<div> <div>152 (428)</div> <div>589 (1411)</div> <div>60 (180)</div> </div> <div> <div>↗</div> <div>→</div> <div>↓</div> </div>	<div> <div>↗</div> <div>↑</div> <div>↘</div> </div> <div>S. Bernardo Ave</div> <div> <div>304 (147)</div> <div>213 (146)</div> <div>114 (117)</div> </div>	

Figure 4-4 Background plus Project Traffic Volumes

Table 4-6 Comparison of Study Intersections LOS – Background plus Project Conditions

Intersection		Peak Hour	Background Conditions				Background + Project Conditions				Δ Delay	Δ Crit V/C	Δ Avg Crit delay	Impact ? Y/N
			LOS	Delay (sec)	Critical V/C	Avg Crit Delay (sec)	LOS	Delay (sec)	Critical V/C	Avg Crit Delay (sec)				
1	S Knickerbocker Dr / Brookfield Ave*	AM	A	9.00	0.023	2.7	A	9.10	0.026	3.0	0.1	0.003	0.3	N
		PM	B	10.00	0.022	2.0	B	10.2	0.027	2.2	0.2	0.005	0.2	N
2	S Bernardo Ave / W ECR	AM	D	45.8	0.723	49.0	D	45.9	0.726	49.2	0.1	0.003	0.2	N
		PM	D	45.8	0.667	54.2	D	46.4	0.673	54.4	0.6	0.006	0.2	N
3	S Bernardo Ave / Blair Ave*	AM	B	12.00	0.055	0.8	B	12.5	0.057	0.8	0.5	0.002	0.0	N
		PM	B	11.70	0.039	0.8	B	12.2	0.046	0.8	0.5	0.007	0.0	N
4	S Bernardo Ave / Brookfield Ave*	AM	B	12.10	0.047	0.7	B	13.7	0.126	1.6	1.6	0.079	0.9	N
		PM	B	13.90	0.054	0.8	C	16.4	0.157	1.8	2.5	0.103	1.0	N
5	S Bernardo Ave / Heatherstone Way	AM	A	8.40	0.357	9.0	A	8.4	0.365	9.1	0.0	0.008	0.1	N
		PM	A	5.30	0.400	5.1	A	5.3	0.409	5.1	0.0	0.009	0.0	N
6	S Bernardo Ave / W Knickerbocker Dr*	AM	B	12.8	0.625	12.8	B	13.20	0.640	13.2	0.4	0.015	0.4	N
		PM	C	16.4	0.752	16.4	C	17.20	0.772	17.2	0.8	0.020	0.8	N
7	Project Driveway / Brookfield Ave*	AM	N/A				A	9.20	0.050	3.0	9.20	0.050	3.0	N
		PM					A	9.30	0.050	3.2	9.30	0.050	3.2	N

*LOS and delay reported for worst movement for 2-way stop controlled intersections

**Overall delay reported for AWS controlled intersection

Source: AECOM, 2018

4.8 Background plus Project Traffic Conditions – Queuing Analysis

Queuing analysis was conducted for the study intersections under the Background plus Project Traffic conditions using the Traffix software, which is based on the HCM 2000 Methodology. The length was compared with the ‘no project’ storage lengths to identify if there is any queue that spills back out of the turn pockets. A typical vehicle length of 25 feet was used for the queuing analysis. An operational deficiency is assumed to occur if the queue increases by one or more vehicles and if the queue exceeds the turn pocket length. Summary of the queueing results is provided in the **Appendix G**.

Table 4-7 summarizes the queues under the Background plus Project conditions for the two signalized study intersections (#2 & #5) as well as the all-way-stop control intersection (#6). The average queue length is being reported. The 95 percentile queues calculated by TRAFFIX for the three two-way stop-controlled intersections are less than one vehicle with and without the project. They are therefore not presented in the Table 4-4. Under the Background without project scenario, all queues can be accommodated within the storage capacity. The project is only expected to add less than one vehicle to this movement and can therefore still be accommodated. As such, the project would not have adverse impact on the queuing situations of the study intersections.

Table 4-7 Queuing Analysis – Background plus Project Conditions

Intersection	Storage Length (ft)	Movement	Background*		Background plus Project*	
			AM Peak Hour (ft)	PM Peak Hour (ft)	AM Peak Hour (ft)	PM Peak Hour (ft)
2 S Bernardo Ave / W ECR	510	NBL	190	90	195	100
	510	NBT	190	145	190	150
	140	SBL	60	125	60	125
	345	SBT	95	335	100	340
	480	EBL	210	470	210	470
	2190	EBT	180	420	180	430
	490	WBL	70	205	85	225
	960	WBT	435	320	435	320
5 S Bernardo Ave / Heatherstone Way	980	NB	60	10	60	10
	2365	SB	25	95	30	100
	1115	EB	20	30	20	30
	725	WB	55	25	55	25
6 S Bernardo Ave / W Knickerbocker Dr	1745	NB	40	20	40	20
	975	SB	15	65	15	70
	4320	EB	10	20	10	20
	810	WB	10	5	10	5

*Average queue length rounded up to nearest 5 feet
Source: AECOM, 2018

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5.0 CONCLUSIONS

This project is located at 755 S Bernardo Avenue in the City of Sunnyvale, California. The proposed project is to transform a currently vacant medical building into a childcare/preschool facility for up to 120 children. Having evaluated the current and with project traffic conditions in the vicinity of the project, the study concludes that this proposed project would not lead to any significant traffic impacts overall and provides recommendations for the City's consideration..

For the six study intersections, they are expected to perform at LOS D or better with the project. LOS D is the standard for City of Sunnyvale. The expected project trips would also not aggravate the queuing conditions at the study intersections; they are expected to add less than one car to the queues during the peak hours.

In addition, the project is not expected to negatively impact any bicycle and pedestrian facilities in the vicinity as the expected number of pedestrians and cyclists would be low. The project is proposing to upgrade portions of the sidewalk adjacent to the site driveways along S Bernardo Avenue and Brookfield Avenue to meet city standards. It is also not expected to cause any significant impacts on the transit services in the project area; the project trips could increase the delay of VTA Services along W ECR and S Bernardo Avenue by up to 1.4 seconds at some study intersections during the peak hours. The number of parking spots and access designs proposed by the project are deemed adequate to meet City standards, including emergency vehicle requirements.

The study recommends the applicant to implement the following improvements:

- To convert part of the proposed internal circulation to one-way to enhance safety during the pick-up and drop-off of young children;
- To shorten the crosswalk distance at the intersection of S Bernardo Avenue and Brookfield Avenue by removing the pork chop island and extending the northwest corner of the intersection to enhance safety in the area;
- Landscaping adjacent to the Brookfield Avenue driveway should not include tall plants or large trees that would obstruct the view of the access; and
- To prohibit parking/loading on both sides of the project driveway along the north side of Brookfield Avenue; extending from the S Bernardo Avenue / Brookfield Avenue intersection (#4) to the access of the adjacent apartment complex, so as to avoid conflicting with turning vehicles at the intersection and to ensure sufficient sight distance for vehicles using the project driveway.
- To prohibit parking/loading on the west side of Bernardo Avenue along the project frontage.

APPENDICES

Appendix A

SYNCHRO vs TRAFFIX

Comparison

Comparison of Delay - SYNCHRO vs TRAFFIX

Synchro

ID	Intersection	AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS
2	El Camino/Bernardo	39.7	D	46.6	D
5	Heatherstone/Bernardo	7.5	A	5.3	A

Traffix

ID	Intersection	AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS
2	El Camino/Bernardo	45.8	D	45.8	D
5	Heatherstone/Bernardo	8.4	A	5.3	A

Comparison of Queues - SYNCHRO vs TRAFFIX

Synchro

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
#2	AM	135	143	0	46	6	135	184	0	54	106
	PM	401	356	60	153	43	66	123	0	103	226

#5	AM	EBT	WBT	NBT	SBT						
	PM	8	18	33	18						
		10	6	16	49						

Traffix












#2	AM	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
	PM	206	176	42	66	429	48	187	187	66	60	93
		464	413	118	204	311	108	89	143	85	123	334

#5	AM	EBT	WBT	NBT	SBT							
	PM	18	51	56	24							
		30	24	6	93							

Queues

2:

06/13/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	578	58	68	1291	87	295	209	99	63	517
v/c Ratio	0.71	0.28	0.09	0.16	0.50	0.11	0.77	0.64	0.27	0.36	0.77
Control Delay	76.2	31.8	4.8	39.9	25.1	6.9	74.5	63.3	7.7	65.0	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	31.8	4.8	39.9	25.1	6.9	74.5	63.3	7.7	65.0	32.2
Queue Length 50th (ft)	135	143	0	46	277	6	135	184	0	54	106
Queue Length 95th (ft)	204	189	23	88	386	42	#189	259	39	104	162
Internal Link Dist (ft)	1743			941			1199			405	
Turn Bay Length (ft)	460		100	490		100	125		105	145	
Base Capacity (vph)	255	2276	731	424	2570	804	397	585	562	177	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.60	0.25	0.08	0.16	0.50	0.11	0.74	0.36	0.18	0.36	0.47






























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM Signalized Intersection Capacity Analysis

2:

06/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 				 	
Traffic Volume (vph)	152	578	58	68	1291	87	295	209	99	63	122	395
Future Volume (vph)	152	578	58	68	1291	87	295	209	99	63	122	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1544	1770	5085	1520	3433	1863	1539	1770	3008	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1544	1770	5085	1520	3433	1863	1539	1770	3008	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	578	58	68	1291	87	295	209	99	63	122	395
RTOR Reduction (vph)	0	0	35	0	0	37	0	0	81	0	251	0
Lane Group Flow (vph)	152	578	23	68	1291	50	295	209	18	63	266	0
Confl. Peds. (#/hr)	9		10	10		9	37		10	10		37
Confl. Bikes (#/hr)			1			2			5			3
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Actuated Green, G (s)	17.0	55.8	55.8	31.2	70.0	70.0	15.6	24.8	24.8	11.2	20.4	
Effective Green, g (s)	17.0	55.8	55.8	31.2	70.0	70.0	15.6	24.8	24.8	11.2	20.4	
Actuated g/C Ratio	0.12	0.40	0.40	0.22	0.50	0.50	0.11	0.18	0.18	0.08	0.15	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	3.0	3.0	2.5	2.5	
Lane Grp Cap (vph)	214	2026	615	394	2542	760	382	330	272	141	438	
v/s Ratio Prot	c0.09	0.11		0.04	c0.25		c0.09	c0.11		0.04	0.09	
v/s Ratio Perm			0.01			0.03			0.01			
v/c Ratio	0.71	0.29	0.04	0.17	0.51	0.07	0.77	0.63	0.06	0.45	0.61	
Uniform Delay, d1	59.1	28.6	25.7	44.0	23.5	18.1	60.5	53.4	47.9	61.4	56.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.9	0.4	0.1	0.2	0.7	0.2	9.0	3.9	0.1	1.6	2.0	
Delay (s)	69.0	28.9	25.8	44.1	24.2	18.3	69.5	57.3	48.0	63.1	58.1	
Level of Service	E	C	C	D	C	B	E	E	D	E	E	
Approach Delay (s)		36.4			24.8			61.7			58.6	
Approach LOS		D			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			39.7			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			17.0			
Intersection Capacity Utilization			93.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Queues

5:

















06/13/2018

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	47	144	376	217
v/c Ratio	0.15	0.45	0.31	0.18
Control Delay	13.8	15.0	5.2	4.7
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.8	15.0	5.2	4.7
Queue Length 50th (ft)	8	18	33	18
Queue Length 95th (ft)	27	53	85	50
Internal Link Dist (ft)	1105	729	432	1138
Turn Bay Length (ft)				
Base Capacity (vph)	735	694	1222	1217
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.06	0.21	0.31	0.18
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

5:












06/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	29	6	33	56	55	10	306	60	16	193	8
Future Volume (vph)	12	29	6	33	56	55	10	306	60	16	193	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.97			0.99			1.00	
Flpb, ped/bikes		0.99			0.96			1.00			1.00	
Frt		0.98			0.95			0.98			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1746			1626			1797			1836	
Flt Permitted		0.93			0.91			0.99			0.97	
Satd. Flow (perm)		1650			1499			1787			1785	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	12	29	6	33	56	55	10	306	60	16	193	8
RTOR Reduction (vph)	0	5	0	0	46	0	0	8	0	0	2	0
Lane Group Flow (vph)	0	42	0	0	98	0	0	368	0	0	215	0
Confl. Peds. (#/hr)	47		178	178		47	89		51	51		89
Confl. Bikes (#/hr)			1			8			1			1
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		7.1			7.1			29.6			29.6	
Effective Green, g (s)		7.1			7.1			29.6			29.6	
Actuated g/C Ratio		0.16			0.16			0.65			0.65	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		256			232			1157			1156	
v/s Ratio Prot												
v/s Ratio Perm		0.03			c0.07			c0.21			0.12	
v/c Ratio		0.16			0.42			0.32			0.19	
Uniform Delay, d1		16.7			17.4			3.6			3.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			1.2			0.7			0.4	
Delay (s)		17.0			18.7			4.3			3.6	
Level of Service		B			B			A			A	
Approach Delay (s)		17.0			18.7			4.3			3.6	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.5			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		45.7			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		49.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Queues

2:





























06/13/2018

											
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	428	1391	178	162	816	132	137	141	99	107	582
v/c Ratio	0.88	0.60	0.24	0.59	0.48	0.26	0.43	0.41	0.27	0.63	0.83
Control Delay	71.6	33.0	17.0	69.0	43.1	22.2	68.7	56.8	9.0	82.3	55.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.6	33.0	17.0	69.0	43.1	22.2	68.7	56.8	9.0	82.3	55.1
Queue Length 50th (ft)	401	356	60	153	234	43	66	123	0	103	226
Queue Length 95th (ft)	505	465	128	232	324	117	103	182	44	170	279
Internal Link Dist (ft)	1743			941			1199			650	
Turn Bay Length (ft)	460		100	490		100	125		105	145	
Base Capacity (vph)	532	2304	736	281	1695	516	320	509	497	177	984
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.60	0.24	0.58	0.48	0.26	0.43	0.28	0.20	0.60	0.59
Intersection Summary											

HCM Signalized Intersection Capacity Analysis

2:

06/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  		 					
Traffic Volume (vph)	428	1391	178	162	816	132	137	141	99	107	319	263
Future Volume (vph)	428	1391	178	162	816	132	137	141	99	107	319	263
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.89	1.00	1.00	0.97	1.00	0.96	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.93	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1543	1770	5085	1415	3433	1863	1540	1770	3158	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	5085	1543	1770	5085	1415	3433	1863	1540	1770	3158	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	428	1391	178	162	816	132	137	141	99	107	319	263
RTOR Reduction (vph)	0	0	38	0	0	46	0	0	81	0	113	0
Lane Group Flow (vph)	428	1391	140	162	816	86	137	141	18	107	469	0
Confl. Peds. (#/hr)	37		10	10		37	79		11	11		79
Confl. Bikes (#/hr)						4			3			
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Actuated Green, G (s)	41.2	68.0	68.0	23.2	50.0	50.0	14.0	27.4	27.4	14.4	27.8	
Effective Green, g (s)	41.2	68.0	68.0	23.2	50.0	50.0	14.0	27.4	27.4	14.4	27.8	
Actuated g/C Ratio	0.27	0.45	0.45	0.15	0.33	0.33	0.09	0.18	0.18	0.10	0.19	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)	2.5	4.0	4.0	2.5	4.0	4.0	2.5	3.0	3.0	2.5	2.5	
Lane Grp Cap (vph)	486	2305	699	273	1695	471	320	340	281	169	585	
v/s Ratio Prot	c0.24	c0.27		c0.09	0.16		0.04	0.08		c0.06	c0.15	
v/s Ratio Perm			0.09			0.06			0.01			
v/c Ratio	0.88	0.60	0.20	0.59	0.48	0.18	0.43	0.41	0.06	0.63	0.80	
Uniform Delay, d1	52.0	30.9	24.7	59.0	39.7	35.5	64.2	54.2	50.7	65.3	58.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	16.7	1.2	0.6	2.9	1.0	0.9	0.7	0.8	0.1	6.6	7.6	
Delay (s)	68.8	32.0	25.3	61.9	40.7	36.3	64.9	55.0	50.8	71.9	66.0	
Level of Service	E	C	C	E	D	D	E	E	D	E	E	
Approach Delay (s)		39.3			43.3			57.5			66.9	
Approach LOS		D			D			E			E	
Intersection Summary												
HCM 2000 Control Delay			46.6		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					17.0		
Intersection Capacity Utilization			110.9%		ICU Level of Service					H		
Analysis Period (min)			15									
c Critical Lane Group												

Queues

5:

















06/13/2018

	→	←	↑	↓
Lane Group	EBT	WBT	NBT	SBT
Lane Group Flow (vph)	55	45	232	529
v/c Ratio	0.21	0.18	0.16	0.37
Control Delay	13.7	12.3	3.2	4.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	13.7	12.3	3.2	4.4
Queue Length 50th (ft)	10	6	16	49
Queue Length 95th (ft)	28	23	40	108
Internal Link Dist (ft)	1105	729	432	1138
Turn Bay Length (ft)				
Base Capacity (vph)	757	679	1419	1425
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.07	0.07	0.16	0.37
Intersection Summary				

HCM Signalized Intersection Capacity Analysis

5:

06/13/2018

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	32	19	13	9	23	7	201	24	29	494	6
Future Volume (vph)	4	32	19	13	9	23	7	201	24	29	494	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.96			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.95			0.93			0.99			1.00	
Flt Protected		1.00			0.99			1.00			1.00	
Satd. Flow (prot)		1707			1678			1828			1853	
Flt Permitted		0.97			0.88			0.99			0.98	
Satd. Flow (perm)		1660			1503			1808			1820	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	32	19	13	9	23	7	201	24	29	494	6
RTOR Reduction (vph)	0	17	0	0	21	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	38	0	0	24	0	0	228	0	0	529	0
Confl. Peds. (#/hr)	3		24	24		3	22		6	6		22
Confl. Bikes (#/hr)			15						2			4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		4.4			4.4			33.5			33.5	
Effective Green, g (s)		4.4			4.4			33.5			33.5	
Actuated g/C Ratio		0.09			0.09			0.71			0.71	
Clearance Time (s)		4.0			4.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		155			141			1291			1300	
v/s Ratio Prot												
v/s Ratio Perm		c0.02			0.02			0.13			c0.29	
v/c Ratio		0.24			0.17			0.18			0.41	
Uniform Delay, d1		19.7			19.6			2.2			2.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.6			0.3			0.9	
Delay (s)		20.5			20.2			2.5			3.6	
Level of Service		C			C			A			A	
Approach Delay (s)		20.5			20.2			2.5			3.6	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		5.3			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		46.9			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		59.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Appendix B

Existing Traffic Counts

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:				5/15/2018		DAY:		TUESDAY	
N-S APPROACH:		S KNICKERBOCKER DRIVE				SURVEY TIME:				7:00 AM		TO		10:00 AM	
E-W APPROACH:		BROOKFIELD AVENUE				JURISDICTION:				SUNNYVALE		FILE:		3805027-1AM	
<div><div>PEAK HOUR</div><div>8:00 AM to 9:00 AM</div><div><div><div>0</div><div>51</div><div>6</div><div>0</div></div><div><div><div><div><div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><d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B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:				5/15/2018		DAY:				TUESDAY	
N-S APPROACH:		S KNICKERBOCKER DRIVE				SURVEY TIME:				7:00 AM		TO		10:00 AM			
E-W APPROACH:		BROOKFIELD AVENUE				JURISDICTION:				SUNNYVALE		FILE:		3805027-1AM			

PEAK HOUR
8:00 AM to 9:00 AM

BROOKFIELD AVENUE

S KNICKERBOCKER DRIVE

PEAK HOUR
TOTAL BICYCLE VOLUMES

4

TOTAL N-END 2

TOTAL W-END 0

TOTAL E-END 0

TOTAL S-END 2

TIME	PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
7:00 AM	to 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	to 7:30 AM	0	0	1	0	0	1	1	0	0	0	0	0	0	2	0	0	5
7:30 AM	to 7:45 AM	0	0	1	0	0	1	1	0	0	0	0	0	0	3	0	0	6
7:45 AM	to 8:00 AM	0	0	1	0	0	1	1	0	0	1	0	0	0	3	0	0	7
8:00 AM	to 8:15 AM	0	0	1	0	0	1	2	0	0	1	0	0	0	3	0	0	8
8:15 AM	to 8:30 AM	0	0	1	0	0	1	2	0	0	1	0	0	0	3	0	0	8
8:30 AM	to 8:45 AM	0	0	1	0	0	1	2	0	0	1	0	0	0	3	0	0	8
8:45 AM	to 9:00 AM	0	0	1	0	0	1	3	0	0	1	0	0	0	3	0	0	9
9:00 AM	to 9:15 AM	0	0	1	0	0	1	3	0	0	1	0	0	0	3	0	0	9
9:15 AM	to 9:30 AM	0	0	2	0	0	1	4	0	0	1	0	0	0	4	0	0	12
9:30 AM	to 9:45 AM	0	0	4	0	0	1	6	0	0	1	0	0	0	4	0	0	16
9:45 AM	to #####	0	0	4	0	0	1	7	0	0	1	0	0	0	4	0	0	17
TOTAL BY PERIOD																		
7:00 AM	to 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:15 AM	to 7:30 AM	0	0	1	0	0	1	1	0	0	0	0	0	0	1	0	0	4
7:30 AM	to 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:45 AM	to 8:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8:00 AM	to 8:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:15 AM	to 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	to 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	to 9:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9:00 AM	to 9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 AM	to 9:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3
9:30 AM	to 9:45 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4
9:45 AM	to #####	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
HOURLY TOTALS																		
7:00 AM	to 8:00 AM	0	0	1	0	0	1	1	0	0	1	0	0	0	3	0	0	7
7:15 AM	to 8:15 AM	0	0	1	0	0	1	2	0	0	1	0	0	0	2	0	0	7
7:30 AM	to 8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3
7:45 AM	to 8:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
8:00 AM	to 9:00 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
8:15 AM	to 9:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:30 AM	to 9:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	4
8:45 AM	to 9:45 AM	0	0	3	0	0	0	4	0	0	0	0	0	0	1	0	0	8
9:00 AM	to #####	0	0	3	0	0	0	4	0	0	0	0	0	0	1	0	0	8

TEL: (510) 232 - 1271FAX: (510) 232 - 1272

TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

8:00 AM to 9:00 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	0	2	0	0	2

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018							
N-S APPROACH: S KNICKERBOCKER DRIVE				DAY: TUESDAY							
E-W APPROACH: BROOKFIELD AVENUE				JURISDICTION: SUNNYVALE							
SURVEY PERIOD: 7:00 AM TO 10:00 AM				FILE: 3805027-1AM							
<div><div>PEAK HOUR</div><div>8:00 AM TO 9:00 AM</div></div> <div><div>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</div></div> <div><div>BY LEG:</div><div><div>N-LEG</div><div>S-LEG</div><div>E-LEG</div><div>W-LEG</div></div><div><div>0</div><div>0</div><div>2</div><div>1</div></div></div>						<div><div>PEAK HOUR</div><div>TOTAL PEDESTRIAN VOLUMES</div><div>3</div></div> <div><div>BY DIRECTION:</div><div><div>NB(D+G)</div><div>SB(C+H)</div><div>EB(A+F)</div><div>WB(B+E)</div></div><div><div>3</div><div>0</div><div>0</div><div>0</div></div></div>					
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
07:00 AM	---	07:15 AM	1	0	0	0	0	0	0	1	
07:15 AM	---	07:30 AM	1	0	1	2	0	0	0	4	
07:30 AM	---	07:45 AM	1	0	1	5	0	0	3	10	
07:45 AM	---	08:00 AM	1	0	3	6	0	0	3	13	
08:00 AM	---	08:15 AM	1	0	3	7	0	0	3	14	
08:15 AM	---	08:30 AM	1	0	3	8	0	0	3	15	
08:30 AM	---	08:45 AM	1	0	3	8	0	0	4	16	
08:45 AM	---	09:00 AM	1	0	3	8	0	0	4	16	
09:00 AM	---	09:15 AM	1	0	4	9	0	0	6	21	
09:15 AM	---	09:30 AM	1	0	4	9	0	0	6	21	
09:30 AM	---	09:45 AM	1	0	7	11	0	0	6	28	
09:45 AM	---	10:00 AM	1	0	8	11	0	0	6	29	
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	1	0	0	0	0	0	0	1	
07:15 AM	---	07:30 AM	0	0	1	2	0	0	0	3	
07:30 AM	---	07:45 AM	0	0	0	3	0	0	3	6	
07:45 AM	---	08:00 AM	0	0	2	1	0	0	0	3	
08:00 AM	---	08:15 AM	0	0	0	1	0	0	0	1	
08:15 AM	---	08:30 AM	0	0	0	1	0	0	0	1	
08:30 AM	---	08:45 AM	0	0	0	0	0	1	0	1	
08:45 AM	---	09:00 AM	0	0	0	0	0	0	0	0	
09:00 AM	---	09:15 AM	0	0	1	1	0	0	2	5	
09:15 AM	---	09:30 AM	0	0	0	0	0	0	0	0	
09:30 AM	---	09:45 AM	0	0	3	2	0	0	0	7	
09:45 AM	---	10:00 AM	0	0	1	0	0	0	0	1	
HOURLY TOTALS											
07:00 AM	---	08:00 AM	1	0	3	6	0	0	3	13	
07:15 AM	---	08:15 AM	0	0	3	7	0	0	3	13	
07:30 AM	---	08:30 AM	0	0	2	6	0	0	3	11	
07:45 AM	---	08:45 AM	0	0	2	3	0	0	1	6	
08:00 AM	---	09:00 AM	0	0	0	2	0	0	1	3	
08:15 AM	---	09:15 AM	0	0	1	2	0	0	3	7	
08:30 AM	---	09:30 AM	0	0	1	1	0	0	3	6	
08:45 AM	---	09:45 AM	0	0	4	3	0	0	2	12	
09:00 AM	---	10:00 AM	0	0	5	3	0	0	2	13	
Tel : (510) 232-1271 Fax: (510) 232-1272											

Tel : (510) 232-1271

Fax: (510) 232-1272

8:00 AM	to	9:00 AM				
VOLUME BY DIRECTION			NB	SB	EB	WB
PEDESTRIAN			3	0	0	0
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG
PEDESTRIAN			0	0	2	1
					TOTAL	
					3	

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:		5/15/2018		DAY:		TUESDAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
N-S APPROACH:		S KNICKERBOCKER DRIVE								SURVEY TIME:		4:00 PM		TO		7:00 PM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
E-W APPROACH:		BROOKFIELD AVENUE								JURISDICTION:		SUNNYVALE		FILE:		3805027-2PM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
<div><div><div>PEAK HOUR 5:15 PM to 6:15 PM</div><div></div></div><div><div>ARRIVAL / DEPARTURE VOLUMES</div><div><div>PHF = 0.89</div><div><div>210</div><div>25</div></div><div><div>PHF = 0.71</div><div><div>9</div><div>20</div></div><div><div>5</div><div>45</div></div><div><div>PHF = 0.63</div><div><div>184</div><div>28</div></div><div><div>PHF = 0.54</div></div></div></div></div></div><table><tr><th colspan="2">TIME PERIOD</th><th colspan="4">NORTHBOUND</th><th colspan="4">SOUTHBOUND</th><th colspan="4">EASTBOUND</th><th colspan="4">WESTBOUND</th><th rowspan="2">TOTAL</th></tr><tr><th>From</th><th>To</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th></tr><tr><td colspan="18">SURVEY DATA</td></tr><tr><td>4:00 PM</td><td>to 4:15 PM</td><td>0</td><td>0</td><td>6</td><td>2</td><td>0</td><td>10</td><td>25</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>6</td><td>0</td><td>1</td><td>50</td></tr><tr><td>4:15 PM</td><td>to 4:30 PM</td><td>0</td><td>0</td><td>9</td><td>4</td><td>0</td><td>20</td><td>45</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>8</td><td>1</td><td>3</td><td>90</td></tr><tr><td>4:30 PM</td><td>to 4:45 PM</td><td>0</td><td>0</td><td>14</td><td>4</td><td>0</td><td>23</td><td>74</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>13</td><td>1</td><td>4</td><td>135</td></tr><tr><td>4:45 PM</td><td>to 5:00 PM</td><td>0</td><td>0</td><td>22</td><td>5</td><td>0</td><td>30</td><td>99</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>17</td><td>1</td><td>4</td><td>181</td></tr><tr><td>5:00 PM</td><td>to 5:15 PM</td><td>0</td><td>0</td><td>27</td><td>6</td><td>0</td><td>36</td><td>133</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>22</td><td>1</td><td>6</td><td>234</td></tr><tr><td>5:15 PM</td><td>to 5:30 PM</td><td>0</td><td>1</td><td>35</td><td>10</td><td>0</td><td>44</td><td>176</td><td>4</td><td>1</td><td>2</td><td>0</td><td>0</td><td>24</td><td>1</td><td>6</td><td>304</td></tr><tr><td>5:30 PM</td><td>to 5:45 PM</td><td>0</td><td>1</td><td>38</td><td>10</td><td>0</td><td>57</td><td>221</td><td>5</td><td>2</td><td>3</td><td>0</td><td>0</td><td>27</td><td>2</td><td>7</td><td>373</td></tr><tr><td>5:45 PM</td><td>to 6:00 PM</td><td>0</td><td>1</td><td>41</td><td>10</td><td>0</td><td>64</td><td>265</td><td>6</td><td>2</td><td>3</td><td>0</td><td>0</td><td>32</td><td>2</td><td>9</td><td>435</td></tr><tr><td>6:00 PM</td><td>to 6:15 PM</td><td>0</td><td>2</td><td>46</td><td>13</td><td>0</td><td>72</td><td>301</td><td>7</td><td>2</td><td>3</td><td>2</td><td>0</td><td>36</td><td>2</td><td>11</td><td>497</td></tr><tr><td>6:15 PM</td><td>to 6:30 PM</td><td>0</td><td>2</td><td>51</td><td>13</td><td>0</td><td>79</td><td>336</td><td>7</td><td>2</td><td>3</td><td>2</td><td>0</td><td>38</td><td>2</td><td>12</td><td>547</td></tr><tr><td>6:30 PM</td><td>to 6:45 PM</td><td>1</td><td>2</td><td>59</td><td>14</td><td>0</td><td>93</td><td>372</td><td>9</td><td>2</td><td>3</td><td>2</td><td>0</td><td>43</td><td>3</td><td>13</td><td>616</td></tr><tr><td>6:45 PM</td><td>to 7:00 PM</td><td>1</td><td>2</td><td>67</td><td>17</td><td>1</td><td>99</td><td>408</td><td>9</td><td>2</td><td>3</td><td>2</td><td>0</td><td>45</td><td>3</td><td>14</td><td>673</td></tr><tr><td colspan="18">TOTAL BY PERIOD</td></tr><tr><td>4:00 PM</td><td>to 4:15 PM</td><td>0</td><td>0</td><td>6</td><td>2</td><td>0</td><td>10</td><td>25</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>6</td><td>0</td><td>1</td><td>50</td></tr><tr><td>4:15 PM</td><td>to 4:30 PM</td><td>0</td><td>0</td><td>3</td><td>2</td><td>0</td><td>10</td><td>20</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>2</td><td>1</td><td>2</td><td>40</td></tr><tr><td>4:30 PM</td><td>to 4:45 PM</td><td>0</td><td>0</td><td>5</td><td>0</td><td>0</td><td>3</td><td>29</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>5</td><td>0</td><td>1</td><td>45</td></tr><tr><td>4:45 PM</td><td>to 5:00 PM</td><td>0</td><td>0</td><td>8</td><td>1</td><td>0</td><td>7</td><td>25</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>4</td><td>0</td><td>0</td><td>46</td></tr><tr><td>5:00 PM</td><td>to 5:15 PM</td><td>0</td><td>0</td><td>5</td><td>1</td><td>0</td><td>6</td><td>34</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>5</td><td>0</td><td>2</td><td>53</td></tr><tr><td>5:15 PM</td><td>to 5:30 PM</td><td>0</td><td>1</td><td>8</td><td>4</td><td>0</td><td>8</td><td>43</td><td>3</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>2</td><td>0</td><td>0</td><td>70</td></tr><tr><td>5:30 PM</td><td>to 5:45 PM</td><td>0</td><td>0</td><td>3</td><td>0</td><td>0</td><td>13</td><td>45</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>3</td><td>1</td><td>1</td><td>69</td></tr><tr><td>5:45 PM</td><td>to 6:00 PM</td><td>0</td><td>0</td><td>3</td><td>0</td><td>0</td><td>7</td><td>44</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>5</td><td>0</td><td>2</td><td>62</td></tr><tr><td>6:00 PM</td><td>to 6:15 PM</td><td>0</td><td>1</td><td>5</td><td>3</td><td>0</td><td>8</td><td>36</td><td>1</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>4</td><td>0</td><td>2</td><td>62</td></tr><tr><td>6:15 PM</td><td>to 6:30 PM</td><td>0</td><td>0</td><td>5</td><td>0</td><td>0</td><td>7</td><td>35</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>1</td><td>50</td></tr><tr><td>6:30 PM</td><td>to 6:45 PM</td><td>1</td><td>0</td><td>8</td><td>1</td><td>0</td><td>14</td><td>36</td><td>2</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>5</td><td>1</td><td>1</td><td>69</td></tr><tr><td>6:45 PM</td><td>to 7:00 PM</td><td>0</td><td>0</td><td>8</td><td>3</td><td>1</td><td>6</td><td>36</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>1</td><td>57</td></tr><tr><td colspan="18">HOURLY TOTALS</td></tr><tr><td>4:00 PM</td><td>to 5:00 PM</td><td>0</td><td>0</td><td>22</td><td>5</td><td>0</td><td>30</td><td>99</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>17</td><td>1</td><td>4</td><td>181</td></tr><tr><td>4:15 PM</td><td>to 5:15 PM</td><td>0</td><td>0</td><td>21</td><td>4</td><td>0</td><td>26</td><td>108</td><td>1</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>16</td><td>1</td><td>5</td><td>184</td></tr><tr><td>4:30 PM</td><td>to 5:30 PM</td><td>0</td><td>1</td><td>26</td><td>6</td><td>0</td><td>24</td><td>131</td><td>4</td><td>0</td><td>1</td><td>2</td><td>0</td><td>0</td><td>16</td><td>0</td><td>3</td><td>214</td></tr><tr><td>4:45 PM</td><td>to 5:45 PM</td><td>0</td><td>1</td><td>24</td><td>6</td><td>0</td><td>34</td><td>147</td><td>5</td><td>0</td><td>1</td><td>2</td><td>0</td><td>0</td><td>14</td><td>1</td><td>3</td><td>238</td></tr><tr><td>5:00 PM</td><td>to 6:00 PM</td><td>0</td><td>1</td><td>19</td><td>5</td><td>0</td><td>34</td><td>166</td><td>5</td><td>0</td><td>1</td><td>2</td><td>0</td><td>0</td><td>15</td><td>1</td><td>5</td><td>254</td></tr><tr><td>5:15 PM</td><td>to 6:15 PM</td><td>0</td><td>2</td><td>19</td><td>7</td><td>0</td><td>36</td><td>168</td><td>6</td><td>0</td><td>1</td><td>2</td><td>2</td><td>0</td><td>14</td><td>1</td><td>5</td><td>263</td></tr><tr><td>5:30 PM</td><td>to 6:30 PM</td><td>0</td><td>1</td><td>16</td><td>3</td><td>0</td><td>35</td><td>160</td><td>3</td><td>0</td><td>1</td><td>1</td><td>2</td><td>0</td><td>14</td><td>1</td><td>6</td><td>243</td></tr><tr><td>5:45 PM</td><td>to 6:45 PM</td><td>1</td><td>1</td><td>21</td><td>4</td><td>0</td><td>36</td><td>151</td><td>4</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>16</td><td>1</td><td>6</td><td>243</td></tr><tr><td>6:00 PM</td><td>to 7:00 PM</td><td>1</td><td>1</td><td>26</td><td>7</td><td>1</td><td>35</td><td>143</td><td>3</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>13</td><td>1</td><td>5</td><td>238</td></tr><tr><td colspan="18">PEAK HOUR SUMMARY</td></tr><tr><td>5:15 PM</td><td>to 6:15 PM</td><td colspan="4">NORTHBOUND</td><td colspan="4">SOUTHBOUND</td><td colspan="4">EASTBOUND</td><td colspan="4">WESTBOUND</td><td rowspan="2">TOTAL</td></tr><tr><td></td><td></td><td>NBU</td><td>NBL</td><td>NBT</td><td>NBR</td><td>SBU</td><td>SBL</td><td>SBT</td><td>SBR</td><td>EBU</td><td>EBL</td><td>EBT</td><td>EBR</td><td>WBU</td><td>WBL</td><td>WBT</td><td>WBR</td></tr><tr><td colspan="2">VOLUME</td><td>0</td><td>2</td><td>19</td><td>7</td><td>0</td><td>36</td><td>168</td><td>6</td><td>0</td><td>1</td><td>2</td><td>2</td><td>0</td><td>14</td><td>1</td><td>5</td><td>263</td></tr><tr><td colspan="2">PHF BY MOVEMENT</td><td>0.00</td><td>0.50</td><td>0.59</td><td>0.44</td><td>0.00</td><td>0.69</td><td>0.93</td><td>0.50</td><td>0.00</td><td>0.25</td><td>0.50</td><td>0.25</td><td>0.00</td><td>0.70</td><td>0.25</td><td>0.63</td><td>OVERALL</td></tr><tr><td colspan="2">PHF BY APPROACH</td><td colspan="4">0.54</td><td colspan="4">0.89</td><td colspan="4">0.63</td><td colspan="4">0.71</td><td>0.94</td></tr><tr><td colspan="2">BICYCLE</td><td colspan="4">3</td><td colspan="4">1</td><td colspan="4">0</td><td colspan="4">0</td><td>4</td></tr><tr><td colspan="2">PEDESTRIAN</td><td colspan="4">9</td><td colspan="4">9</td><td colspan="4">7</td><td colspan="4">1</td><td>26</td></tr><tr><td colspan="2"></td><td colspan="4">N-LEG</td><td colspan="4">S-LEG</td><td colspan="4">E-LEG</td><td colspan="4">W-LEG</td><td></td></tr><tr><td colspan="2">PEDESTRIAN BY LEG:</td><td colspan="4">5</td><td colspan="4">3</td><td colspan="4">8</td><td colspan="4">10</td><td>26</td></tr><tr><td colspan="18">TEL: (510) 232 - 1271 FAX: (510) 232 - 1272</td></tr></table></div>																		TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	SURVEY DATA																		4:00 PM	to 4:15 PM	0	0	6	2	0	10	25	0	0	0	0	0	6	0	1	50	4:15 PM	to 4:30 PM	0	0	9	4	0	20	45	0	0	0	0	0	8	1	3	90	4:30 PM	to 4:45 PM	0	0	14	4	0	23	74	0	1	1	0	0	13	1	4	135	4:45 PM	to 5:00 PM	0	0	22	5	0	30	99	1	1	1	0	0	17	1	4	181	5:00 PM	to 5:15 PM	0	0	27	6	0	36	133	1	1	1	0	0	22	1	6	234	5:15 PM	to 5:30 PM	0	1	35	10	0	44	176	4	1	2	0	0	24	1	6	304	5:30 PM	to 5:45 PM	0	1	38	10	0	57	221	5	2	3	0	0	27	2	7	373	5:45 PM	to 6:00 PM	0	1	41	10	0	64	265	6	2	3	0	0	32	2	9	435	6:00 PM	to 6:15 PM	0	2	46	13	0	72	301	7	2	3	2	0	36	2	11	497	6:15 PM	to 6:30 PM	0	2	51	13	0	79	336	7	2	3	2	0	38	2	12	547	6:30 PM	to 6:45 PM	1	2	59	14	0	93	372	9	2	3	2	0	43	3	13	616	6:45 PM	to 7:00 PM	1	2	67	17	1	99	408	9	2	3	2	0	45	3	14	673	TOTAL BY PERIOD																		4:00 PM	to 4:15 PM	0	0	6	2	0	10	25	0	0	0	0	0	6	0	1	50	4:15 PM	to 4:30 PM	0	0	3	2	0	10	20	0	0	0	0	0	2	1	2	40	4:30 PM	to 4:45 PM	0	0	5	0	0	3	29	0	0	1	1	0	0	5	0	1	45	4:45 PM	to 5:00 PM	0	0	8	1	0	7	25	1	0	0	0	0	0	4	0	0	46	5:00 PM	to 5:15 PM	0	0	5	1	0	6	34	0	0	0	0	0	5	0	2	53	5:15 PM	to 5:30 PM	0	1	8	4	0	8	43	3	0	0	1	0	0	2	0	0	70	5:30 PM	to 5:45 PM	0	0	3	0	0	13	45	1	0	1	1	0	0	3	1	1	69	5:45 PM	to 6:00 PM	0	0	3	0	0	7	44	1	0	0	0	0	0	5	0	2	62	6:00 PM	to 6:15 PM	0	1	5	3	0	8	36	1	0	0	0	2	0	4	0	2	62	6:15 PM	to 6:30 PM	0	0	5	0	0	7	35	0	0	0	0	0	0	2	0	1	50	6:30 PM	to 6:45 PM	1	0	8	1	0	14	36	2	0	0	0	0	0	5	1	1	69	6:45 PM	to 7:00 PM	0	0	8	3	1	6	36	0	0	0	0	0	0	2	0	1	57	HOURLY TOTALS																		4:00 PM	to 5:00 PM	0	0	22	5	0	30	99	1	0	1	1	0	0	17	1	4	181	4:15 PM	to 5:15 PM	0	0	21	4	0	26	108	1	0	1	1	0	0	16	1	5	184	4:30 PM	to 5:30 PM	0	1	26	6	0	24	131	4	0	1	2	0	0	16	0	3	214	4:45 PM	to 5:45 PM	0	1	24	6	0	34	147	5	0	1	2	0	0	14	1	3	238	5:00 PM	to 6:00 PM	0	1	19	5	0	34	166	5	0	1	2	0	0	15	1	5	254	5:15 PM	to 6:15 PM	0	2	19	7	0	36	168	6	0	1	2	2	0	14	1	5	263	5:30 PM	to 6:30 PM	0	1	16	3	0	35	160	3	0	1	1	2	0	14	1	6	243	5:45 PM	to 6:45 PM	1	1	21	4	0	36	151	4	0	0	0	2	0	16	1	6	243	6:00 PM	to 7:00 PM	1	1	26	7	1	35	143	3	0	0	0	2	0	13	1	5	238	PEAK HOUR SUMMARY																		5:15 PM	to 6:15 PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL			NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	VOLUME		0	2	19	7	0	36	168	6	0	1	2	2	0	14	1	5	263	PHF BY MOVEMENT		0.00	0.50	0.59	0.44	0.00	0.69	0.93	0.50	0.00	0.25	0.50	0.25	0.00	0.70	0.25	0.63	OVERALL	PHF BY APPROACH		0.54				0.89				0.63				0.71				0.94	BICYCLE		3				1				0				0				4	PEDESTRIAN		9				9				7				1				26			N-LEG				S-LEG				E-LEG				W-LEG					PEDESTRIAN BY LEG:		5				3				8				10				26	TEL: (510) 232 - 1271 FAX: (510) 232 - 1272																	
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B.A.Y.M.E.T.R.I.C.S.
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<div>PEAK HOUR 5:15 PM to 6:15 PM</div> <div><div>BROOKFIELD AVENUE</div><div>S KNICKERBOCKER DRIVE</div></div> <div><div>PEAK HOUR TOTAL BICYCLE VOLUMES</div><div>8</div><div>TOTAL N-END</div><div>2</div><div>TOTAL W-END</div><div>1</div><div>TOTAL E-END</div><div>1</div><div>TOTAL S-END</div><div>4</div></div>					<table><tr><th colspan="2">TIME PERIOD</th><th colspan="4">NORTHBOUND</th><th colspan="4">SOUTHBOUND</th><th colspan="4">EASTBOUND</th><th colspan="4">WESTBOUND</th><th rowspan="2">TOTAL</th></tr><tr><th>From</th><th>To</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th></tr><tr><td colspan="19">SURVEY DATA</td></tr><tr><td>4:00 PM</td><td>to 4:15 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FAX: (510) 232 - 1272

5:15 PM to 6:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	1	0	0	4

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018					
N-S APPROACH:		S KNICKERBOCKER DRIVE		DAY:		TUESDAY					
E-W APPROACH:		BROOKFIELD AVENUE		JURISDICTION:		SUNNYVALE					
SURVEY PERIOD:		4:00 PM TO 7:00 PM		FILE:		3805027-2PM					
<div><div>PEAK HOUR 5:15 PM TO 6:15 PM</div><div><div>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</div></div></div>				<div><div>PEAK HOUR TOTAL PEDESTRIAN VOLUMES 26</div><div><div>BY LEG: N-LEG 5 S-LEG 3 E-LEG 8 W-LEG 10</div><div>BY DIRECTION: NB(D+G) 9 SB(C+H) 9 EB(A+F) 7 WB(B+E) 1</div></div></div>							
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
04:00 PM	---	04:15 PM	0	0	2	2	0	0	0	1	5
04:15 PM	---	04:30 PM	0	0	2	2	1	1	0	2	8
04:30 PM	---	04:45 PM	0	0	3	3	2	1	1	2	12
04:45 PM	---	05:00 PM	1	1	3	3	3	1	4	2	18
05:00 PM	---	05:15 PM	1	3	4	4	5	1	6	4	28
05:15 PM	---	05:30 PM	1	4	4	4	5	1	6	6	31
05:30 PM	---	05:45 PM	5	4	6	6	5	1	11	8	46
05:45 PM	---	06:00 PM	5	4	8	7	5	1	12	8	50
06:00 PM	---	06:15 PM	5	4	9	7	5	4	12	8	54
06:15 PM	---	06:30 PM	7	5	10	7	7	4	15	9	64
06:30 PM	---	06:45 PM	7	5	10	8	8	4	15	9	66
06:45 PM	---	07:00 PM	7	5	11	10	8	4	17	10	72
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	0	0	2	2	0	0	0	1	5
04:15 PM	---	04:30 PM	0	0	0	0	1	1	0	1	3
04:30 PM	---	04:45 PM	0	0	1	1	1	0	1	0	4
04:45 PM	---	05:00 PM	1	1	0	0	1	0	3	0	6
05:00 PM	---	05:15 PM	0	2	1	1	2	0	2	2	10
05:15 PM	---	05:30 PM	0	1	0	0	0	0	0	2	3
05:30 PM	---	05:45 PM	4	0	2	2	0	0	5	2	15
05:45 PM	---	06:00 PM	0	0	2	1	0	0	1	0	4
06:00 PM	---	06:15 PM	0	0	1	0	0	3	0	0	4
06:15 PM	---	06:30 PM	2	1	1	0	2	0	3	1	10
06:30 PM	---	06:45 PM	0	0	0	1	1	0	0	0	2
06:45 PM	---	07:00 PM	0	0	1	2	0	0	2	1	6
HOURLY TOTALS											
04:00 PM	---	05:00 PM	1	1	3	3	3	1	4	2	18
04:15 PM	---	05:15 PM	1	3	2	2	5	1	6	3	23
04:30 PM	---	05:30 PM	1	4	2	2	4	0	6	4	23
04:45 PM	---	05:45 PM	5	4	3	3	3	0	10	6	34
05:00 PM	---	06:00 PM	4	3	5	4	2	0	8	6	32
05:15 PM	---	06:15 PM	4	1	5	3	0	3	6	4	26
05:30 PM	---	06:30 PM	6	1	6	3	2	3	9	3	33
05:45 PM	---	06:45 PM	2	1	4	2	3	3	4	1	20
06:00 PM	---	07:00 PM	2	1	3	3	3	3	5	2	22
Tel : (510) 232-1271 Fax: (510) 232-1272											

5:15 PM	to	6:15 PM					
VOLUME BY DIRECTION			NB	SB	EB	WB	TOTAL
PEDESTRIAN			9	9	7	1	26
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN			5	3	8	10	26

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018				DAY:		TUESDAY	
N-S APPROACH:		S BERNARDO AVENUE								SURVEY TIME:				7:00 AM				TO		10:00 AM	
E-W APPROACH:		EL CAMINO REAL (SR-82)								JURISDICTION:				SUNNYVALE				FILE:		3805027-2AM	
<div><div><div>PEAK HOUR</div><div>8:00 AM to 9:00 AM</div></div><div><div><div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div><div>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B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018		DAY: TUESDAY	
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 7:00 AM		TO 10:00 AM	
E-W APPROACH: EL CAMINO REAL (SR-82)				JURISDICTION: SUNNYVALE		FILE: 3805027-2AM	

PEAK HOUR 8:00 AM to 9:00 AM		<div style="text-align: center;"> <div>0 3 0 0</div> <div>0 0 5 1</div> </div>				<div style="text-align: center;"> <div>24</div> <div>TOTAL BICYCLE VOLUMES</div> <div>TOTAL N-END 8</div> <div>TOTAL W-END 3</div> <div>TOTAL E-END 4</div> <div>TOTAL S-END 9</div> </div>	
---------------------------------	--	--	--	--	--	---	--

TIME	PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	

SURVEY DATA																		
7:00 AM to 7:15 AM		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
7:15 AM to 7:30 AM		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
7:30 AM to 7:45 AM		0	1	1	0	0	0	0	0	0	0	3	0	0	0	1	0	6
7:45 AM to 8:00 AM		0	1	1	0	0	0	1	0	0	0	3	0	0	0	1	0	7
8:00 AM to 8:15 AM		0	1	4	1	0	0	3	0	0	0	3	0	0	0	2	0	14
8:15 AM to 8:30 AM		0	1	5	1	0	0	3	0	0	0	3	0	0	0	2	0	15
8:30 AM to 8:45 AM		0	1	5	1	0	0	3	0	0	0	4	0	0	0	2	0	16
8:45 AM to 9:00 AM		0	1	6	1	0	0	4	0	0	0	4	0	0	0	3	0	19
9:00 AM to 9:15 AM		0	1	7	1	0	0	7	0	0	1	4	0	0	0	3	0	24
9:15 AM to 9:30 AM		0	1	10	1	0	0	7	0	0	2	5	0	0	0	3	0	29
9:30 AM to 9:45 AM		0	1	11	1	0	0	9	1	0	2	5	0	0	0	3	0	33
9:45 AM to 10:00 AM		0	1	11	1	0	0	9	1	0	2	5	0	0	0	3	0	33

TOTAL BY PERIOD																		
7:00 AM to 7:15 AM		0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
7:15 AM to 7:30 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM to 7:45 AM		0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3
7:45 AM to 8:00 AM		0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM to 8:15 AM		0	0	3	1	0	0	2	0	0	0	0	0	0	0	1	0	7
8:15 AM to 8:30 AM		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM to 8:45 AM		0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
8:45 AM to 9:00 AM		0	0	1	0	0	0	1	0	0	0	0	0	0	0	1	0	3
9:00 AM to 9:15 AM		0	0	1	0	0	0	3	0	0	1	0	0	0	0	0	0	5
9:15 AM to 9:30 AM		0	0	3	0	0	0	0	0	0	1	1	0	0	0	0	0	5
9:30 AM to 9:45 AM		0	0	1	0	0	0	2	1	0	0	0	0	0	0	0	0	4
9:45 AM to 10:00 AM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HOURLY TOTALS																		
7:00 AM to 8:00 AM		0	1	1	0	0	0	1	0	0	0	3	0	0	0	1	0	7
7:15 AM to 8:15 AM		0	1	4	1	0	0	3	0	0	0	0	0	0	0	2	0	11
7:30 AM to 8:30 AM		0	1	5	1	0	0	3	0	0	0	0	0	0	0	2	0	12
7:45 AM to 8:45 AM		0	0	4	1	0	0	3	0	0	0	1	0	0	0	1	0	10
8:00 AM to 9:00 AM		0	0	5	1	0	0	3	0	0	0	1	0	0	0	2	0	12
8:15 AM to 9:15 AM		0	0	3	0	0	0	4	0	0	1	1	0	0	0	1	0	10
8:30 AM to 9:30 AM		0	0	5	0	0	0	4	0	0	2	2	0	0	0	1	0	14
8:45 AM to 9:45 AM		0	0	6	0	0	0	6	1	0	2	1	0	0	0	1	0	17
9:00 AM to 10:00 AM		0	0	5	0	0	0	5	1	0	2	1	0	0	0	0	0	14

TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

8:00 AM to 9:00 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	6	3	1	2	12

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018					
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY					
E-W APPROACH:		EL CAMINO REAL (SR-82)		JURISDICTION:		SUNNYVALE					
SURVEY PERIOD:		7:00 AM TO 10:00 AM		FILE:		3805027-2AM					
<div><div>PEAK HOUR</div><div>8:00 AM TO 9:00 AM</div><div><div>LEGEND: <div><div></div>CROSSWALK <div></div>SIDEWALK <div></div>STOP CONTROL LINE <div></div>STOP</div></div></div></div>				<div><div>PEAK HOUR</div><div>TOTAL PEDESTRIAN VOLUMES</div><div>66</div><div><div>BY LEG: N-LEG 9 S-LEG 10 E-LEG 10 W-LEG 37</div><div>BY DIRECTION: NB(D+G) 25 SB(C+H) 22 EB(A+F) 14 WB(B+E) 5</div></div></div>							
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
07:00 AM	---	07:15 AM	1	0	0	1	1	0	4	4	11
07:15 AM	---	07:30 AM	1	1	1	2	1	1	8	11	26
07:30 AM	---	07:45 AM	1	1	3	3	1	3	9	16	37
07:45 AM	---	08:00 AM	3	3	4	3	1	4	10	20	48
08:00 AM	---	08:15 AM	4	4	8	5	2	8	16	25	72
08:15 AM	---	08:30 AM	7	4	8	5	2	10	18	30	84
08:30 AM	---	08:45 AM	8	5	8	7	2	12	26	32	100
08:45 AM	---	09:00 AM	9	6	10	7	3	12	31	36	114
09:00 AM	---	09:15 AM	10	6	13	7	4	12	34	46	132
09:15 AM	---	09:30 AM	11	6	16	8	6	15	35	49	146
09:30 AM	---	09:45 AM	15	7	16	9	8	15	36	53	159
09:45 AM	---	10:00 AM	18	8	16	10	8	16	40	60	176
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	1	0	0	1	1	0	4	4	11
07:15 AM	---	07:30 AM	0	1	1	1	0	1	4	7	15
07:30 AM	---	07:45 AM	0	0	2	1	0	2	1	5	11
07:45 AM	---	08:00 AM	2	2	1	0	0	1	1	4	11
08:00 AM	---	08:15 AM	1	1	4	2	1	4	6	5	24
08:15 AM	---	08:30 AM	3	0	0	0	0	2	2	5	12
08:30 AM	---	08:45 AM	1	1	0	2	0	2	8	2	16
08:45 AM	---	09:00 AM	1	1	2	0	1	0	5	4	14
09:00 AM	---	09:15 AM	1	0	3	0	1	0	3	10	18
09:15 AM	---	09:30 AM	1	0	3	1	2	3	1	3	14
09:30 AM	---	09:45 AM	4	1	0	1	2	0	1	4	13
09:45 AM	---	10:00 AM	3	1	0	1	0	1	4	7	17
HOURLY TOTALS											
07:00 AM	---	08:00 AM	3	3	4	3	1	4	10	20	48
07:15 AM	---	08:15 AM	3	4	8	4	1	8	12	21	61
07:30 AM	---	08:30 AM	6	3	7	3	1	9	10	19	58
07:45 AM	---	08:45 AM	7	4	5	4	1	9	17	16	63
08:00 AM	---	09:00 AM	6	3	6	4	2	8	21	16	66
08:15 AM	---	09:15 AM	6	2	5	2	2	4	18	21	60
08:30 AM	---	09:30 AM	4	2	8	3	4	5	17	19	62
08:45 AM	---	09:45 AM	7	2	8	2	6	3	10	21	59
09:00 AM	---	10:00 AM	9	2	6	3	5	4	9	24	62
Tel : (510) 232-1271 Fax: (510) 232-1272											

8:00 AM	to	9:00 AM				
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL	
PEDESTRIAN	25	22	14	5	66	
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	
PEDESTRIAN	9	10	10	37	66	

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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<div>PEAK HOUR 5:45 PM to 6:45 PM</div> <div><div>NORTH</div><div>EL CAMINO REAL (SR-82)</div><div>S BERNARDO AVENUE</div></div> <div>ARRIVAL / DEPARTURE VOLUMES</div> <div><div>PHF = 0.88</div><div><div>689</div><div>636</div></div><div><div>PHF = 0.94</div><div>1110</div><div>1632</div></div><div><div>PHF = 0.92</div><div>624</div><div>377</div></div><div>PHF = 0.88</div></div>												TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT		SURVEY DATA																			4:00 PM	to 4:15 PM	36	27	18		15	42	36		10	67	319	37	6	30	178	28	849	4:15 PM	to 4:30 PM	70	66	37		28	75	82		18	128	652	76	12	65	364	54	1727	4:30 PM	to 4:45 PM	103	103	58		51	117	134		25	174	932	110	18	90	551	79	2545	4:45 PM	to 5:00 PM	134	135	79		69	168	187		33	238	1232	154	26	113	767	97	3432	5:00 PM	to 5:15 PM	169	156	98		89	233	241		44	306	1580	202	31	144	947	110	4350	5:15 PM	to 5:30 PM	215	196	123		116	304	298		50	385	1913	255	38	173	1156	146	5368	5:30 PM	to 5:45 PM	250	239	145		146	376	356		57	466	2258	319	45	200	1329	170	6356	5:45 PM	to 6:00 PM	277	273	174		170	476	427		71	582	2611	376	57	243	1528	211	7476	6:00 PM	to 6:15 PM	304	309	204		192	560	487		82	663	2977	415	65	272	1717	242	8489	6:15 PM	to 6:30 PM	344	343	217		216	636	556		101	750	3305	458	65	304	1942	277	9514	6:30 PM	to 6:45 PM	387	380	244		253	695	619		122	829	3649	497	80	327	2145	302	10529	6:45 PM	to 7:00 PM	409	420	267		277	737	676		135	922	3981	534	87	368	2345	341	11499	TOTAL BY PERIOD																			4:00 PM	to 4:15 PM	0	36	27	18	0	15	42	36	10	67	319	37	6	30	178	28	849	4:15 PM	to 4:30 PM	0	34	39	19	0	13	33	46	8	61	333	39	6	35	186	26	878	4:30 PM	to 4:45 PM	0	33	37	21	0	23	42	52	7	46	280	34	6	25	187	25	818	4:45 PM	to 5:00 PM	0	31	32	21	0	18	51	53	8	64	300	44	8	23	216	18	887	5:00 PM	to 5:15 PM	0	35	21	19	0	20	65	54	11	68	348	48	5	31	180	13	918	5:15 PM	to 5:30 PM	0	46	40	25	0	27	71	57	6	79	333	53	7	29	209	36	1018	5:30 PM	to 5:45 PM	0	35	43	22	0	30	72	58	7	81	345	64	7	27	173	24	988	5:45 PM	to 6:00 PM	0	27	34	29	0	24	100	71	14	116	353	57	12	43	199	41	1120	6:00 PM	to 6:15 PM	0	27	36	30	0	22	84	60	11	81	366	39	8	29	189	31	1013	6:15 PM	to 6:30 PM	0	40	34	13	0	24	76	69	19	87	328	43	0	32	225	35	1025	6:30 PM	to 6:45 PM	0	43	37	27	0	37	59	63	21	79	344	39	15	23	203	25	1015	6:45 PM	to 7:00 PM	0	22	40	23	0	24	42	57	13	93	332	37	7	41	200	39	970	HOURLY TOTALS																			4:00 PM	to 5:00 PM	0	134	135	79	0	69	168	187	33	238	1232	154	26	113	767	97	3432	4:15 PM	to 5:15 PM	0	133	129	80	0	74	191	205	34	239	1261	165	25	114	769	82	3501	4:30 PM	to 5:30 PM	0	145	130	86	0	88	229	216	32	257	1261	179	26	108	792	92	3641	4:45 PM	to 5:45 PM	0	147	136	87	0	95	259	222	32	292	1326	209	27	110	778	91	3811	5:00 PM	to 6:00 PM	0	143	138	95	0	101	308	240	38	344	1379	222	31	130	761	114	4044	5:15 PM	to 6:15 PM	0	135	153	106	0	103	327	246	38	357	1397	213	34	128	770	132	4139	5:30 PM	to 6:30 PM	0	129	147	94	0	100	332	258	51	365	1392	203	27	131	786	131	4146	5:45 PM	to 6:45 PM	0	137	141	99	0	107	319	263	65	363	1391	178	35	127	816	132	4173	6:00 PM	to 7:00 PM	0	132	147	93	0	107	261	249	64	340	1370	158	30	125	817	130	4023	PEAK HOUR SUMMARY																			5:45 PM to 6:45 PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL			NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR		VOLUME		0	137	141	99	0	107	319	263	65	363	1391	178	35	127	816	132	4173	PHF BY MOVEMENT		0.00	0.80	0.95	0.83	0.00	0.72	0.80	0.93	0.77	0.78	0.95	0.78	0.58	0.74	0.91	0.80	OVERALL	PHF BY APPROACH		0.88				0.88				0.92				0.94				0.93	BICYCLE		3				0				0				4				7	PEDESTRIAN		45				45				30				17				137			N-LEG				S-LEG				E-LEG				W-LEG					PEDESTRIAN BY LEG:		37				10				11				79				137
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PHF BY MOVEMENT		0.00	0.80	0.95	0.83	0.00	0.72	0.80	0.93	0.77	0.78	0.95	0.78	0.58	0.74	0.91	0.80	OVERALL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018				DAY:		TUESDAY	
N-S APPROACH:		S BERNARDO AVENUE								SURVEY TIME:				4:00 PM				TO		7:00 PM	
E-W APPROACH:		EL CAMINO REAL (SR-82)								JURISDICTION:				SUNNYVALE				FILE:		3805027-2PM	
<div><div><div>PEAK HOUR</div><div>5:45 PM</div> to <div>6:45 PM</div></div><div><div>EL CAMINO REAL (SR-82)</div><div>S BERNARDO AVENUE</div></div><div><div>PEAK HOUR</div><div>TOTAL BICYCLE VOLUMES</div><div>14</div><div>TOTAL N-END</div><div>3</div><div>TOTAL W-END</div><div>4</div><div>TOTAL E-END</div><div>4</div><div>TOTAL S-END</div><div>3</div></div></div>																					
TIME		PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
From		To		U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT		
SURVEY DATA																					
4:00 PM		to 4:15 PM		0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3	
4:15 PM		to 4:30 PM		0	0	1	0	0	0	0	0	0	2	0	1	0	0	0	1	5	
4:30 PM		to 4:45 PM		0	0	1	0	0	0	0	0	0	2	0	1	0	0	1	1	6	
4:45 PM		to 5:00 PM		0	0	1	0	0	0	0	0	0	2	0	1	0	0	1	2	7	
5:00 PM		to 5:15 PM		0	0	2	0	0	0	0	0	0	2	0	1	0	0	4	2	11	
5:15 PM		to 5:30 PM		0	0	2	0	0	0	0	0	0	2	0	2	0	0	5	2	13	
5:30 PM		to 5:45 PM		0	0	3	0	0	0	0	0	0	2	0	2	0	0	6	2	15	
5:45 PM		to 6:00 PM		0	0	3	0	0	0	0	0	0	2	0	2	0	0	9	2	18	
6:00 PM		to 6:15 PM		0	0	5	0	0	0	0	0	0	2	0	2	0	0	9	2	20	
6:15 PM		to 6:30 PM		0	0	5	0	0	0	0	0	0	2	0	2	0	0	9	2	20	
6:30 PM		to 6:45 PM		0	0	6	0	0	0	0	0	0	2	0	2	0	0	10	2	22	
6:45 PM		to 7:00 PM		0	0	6	0	0	0	0	0	0	2	0	2	0	0	11	2	23	
TOTAL BY PERIOD																					
4:00 PM		to 4:15 PM		0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	3	
4:15 PM		to 4:30 PM		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
4:30 PM		to 4:45 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
4:45 PM		to 5:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
5:00 PM		to 5:15 PM		0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	4	
5:15 PM		to 5:30 PM		0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	
5:30 PM		to 5:45 PM		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
5:45 PM		to 6:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	
6:00 PM		to 6:15 PM		0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
6:15 PM		to 6:30 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 PM		to 6:45 PM		0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	
6:45 PM		to 7:00 PM		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
HOURLY TOTALS																					
4:00 PM		to 5:00 PM		0	0	1	0	0	0	0	0	0	2	0	1	0	0	1	2	7	
4:15 PM		to 5:15 PM		0	0	2	0	0	0	0	0	0	0	0	0	0	0	4	2	8	
4:30 PM		to 5:30 PM		0	0	1	0	0	0	0	0	0	0	0	1	0	0	5	1	8	
4:45 PM		to 5:45 PM		0	0	2	0	0	0	0	0	0	0	0	1	0	0	5	1	9	
5:00 PM		to 6:00 PM		0	0	2	0	0	0	0	0	0	0	0	1	0	0	8	0	11	
5:15 PM		to 6:15 PM		0	0	3	0	0	0	0	0	0	0	0	1	0	0	5	0	9	
5:30 PM		to 6:30 PM		0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0	7	
5:45 PM		to 6:45 PM		0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	0	7	
6:00 PM		to 7:00 PM		0	0	3	0	0	0	0	0	0	0	0	0	0	0	2	0	5	
TEL: (510) 232 - 1271 FAX: (510) 232 - 1272																					

TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

5:45 PM to 6:45 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	0	0	4	7

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018							
N-S APPROACH: S BERNARDO AVENUE				DAY: TUESDAY							
E-W APPROACH: EL CAMINO REAL (SR-82)				JURISDICTION: SUNNYVALE							
SURVEY PERIOD: 4:00 PM TO 7:00 PM				FILE: 3805027-2PM							
<div><div>PEAK HOUR 5:45 PM TO 6:45 PM</div><div><div>LEGEND: <div><div></div>CROSSWALK <div></div>SIDEWALK <div></div>STOP CONTROL LINE <div></div>STOP</div></div></div></div>						<div><div>PEAK HOUR TOTAL PEDESTRIAN VOLUMES 137</div><div><div>BY LEG: N-LEG: 37 S-LEG: 10 E-LEG: 11 W-LEG: 79</div><div>BY DIRECTION: NB(D+G): 45 SB(C+H): 45 EB(A+F): 30 WB(B+E): 17</div></div></div>					
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
04:00 PM	---	04:15 PM	1	4	6	1	4	0	7	8	31
04:15 PM	---	04:30 PM	6	6	8	1	4	2	12	10	49
04:30 PM	---	04:45 PM	10	6	8	1	4	2	18	18	67
04:45 PM	---	05:00 PM	19	9	9	2	4	3	26	20	92
05:00 PM	---	05:15 PM	21	9	10	2	6	4	33	26	111
05:15 PM	---	05:30 PM	21	10	10	4	7	8	37	32	129
05:30 PM	---	05:45 PM	23	10	10	4	7	8	42	33	137
05:45 PM	---	06:00 PM	30	12	10	6	7	11	53	41	170
06:00 PM	---	06:15 PM	37	15	14	6	7	12	61	45	197
06:15 PM	---	06:30 PM	37	17	14	7	7	13	68	57	220
06:30 PM	---	06:45 PM	48	22	18	7	12	13	84	70	274
06:45 PM	---	07:00 PM	50	28	18	8	12	13	91	78	298
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	1	4	6	1	4	0	7	8	31
04:15 PM	---	04:30 PM	5	2	2	0	0	2	5	2	18
04:30 PM	---	04:45 PM	4	0	0	0	0	0	6	8	18
04:45 PM	---	05:00 PM	9	3	1	1	0	1	8	2	25
05:00 PM	---	05:15 PM	2	0	1	0	2	1	7	6	19
05:15 PM	---	05:30 PM	0	1	0	2	1	4	4	6	18
05:30 PM	---	05:45 PM	2	0	0	0	0	0	5	1	8
05:45 PM	---	06:00 PM	7	2	0	2	0	3	11	8	33
06:00 PM	---	06:15 PM	7	3	4	0	0	1	8	4	27
06:15 PM	---	06:30 PM	0	2	0	1	0	1	7	12	23
06:30 PM	---	06:45 PM	11	5	4	0	5	0	16	13	54
06:45 PM	---	07:00 PM	2	6	0	1	0	0	7	8	24
HOURLY TOTALS											
04:00 PM	---	05:00 PM	19	9	9	2	4	3	26	20	92
04:15 PM	---	05:15 PM	20	5	4	1	2	4	26	18	80
04:30 PM	---	05:30 PM	15	4	2	3	3	6	25	22	80
04:45 PM	---	05:45 PM	13	4	2	3	3	6	24	15	70
05:00 PM	---	06:00 PM	11	3	1	4	3	8	27	21	78
05:15 PM	---	06:15 PM	16	6	4	4	1	8	28	19	86
05:30 PM	---	06:30 PM	16	7	4	3	0	5	31	25	91
05:45 PM	---	06:45 PM	25	12	8	3	5	5	42	37	137
06:00 PM	---	07:00 PM	20	16	8	2	5	2	38	37	128
Tel : (510) 232-1271 Fax: (510) 232-1272											

5:45 PM	to	6:45 PM				
VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL	
PEDESTRIAN	45	45	30	17	137	
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL	
PEDESTRIAN	37	10	11	79	137	

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY			
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 4:00 PM				TO: 7:00 PM			
E-W APPROACH: BLAIR AVENUE				JURISDICTION: SUNNYVALE				FILE: 3805027-3PM			

PEAK HOUR
5:15 PM to 6:15 PM

NORTH

BLAIR AVENUE

S BERNARDO AVENUE

ARRIVAL / DEPARTURE VOLUMES

PHF = 0.88

565 266

PHF = 0.77

34 51

PHF = 0.00

545 263

PHF = 0.87

TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
S U R V E Y D A T A																		
4:00 PM	to 4:15 PM			47	6			5	80						1		7	146
4:15 PM	to 4:30 PM			111	8			11	155						3		12	300
4:30 PM	to 4:45 PM			167	11			14	229						4		18	443
4:45 PM	to 5:00 PM			218	14			20	330						5		20	607
5:00 PM	to 5:15 PM			271	18			26	436						6		24	781
5:15 PM	to 5:30 PM			344	19			37	557						10		27	994
5:30 PM	to 5:45 PM			395	25			45	710						16		32	1223
5:45 PM	to 6:00 PM			449	27			55	849						19		37	1436
6:00 PM	to 6:15 PM			521	31			64	963						24		40	1643
6:15 PM	to 6:30 PM			575	38			71	1078						34		45	1841
6:30 PM	to 6:45 PM			640	44			77	1171						36		48	2016
6:45 PM	to 7:00 PM			680	48			80	1255						39		53	2155
T O T A L B Y P E R I O D																		
4:00 PM	to 4:15 PM	0	0	47	6	0	5	80	0	0	0	0	0	0	1	0	7	146
4:15 PM	to 4:30 PM	0	0	64	2	0	6	75	0	0	0	0	0	0	2	0	5	154
4:30 PM	to 4:45 PM	0	0	56	3	0	3	74	0	0	0	0	0	0	1	0	6	143
4:45 PM	to 5:00 PM	0	0	51	3	0	6	101	0	0	0	0	0	0	1	0	2	164
5:00 PM	to 5:15 PM	0	0	53	4	0	6	106	0	0	0	0	0	0	1	0	4	174
5:15 PM	to 5:30 PM	0	0	73	1	0	11	121	0	0	0	0	0	0	4	0	3	213
5:30 PM	to 5:45 PM	0	0	51	6	0	8	153	0	0	0	0	0	0	6	0	5	229
5:45 PM	to 6:00 PM	0	0	54	2	0	10	139	0	0	0	0	0	0	3	0	5	213
6:00 PM	to 6:15 PM	0	0	72	4	0	9	114	0	0	0	0	0	0	5	0	3	207
6:15 PM	to 6:30 PM	0	0	54	7	0	7	115	0	0	0	0	0	0	10	0	5	198
6:30 PM	to 6:45 PM	0	0	65	6	0	6	93	0	0	0	0	0	0	2	0	3	175
6:45 PM	to 7:00 PM	0	0	40	4	0	3	84	0	0	0	0	0	0	3	0	5	139
H O U R L Y T O T A L S																		
4:00 PM	to 5:00 PM	0	0	218	14	0	20	330	0	0	0	0	0	0	5	0	20	607
4:15 PM	to 5:15 PM	0	0	224	12	0	21	356	0	0	0	0	0	0	5	0	17	635
4:30 PM	to 5:30 PM	0	0	233	11	0	26	402	0	0	0	0	0	0	7	0	15	694
4:45 PM	to 5:45 PM	0	0	228	14	0	31	481	0	0	0	0	0	0	12	0	14	780
5:00 PM	to 6:00 PM	0	0	231	13	0	35	519	0	0	0	0	0	0	14	0	17	829
5:15 PM	to 6:15 PM	0	0	250	13	0	38	527	0	0	0	0	0	0	18	0	16	862
5:30 PM	to 6:30 PM	0	0	231	19	0	34	521	0	0	0	0	0	0	24	0	18	847
5:45 PM	to 6:45 PM	0	0	245	19	0	32	461	0	0	0	0	0	0	20	0	16	793
6:00 PM	to 7:00 PM	0	0	231	21	0	25	406	0	0	0	0	0	0	20	0	16	719
P E A K H O U R S U M M A R Y																		
5:15 PM to 6:15 PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	
		0	0	250	13	0	38	527	0	0	0	0	0	0	18	0	16	862
		0.00	0.00	0.86	0.54	0.00	0.86	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.80	OVERALL
		PHF BY MOVEMENT				PHF BY APPROACH				BICYCLE				PEDESTRIAN				
		0.87				0.88				0.00				0.77				0.94
		1				3				0				1				5
		2				8				11				5				26
		N-LEG				S-LEG				E-LEG				W-LEG				
		16				0				10				0				26

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B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY										
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 4:00 PM				TO 7:00 PM										
E-W APPROACH: BLAIR AVENUE				JURISDICTION: SUNNYVALE				FILE: 3805027-3PM										
<div>PEAK HOUR 5:15 PM to 6:15 PM</div> <div><div><div>0</div><div>2</div><div>1</div><div>0</div></div><div><div><div>0</div><div>0</div><div>0</div><div>0</div></div><div><div>5</div></div><div><div>0</div><div>0</div><div>1</div><div>0</div></div></div><div>BLAIR AVENUE</div><div>S BERNARDO AVENUE</div><div>NORTH</div></div>				<div>PEAK HOUR TOTAL BICYCLE VOLUMES</div> <div>10</div> <div>TOTAL N-END 4</div> <div><div>3</div><div>1</div></div> <div>TOTAL W-END</div> <div><div>0</div><div>0</div><div>0</div></div> <div><div>0</div><div>0</div></div> <div>TOTAL E-END 2</div> <div><div>1</div><div>1</div></div> <div>TOTAL S-END 4</div> <div><div>3</div><div>1</div></div>														
TIME	PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
4:00 PM	to 4:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
4:15 PM	to 4:30 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
4:30 PM	to 4:45 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
4:45 PM	to 5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
5:00 PM	to 5:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	1	0	0	7
5:15 PM	to 5:30 PM	0	0	2	0	0	1	6	0	0	0	0	0	0	1	0	0	10
5:30 PM	to 5:45 PM	0	0	2	0	0	1	6	0	0	0	0	0	0	1	0	0	10
5:45 PM	to 6:00 PM	0	0	3	0	0	1	6	0	0	0	0	0	0	2	0	0	12
6:00 PM	to 6:15 PM	0	0	3	0	0	1	6	0	0	0	0	0	0	2	0	0	12
6:15 PM	to 6:30 PM	0	0	4	0	0	1	7	0	0	0	0	0	0	2	0	0	14
6:30 PM	to 6:45 PM	0	0	4	0	0	1	7	0	0	0	0	0	0	2	0	0	14
6:45 PM	to 7:00 PM	0	0	4	1	0	1	7	0	0	0	0	0	0	2	0	0	15
TOTAL BY PERIOD																		
4:00 PM	to 4:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
4:15 PM	to 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	to 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	to 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	to 5:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	4
5:15 PM	to 5:30 PM	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
5:30 PM	to 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	to 6:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	2
6:00 PM	to 6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 PM	to 6:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
6:30 PM	to 6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	to 7:00 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
HOURLY TOTALS																		
4:00 PM	to 5:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
4:15 PM	to 5:15 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	1	0	0	4
4:30 PM	to 5:30 PM	0	0	1	0	0	1	4	0	0	0	0	0	0	1	0	0	7
4:45 PM	to 5:45 PM	0	0	1	0	0	1	4	0	0	0	0	0	0	1	0	0	7
5:00 PM	to 6:00 PM	0	0	2	0	0	1	4	0	0	0	0	0	0	2	0	0	9
5:15 PM	to 6:15 PM	0	0	1	0	0	1	2	0	0	0	0	0	0	1	0	0	5
5:30 PM	to 6:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	4
5:45 PM	to 6:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	1	0	0	4
6:00 PM	to 7:00 PM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	3
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5:15 PM to 6:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	1	3	0	1	5

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018	
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY	
E-W APPROACH:		BLAIR AVENUE		JURISDICTION:		SUNNYVALE	
SURVEY PERIOD:		4:00 PM TO 7:00 PM		FILE:		3805027-3PM	

PEAK HOUR
5:15 PM TO 6:15 PM

LEGEND:
 CROSSWALK
 SIDEWALK
 STOP CONTROL LINE
 STOP

PEAK HOUR
TOTAL PEDESTRIAN VOLUMES
26

BY LEG:
N-LEG 16
S-LEG 0
E-LEG 10
W-LEG 0

BY DIRECTION:
NB(D+G) 2
SB(C+H) 8
EB(A+F) 11
WB(B+E) 5

TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL
From	To	A	B	C	D	E	F	G	H	
SURVEY DATA										
04:00 PM	--- 04:15 PM	0	0	0	1	0	0	0	0	1
04:15 PM	--- 04:30 PM	0	0	1	1	0	1	0	0	3
04:30 PM	--- 04:45 PM	0	2	2	1	0	1	0	0	6
04:45 PM	--- 05:00 PM	1	2	2	1	0	1	0	0	7
05:00 PM	--- 05:15 PM	3	3	2	1	0	1	0	0	10
05:15 PM	--- 05:30 PM	9	3	4	2	0	1	0	0	19
05:30 PM	--- 05:45 PM	11	6	7	2	0	1	0	0	27
05:45 PM	--- 06:00 PM	11	8	10	3	0	1	0	0	33
06:00 PM	--- 06:15 PM	14	8	10	3	0	1	0	0	36
06:15 PM	--- 06:30 PM	15	8	10	3	0	1	0	0	37
06:30 PM	--- 06:45 PM	17	8	11	4	0	1	0	0	41
06:45 PM	--- 07:00 PM	17	8	12	4	0	1	0	0	42
TOTAL BY PERIOD										
04:00 PM	--- 04:15 PM	0	0	0	1	0	0	0	0	1
04:15 PM	--- 04:30 PM	0	0	1	0	0	1	0	0	2
04:30 PM	--- 04:45 PM	0	2	1	0	0	0	0	0	3
04:45 PM	--- 05:00 PM	1	0	0	0	0	0	0	0	1
05:00 PM	--- 05:15 PM	2	1	0	0	0	0	0	0	3
05:15 PM	--- 05:30 PM	6	0	2	1	0	0	0	0	9
05:30 PM	--- 05:45 PM	2	3	3	0	0	0	0	0	8
05:45 PM	--- 06:00 PM	0	2	3	1	0	0	0	0	6
06:00 PM	--- 06:15 PM	3	0	0	0	0	0	0	0	3
06:15 PM	--- 06:30 PM	1	0	0	0	0	0	0	0	1
06:30 PM	--- 06:45 PM	2	0	1	1	0	0	0	0	4
06:45 PM	--- 07:00 PM	0	0	1	0	0	0	0	0	1
HOURLY TOTALS										
04:00 PM	--- 05:00 PM	1	2	2	1	0	1	0	0	7
04:15 PM	--- 05:15 PM	3	3	2	0	0	1	0	0	9
04:30 PM	--- 05:30 PM	9	3	3	1	0	0	0	0	16
04:45 PM	--- 05:45 PM	11	4	5	1	0	0	0	0	21
05:00 PM	--- 06:00 PM	10	6	8	2	0	0	0	0	26
05:15 PM	--- 06:15 PM	11	5	8	2	0	0	0	0	26
05:30 PM	--- 06:30 PM	6	5	6	1	0	0	0	0	18
05:45 PM	--- 06:45 PM	6	2	4	2	0	0	0	0	14
06:00 PM	--- 07:00 PM	6	0	2	1	0	0	0	0	9

Tel : (510) 232-1271

Fax: (510) 232-1272

5:15 PM	to	6:15 PM				
VOLUME BY DIRECTION			NB	SB	EB	WB
PEDESTRIAN			2	8	11	5
TOTAL			26			
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG
PEDESTRIAN			16	0	10	0
TOTAL			26			

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:				5/15/2018		DAY:		TUESDAY																	
N-S APPROACH:		S BERNARDO AVENUE				SURVEY TIME:				7:00 AM		TO		10:00 AM																	
E-W APPROACH:		BLAIR AVENUE				JURISDICTION:				SUNNYVALE		FILE:		3805027-3AM																	
<div><div><div>PEAK HOUR</div><div>8:00 AM to 9:00 AM</div></div><div><div>NORTH</div><div>↑</div></div><div>BLAIR AVENUE</div><div><div>0020</div><div>0040</div><div>6</div></div></div>																<div><div><div>PEAK HOUR</div><div>TOTAL BICYCLE VOLUMES</div><div>12</div></div><div><div>TOTAL N-END</div><div>6</div><div>24</div></div><div><div>TOTAL W-END</div><div>0</div><div>0000</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0</div><div>0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8:00 AM	to	9:00 AM					
APPROACH VOLUME			NB	SB	EB	WB	TOTAL
BICYCLE			4	2	0	0	6

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018				
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY				
E-W APPROACH:		BLAIR AVENUE		JURISDICTION:		SUNNYVALE				
SURVEY PERIOD:		7:00 AM TO 10:00 AM		FILE:		3805027-3AM				
<div><div>PEAK HOUR 8:00 AM TO 9:00 AM</div><div><div>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</div></div></div>				<div><div>PEAK HOUR TOTAL PEDESTRIAN VOLUMES</div><div><div>BY LEG: N-LEG 3 S-LEG 0 E-LEG 4 W-LEG 0</div><div>BY DIRECTION: NB(D+G) 0 SB(C+H) 4 EB(A+F) 2 WB(B+E) 1</div></div></div>						
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL
From	To	A	B	C	D	E	F	G	H	
SURVEY DATA										
07:00 AM	---	07:15 AM	0	1	1	0	0	0	0	2
07:15 AM	---	07:30 AM	1	1	1	0	0	0	0	3
07:30 AM	---	07:45 AM	5	2	1	0	0	0	0	8
07:45 AM	---	08:00 AM	5	2	1	0	0	0	0	8
08:00 AM	---	08:15 AM	7	3	2	0	0	0	0	12
08:15 AM	---	08:30 AM	7	3	4	0	0	0	0	14
08:30 AM	---	08:45 AM	7	3	4	0	0	0	0	14
08:45 AM	---	09:00 AM	7	3	5	0	0	0	0	15
09:00 AM	---	09:15 AM	8	5	8	1	0	0	0	22
09:15 AM	---	09:30 AM	8	6	10	1	0	0	0	25
09:30 AM	---	09:45 AM	8	8	14	1	0	0	0	31
09:45 AM	---	10:00 AM	8	9	14	1	0	0	0	32
TOTAL BY PERIOD										
07:00 AM	---	07:15 AM	0	1	1	0	0	0	0	2
07:15 AM	---	07:30 AM	1	0	0	0	0	0	0	1
07:30 AM	---	07:45 AM	4	1	0	0	0	0	0	5
07:45 AM	---	08:00 AM	0	0	0	0	0	0	0	0
08:00 AM	---	08:15 AM	2	1	1	0	0	0	0	4
08:15 AM	---	08:30 AM	0	0	2	0	0	0	0	2
08:30 AM	---	08:45 AM	0	0	0	0	0	0	0	0
08:45 AM	---	09:00 AM	0	0	1	0	0	0	0	1
09:00 AM	---	09:15 AM	1	2	3	1	0	0	0	7
09:15 AM	---	09:30 AM	0	1	2	0	0	0	0	3
09:30 AM	---	09:45 AM	0	2	4	0	0	0	0	6
09:45 AM	---	10:00 AM	0	1	0	0	0	0	0	1
HOURLY TOTALS										
07:00 AM	---	08:00 AM	5	2	1	0	0	0	0	8
07:15 AM	---	08:15 AM	7	2	1	0	0	0	0	10
07:30 AM	---	08:30 AM	6	2	3	0	0	0	0	11
07:45 AM	---	08:45 AM	2	1	3	0	0	0	0	6
08:00 AM	---	09:00 AM	2	1	4	0	0	0	0	7
08:15 AM	---	09:15 AM	1	2	6	1	0	0	0	10
08:30 AM	---	09:30 AM	1	3	6	1	0	0	0	11
08:45 AM	---	09:45 AM	1	5	10	1	0	0	0	17
09:00 AM	---	10:00 AM	1	6	9	1	0	0	0	17
Tel : (510) 232-1271 Fax: (510) 232-1272										

8:00 AM	to	9:00 AM					
VOLUME BY DIRECTION			NB	SB	EB	WB	TOTAL
PEDESTRIAN			0	4	2	1	7
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN			3	0	4	0	7

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY															
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 7:00 AM				TO 10:00 AM															
E-W APPROACH: BROOKFIELD AVENUE				JURISDICTION: SUNNYVALE				FILE: 3805027-4AM															
<div>PEAK HOUR 8:00 AM to 9:00 AM</div> <div><div>705</div></div> <div>BROOKFIELD AVENUE</div> <div>S BERNARDO AVENUE</div>												<div>ARRIVAL / DEPARTURE VOLUMES</div> <div>PHF = 0.65</div> <div><div>PHF = 0.38</div><div>PHF = 0.43</div><div>PHF = 0.79</div></div>											
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL					
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT						
SURVEY DATA																							
7:00 AM	to 7:15 AM	0	32	0		0	25	1		5	0	2		2	0	0	0	67					
7:15 AM	to 7:30 AM	1	68	2		0	65	3		5	0	3		3	0	0	0	150					
7:30 AM	to 7:45 AM	1	120	2		0	126	3		8	0	5		3	0	0	0	268					
7:45 AM	to 8:00 AM	2	192	3		1	188	6		12	0	6		3	0	0	0	413					
8:00 AM	to 8:15 AM	5	300	8		1	253	14		20	0	18		3	0	0	0	622					
8:15 AM	to 8:30 AM	12	442	10		1	288	21		24	0	18		3	0	0	0	819					
8:30 AM	to 8:45 AM	12	541	12		1	327	24		30	0	20		4	0	1	1	972					
8:45 AM	to 9:00 AM	14	647	14		1	359	25		32	0	20		5	0	1	1	1118					
9:00 AM	to 9:15 AM	15	763	15		1	398	31		39	0	23		5	0	1	1	1291					
9:15 AM	to 9:30 AM	15	864	17		1	440	34		51	0	27		6	0	1	1	1456					
9:30 AM	to 9:45 AM	15	953	19		1	476	37		59	0	27		7	1	1	1	1596					
9:45 AM	to 10:00 AM	17	1028	20		1	510	40		69	0	33		7	1	1	1	1727					
TOTAL BY PERIOD																							
7:00 AM	to 7:15 AM	0	0	32	0	0	0	25	1	0	5	0	2	0	2	0	0	67					
7:15 AM	to 7:30 AM	0	1	36	2	0	0	40	2	0	0	0	1	0	1	0	0	83					
7:30 AM	to 7:45 AM	0	0	52	0	0	0	61	0	0	3	0	2	0	0	0	0	118					
7:45 AM	to 8:00 AM	0	1	72	1	0	1	62	3	0	4	0	1	0	0	0	0	145					
8:00 AM	to 8:15 AM	0	3	108	5	0	0	65	8	0	8	0	12	0	0	0	0	209					
8:15 AM	to 8:30 AM	0	7	142	2	0	0	35	7	0	4	0	0	0	0	0	0	197					
8:30 AM	to 8:45 AM	0	0	99	2	0	0	39	3	0	6	0	2	0	1	0	1	153					
8:45 AM	to 9:00 AM	0	2	106	2	0	0	32	1	0	2	0	0	0	1	0	0	146					
9:00 AM	to 9:15 AM	0	1	116	1	0	0	39	6	0	7	0	3	0	0	0	0	173					
9:15 AM	to 9:30 AM	0	0	101	2	0	0	42	3	0	12	0	4	0	1	0	0	165					
9:30 AM	to 9:45 AM	0	0	89	2	0	0	36	3	0	8	0	0	0	1	1	0	140					
9:45 AM	to 10:00 AM	0	2	75	1	0	0	34	3	0	10	0	6	0	0	0	0	131					
HOURLY TOTALS																							
7:00 AM	to 8:00 AM	0	2	192	3	0	1	188	6	0	12	0	6	0	3	0	0	413					
7:15 AM	to 8:15 AM	0	5	268	8	0	1	228	13	0	15	0	16	0	1	0	0	555					
7:30 AM	to 8:30 AM	0	11	374	8	0	1	223	18	0	19	0	15	0	0	0	0	669					
7:45 AM	to 8:45 AM	0	11	421	10	0	1	201	21	0	22	0	15	0	1	0	1	704					
8:00 AM	to 9:00 AM	0	12	455	11	0	0	171	19	0	20	0	14	0	2	0	1	705					
8:15 AM	to 9:15 AM	0	10	463	7	0	0	145	17	0	19	0	5	0	2	0	1	669					
8:30 AM	to 9:30 AM	0	3	422	7	0	0	152	13	0	27	0	9	0	3	0	1	637					
8:45 AM	to 9:45 AM	0	3	412	7	0	0	149	13	0	29	0	7	0	3	1	0	624					
9:00 AM	to 10:00 AM	0	3	381	6	0	0	151	15	0	37	0	13	0	2	1	0	609					
PEAK HOUR SUMMARY																							
8:00 AM to 9:00 AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL					
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR						
VOLUME		0	12	455	11	0	0	171	19	0	20	0	14	0	2	0	1	705					
PHF BY MOVEMENT		0.00	0.43	0.80	0.55	0.00	0.00	0.66	0.59	0.00	0.63	0.00	0.29	0.00	0.50	0.00	0.25	OVERALL					
PHF BY APPROACH		0.79				0.65				0.43				0.38				0.84					
BICYCLE		4				3				0				1				8					
PEDESTRIAN		20				21				0				0				41					
		N-LEG				S-LEG				E-LEG				W-LEG									
PEDESTRIAN BY LEG:		0				0				0				41				41					

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TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY										
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 7:00 AM				TO 10:00 AM										
E-W APPROACH: BROOKFIELD AVENUE				JURISDICTION: SUNNYVALE				FILE: 3805027-4AM										
<div><div>PEAK HOUR 8:00 AM to 9:00 AM</div><div><div>0 3 0 0</div><div>0 0 0 1 0 0</div><div>0 0 2 0 0 0</div><div>0 0 4 0</div><div>8</div></div><div><div>PEAK HOUR TOTAL BICYCLE VOLUMES 16</div><div><div>TOTAL N-END 7</div><div>3 4</div><div>TOTAL W-END 0</div><div>0 0</div><div>0 0</div><div>TOTAL E-END 1</div><div>1 0</div><div>0 0</div><div>TOTAL S-END 8</div><div>4 4</div></div></div></div>																		
TIME	PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
7:00 AM	to 7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	to 7:30 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
7:30 AM	to 7:45 AM	0	0	2	0	0	0	1	1	0	0	0	0	0	0	0	0	4
7:45 AM	to 8:00 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	5
8:00 AM	to 8:15 AM	0	0	3	0	0	0	3	1	0	0	0	0	0	1	0	0	8
8:15 AM	to 8:30 AM	0	0	5	0	0	0	4	1	0	0	0	0	0	1	0	0	11
8:30 AM	to 8:45 AM	0	0	5	0	0	0	4	1	0	0	0	0	0	1	0	0	11
8:45 AM	to 9:00 AM	0	0	6	0	0	0	5	1	0	0	0	0	0	1	0	0	13
9:00 AM	to 9:15 AM	0	0	6	0	0	0	6	1	0	0	0	0	0	1	0	0	14
9:15 AM	to 9:30 AM	0	0	9	0	0	0	6	1	0	0	0	0	0	1	0	0	17
9:30 AM	to 9:45 AM	0	0	10	0	0	0	7	1	0	0	0	0	0	1	0	0	19
9:45 AM	to 10:00 AM	0	0	10	0	0	0	8	1	0	0	0	0	0	1	0	0	20
TOTAL BY PERIOD																		
7:00 AM	to 7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
7:15 AM	to 7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
7:30 AM	to 7:45 AM	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	2
7:45 AM	to 8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
8:00 AM	to 8:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	3
8:15 AM	to 8:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
8:30 AM	to 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	to 9:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
9:00 AM	to 9:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
9:15 AM	to 9:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
9:30 AM	to 9:45 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
9:45 AM	to 10:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
HOURLY TOTALS																		
7:00 AM	to 8:00 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	0	0	0	5
7:15 AM	to 8:15 AM	0	0	2	0	0	0	3	1	0	0	0	0	0	1	0	0	7
7:30 AM	to 8:30 AM	0	0	4	0	0	0	3	1	0	0	0	0	0	1	0	0	9
7:45 AM	to 8:45 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	1	0	0	7
8:00 AM	to 9:00 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	1	0	0	8
8:15 AM	to 9:15 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6
8:30 AM	to 9:30 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6
8:45 AM	to 9:45 AM	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	0	8
9:00 AM	to 10:00 AM	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	7
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TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

8:00 AM	to	9:00 AM				
APPROACH VOLUME		NB	SB	EB	WB	TOTAL
BICYCLE		4	3	0	1	8

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018					
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY					
E-W APPROACH:		BROOKFIELD AVENUE		JURISDICTION:		SUNNYVALE					
SURVEY PERIOD:		7:00 AM TO 10:00 AM		FILE:		3805027-4AM					
<div><div><div>PEAK HOUR</div><div>8:00 AM TO 9:00 AM</div></div><div><div>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</div></div></div>				<div><div><div>PEAK HOUR</div><div>TOTAL PEDESTRIAN VOLUMES</div><div>41</div></div><div><div>BY LEG: N-LEG 0 S-LEG 0 E-LEG 0 W-LEG 41</div><div>BY DIRECTION: NB(D+G) 20 SB(C+H) 21 EB(A+F) 0 WB(B+E) 0</div></div></div>							
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
07:00 AM	---	07:15 AM	0	0	1	0	0	0	3	0	4
07:15 AM	---	07:30 AM	0	0	2	0	0	0	3	2	7
07:30 AM	---	07:45 AM	0	0	2	0	0	0	4	2	8
07:45 AM	---	08:00 AM	0	0	2	0	0	0	4	10	16
08:00 AM	---	08:15 AM	0	0	2	0	0	0	9	26	37
08:15 AM	---	08:30 AM	0	0	2	0	0	0	20	27	49
08:30 AM	---	08:45 AM	0	0	2	0	0	0	24	30	56
08:45 AM	---	09:00 AM	0	0	2	0	0	0	24	31	57
09:00 AM	---	09:15 AM	0	0	2	0	0	0	25	31	58
09:15 AM	---	09:30 AM	0	0	2	0	0	0	25	32	59
09:30 AM	---	09:45 AM	0	0	2	0	0	0	25	35	62
09:45 AM	---	10:00 AM	0	0	2	0	0	0	25	35	62
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	0	0	1	0	0	0	3	0	4
07:15 AM	---	07:30 AM	0	0	1	0	0	0	0	2	3
07:30 AM	---	07:45 AM	0	0	0	0	0	0	1	0	1
07:45 AM	---	08:00 AM	0	0	0	0	0	0	0	8	8
08:00 AM	---	08:15 AM	0	0	0	0	0	0	5	16	21
08:15 AM	---	08:30 AM	0	0	0	0	0	0	11	1	12
08:30 AM	---	08:45 AM	0	0	0	0	0	0	4	3	7
08:45 AM	---	09:00 AM	0	0	0	0	0	0	0	1	1
09:00 AM	---	09:15 AM	0	0	0	0	0	0	1	0	1
09:15 AM	---	09:30 AM	0	0	0	0	0	0	0	1	1
09:30 AM	---	09:45 AM	0	0	0	0	0	0	0	3	3
09:45 AM	---	10:00 AM	0	0	0	0	0	0	0	0	0
HOURLY TOTALS											
07:00 AM	---	08:00 AM	0	0	2	0	0	0	4	10	16
07:15 AM	---	08:15 AM	0	0	1	0	0	0	6	26	33
07:30 AM	---	08:30 AM	0	0	0	0	0	0	17	25	42
07:45 AM	---	08:45 AM	0	0	0	0	0	0	20	28	48
08:00 AM	---	09:00 AM	0	0	0	0	0	0	20	21	41
08:15 AM	---	09:15 AM	0	0	0	0	0	0	16	5	21
08:30 AM	---	09:30 AM	0	0	0	0	0	0	5	5	10
08:45 AM	---	09:45 AM	0	0	0	0	0	0	1	5	6
09:00 AM	---	10:00 AM	0	0	0	0	0	0	1	4	5
Tel : (510) 232-1271 Fax: (510) 232-1272											

8:00 AM	to	9:00 AM				
VOLUME BY DIRECTION			NB	SB	EB	TOTAL
PEDESTRIAN			20	21	0	41
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	TOTAL
PEDESTRIAN			0	0	41	41

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018		DAY:		TUESDAY	
N-S APPROACH:		S BERNARDO AVENUE								SURVEY TIME:				4:00 PM		TO		7:00 PM	
E-W APPROACH:		BROOKFIELD AVENUE								JURISDICTION:				SUNNYVALE		FILE:		3805027-2PM	
<div>PEAK HOUR 5:15 PM to 6:15 PM</div> <div><div><div>27</div><div>517</div><div>0</div><div>0</div></div><div><div>0</div><div>20</div><div>0</div><div>21</div></div><div><div>826</div></div><div><div>1</div><div>0</div><div>2</div><div>0</div></div></div> <div><div>BROOKFIELD AVENUE</div><div>S BERNARDO AVENUE</div></div> <div><div>0</div><div>7</div><div>226</div><div>5</div></div>										<div>ARRIVAL / DEPARTURE VOLUMES</div> <div><div>PHF = 0.88</div><div><div>544</div><div>247</div></div><div><div>34</div><div>41</div><div>PHF = 0.68</div></div><div><div>PHF = 0.38</div><div>3</div><div>5</div></div><div><div>540</div><div>238</div><div>PHF = 0.86</div></div></div>									
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT		
SURVEY DATA																			
4:00 PM	to 4:15 PM	0	49	0		0	64	8		10	0	6		1	0	0	138		
4:15 PM	to 4:30 PM	3	96	2		0	143	13		17	0	12		3	0	0	289		
4:30 PM	to 4:45 PM	4	137	4		0	232	17		20	0	15		5	0	1	435		
4:45 PM	to 5:00 PM	4	180	5		0	332	25		24	0	21		6	0	1	598		
5:00 PM	to 5:15 PM	4	223	7		0	451	32		25	0	24		6	0	3	775		
5:15 PM	to 5:30 PM	4	278	10		0	570	36		31	0	29		8	0	3	969		
5:30 PM	to 5:45 PM	5	327	10		0	719	41		35	0	34		8	0	3	1182		
5:45 PM	to 6:00 PM	9	383	11		0	853	49		37	0	38		8	0	3	1391		
6:00 PM	to 6:15 PM	11	449	12		0	968	59		45	0	45		8	0	4	1601		
6:15 PM	to 6:30 PM	11	499	13		1	1082	64		49	0	48		11	0	4	1782		
6:30 PM	to 6:45 PM	12	535	14		1	1191	72		53	0	58		11	0	4	1951		
6:45 PM	to 7:00 PM	13	597	14		2	1272	77		59	0	60		12	0	4	2110		
TOTAL BY PERIOD																			
4:00 PM	to 4:15 PM	0	0	49	0	0	0	64	8	0	10	0	6	0	1	0	0	138	
4:15 PM	to 4:30 PM	0	3	47	2	0	0	79	5	0	7	0	6	0	2	0	0	151	
4:30 PM	to 4:45 PM	0	1	41	2	0	0	89	4	0	3	0	3	0	2	0	1	146	
4:45 PM	to 5:00 PM	0	0	43	1	0	0	100	8	0	4	0	6	0	1	0	0	163	
5:00 PM	to 5:15 PM	0	0	43	2	0	0	119	7	0	1	0	3	0	0	0	2	177	
5:15 PM	to 5:30 PM	0	0	55	3	0	0	119	4	0	6	0	5	0	2	0	0	194	
5:30 PM	to 5:45 PM	0	1	49	0	0	0	149	5	0	4	0	5	0	0	0	0	213	
5:45 PM	to 6:00 PM	0	4	56	1	0	0	134	8	0	2	0	4	0	0	0	0	209	
6:00 PM	to 6:15 PM	0	2	66	1	0	0	115	10	0	8	0	7	0	0	0	1	210	
6:15 PM	to 6:30 PM	0	0	50	1	0	1	114	5	0	4	0	3	0	3	0	0	181	
6:30 PM	to 6:45 PM	0	1	36	1	0	0	109	8	0	4	0	10	0	0	0	0	169	
6:45 PM	to 7:00 PM	0	1	62	0	0	1	81	5	0	6	0	2	0	1	0	0	159	
HOURLY TOTALS																			
4:00 PM	to 5:00 PM	0	4	180	5	0	0	332	25	0	24	0	21	0	6	0	1	598	
4:15 PM	to 5:15 PM	0	4	174	7	0	0	387	24	0	15	0	18	0	5	0	3	637	
4:30 PM	to 5:30 PM	0	1	182	8	0	0	427	23	0	14	0	17	0	5	0	3	680	
4:45 PM	to 5:45 PM	0	1	190	6	0	0	487	24	0	15	0	19	0	3	0	2	747	
5:00 PM	to 6:00 PM	0	5	203	6	0	0	521	24	0	13	0	17	0	2	0	2	793	
5:15 PM	to 6:15 PM	0	7	226	5	0	0	517	27	0	20	0	21	0	2	0	1	826	
5:30 PM	to 6:30 PM	0	7	221	3	0	1	512	28	0	18	0	19	0	3	0	1	813	
5:45 PM	to 6:45 PM	0	7	208	4	0	1	472	31	0	18	0	24	0	3	0	1	769	
6:00 PM	to 7:00 PM	0	4	214	3	0	2	419	28	0	22	0	22	0	4	0	1	719	
PEAK HOUR SUMMARY																			
5:15 PM to 6:15 PM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR		
VOLUME		0	7	226	5	0	0	517	27	0	20	0	21	0	2	0	1	826	
PHF BY MOVEMENT		0.00	0.44	0.86	0.42	0.00	0.00	0.87	0.68	0.00	0.63	0.00	0.75	0.00	0.25	0.00	0.25	OVERALL	
PHF BY APPROACH		0.86				0.88				0.68				0.38				0.97	
BICYCLE		4				6				0				0				10	
PEDESTRIAN		14				0				0				0				14	
		N-LEG				S-LEG				E-LEG				W-LEG					
PEDESTRIAN BY LEG:		0				0				0				14				14	
TEL: (510) 232 - 1271 FAX: (510) 232 - 1272																			

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:				5/15/2018		DAY:		TUESDAY	
N-S APPROACH:		S BERNARDO AVENUE				SURVEY TIME:				4:00 PM		TO		7:00 PM	
E-W APPROACH:		BROOKFIELD AVENUE				JURISDICTION:				SUNNYVALE		FILE:		3805027-2PM	

PEAK HOUR
5:15 PM to 6:15 PM

NORTH

BROOKFIELD AVENUE

S BERNARDO AVENUE

PEAK HOUR
TOTAL BICYCLE VOLUMES

TOTAL N-END 8

6 2

TOTAL E-END 0

0 0

TOTAL W-END 3

3 0

0 0

TOTAL S-END 9

5 4

TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
4:00 PM	to 4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:30 PM	to 4:45 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
4:45 PM	to 5:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
5:00 PM	to 5:15 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
5:15 PM	to 5:30 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6
5:30 PM	to 5:45 PM	0	1	3	0	0	0	5	0	0	0	0	0	0	0	0	0	9
5:45 PM	to 6:00 PM	0	1	3	0	0	0	6	0	0	0	0	0	0	0	0	0	10
6:00 PM	to 6:15 PM	0	2	4	0	0	0	6	1	0	0	0	0	0	0	0	0	13
6:15 PM	to 6:30 PM	0	2	4	0	0	0	6	1	0	0	0	0	0	0	0	0	13
6:30 PM	to 6:45 PM	0	2	4	0	0	0	6	1	0	0	0	0	0	0	0	0	13
6:45 PM	to 7:00 PM	0	2	4	0	0	0	7	1	0	1	0	0	0	0	0	0	15
TOTAL BY PERIOD																		
4:00 PM	to 4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	to 4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	to 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	to 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	to 5:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3
5:30 PM	to 5:45 PM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3
5:45 PM	to 6:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
6:00 PM	to 6:15 PM	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	3
6:15 PM	to 6:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 PM	to 6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 PM	to 7:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2
HOURLY TOTALS																		
4:00 PM	to 5:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
4:15 PM	to 5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	to 5:30 PM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4
4:45 PM	to 5:45 PM	0	1	1	0	0	0	4	0	0	0	0	0	0	0	0	0	6
5:00 PM	to 6:00 PM	0	1	1	0	0	0	5	0	0	0	0	0	0	0	0	0	7
5:15 PM	to 6:15 PM	0	2	2	0	0	0	5	1	0	0	0	0	0	0	0	0	10
5:30 PM	to 6:30 PM	0	2	2	0	0	0	2	1	0	0	0	0	0	0	0	0	7
5:45 PM	to 6:45 PM	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	4
6:00 PM	to 7:00 PM	0	1	1	0	0	0	1	1	0	1	0	0	0	0	0	0	5

TEL: (510) 232 - 1271FAX: (510) 232 - 1272

TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

5:15 PM to 6:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	4	6	0	0	10

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018				
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY				
E-W APPROACH:		BROOKFIELD AVENUE		JURISDICTION:		SUNNYVALE				
SURVEY PERIOD:		4:00 PM TO 7:00 PM		FILE:		3805027-2PM				
<div><div>PEAK HOUR 5:15 PM TO 6:15 PM</div><div></div></div>				<div><div>PEAK HOUR TOTAL PEDESTRIAN VOLUMES 14</div><div></div></div>						
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL
From	To	A	B	C	D	E	F	G	H	
SURVEY DATA										
04:00 PM	---	04:15 PM	0	0	0	0	0	3	3	6
04:15 PM	---	04:30 PM	0	0	1	0	0	6	4	11
04:30 PM	---	04:45 PM	0	0	1	0	0	6	4	11
04:45 PM	---	05:00 PM	0	0	1	0	0	6	6	13
05:00 PM	---	05:15 PM	0	0	1	1	0	8	7	17
05:15 PM	---	05:30 PM	0	0	1	1	0	10	7	19
05:30 PM	---	05:45 PM	0	0	1	1	0	12	7	21
05:45 PM	---	06:00 PM	0	0	1	1	0	19	7	28
06:00 PM	---	06:15 PM	0	0	1	1	0	22	7	31
06:15 PM	---	06:30 PM	0	0	1	1	0	22	8	32
06:30 PM	---	06:45 PM	0	0	1	1	0	24	9	35
06:45 PM	---	07:00 PM	0	0	3	1	0	24	9	37
TOTAL BY PERIOD										
04:00 PM	---	04:15 PM	0	0	0	0	0	3	3	6
04:15 PM	---	04:30 PM	0	0	1	0	0	3	1	5
04:30 PM	---	04:45 PM	0	0	0	0	0	0	0	0
04:45 PM	---	05:00 PM	0	0	0	0	0	0	2	2
05:00 PM	---	05:15 PM	0	0	0	1	0	2	1	4
05:15 PM	---	05:30 PM	0	0	0	0	0	2	0	2
05:30 PM	---	05:45 PM	0	0	0	0	0	2	0	2
05:45 PM	---	06:00 PM	0	0	0	0	0	7	0	7
06:00 PM	---	06:15 PM	0	0	0	0	0	3	0	3
06:15 PM	---	06:30 PM	0	0	0	0	0	0	1	1
06:30 PM	---	06:45 PM	0	0	0	0	0	2	1	3
06:45 PM	---	07:00 PM	0	0	2	0	0	0	0	2
HOURLY TOTALS										
04:00 PM	---	05:00 PM	0	0	1	0	0	6	6	13
04:15 PM	---	05:15 PM	0	0	1	1	0	5	4	11
04:30 PM	---	05:30 PM	0	0	0	1	0	4	3	8
04:45 PM	---	05:45 PM	0	0	0	1	0	6	3	10
05:00 PM	---	06:00 PM	0	0	0	1	0	13	1	15
05:15 PM	---	06:15 PM	0	0	0	0	0	14	0	14
05:30 PM	---	06:30 PM	0	0	0	0	0	12	1	13
05:45 PM	---	06:45 PM	0	0	0	0	0	12	2	14
06:00 PM	---	07:00 PM	0	0	2	0	0	5	2	9
Tel : (510) 232-1271 Fax: (510) 232-1272										

5:15 PM	to	6:15 PM				
VOLUME BY DIRECTION			NB	SB	EB	TOTAL
PEDESTRIAN			14	0	0	14
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	TOTAL
PEDESTRIAN			0	0	14	14

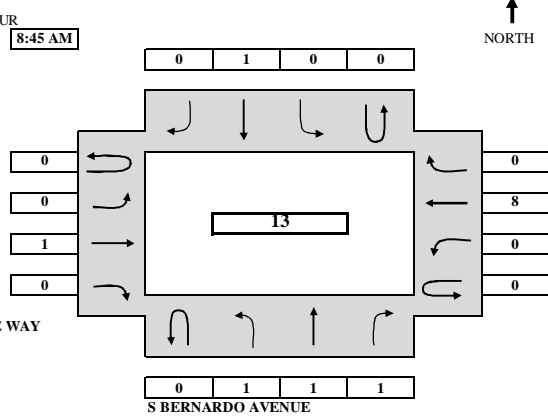
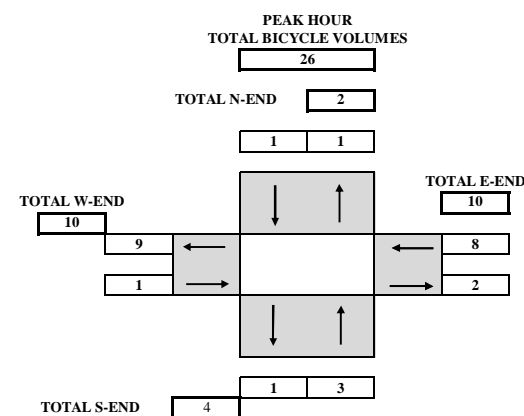
B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018				DAY:				TUESDAY																	
N-S APPROACH:		S BERNARDO AVENUE								SURVEY TIME:				7:00 AM				TO				10:00 AM																	
E-W APPROACH:		HEATHERSTONE WAY								JURISDICTION:				SUNNYVALE				FILE:				3805027-5AM																	
<div><div><div>PEAK HOUR</div><div>7:45 AM</div> to <div>8:45 AM</div></div><div><div>NORTH</div></div></div>																				<div><div>ARRIVAL / DEPARTURE VOLUMES</div><div><div>PHF = 0.88</div><div>217</div><div>373</div></div><div><div>PHF = 0.67</div><div>74</div><div>47</div><div>144</div><div>105</div></div><div><div>PHF = 0.37</div><div>232</div><div>376</div></div><div><div>PHF = 0.80</div></div></div>																			
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL																					
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT																						
SURVEY DATA																																							
7:00 AM	to 7:15 AM	1	27	3		2	25	0		1	0	0		1	1	1		62																					
7:15 AM	to 7:30 AM	2	56	6		3	79	2		2	0	2		3	2	4		161																					
7:30 AM	to 7:45 AM	3	113	12		6	149	2		2	1	2		6	5	11		312																					
7:45 AM	to 8:00 AM	5	166	22		12	205	2		2	2	3		9	11	20		459																					
8:00 AM	to 8:15 AM	6	243	61		18	257	3		8	27	4		27	30	37		721																					
8:15 AM	to 8:30 AM	11	335	68		20	301	7		12	28	5		39	48	56		930																					
8:30 AM	to 8:45 AM	13	419	72		22	342	10		14	30	8		39	61	66		1096																					
8:45 AM	to 9:00 AM	15	498	73		24	378	12		14	33	11		41	67	73		1239																					
9:00 AM	to 9:15 AM	19	566	77		27	415	14		14	35	12		43	72	79		1373																					
9:15 AM	to 9:30 AM	26	641	78		31	458	14		15	35	14		45	78	83		1518																					
9:30 AM	to 9:45 AM	29	714	82		31	502	14		15	37	16		49	82	91		1662																					
9:45 AM	to 10:00 AM	31	773	83		31	543	14		15	39	16		52	83	93		1773																					
TOTAL BY PERIOD																																							
7:00 AM	to 7:15 AM	0	1	27	3	0	2	25	0	0	1	0	0	0	1	1	1	62																					
7:15 AM	to 7:30 AM	0	1	29	3	0	1	54	2	0	1	0	2	0	2	1	3	99																					
7:30 AM	to 7:45 AM	0	1	57	6	0	3	70	0	0	0	1	0	0	3	3	7	151																					
7:45 AM	to 8:00 AM	0	2	53	10	0	6	56	0	0	0	1	1	0	3	6	9	147																					
8:00 AM	to 8:15 AM	0	1	77	39	0	6	52	1	0	6	25	1	0	18	19	17	262																					
8:15 AM	to 8:30 AM	0	5	92	7	0	2	44	4	0	4	1	1	0	12	18	19	209																					
8:30 AM	to 8:45 AM	0	2	84	4	0	2	41	3	0	2	2	3	0	0	13	10	166																					
8:45 AM	to 9:00 AM	0	2	79	1	0	2	36	2	0	0	3	3	0	2	6	7	143																					
9:00 AM	to 9:15 AM	0	4	68	4	0	3	37	2	0	0	2	1	0	2	5	6	134																					
9:15 AM	to 9:30 AM	0	7	75	1	0	4	43	0	0	1	0	2	0	2	6	4	145																					
9:30 AM	to 9:45 AM	0	3	73	4	0	0	44	0	0	0	2	2	0	4	4	8	144																					
9:45 AM	to 10:00 AM	0	2	59	1	0	0	41	0	0	0	2	0	0	3	1	2	111																					
HOURLY TOTALS																																							
7:00 AM	to 8:00 AM	0	5	166	22	0	12	205	2	0	2	2	3	0	9	11	20	459																					
7:15 AM	to 8:15 AM	0	5	216	58	0	16	232	3	0	7	27	4	0	26	29	36	659																					
7:30 AM	to 8:30 AM	0	9	279	62	0	17	222	5	0	10	28	3	0	36	46	52	769																					
7:45 AM	to 8:45 AM	0	10	306	60	0	16	193	8	0	12	29	6	0	33	56	55	784																					
8:00 AM	to 9:00 AM	0	10	332	51	0	12	173	10	0	12	31	8	0	32	56	53	780																					
8:15 AM	to 9:15 AM	0	13	323	16	0	9	158	11	0	6	8	8	0	16	42	42	652																					
8:30 AM	to 9:30 AM	0	15	306	10	0	11	157	7	0	3	7	9	0	6	30	27	588																					
8:45 AM	to 9:45 AM	0	16	295	10	0	9	160	4	0	1	7	8	0	10	21	25	566																					
9:00 AM	to 10:00 AM	0	16	275	10	0	7	165	2	0	1	6	5	0	11	16	20	534																					
PEAK HOUR SUMMARY																																							
7:45 AM to 8:45 AM		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL																					
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR																						
VOLUME		0	10	306	60	0	16	193	8	0	12	29	6	0	33	56	55	784																					
PHF BY MOVEMENT		0.00	0.50	0.83	0.38	0.00	0.67	0.86	0.50	0.00	0.50	0.29	0.50	0.00	0.46	0.74	0.72	OVERALL																					
PHF BY APPROACH		0.80				0.88				0.37				0.67				0.75																					
BICYCLE		3				1				1				8				13																					
PEDESTRIAN		41				99				167				58				365																					
		N-LEG				S-LEG				E-LEG				W-LEG																									
PEDESTRIAN BY LEG:		47				178				51				89				365																					
TEL.: (510) 232 - 1271 FAX: (510) 232 - 1272																																							

TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE					SURVEY DATE: 5/15/2018					DAY: TUESDAY									
N-S APPROACH: S BERNARDO AVENUE					SURVEY TIME: 7:00 AM					TO 10:00 AM									
E-W APPROACH: HEATHERSTONE WAY					JURISDICTION: SUNNYVALE					FILE: 3805027-5AM									
<div>PEAK HOUR 7:45 AM to 8:45 AM</div> 										<div>PEAK HOUR TOTAL BICYCLE VOLUMES</div> <div>TOTAL N-END 2</div> <div>TOTAL W-END 10</div> <div>TOTAL E-END 10</div> <div>TOTAL S-END 4</div> 									
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT		
SURVEY DATA																			
7:00 AM	to 7:15 AM	0	0	1	0	0	0	2	1	0	0	0	0	0	0	1	0	5	
7:15 AM	to 7:30 AM	0	0	1	0	0	0	2	1	0	0	0	0	0	0	1	0	5	
7:30 AM	to 7:45 AM	0	0	2	0	0	0	2	1	0	0	0	0	0	0	1	0	6	
7:45 AM	to 8:00 AM	0	0	2	1	0	0	3	1	0	0	0	0	0	0	2	0	9	
8:00 AM	to 8:15 AM	0	0	2	1	0	0	3	1	0	0	0	0	0	0	3	0	10	
8:15 AM	to 8:30 AM	0	0	3	1	0	0	3	1	0	0	0	0	0	0	8	0	16	
8:30 AM	to 8:45 AM	0	1	3	1	0	0	3	1	0	0	1	0	0	0	9	0	19	
8:45 AM	to 9:00 AM	0	1	3	1	0	0	4	1	0	1	1	0	0	0	9	0	21	
9:00 AM	to 9:15 AM	0	1	3	1	0	0	5	2	0	1	1	0	0	0	11	0	25	
9:15 AM	to 9:30 AM	0	1	5	1	0	0	5	2	0	1	1	0	0	0	14	0	30	
9:30 AM	to 9:45 AM	0	1	5	1	0	0	6	2	0	1	2	0	0	0	15	1	34	
9:45 AM	to 10:00 AM	0	1	5	1	0	0	7	2	0	1	3	0	0	0	15	1	36	
TOTAL BY PERIOD																			
7:00 AM	to 7:15 AM	0	0	1	0	0	0	2	1	0	0	0	0	0	0	1	0	5	
7:15 AM	to 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	to 7:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:45 AM	to 8:00 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	3	
8:00 AM	to 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
8:15 AM	to 8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	6	
8:30 AM	to 8:45 AM	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	3	
8:45 AM	to 9:00 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	
9:00 AM	to 9:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	4	
9:15 AM	to 9:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	5	
9:30 AM	to 9:45 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	4	
9:45 AM	to 10:00 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	
HOURLY TOTALS																			
7:00 AM	to 8:00 AM	0	0	2	1	0	0	3	1	0	0	0	0	0	0	2	0	9	
7:15 AM	to 8:15 AM	0	0	1	1	0	0	1	0	0	0	0	0	0	0	2	0	5	
7:30 AM	to 8:30 AM	0	0	2	1	0	0	1	0	0	0	0	0	0	0	7	0	11	
7:45 AM	to 8:45 AM	0	1	1	1	0	0	1	0	0	0	1	0	0	0	8	0	13	
8:00 AM	to 9:00 AM	0	1	1	0	0	0	1	0	0	1	1	0	0	0	7	0	12	
8:15 AM	to 9:15 AM	0	1	1	0	0	0	2	1	0	1	1	0	0	0	8	0	15	
8:30 AM	to 9:30 AM	0	1	2	0	0	0	2	1	0	1	1	0	0	0	6	0	14	
8:45 AM	to 9:45 AM	0	0	2	0	0	0	3	1	0	1	1	0	0	0	6	1	15	
9:00 AM	to 10:00 AM	0	0	2	0	0	0	3	1	0	0	2	0	0	0	6	1	15	
TEL.: (510) 232 - 1271 FAX: (510) 232 - 1272																			

TEL: (510) 232 - 1271 FAX: (510) 232 - 1272

7:45 AM to 8:45 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	1	1	8	13

B . A . Y . M . E . T . R . I . C . S .
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018					
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY					
E-W APPROACH:		HEATHERSTONE WAY		JURISDICTION:		SUNNYVALE					
SURVEY PERIOD:		7:00 AM		TO		10:00 AM					
				FILE:		3805027-5AM					
<div><div><div>PEAK HOUR</div><div>7:45 AM</div><div>TO</div><div>8:45 AM</div></div><div><div>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</div></div></div>				<div><div><div>PEAK HOUR</div><div>TOTAL PEDESTRIAN VOLUMES</div><div>365</div></div><div><div>BY LEG: N-LEG S-LEG E-LEG W-LEG</div><div>BY DIRECTION: NB(D+G) SB(C+H) EB(A+F) WB(B+E)</div></div></div>							
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
07:00 AM	---	07:15 AM	0	0	1	0	1	0	0	0	2
07:15 AM	---	07:30 AM	0	1	3	0	1	1	0	1	7
07:30 AM	---	07:45 AM	0	2	4	1	1	2	0	1	11
07:45 AM	---	08:00 AM	3	3	7	4	2	15	0	7	41
08:00 AM	---	08:15 AM	35	7	42	10	17	131	7	59	308
08:15 AM	---	08:30 AM	35	13	42	13	46	132	27	60	368
08:30 AM	---	08:45 AM	36	13	43	13	48	133	29	61	376
08:45 AM	---	09:00 AM	36	13	44	13	49	133	29	61	378
09:00 AM	---	09:15 AM	36	13	44	14	49	134	29	64	383
09:15 AM	---	09:30 AM	36	13	44	14	50	134	31	64	386
09:30 AM	---	09:45 AM	37	15	44	14	50	134	33	66	393
09:45 AM	---	10:00 AM	38	16	44	14	51	134	33	67	397
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	0	0	1	0	1	0	0	0	2
07:15 AM	---	07:30 AM	0	1	2	0	0	1	0	1	5
07:30 AM	---	07:45 AM	0	1	1	1	0	1	0	0	4
07:45 AM	---	08:00 AM	3	1	3	3	1	13	0	6	30
08:00 AM	---	08:15 AM	32	4	35	6	15	116	7	52	267
08:15 AM	---	08:30 AM	0	6	0	3	29	1	20	1	60
08:30 AM	---	08:45 AM	1	0	1	0	2	1	2	1	8
08:45 AM	---	09:00 AM	0	0	1	0	1	0	0	0	2
09:00 AM	---	09:15 AM	0	0	0	1	0	1	0	3	5
09:15 AM	---	09:30 AM	0	0	0	0	1	0	2	0	3
09:30 AM	---	09:45 AM	1	2	0	0	0	0	2	2	7
09:45 AM	---	10:00 AM	1	1	0	0	1	0	0	1	4
HOURLY TOTALS											
07:00 AM	---	08:00 AM	3	3	7	4	2	15	0	7	41
07:15 AM	---	08:15 AM	35	7	41	10	16	131	7	59	306
07:30 AM	---	08:30 AM	35	12	39	13	45	131	27	59	361
07:45 AM	---	08:45 AM	36	11	39	12	47	131	29	60	365
08:00 AM	---	09:00 AM	33	10	37	9	47	118	29	54	337
08:15 AM	---	09:15 AM	1	6	2	4	32	3	22	5	75
08:30 AM	---	09:30 AM	1	0	2	1	4	2	4	4	18
08:45 AM	---	09:45 AM	1	2	1	1	2	1	4	5	17
09:00 AM	---	10:00 AM	2	3	0	1	2	1	4	6	19
Tel : (510) 232-1271 Fax: (510) 232-1272											

7:45 AM	to	8:45 AM					
VOLUME BY DIRECTION			NB	SB	EB	WB	TOTAL
PEDESTRIAN			41	99	167	58	365
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN			47	178	51	89	365

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 7:00 AM				TO 10:00 AM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
E-W APPROACH: KNICKERBOCKER DRIVE				JURISDICTION: SUNNYVALE				FILE: 3805027-6AM																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
<div><div><div>PEAK HOUR 7:45 AM to 8:45 AM</div><div><div><div><div><div><div>3</div><div>201</div><div>36</div><div>0</div></div><div><div><div><div><div><div>0</div><div>28</div><div>22</div><div>75</div></div><div><div><div><div><div><div>55</div><div>48</div><div>57</div><div>0</div></div><div><div><div><div><div><div>0</div><div>105</div><div>298</div><div>32</div></div></div></div></div></div><div>960</div></div></div><div>NORTH</div><div>KNICKERBOCKER DRIVE</div><div>S BERNARDO AVENUE</div></div></div><div><div>ARRIVAL / DEPARTURE VOLUMES</div><div><div>PHF = 0.86</div><div><div>240</div><div>381</div></div><div><div><div><div><div><div>PHF = 0.58</div></div><div><div><div><div><div><div>156</div><div>125</div></div><div><div><div><div><div><div>160</div><div>90</div></div></div></div></div></div><div>PHF = 0.58</div></div></div><div><div>333</div><div>435</div></div><div>PHF = 0.94</div></div></div></div></div><table><tr><th colspan="2">TIME PERIOD</th><th colspan="4">NORTHBOUND</th><th colspan="4">SOUTHBOUND</th><th colspan="4">EASTBOUND</th><th colspan="4">WESTBOUND</th><th rowspan="2">TOTAL</th></tr><tr><th>From</th><th>To</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th></tr><tr><td colspan="18">SURVEY DATA</td></tr><tr><td>7:00 AM</td><td>to 7:15 AM</td><td>4</td><td>26</td><td>3</td><td></td><td>0</td><td>23</td><td>1</td><td></td><td>1</td><td>2</td><td>9</td><td></td><td>2</td><td>3</td><td>2</td><td>76</td></tr><tr><td>7:15 AM</td><td>to 7:30 AM</td><td>10</td><td>54</td><td>4</td><td></td><td>2</td><td>76</td><td>1</td><td></td><td>2</td><td>5</td><td>17</td><td></td><td>5</td><td>9</td><td>4</td><td>189</td></tr><tr><td>7:30 AM</td><td>to 7:45 AM</td><td>17</td><td>90</td><td>4</td><td></td><td>6</td><td>152</td><td>1</td><td></td><td>2</td><td>8</td><td>40</td><td></td><td>14</td><td>9</td><td>13</td><td>356</td></tr><tr><td>7:45 AM</td><td>to 8:00 AM</td><td>36</td><td>156</td><td>11</td><td></td><td>18</td><td>205</td><td>1</td><td></td><td>7</td><td>10</td><td>64</td><td></td><td>20</td><td>12</td><td>21</td><td>561</td></tr><tr><td>8:00 AM</td><td>to 8:15 AM</td><td>47</td><td>235</td><td>33</td><td></td><td>33</td><td>258</td><td>3</td><td></td><td>24</td><td>25</td><td>86</td><td></td><td>41</td><td>25</td><td>39</td><td>849</td></tr><tr><td>8:15 AM</td><td>to 8:30 AM</td><td>77</td><td>318</td><td>35</td><td></td><td>39</td><td>315</td><td>4</td><td></td><td>27</td><td>28</td><td>110</td><td></td><td>67</td><td>45</td><td>62</td><td>1127</td></tr><tr><td>8:30 AM</td><td>to 8:45 AM</td><td>122</td><td>388</td><td>36</td><td></td><td>42</td><td>353</td><td>4</td><td></td><td>30</td><td>30</td><td>115</td><td></td><td>71</td><td>57</td><td>68</td><td>1316</td></tr><tr><td>8:45 AM</td><td>to 9:00 AM</td><td>159</td><td>473</td><td>37</td><td></td><td>44</td><td>395</td><td>5</td><td></td><td>31</td><td>32</td><td>132</td><td></td><td>75</td><td>64</td><td>71</td><td>1518</td></tr><tr><td>9:00 AM</td><td>to 9:15 AM</td><td>202</td><td>570</td><td>38</td><td></td><td>46</td><td>433</td><td>6</td><td></td><td>34</td><td>35</td><td>139</td><td></td><td>78</td><td>68</td><td>76</td><td>1725</td></tr><tr><td>9:15 AM</td><td>to 9:30 AM</td><td>228</td><td>656</td><td>39</td><td></td><td>48</td><td>483</td><td>8</td><td></td><td>36</td><td>39</td><td>160</td><td></td><td>84</td><td>74</td><td>80</td><td>1935</td></tr><tr><td>9:30 AM</td><td>to 9:45 AM</td><td>251</td><td>739</td><td>40</td><td></td><td>50</td><td>529</td><td>10</td><td></td><td>38</td><td>40</td><td>184</td><td></td><td>87</td><td>78</td><td>83</td><td>2129</td></tr><tr><td>9:45 AM</td><td>to 10:00 AM</td><td>266</td><td>805</td><td>42</td><td></td><td>51</td><td>570</td><td>12</td><td></td><td>39</td><td>41</td><td>197</td><td></td><td>88</td><td>81</td><td>88</td><td>2280</td></tr><tr><td colspan="18">TOTAL BY PERIOD</td></tr><tr><td>7:00 AM</td><td>to 7:15 AM</td><td>0</td><td>4</td><td>26</td><td>3</td><td>0</td><td>0</td><td>23</td><td>1</td><td>0</td><td>1</td><td>2</td><td>9</td><td>0</td><td>2</td><td>3</td><td>2</td><td>76</td></tr><tr><td>7:15 AM</td><td>to 7:30 AM</td><td>0</td><td>6</td><td>28</td><td>1</td><td>0</td><td>2</td><td>53</td><td>0</td><td>0</td><td>1</td><td>3</td><td>8</td><td>0</td><td>3</td><td>6</td><td>2</td><td>113</td></tr><tr><td>7:30 AM</td><td>to 7:45 AM</td><td>0</td><td>7</td><td>36</td><td>0</td><td>0</td><td>4</td><td>76</td><td>0</td><td>0</td><td>0</td><td>3</td><td>23</td><td>0</td><td>9</td><td>0</td><td>9</td><td>167</td></tr><tr><td>7:45 AM</td><td>to 8:00 AM</td><td>0</td><td>19</td><td>66</td><td>7</td><td>0</td><td>12</td><td>53</td><td>0</td><td>0</td><td>5</td><td>2</td><td>24</td><td>0</td><td>6</td><td>3</td><td>8</td><td>205</td></tr><tr><td>8:00 AM</td><td>to 8:15 AM</td><td>0</td><td>11</td><td>79</td><td>22</td><td>0</td><td>15</td><td>53</td><td>2</td><td>0</td><td>17</td><td>15</td><td>22</td><td>0</td><td>21</td><td>13</td><td>18</td><td>288</td></tr><tr><td>8:15 AM</td><td>to 8:30 AM</td><td>0</td><td>30</td><td>83</td><td>2</td><td>0</td><td>6</td><td>57</td><td>1</td><td>0</td><td>3</td><td>3</td><td>24</td><td>0</td><td>26</td><td>20</td><td>23</td><td>278</td></tr><tr><td>8:30 AM</td><td>to 8:45 AM</td><td>0</td><td>45</td><td>70</td><td>1</td><td>0</td><td>3</td><td>38</td><td>0</td><td>0</td><td>3</td><td>2</td><td>5</td><td>0</td><td>4</td><td>12</td><td>6</td><td>189</td></tr><tr><td>8:45 AM</td><td>to 9:00 AM</td><td>0</td><td>37</td><td>85</td><td>1</td><td>0</td><td>2</td><td>42</td><td>1</td><td>0</td><td>1</td><td>2</td><td>17</td><td>0</td><td>4</td><td>7</td><td>3</td><td>202</td></tr><tr><td>9:00 AM</td><td>to 9:15 AM</td><td>0</td><td>43</td><td>97</td><td>1</td><td>0</td><td>2</td><td>38</td><td>1</td><td>0</td><td>3</td><td>3</td><td>7</td><td>0</td><td>3</td><td>4</td><td>5</td><td>207</td></tr><tr><td>9:15 AM</td><td>to 9:30 AM</td><td>0</td><td>26</td><td>86</td><td>1</td><td>0</td><td>2</td><td>50</td><td>2</td><td>0</td><td>2</td><td>4</td><td>21</td><td>0</td><td>6</td><td>6</td><td>4</td><td>210</td></tr><tr><td>9:30 AM</td><td>to 9:45 AM</td><td>0</td><td>23</td><td>83</td><td>1</td><td>0</td><td>2</td><td>46</td><td>2</td><td>0</td><td>2</td><td>1</td><td>24</td><td>0</td><td>3</td><td>4</td><td>3</td><td>194</td></tr><tr><td>9:45 AM</td><td>to 10:00 AM</td><td>0</td><td>15</td><td>66</td><td>2</td><td>0</td><td>1</td><td>41</td><td>2</td><td>0</td><td>1</td><td>1</td><td>13</td><td>0</td><td>1</td><td>3</td><td>5</td><td>151</td></tr><tr><td colspan="18">HOURLY TOTALS</td></tr><tr><td>7:00 AM</td><td>to 8:00 AM</td><td>0</td><td>36</td><td>156</td><td>11</td><td>0</td><td>18</td><td>205</td><td>1</td><td>0</td><td>7</td><td>10</td><td>64</td><td>0</td><td>20</td><td>12</td><td>21</td><td>561</td></tr><tr><td>7:15 AM</td><td>to 8:15 AM</td><td>0</td><td>43</td><td>209</td><td>30</td><td>0</td><td>33</td><td>235</td><td>2</td><td>0</td><td>23</td><td>23</td><td>77</td><td>0</td><td>39</td><td>22</td><td>37</td><td>773</td></tr><tr><td>7:30 AM</td><td>to 8:30 AM</td><td>0</td><td>67</td><td>264</td><td>31</td><td>0</td><td>37</td><td>239</td><td>3</td><td>0</td><td>25</td><td>23</td><td>93</td><td>0</td><td>62</td><td>36</td><td>58</td><td>938</td></tr><tr><td>7:45 AM</td><td>to 8:45 AM</td><td>0</td><td>105</td><td>298</td><td>32</td><td>0</td><td>36</td><td>201</td><td>3</td><td>0</td><td>28</td><td>22</td><td>75</td><td>0</td><td>57</td><td>48</td><td>55</td><td>960</td></tr><tr><td>8:00 AM</td><td>to 9:00 AM</td><td>0</td><td>123</td><td>317</td><td>26</td><td>0</td><td>26</td><td>190</td><td>4</td><td>0</td><td>24</td><td>22</td><td>68</td><td>0</td><td>55</td><td>52</td><td>50</td><td>957</td></tr><tr><td>8:15 AM</td><td>to 9:15 AM</td><td>0</td><td>155</td><td>335</td><td>5</td><td>0</td><td>13</td><td>175</td><td>3</td><td>0</td><td>10</td><td>10</td><td>53</td><td>0</td><td>37</td><td>43</td><td>37</td><td>876</td></tr><tr><td>8:30 AM</td><td>to 9:30 AM</td><td>0</td><td>151</td><td>338</td><td>4</td><td>0</td><td>9</td><td>168</td><td>4</td><td>0</td><td>9</td><td>11</td><td>50</td><td>0</td><td>17</td><td>29</td><td>18</td><td>808</td></tr><tr><td>8:45 AM</td><td>to 9:45 AM</td><td>0</td><td>129</td><td>351</td><td>4</td><td>0</td><td>8</td><td>176</td><td>6</td><td>0</td><td>8</td><td>10</td><td>69</td><td>0</td><td>16</td><td>21</td><td>15</td><td>813</td></tr><tr><td>9:00 AM</td><td>to 10:00 AM</td><td>0</td><td>107</td><td>332</td><td>5</td><td>0</td><td>7</td><td>175</td><td>7</td><td>0</td><td>8</td><td>9</td><td>65</td><td>0</td><td>13</td><td>17</td><td>17</td><td>762</td></tr><tr><td colspan="18">PEAK HOUR SUMMARY</td></tr><tr><td rowspan="2">7:45 AM</td><td rowspan="2">to 8:45 AM</td><td colspan="4">NORTHBOUND</td><td colspan="4">SOUTHBOUND</td><td colspan="4">EASTBOUND</td><td colspan="4">WESTBOUND</td><td rowspan="2">TOTAL</td></tr><tr><td>NBU</td><td>NBL</td><td>NBT</td><td>NBR</td><td>SBU</td><td>SBL</td><td>SBT</td><td>SBR</td><td>EBU</td><td>EBL</td><td>EBT</td><td>EBR</td><td>WBU</td><td>WBL</td><td>WBT</td><td>WBR</td></tr><tr><td colspan="2">VOLUME</td><td>0</td><td>105</td><td>298</td><td>32</td><td>0</td><td>36</td><td>201</td><td>3</td><td>0</td><td>28</td><td>22</td><td>75</td><td>0</td><td>57</td><td>48</td><td>55</td><td>960</td></tr><tr><td colspan="2">PHF BY MOVEMENT</td><td>0.00</td><td>0.58</td><td>0.90</td><td>0.36</td><td>0.00</td><td>0.60</td><td>0.88</td><td>0.38</td><td>0.00</td><td>0.41</td><td>0.37</td><td>0.78</td><td>0.00</td><td>0.55</td><td>0.60</td><td>0.60</td><td>OVERALL</td></tr><tr><td colspan="2">PHF BY APPROACH</td><td colspan="4">0.94</td><td colspan="4">0.86</td><td colspan="4">0.58</td><td colspan="4">0.58</td><td>0.83</td></tr><tr><td colspan="2">BICYCLE</td><td colspan="4">18</td><td colspan="4">3</td><td colspan="4">9</td><td colspan="4">9</td><td>39</td></tr><tr><td colspan="2">PEDESTRIAN</td><td colspan="4">53</td><td colspan="4">24</td><td colspan="4">24</td><td colspan="4">48</td><td>149</td></tr><tr><td colspan="2"></td><td colspan="4">N-LEG</td><td colspan="4">S-LEG</td><td colspan="4">E-LEG</td><td colspan="4">W-LEG</td><td></td></tr><tr><td colspan="2">PEDESTRIAN BY LEG:</td><td colspan="4">24</td><td colspan="4">48</td><td colspan="4">56</td><td colspan="4">21</td><td>149</td></tr></table><div>TEL: (510) 232 - 1271 FAX: (510) 232 - 1272</div></div></div></div></div></div></div></div></div></div></div></div></div></div></div>												TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	SURVEY DATA																		7:00 AM	to 7:15 AM	4	26	3		0	23	1		1	2	9		2	3	2	76	7:15 AM	to 7:30 AM	10	54	4		2	76	1		2	5	17		5	9	4	189	7:30 AM	to 7:45 AM	17	90	4		6	152	1		2	8	40		14	9	13	356	7:45 AM	to 8:00 AM	36	156	11		18	205	1		7	10	64		20	12	21	561	8:00 AM	to 8:15 AM	47	235	33		33	258	3		24	25	86		41	25	39	849	8:15 AM	to 8:30 AM	77	318	35		39	315	4		27	28	110		67	45	62	1127	8:30 AM	to 8:45 AM	122	388	36		42	353	4		30	30	115		71	57	68	1316	8:45 AM	to 9:00 AM	159	473	37		44	395	5		31	32	132		75	64	71	1518	9:00 AM	to 9:15 AM	202	570	38		46	433	6		34	35	139		78	68	76	1725	9:15 AM	to 9:30 AM	228	656	39		48	483	8		36	39	160		84	74	80	1935	9:30 AM	to 9:45 AM	251	739	40		50	529	10		38	40	184		87	78	83	2129	9:45 AM	to 10:00 AM	266	805	42		51	570	12		39	41	197		88	81	88	2280	TOTAL BY PERIOD																		7:00 AM	to 7:15 AM	0	4	26	3	0	0	23	1	0	1	2	9	0	2	3	2	76	7:15 AM	to 7:30 AM	0	6	28	1	0	2	53	0	0	1	3	8	0	3	6	2	113	7:30 AM	to 7:45 AM	0	7	36	0	0	4	76	0	0	0	3	23	0	9	0	9	167	7:45 AM	to 8:00 AM	0	19	66	7	0	12	53	0	0	5	2	24	0	6	3	8	205	8:00 AM	to 8:15 AM	0	11	79	22	0	15	53	2	0	17	15	22	0	21	13	18	288	8:15 AM	to 8:30 AM	0	30	83	2	0	6	57	1	0	3	3	24	0	26	20	23	278	8:30 AM	to 8:45 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B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018		DAY:		TUESDAY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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S-END</div><div>24</div></div><div><div><div>6</div><div>18</div></div></div></div></div></div><table><tr><th colspan="2">TIME PERIOD</th><th colspan="4">NORTHBOUND</th><th colspan="4">SOUTHBOUND</th><th colspan="4">EASTBOUND</th><th colspan="4">WESTBOUND</th><th rowspan="2">TOTAL</th></tr><tr><th>From</th><th>To</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th><th>U-TURN</th><th>LEFT</th><th>THRU</th><th>RIGHT</th></tr><tr><td colspan="19">SURVEY DATA</td></tr><tr><td>7:00 AM</td><td>to 7:15 AM</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>2</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>6</td></tr><tr><td>7:15 AM</td><td>to 7:30 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PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL	From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	SURVEY DATA																			7:00 AM	to 7:15 AM	0	1	1	0	0	0	2	0	0	0	1	0	0	0	1	0	6	7:15 AM	to 7:30 AM	0	4	1	0	0	1	2	0	0	0	3	0	0	0	2	0	13	7:30 AM	to 7:45 AM	0	5	2	0	0	1	2	0	0	0	3	0	0	0	4	0	17	7:45 AM	to 8:00 AM	0	7	3	1	0	1	3	0	0	0	6	0	0	0	4	0	25	8:00 AM	to 8:15 AM	0	7	6	2	0	1	4	0	0	0	9	1	0	0	9	0	39	8:15 AM	to 8:30 AM	0	13	8	2	0	1	5	0	0	0	10	2	0	1	9	0	51	8:30 AM	to 8:45 AM	0	15	8	2	0	1	5	0	0	0	10	2	0	1	12	0	56	8:45 AM	to 9:00 AM	0	15	8	2	0	1	6	0	0	0	11	3	0	1	13	0	60	9:00 AM	to 9:15 AM	0	20	8	2	0	1	7	0	0	0	11	3	0	1	16	0	69	9:15 AM	to 9:30 AM	0	21	11	2	0	1	7	0	0	0	12	3	0	1	18	0	76	9:30 AM	to 9:45 AM	0	21	11	2	0	1	8	0	0	0	13	3	0	1	18	0	78	9:45 AM	to 10:00 AM	0	21	11	2	0	1	10	0	0	0	14	5	0	1	20	0	85	TOTAL BY PERIOD																			7:00 AM	to 7:15 AM	0	1	1	0	0	0	2	0	0	0	1	0	0	0	1	0	6	7:15 AM	to 7:30 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7:45 AM to 8:45 AM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	18	3	9	9	39

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:		5/15/2018			
N-S APPROACH:		S BERNARDO AVENUE				DAY:		TUESDAY			
E-W APPROACH:		KNICKERBOCKER DRIVE				JURISDICTION:		SUNNYVALE			
SURVEY PERIOD:		7:00 AM		TO		10:00 AM		FILE:		3805027-6AM	
<div><div>PEAK HOUR 7:45 AM TO 8:45 AM</div><div><p>LEGEND: CROSSWALK SIDEWALK STOP CONTROL LINE STOP</p></div></div>						<div><div>PEAK HOUR TOTAL PEDESTRIAN VOLUMES 149</div><div><p>BY LEG: N-LEG: 24 S-LEG: 48 E-LEG: 56 W-LEG: 21</p><p>BY DIRECTION: NB(D+G): 53 SB(C+H): 24 EB(A+F): 24 WB(B+E): 48</p></div></div>					
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
07:00 AM	---	07:15 AM	1	1	3	0	0	1	0	0	6
07:15 AM	---	07:30 AM	2	1	4	0	1	1	1	0	10
07:30 AM	---	07:45 AM	3	1	5	1	1	2	3	0	16
07:45 AM	---	08:00 AM	3	2	6	9	1	11	3	0	35
08:00 AM	---	08:15 AM	14	3	10	41	33	11	11	3	126
08:15 AM	---	08:30 AM	15	11	16	42	38	12	12	10	156
08:30 AM	---	08:45 AM	16	12	17	45	38	13	12	12	165
08:45 AM	---	09:00 AM	16	13	17	47	38	14	12	12	169
09:00 AM	---	09:15 AM	17	14	18	47	38	14	12	12	172
09:15 AM	---	09:30 AM	17	14	18	47	39	14	12	12	173
09:30 AM	---	09:45 AM	17	14	19	47	40	15	12	12	176
09:45 AM	---	10:00 AM	17	14	19	47	40	15	12	13	177
TOTAL BY PERIOD											
07:00 AM	---	07:15 AM	1	1	3	0	0	1	0	0	6
07:15 AM	---	07:30 AM	1	0	1	0	1	0	1	0	4
07:30 AM	---	07:45 AM	1	0	1	1	0	1	2	0	6
07:45 AM	---	08:00 AM	0	1	1	8	0	9	0	0	19
08:00 AM	---	08:15 AM	11	1	4	32	32	0	8	3	91
08:15 AM	---	08:30 AM	1	8	6	1	5	1	1	7	30
08:30 AM	---	08:45 AM	1	1	1	3	0	1	0	2	9
08:45 AM	---	09:00 AM	0	1	0	2	0	1	0	0	4
09:00 AM	---	09:15 AM	1	1	1	0	0	0	0	0	3
09:15 AM	---	09:30 AM	0	0	0	0	1	0	0	0	1
09:30 AM	---	09:45 AM	0	0	1	0	1	1	0	0	3
09:45 AM	---	10:00 AM	0	0	0	0	0	0	0	1	1
HOURLY TOTALS											
07:00 AM	---	08:00 AM	3	2	6	9	1	11	3	0	35
07:15 AM	---	08:15 AM	13	2	7	41	33	10	11	3	120
07:30 AM	---	08:30 AM	13	10	12	42	37	11	11	10	146
07:45 AM	---	08:45 AM	13	11	12	44	37	11	9	12	149
08:00 AM	---	09:00 AM	13	11	11	38	37	3	9	12	134
08:15 AM	---	09:15 AM	3	11	8	6	5	3	1	9	46
08:30 AM	---	09:30 AM	2	3	2	5	1	2	0	2	17
08:45 AM	---	09:45 AM	1	2	2	2	2	2	0	0	11
09:00 AM	---	10:00 AM	1	1	2	0	2	1	0	1	8
Tel : (510) 232-1271 Fax: (510) 232-1272											

7:45 AM	to	8:45 AM				
VOLUME BY DIRECTION			NB	SB	EB	TOTAL
PEDESTRIAN			53	24	24	149
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	TOTAL
PEDESTRIAN			24	48	21	149

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY															
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 4:00 PM				TO 7:00 PM															
E-W APPROACH: HEATHERSTONE WAY				JURISDICTION: SUNNYVALE				FILE: 3805027-5PM															
<div>PEAK HOUR 5:15 PM to 6:15 PM</div> <div><div>HEATHERSTONE WAY</div><div>S BERNARDO AVENUE</div></div>												<div>ARRIVAL / DEPARTURE VOLUMES</div> <div><div>PHF = 0.91</div><div><div>529228</div><div><div>PHF = 0.75</div><div>2245</div><div>5585</div><div>PHF = 0.76</div><div>526232</div><div>PHF = 0.85</div></div></div></div>											
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL					
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT						
SURVEY DATA																							
4:00 PM	to 4:15 PM	2	29	4		7	71	1		1	3	0		3	5	2		128					
4:15 PM	to 4:30 PM	3	78	8		10	149	2		1	4	1		7	8	8		279					
4:30 PM	to 4:45 PM	5	120	14		14	229	2		2	8	2		12	8	13		429					
4:45 PM	to 5:00 PM	5	147	19		21	323	3		4	13	6		16	10	17		584					
5:00 PM	to 5:15 PM	5	186	24		30	416	3		5	16	8		22	12	21		748					
5:15 PM	to 5:30 PM	7	227	29		37	544	5		6	25	12		27	13	25		957					
5:30 PM	to 5:45 PM	8	276	34		45	664	6		6	32	16		28	17	28		1160					
5:45 PM	to 6:00 PM	9	333	44		54	797	9		8	42	22		31	18	36		1403					
6:00 PM	to 6:15 PM	12	387	48		59	910	9		9	48	27		35	21	44		1609					
6:15 PM	to 6:30 PM	15	445	51		69	1020	11		13	53	28		39	23	48		1815					
6:30 PM	to 6:45 PM	16	487	54		75	1116	14		14	55	30		41	25	53		1980					
6:45 PM	to 7:00 PM	20	524	61		82	1195	15		14	62	33		46	28	54		2134					
TOTAL BY PERIOD																							
4:00 PM	to 4:15 PM	0	2	29	4	0	7	71	1	0	1	3	0	0	3	5	2	128					
4:15 PM	to 4:30 PM	0	1	49	4	0	3	78	1	0	0	1	1	0	4	3	6	151					
4:30 PM	to 4:45 PM	0	2	42	6	0	4	80	0	0	1	4	1	0	5	0	5	150					
4:45 PM	to 5:00 PM	0	0	27	5	0	7	94	1	0	2	5	4	0	4	2	4	155					
5:00 PM	to 5:15 PM	0	0	39	5	0	9	93	0	0	1	3	2	0	6	2	4	164					
5:15 PM	to 5:30 PM	0	2	41	5	0	7	128	2	0	1	9	4	0	5	1	4	209					
5:30 PM	to 5:45 PM	0	1	49	5	0	8	120	1	0	0	7	4	0	1	4	3	203					
5:45 PM	to 6:00 PM	0	1	57	10	0	9	133	3	0	2	10	6	0	3	1	8	243					
6:00 PM	to 6:15 PM	0	3	54	4	0	5	113	0	0	1	6	5	0	4	3	8	206					
6:15 PM	to 6:30 PM	0	3	58	3	0	10	110	2	0	4	5	1	0	4	2	4	206					
6:30 PM	to 6:45 PM	0	1	42	3	0	6	96	3	0	1	2	2	0	2	2	5	165					
6:45 PM	to 7:00 PM	0	4	37	7	0	7	79	1	0	0	7	3	0	5	3	1	154					
HOURLY TOTALS																							
4:00 PM	to 5:00 PM	0	5	147	19	0	21	323	3	0	4	13	6	0	16	10	17	584					
4:15 PM	to 5:15 PM	0	3	157	20	0	23	345	2	0	4	13	8	0	19	7	19	620					
4:30 PM	to 5:30 PM	0	4	149	21	0	27	395	3	0	5	21	11	0	20	5	17	678					
4:45 PM	to 5:45 PM	0	3	156	20	0	31	435	4	0	4	24	14	0	16	9	15	731					
5:00 PM	to 6:00 PM	0	4	186	25	0	33	474	6	0	4	29	16	0	15	8	19	819					
5:15 PM	to 6:15 PM	0	7	201	24	0	29	494	6	0	4	32	19	0	13	9	23	861					
5:30 PM	to 6:30 PM	0	8	218	22	0	32	476	6	0	7	28	16	0	12	10	23	858					
5:45 PM	to 6:45 PM	0	8	211	20	0	30	452	8	0	8	23	14	0	13	8	25	820					
6:00 PM	to 7:00 PM	0	11	191	17	0	28	398	6	0	6	20	11	0	15	10	18	731					
PEAK HOUR SUMMARY																							
5:15 PM	to 6:15 PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL					
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR						
	VOLUME	0	7	201	24	0	29	494	6	0	4	32	19	0	13	9	23	861					
	PHF BY MOVEMENT	0.00	0.58	0.88	0.60	0.00	0.81	0.93	0.50	0.00	0.50	0.80	0.79	0.00	0.65	0.56	0.72	OVERALL					
	PHF BY APPROACH	0.85				0.91				0.76				0.75				0.89					
	BICYCLE	3				4				15				1				23					
	PEDESTRIAN	20				8				9				18				55					
		N-LEG				S-LEG				E-LEG				W-LEG									
	PEDESTRIAN BY LEG:	3				24				6				22				55					

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TEL: (510) 232 - 1271

FAX: (510) 232 - 1272

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE								SURVEY DATE:				5/15/2018		DAY:		TUESDAY	
N-S APPROACH:		S BERNARDO AVENUE								SURVEY TIME:				4:00 PM		TO		7:00 PM	
E-W APPROACH:		HEATHERSTONE WAY								JURISDICTION:				SUNNYVALE		FILE:		3805027-5PM	

PEAK HOUR
5:15 PM to 6:15 PM

0

4

0

0

0

0

15

0

0

0

0

0

23

0

0

2

1

HEATHERSTONE WAY

S BERNARDO AVENUE

NORTH

PEAK HOUR
TOTAL BICYCLE VOLUMES

TOTAL N-END

TOTAL W-END

TOTAL E-END

TOTAL S-END

TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
4:00 PM	to 4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
4:30 PM	to 4:45 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1	0	5
4:45 PM	to 5:00 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1	0	5
5:00 PM	to 5:15 PM	0	0	3	0	0	0	1	0	0	1	1	0	0	0	1	0	7
5:15 PM	to 5:30 PM	0	0	3	1	0	0	3	0	0	1	3	0	0	0	1	0	12
5:30 PM	to 5:45 PM	0	0	4	1	0	0	4	0	0	1	8	0	0	0	1	1	20
5:45 PM	to 6:00 PM	0	0	4	1	0	0	5	0	0	1	14	0	0	0	1	1	27
6:00 PM	to 6:15 PM	0	0	5	1	0	0	5	0	0	1	16	0	0	0	1	1	30
6:15 PM	to 6:30 PM	0	0	5	2	0	0	5	0	0	1	17	0	0	0	1	1	32
6:30 PM	to 6:45 PM	0	0	5	2	0	0	5	0	0	1	20	0	0	0	1	1	35
6:45 PM	to 7:00 PM	0	0	5	2	0	0	6	0	0	1	21	0	0	0	1	1	37
TOTAL BY PERIOD																		
4:00 PM	to 4:15 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
4:30 PM	to 4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2
4:45 PM	to 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	to 5:15 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
5:15 PM	to 5:30 PM	0	0	0	1	0	0	2	0	0	0	2	0	0	0	0	0	5
5:30 PM	to 5:45 PM	0	0	1	0	0	0	1	0	0	0	5	0	0	0	0	1	8
5:45 PM	to 6:00 PM	0	0	0	0	0	0	1	0	0	0	6	0	0	0	0	0	7
6:00 PM	to 6:15 PM	0	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	3
6:15 PM	to 6:30 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2
6:30 PM	to 6:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
6:45 PM	to 7:00 PM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2
HOURLY TOTALS																		
4:00 PM	to 5:00 PM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	1	0	5
4:15 PM	to 5:15 PM	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0	5
4:30 PM	to 5:30 PM	0	0	1	1	0	0	2	0	0	1	3	0	0	0	1	0	9
4:45 PM	to 5:45 PM	0	0	1	1	0	0	3	0	0	1	8	0	0	0	0	1	15
5:00 PM	to 6:00 PM	0	0	1	1	0	0	4	0	0	1	14	0	0	0	0	1	22
5:15 PM	to 6:15 PM	0	0	2	1	0	0	4	0	0	0	15	0	0	0	0	1	23
5:30 PM	to 6:30 PM	0	0	2	1	0	0	2	0	0	0	14	0	0	0	0	1	20
5:45 PM	to 6:45 PM	0	0	1	1	0	0	1	0	0	0	12	0	0	0	0	0	15
6:00 PM	to 7:00 PM	0	0	1	1	0	0	1	0	0	0	7	0	0	0	0	0	10

TEL: (510) 232 - 1271FAX: (510) 232 - 1272

5:15 PM to 6:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	4	15	1	23

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE		SURVEY DATE:		5/15/2018	
N-S APPROACH:		S BERNARDO AVENUE		DAY:		TUESDAY	
E-W APPROACH:		HEATHERSTONE WAY		JURISDICTION:		SUNNYVALE	
SURVEY PERIOD:		4:00 PM TO 7:00 PM		FILE:		3805027-5PM	

PEAK HOUR
5:15 PM TO 6:15 PM

LEGEND:

- CROSSWALK
- SIDEWALK
- STOP CONTROL LINE
- STOP

TOTAL PEDESTRIAN VOLUMES
55

BY LEG:

N-LEG	3
S-LEG	24
E-LEG	6
W-LEG	22

BY DIRECTION:

NB(D+G)	20
SB(C+H)	8
EB(A+F)	9
WB(B+E)	18

TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL
From	To	A	B	C	D	E	F	G	H	
SURVEY DATA										
04:00 PM	---	04:15 PM	2	0	0	0	0	5	0	7
04:15 PM	---	04:30 PM	3	2	1	0	0	5	0	11
04:30 PM	---	04:45 PM	3	2	1	0	0	5	0	12
04:45 PM	---	05:00 PM	3	2	1	0	0	5	3	19
05:00 PM	---	05:15 PM	5	2	1	2	1	7	5	30
05:15 PM	---	05:30 PM	5	2	1	2	3	8	5	38
05:30 PM	---	05:45 PM	5	3	1	3	7	8	6	47
05:45 PM	---	06:00 PM	6	3	3	3	12	12	7	69
06:00 PM	---	06:15 PM	6	4	5	4	17	15	9	85
06:15 PM	---	06:30 PM	10	4	7	4	20	17	13	101
06:30 PM	---	06:45 PM	11	4	7	5	23	17	13	110
06:45 PM	---	07:00 PM	11	4	7	5	24	18	16	115
TOTAL BY PERIOD										
04:00 PM	---	04:15 PM	2	0	0	0	0	5	0	7
04:15 PM	---	04:30 PM	1	2	1	0	0	0	0	4
04:30 PM	---	04:45 PM	0	0	0	0	0	1	0	1
04:45 PM	---	05:00 PM	0	0	0	0	0	4	3	7
05:00 PM	---	05:15 PM	2	0	0	2	1	2	2	11
05:15 PM	---	05:30 PM	0	0	0	0	2	1	0	8
05:30 PM	---	05:45 PM	0	1	0	1	4	0	1	9
05:45 PM	---	06:00 PM	1	0	2	0	5	4	9	22
06:00 PM	---	06:15 PM	0	1	2	1	5	3	2	16
06:15 PM	---	06:30 PM	4	0	2	0	3	2	1	16
06:30 PM	---	06:45 PM	1	0	0	1	3	0	0	9
06:45 PM	---	07:00 PM	0	0	0	0	1	1	3	5
HOURLY TOTALS										
04:00 PM	---	05:00 PM	3	2	1	0	0	5	3	19
04:15 PM	---	05:15 PM	3	2	1	2	1	7	5	23
04:30 PM	---	05:30 PM	2	0	0	2	3	8	5	27
04:45 PM	---	05:45 PM	2	1	0	3	7	7	6	35
05:00 PM	---	06:00 PM	3	1	2	3	12	7	4	50
05:15 PM	---	06:15 PM	1	2	4	2	16	8	4	55
05:30 PM	---	06:30 PM	5	2	6	2	17	9	8	63
05:45 PM	---	06:45 PM	6	1	6	2	16	9	7	63
06:00 PM	---	07:00 PM	5	1	4	2	12	6	9	46

Tel : (510) 232-1271

Fax: (510) 232-1272

5:15 PM to 6:15 PM

VOLUME BY DIRECTION	NB	SB	EB	WB	TOTAL
PEDESTRIAN	20	8	9	18	55
VOLUME BY LEG	N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN	3	24	6	22	55

B.A.Y.M.E.T.R.I.C.S.
INTERSECTION TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY										
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 4:00 PM				TO 7:00 PM										
E-W APPROACH: KNICKERBOCKER DRIVE				JURISDICTION: SUNNYVALE				FILE: 3805027-6PM										
<div><div>PEAK HOUR 5:15 PM to 6:15 PM</div><div><div><div><div><div>15</div><div>459</div><div>30</div><div>0</div></div><div><div><div><div><div>0</div><div>5</div><div>47</div><div>214</div></div><div>1119</div><div><div><div><div>15</div><div>20</div><div>27</div><div>0</div></div><div><div><div><div>0</div><div>47</div><div>227</div><div>13</div></div></div></div><div>KNICKERBOCKER DRIVE</div><div>S BERNARDO AVENUE</div></div></div><div><div>ARRIVAL / DEPARTURE VOLUMES</div><div><div>PHF = 0.88</div><div><div>504</div><div>247</div></div><div><div><div><div><div>82</div><div>266</div></div><div>PHF = 0.92</div></div><div><div><div><div>62</div><div>90</div></div><div>PHF = 0.70</div></div><div><div>700</div><div>287</div></div><div>PHF = 0.82</div></div></div></div></div></div></div></div></div></div></div></div></div>																		
TIME PERIOD		NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
4:00 PM	to 4:15 PM	6	59	3		8	66	0		2	6	28		4	6	5	193	
4:15 PM	to 4:30 PM	13	105	9		12	135	5		5	16	57		6	11	10	384	
4:30 PM	to 4:45 PM	25	146	9		21	209	6		5	17	83		14	11	16	562	
4:45 PM	to 5:00 PM	32	176	14		27	300	8		6	25	115		19	14	21	757	
5:00 PM	to 5:15 PM	37	220	17		32	387	14		8	34	170		21	16	23	979	
5:15 PM	to 5:30 PM	49	273	21		41	502	18		9	39	230		26	21	24	1253	
5:30 PM	to 5:45 PM	61	323	25		47	620	21		11	54	285		33	26	26	1532	
5:45 PM	to 6:00 PM	67	379	27		56	750	25		12	69	334		41	33	33	1826	
6:00 PM	to 6:15 PM	84	447	30		62	846	29		13	81	384		48	36	38	2098	
6:15 PM	to 6:30 PM	92	498	32		66	953	33		15	92	419		53	39	44	2336	
6:30 PM	to 6:45 PM	98	550	38		74	1039	37		18	102	449		56	44	45	2550	
6:45 PM	to 7:00 PM	105	589	38		77	1117	40		21	107	482		62	49	46	2733	
TOTAL BY PERIOD																		
4:00 PM	to 4:15 PM	0	6	59	3	0	8	66	0	0	2	6	28	0	4	6	5	193
4:15 PM	to 4:30 PM	0	7	46	6	0	4	69	5	0	3	10	29	0	2	5	5	191
4:30 PM	to 4:45 PM	0	12	41	0	0	9	74	1	0	0	1	26	0	8	0	6	178
4:45 PM	to 5:00 PM	0	7	30	5	0	6	91	2	0	1	8	32	0	5	3	5	195
5:00 PM	to 5:15 PM	0	5	44	3	0	5	87	6	0	2	9	55	0	2	2	2	222
5:15 PM	to 5:30 PM	0	12	53	4	0	9	115	4	0	1	5	60	0	5	5	1	274
5:30 PM	to 5:45 PM	0	12	50	4	0	6	118	3	0	2	15	55	0	7	5	2	279
5:45 PM	to 6:00 PM	0	6	56	2	0	9	130	4	0	1	15	49	0	8	7	7	294
6:00 PM	to 6:15 PM	0	17	68	3	0	6	96	4	0	1	12	50	0	7	3	5	272
6:15 PM	to 6:30 PM	0	8	51	2	0	4	107	4	0	2	11	35	0	5	3	6	238
6:30 PM	to 6:45 PM	0	6	52	6	0	8	86	4	0	3	10	30	0	3	5	1	214
6:45 PM	to 7:00 PM	0	7	39	0	0	3	78	3	0	3	5	33	0	6	5	1	183
HOURLY TOTALS																		
4:00 PM	to 5:00 PM	0	32	176	14	0	27	300	8	0	6	25	115	0	19	14	21	757
4:15 PM	to 5:15 PM	0	31	161	14	0	24	321	14	0	6	28	142	0	17	10	18	786
4:30 PM	to 5:30 PM	0	36	168	12	0	29	367	13	0	4	23	173	0	20	10	14	869
4:45 PM	to 5:45 PM	0	36	177	16	0	26	411	15	0	6	37	202	0	19	15	10	970
5:00 PM	to 6:00 PM	0	35	203	13	0	29	450	17	0	6	44	219	0	22	19	12	1069
5:15 PM	to 6:15 PM	0	47	227	13	0	30	459	15	0	5	47	214	0	27	20	15	1119
5:30 PM	to 6:30 PM	0	43	225	11	0	25	451	15	0	6	53	189	0	27	18	20	1083
5:45 PM	to 6:45 PM	0	37	227	13	0	27	419	16	0	7	48	164	0	23	18	19	1018
6:00 PM	to 7:00 PM	0	38	210	11	0	21	367	15	0	9	38	148	0	21	16	13	907
PEAK HOUR SUMMARY																		
5:15 PM	to 6:15 PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
		NBU	NBL	NBT	NBR	SBU	SBL	SBT	SBR	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	
	VOLUME	0	47	227	13	0	30	459	15	0	5	47	214	0	27	20	15	1119
	PHF BY MOVEMENT	0.00	0.69	0.83	0.81	0.00	0.83	0.88	0.94	0.00	0.63	0.78	0.89	0.00	0.84	0.71	0.54	OVERALL
	PHF BY APPROACH	0.82				0.88				0.92				0.70				0.95
	BICYCLE	3				4				26				2				35
	PEDESTRIAN	4				8				3				3				18
	N-LEG					S-LEG				E-LEG				W-LEG				
	PEDESTRIAN BY LEG:	2				4				8				4				18
TEL: (510) 232 - 1271 FAX: (510) 232 - 1272																		

B.A.Y.M.E.T.R.I.C.S.
BICYCLE TURNING MOVEMENT SUMMARY

PROJECT: TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE: 5/15/2018				DAY: TUESDAY										
N-S APPROACH: S BERNARDO AVENUE				SURVEY TIME: 4:00 PM				TO 7:00 PM										
E-W APPROACH: KNICKERBOCKER DRIVE				JURISDICTION: SUNNYVALE				FILE: 3805027-6PM										
<div>PEAK HOUR 5:15 PM to 6:15 PM</div> <div><div>KNICKERBOCKER DRIVE</div><div>S BERNARDO AVENUE</div></div> <td colspan="4"><div>PEAK HOUR TOTAL BICYCLE VOLUMES 70</div><div>TOTAL N-END 6</div><div>TOTAL W-END 30</div><div>TOTAL E-END 13</div><div>TOTAL S-END 21</div></td>				<div>PEAK HOUR TOTAL BICYCLE VOLUMES 70</div> <div>TOTAL N-END 6</div> <div>TOTAL W-END 30</div> <div>TOTAL E-END 13</div> <div>TOTAL S-END 21</div>														
TIME	PERIOD	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				TOTAL
From	To	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	U-TURN	LEFT	THRU	RIGHT	
SURVEY DATA																		
4:00 PM	to 4:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	2	1	0	0	0	1	1	0	0	0	0	0	0	0	0	5
4:30 PM	to 4:45 PM	0	2	1	0	0	0	1	1	0	0	0	0	0	0	1	1	7
4:45 PM	to 5:00 PM	0	2	1	0	0	0	1	1	0	0	2	2	0	0	1	1	11
5:00 PM	to 5:15 PM	0	3	1	0	0	0	1	1	0	0	3	6	0	0	1	1	17
5:15 PM	to 5:30 PM	0	3	1	0	0	0	2	2	0	0	4	7	0	0	1	1	21
5:30 PM	to 5:45 PM	0	3	2	0	0	0	3	2	0	0	9	14	0	0	1	1	35
5:45 PM	to 6:00 PM	0	3	2	0	0	0	4	2	0	0	12	19	0	0	1	1	44
6:00 PM	to 6:15 PM	0	4	3	0	0	0	4	2	0	0	14	21	0	0	3	1	52
6:15 PM	to 6:30 PM	0	4	4	0	0	0	4	2	0	0	17	25	0	0	4	1	61
6:30 PM	to 6:45 PM	0	5	4	0	0	0	4	2	0	0	19	29	0	0	5	1	69
6:45 PM	to 7:00 PM	0	6	4	0	0	0	5	2	0	0	20	31	0	0	6	1	75
TOTAL BY PERIOD																		
4:00 PM	to 4:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:15 PM	to 4:30 PM	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	3
4:30 PM	to 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
4:45 PM	to 5:00 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	4
5:00 PM	to 5:15 PM	0	1	0	0	0	0	0	0	0	0	1	4	0	0	0	0	6
5:15 PM	to 5:30 PM	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0	4
5:30 PM	to 5:45 PM	0	0	1	0	0	0	1	0	0	0	5	7	0	0	0	0	14
5:45 PM	to 6:00 PM	0	0	0	0	0	0	1	0	0	0	3	5	0	0	0	0	9
6:00 PM	to 6:15 PM	0	1	1	0	0	0	0	0	0	0	2	2	0	0	2	0	8
6:15 PM	to 6:30 PM	0	0	1	0	0	0	0	0	0	0	3	4	0	0	1	0	9
6:30 PM	to 6:45 PM	0	1	0	0	0	0	0	0	0	0	2	4	0	0	1	0	8
6:45 PM	to 7:00 PM	0	1	0	0	0	0	1	0	0	0	1	2	0	0	1	0	6
HOURLY TOTALS																		
4:00 PM	to 5:00 PM	0	2	1	0	0	0	1	1	0	0	2	2	0	0	1	1	11
4:15 PM	to 5:15 PM	0	2	0	0	0	0	1	1	0	0	3	6	0	0	1	1	15
4:30 PM	to 5:30 PM	0	1	0	0	0	0	1	1	0	0	4	7	0	0	1	1	16
4:45 PM	to 5:45 PM	0	1	1	0	0	0	2	1	0	0	9	14	0	0	0	0	28
5:00 PM	to 6:00 PM	0	1	1	0	0	0	3	1	0	0	10	17	0	0	0	0	33
5:15 PM	to 6:15 PM	0	1	2	0	0	0	3	1	0	0	11	15	0	0	2	0	35
5:30 PM	to 6:30 PM	0	1	3	0	0	0	2	0	0	0	13	18	0	0	3	0	40
5:45 PM	to 6:45 PM	0	2	2	0	0	0	1	0	0	0	10	15	0	0	4	0	34
6:00 PM	to 7:00 PM	0	3	2	0	0	0	1	0	0	0	8	12	0	0	5	0	31
TEL: (510) 232 - 1271 FAX: (510) 232 - 1272																		

5:15 PM to 6:15 PM					
APPROACH VOLUME	NB	SB	EB	WB	TOTAL
BICYCLE	3	4	26	2	35

B.A.Y.M.E.T.R.I.C.S.
PEDESTRIAN MOVEMENT SUMMARY

PROJECT:		TRAFFIC COUNTS IN SUNNYVALE				SURVEY DATE:		5/15/2018			
N-S APPROACH:		S BERNARDO AVENUE				DAY:		TUESDAY			
E-W APPROACH:		KNICKERBOCKER DRIVE				JURISDICTION:		SUNNYVALE			
SURVEY PERIOD:		4:00 PM		TO		7:00 PM		FILE:		3805027-6PM	
<div><div>PEAK HOUR</div><div>5:15 PM TO 6:15 PM</div><div><div>LEGEND:<div><div></div>CROSSWALK</div><div><div></div>SIDEWALK</div><div><div></div>STOP CONTROL LINE</div><div><div></div>STOP</div></div></div></div> <div><div>KNICKERBOCKER DRIVE</div><div>S BERNARDO AVENUE</div></div>						<div><div>PEAK HOUR</div><div>TOTAL PEDESTRIAN VOLUMES</div><div>18</div><div><div>BY LEG:<div>N-LEG2</div><div>S-LEG4</div><div>E-LEG8</div><div>W-LEG4</div></div><div>BY DIRECTION:<div>NB(D+G)4</div><div>SB(C+H)8</div><div>EB(A+F)3</div><div>WB(B+E)3</div></div></div></div>					
TIME PERIOD		NORTH X-WALK		EAST X-WALK		SOUTH X-WALK		WEST X-WALK		TOTAL	
From	To	A	B	C	D	E	F	G	H		
SURVEY DATA											
04:00 PM	---	04:15 PM	0	0	0	0	0	1	0	1	
04:15 PM	---	04:30 PM	0	0	0	0	0	1	1	3	
04:30 PM	---	04:45 PM	0	0	0	0	0	1	1	3	
04:45 PM	---	05:00 PM	0	0	0	0	0	1	1	4	
05:00 PM	---	05:15 PM	1	1	1	2	0	2	1	10	
05:15 PM	---	05:30 PM	1	1	1	2	0	2	2	11	
05:30 PM	---	05:45 PM	2	1	1	3	3	3	2	18	
05:45 PM	---	06:00 PM	3	1	4	4	3	3	2	25	
06:00 PM	---	06:15 PM	3	1	6	5	3	3	2	28	
06:15 PM	---	06:30 PM	3	3	6	7	3	4	2	34	
06:30 PM	---	06:45 PM	3	3	6	8	4	4	2	36	
06:45 PM	---	07:00 PM	3	3	6	9	5	6	4	42	
TOTAL BY PERIOD											
04:00 PM	---	04:15 PM	0	0	0	0	0	0	1	0	1
04:15 PM	---	04:30 PM	0	0	0	0	0	1	0	1	2
04:30 PM	---	04:45 PM	0	0	0	0	0	0	0	0	0
04:45 PM	---	05:00 PM	0	0	0	0	0	0	0	1	1
05:00 PM	---	05:15 PM	1	1	1	2	0	1	0	0	6
05:15 PM	---	05:30 PM	0	0	0	0	0	0	1	0	1
05:30 PM	---	05:45 PM	1	0	0	1	3	1	0	1	7
05:45 PM	---	06:00 PM	1	0	3	1	0	0	0	2	7
06:00 PM	---	06:15 PM	0	0	2	1	0	0	0	0	3
06:15 PM	---	06:30 PM	0	2	0	2	0	1	0	1	6
06:30 PM	---	06:45 PM	0	0	0	1	1	0	0	0	2
06:45 PM	---	07:00 PM	0	0	0	1	1	2	2	0	6
HOURLY TOTALS											
04:00 PM	---	05:00 PM	0	0	0	0	0	1	1	2	4
04:15 PM	---	05:15 PM	1	1	1	2	0	2	0	2	9
04:30 PM	---	05:30 PM	1	1	1	2	0	1	1	1	8
04:45 PM	---	05:45 PM	2	1	1	3	3	2	1	2	15
05:00 PM	---	06:00 PM	3	1	4	4	3	2	1	3	21
05:15 PM	---	06:15 PM	2	0	5	3	3	1	1	3	18
05:30 PM	---	06:30 PM	2	2	5	5	3	2	0	4	23
05:45 PM	---	06:45 PM	1	2	5	5	1	1	0	3	18
06:00 PM	---	07:00 PM	0	2	2	5	2	3	2	1	17
Tel : (510) 232-1271 Fax: (510) 232-1272											

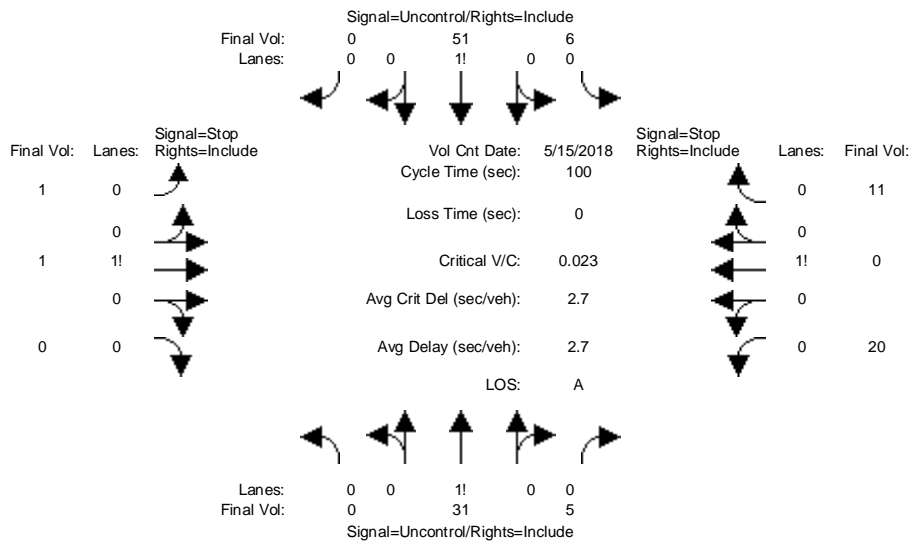
5:15 PM	to	6:15 PM					
VOLUME BY DIRECTION			NB	SB	EB	WB	TOTAL
PEDESTRIAN			4	8	3	3	18
VOLUME BY LEG			N-LEG	S-LEG	E-LEG	W-LEG	TOTAL
PEDESTRIAN			2	4	8	4	18

Appendix C

Existing Conditions Analysis

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1: S Knickerbocker Dr / Brookfield Ave



Street Name: S Knickerbocker Dr Brookfield Ave

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Volume Module: >> Count Date: 15 May 2018 << 8:00 AM - 9:00 AM

Base Vol:	0	31	5	6	51	0	1	1	0	20	0	11
Growth 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
Initial Bse:	0	31	5	6	51	0	1	1	0	20	0	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	5	6	51	0	1	1	0	20	0	11
User 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
PHF 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
PHF Volume:	0	31	5	6	51	0	1	1	0	20	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	5	6	51	0	1	1	0	20	0	11

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	36	xxxx	xxxxx	102	99	xxxxx	97	97	34
Potent Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	884	795	xxxxx	890	797	1046
Move Cap.:	xxxx	xxxx	xxxxx	1588	xxxx	xxxxx	872	792	xxxxx	887	794	1046
Volume/Cap:	xxxx	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.00	xxxx	0.02	0.00	0.01

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	830	xxxx	xxxxx	xxxx	937	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	9.3	xxxx	xxxxx	xxxxx	9.0	xxxxx
Shared LOS:	*	*	*	A	*	*	A	*	*	*	A	*
ApproachDel:	xxxxxx			xxxxxx							9.0	
ApproachLOS:	*			*			A				A	

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

COMPARE

Tue Jun 19 14:29:07 2018

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 0 0 0	0 1 0 0 0	0 0 1! 0 0
Initial Vol:	0 31 5	6 51 0	1 1 0	20 0 11
ApproachDel:	xxxxxx	xxxxxx	9.3	9.0

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=2]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=126]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=31]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=126]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 0 0 0	0 1 0 0 0	0 0 1! 0 0
Initial Vol:	0 31 5	6 51 0	1 1 0	20 0 11

Major Street Volume: 93

Minor Approach Volume: 31

Minor Approach Volume Threshold: 853

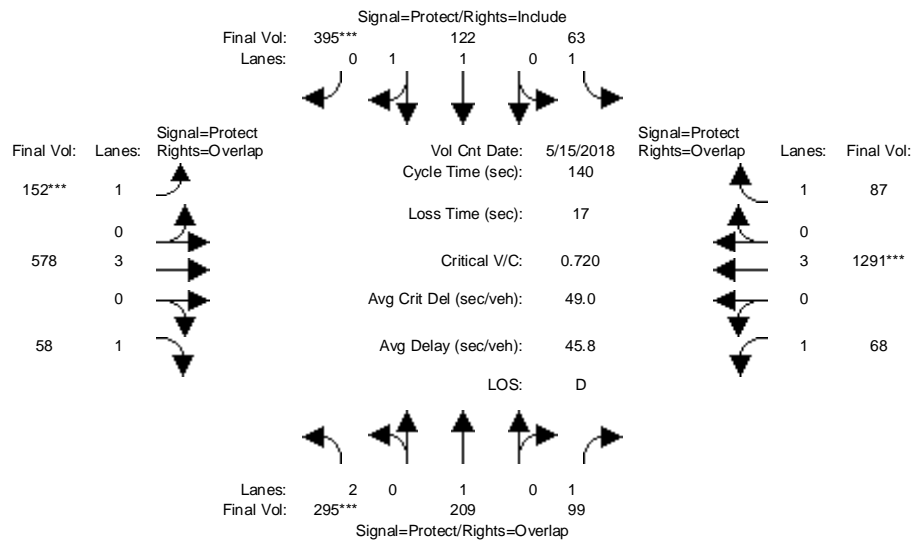
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

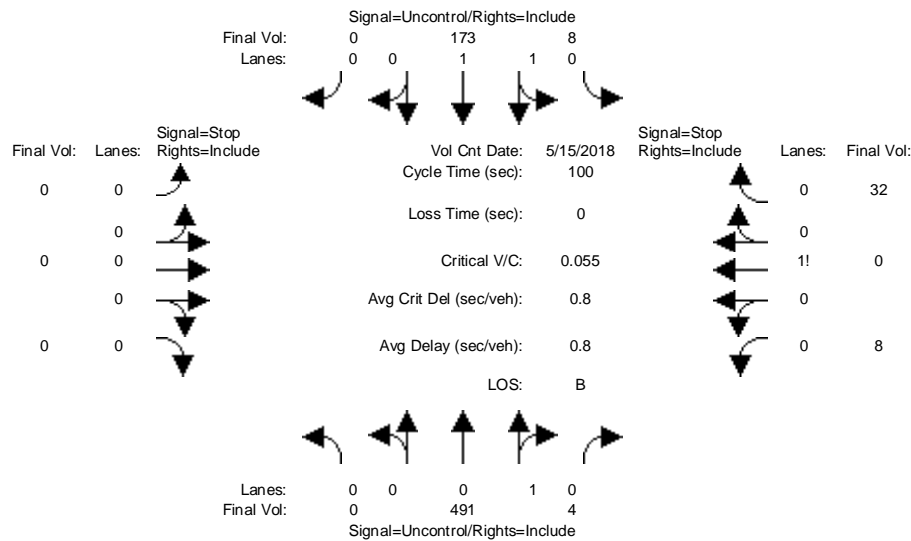
Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module:	>> Count Date: 15 May 2018 << 8:00 AM - 9:00 AM											
Base Vol:	295	209	99	63	122	395	152	578	58	68	1291	87
Growth 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
Initial Bse:	295	209	99	63	122	395	152	578	58	68	1291	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	295	209	99	63	122	395	152	578	58	68	1291	87
User 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
PHF 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
PHF Volume:	295	209	99	63	122	395	152	578	58	68	1291	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	209	99	63	122	395	152	578	58	68	1291	87
PCE 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
MLF 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
Final Volume:	295	209	99	63	122	395	152	578	58	68	1291	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.06	0.04	0.06	0.23	0.09	0.10	0.03	0.04	0.23	0.05
Crit Moves:	****					****	****				****	
Green Time:	18.2	32.5	59.6	29.6	43.9	43.9	16.9	33.8	52.0	27.1	44.0	73.6
Volume/Cap:	0.72	0.47	0.13	0.17	0.20	0.72	0.72	0.42	0.09	0.20	0.72	0.09
Uniform Del:	58.5	46.4	24.5	45.2	35.3	42.6	59.3	44.8	28.6	47.4	42.5	16.6
IncrementDel:	6.1	0.8	0.1	0.2	0.0	3.6	11.4	0.2	0.1	0.3	1.5	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	64.6	47.2	24.6	45.4	35.3	46.2	70.7	45.0	28.6	47.7	44.0	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.6	47.2	24.6	45.4	35.3	46.2	70.7	45.0	28.6	47.7	44.0	16.6
LOS by Move:	E	D	C	D	D+	D	E	D	C	D	D	B
HCM2kAvgQ:	187	187	66	60	93	428	206	176	42	66	429	48
Note: Queue reported is the distance per lane in feet.												

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3: S Bernardo Ave / Blair Ave



Street Name:	S Bernardo Ave						Blair Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- -----												
Volume Module: >> Count Date:	15 May 2018 <<			8:00 AM - 9:00 AM								
Base Vol:	0	491	4	8	173	0	0	0	0	8	0	32
Growth 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
Initial Bse:	0	491	4	8	173	0	0	0	0	8	0	32
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	491	4	8	173	0	0	0	0	8	0	32
User 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
PHF 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
PHF Volume:	0	491	4	8	173	0	0	0	0	8	0	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	491	4	8	173	0	0	0	0	8	0	32
----- ----- ----- -----												
Critical Gap Module:												
Critical Gp:xxxxxx xxxxx xxxxxx	4.1 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			6.4 6.5 6.2								
FollowUpTim:xxxxxx xxxxx xxxxxx	2.2 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			3.5 4.0 3.3								
----- ----- ----- -----												
Capacity Module:												
Cnflict Vol: xxxxx xxxxx xxxxxx	495 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			596 682 493								
Potent Cap.: xxxxx xxxxx xxxxxx	1079 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			470 375 580								
Move Cap.: xxxxx xxxxx xxxxxx	1079 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			467 372 580								
Volume/Cap: xxxxx xxxxx xxxxx	0.01 xxxxx xxxxx xxxxxx xxxxxx xxxxx			0.02 0.00 0.06								
----- ----- ----- -----												
Level Of Service Module:												
2Way95thQ: xxxxx xxxxx xxxxxx	0.6 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx								
Control Del:xxxxxx xxxxx xxxxxx	8.4 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx								
LOS by Move: * * *	A * *			* * *								
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.: xxxxx xxxxx xxxxxx	xxxx xxxxx xxxxxx xxxxxx xxxxx xxxxxx			xxxx 553 xxxxxx								
SharedQueue:xxxxxx xxxxx xxxxxx	0.0 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			xxxxxx 0.2 xxxxxx								
Shrd ConDel:xxxxxx xxxxx xxxxxx	8.4 xxxxx xxxxxx xxxxxx xxxxxx xxxxxx			xxxxxx 12.0 xxxxxx								
Shared LOS: * * *	A * *			* * *			* B *					
ApproachDel: xxxxxxxx	xxxxxxx			xxxxxxx			12.0					
ApproachLOS: *	*			*			B					

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 491 4	8 173 0	0 0 0 0	8 0 32
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	12.0

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=40]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=716]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 491 4	8 173 0	0 0 0 0	8 0 32

Major Street Volume: 676

Minor Approach Volume: 40

Minor Approach Volume Threshold: 420

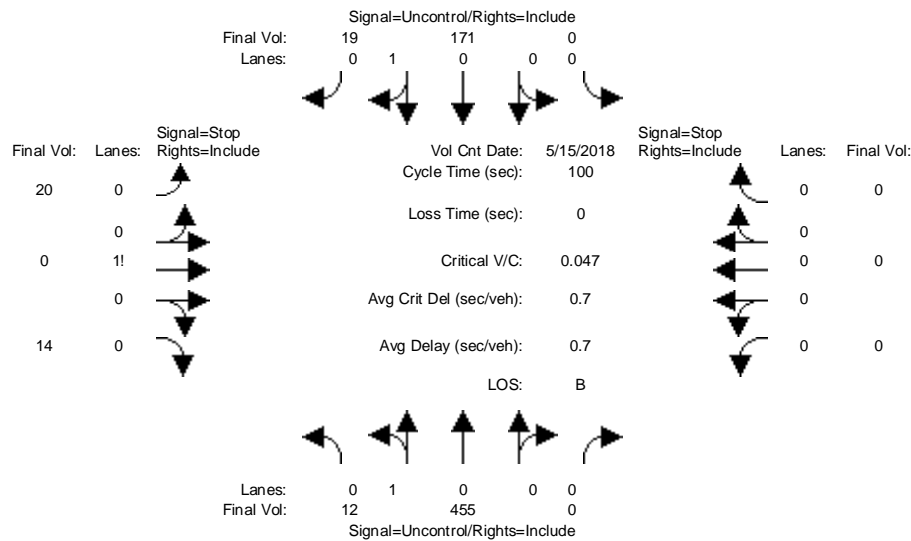
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #4: S Bernardo Ave / Brookfield Ave



Street Name:	S Bernardo Ave						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 8:00 AM - 9:00 AM												
Base Vol:	12	455	0	0	171	19	20	0	14	0	0	0
Growth 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
Initial Bse:	12	455	0	0	171	19	20	0	14	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	455	0	0	171	19	20	0	14	0	0	0
User 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
PHF 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
PHF Volume:	12	455	0	0	171	19	20	0	14	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	12	455	0	0	171	19	20	0	14	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	190	xxxx	xxxxx	xxxx	xxxx	xxxxx	660	660	181	xxxx	xxxx	xxxxx
Potent Cap.:	1396	xxxx	xxxxx	xxxx	xxxx	xxxxx	431	386	867	xxxx	xxxx	xxxxx
Move Cap.:	1396	xxxx	xxxxx	xxxx	xxxx	xxxxx	429	383	867	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.02	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	541	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.1			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0
Initial Vol:	12	455		0		0	171	19		20	0	14		0	0	0	0		0	0
ApproachDel:	xxxxxxx				xxxxxxx				12.1				xxxxxxx							

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=34]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=691]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Initial Vol:	12	455		0		0	171	19		20	0	14		0	0	0	0		0	0

Major Street Volume: 657

Minor Approach Volume: 34

Minor Approach Volume Threshold: 331

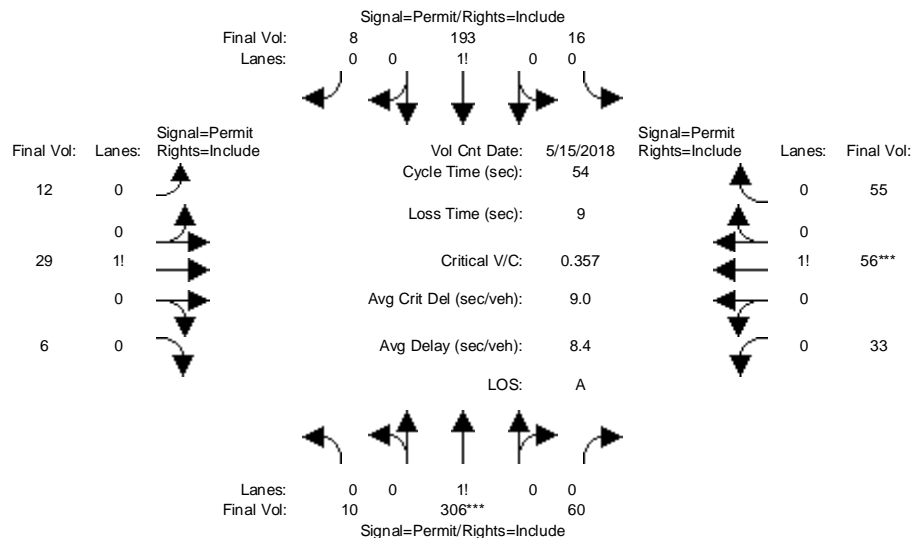
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #5: S Bernardo Ave / Heatherstone Wy



Street Name:	S Bernardo Ave						Heatherstone Wy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T	-	R		L	-	T	-	R	
Min. Green:	15		15		15		6		6		6	
Y+R:	5.0		5.0		5.0		4.0		4.0		4.0	
Volume Module:	>> Count Date: 15 May 2018 << 7:45 AM - 8:45 AM											
Base Vol:	10	306	60	16	193	8	12	29	6	33	56	55
Growth 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
Initial Bse:	10	306	60	16	193	8	12	29	6	33	56	55
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	306	60	16	193	8	12	29	6	33	56	55
User 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
PHF 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
PHF Volume:	10	306	60	16	193	8	12	29	6	33	56	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	306	60	16	193	8	12	29	6	33	56	55
PCE 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
MLF 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
Final Volume:	10	306	60	16	193	8	12	29	6	33	56	55
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	0.03	0.81	0.16	0.07	0.89	0.04	0.25	0.62	0.13	0.23	0.39	0.38
Final Sat.:	47	1424	279	129	1556	65	447	1080	223	401	681	668
Capacity Analysis Module:												
Vol/Sat:	0.21	0.21	0.21	0.12	0.12	0.12	0.03	0.03	0.03	0.08	0.08	0.08
Crit Moves:	****									****		
Green Time:	32.5	32.5	32.5	32.5	32.5	32.5	12.5	12.5	12.5	12.5	12.5	12.5
Volume/Cap:	0.36	0.36	0.36	0.21	0.21	0.21	0.12	0.12	0.12	0.36	0.36	0.36
Uniform Del:	5.4	5.4	5.4	4.9	4.9	4.9	16.4	16.4	16.4	17.4	17.4	17.4
IncrcmntDel:	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	0.5
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	5.6	5.6	5.6	5.0	5.0	5.0	16.5	16.5	16.5	18.0	18.0	18.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	5.6	5.6	5.6	5.0	5.0	5.0	16.5	16.5	16.5	18.0	18.0	18.0
LOS by Move:	A	A	A	A	A	A	B	B	B	B	B	B
HCM2kAvgQ:	56	56	56	24	24	24	18	18	18	51	51	51
Note: Queue reported is the distance per lane in feet.												

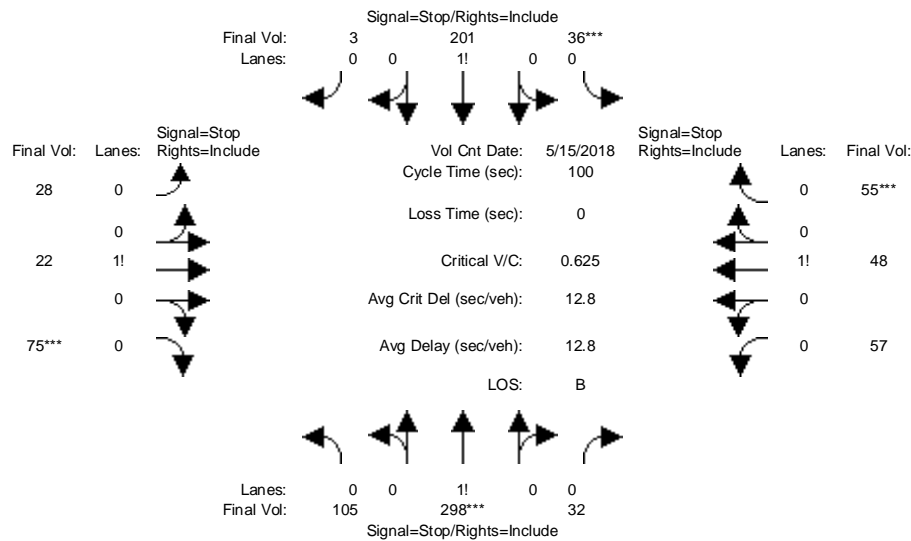
COMPARE

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Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing AM

Intersection #6: S Bernardo Ave / S Knickerbocker Dr



Street Name:	S Bernardo Ave						S Knickerbocker Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date:	15 May 2018 << 7:45 AM - 8:45 AM											
Base Vol:	105	298	32	36	201	3	28	22	75	57	48	55
Growth 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
Initial Bse:	105	298	32	36	201	3	28	22	75	57	48	55
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	298	32	36	201	3	28	22	75	57	48	55
User 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
PHF 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
PHF Volume:	105	298	32	36	201	3	28	22	75	57	48	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	298	32	36	201	3	28	22	75	57	48	55
PCE 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
MLF 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
Final Volume:	105	298	32	36	201	3	28	22	75	57	48	55
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.24	0.69	0.07	0.15	0.84	0.01	0.22	0.18	0.60	0.36	0.30	0.34
Final Sat.:	168	477	51	97	540	8	130	102	347	206	173	198
Capacity Analysis Module:												
Vol/Sat:	0.62	0.62	0.62	0.37	0.37	0.37	0.22	0.22	0.22	0.28	0.28	0.28
Crit Moves:	****			****			****			****		
Delay/Veh:	15.5	15.5	15.5	11.1	11.1	11.1	9.8	9.8	9.8	10.5	10.5	10.5
Delay 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
AdjDel/Veh:	15.5	15.5	15.5	11.1	11.1	11.1	9.8	9.8	9.8	10.5	10.5	10.5
LOS by Move:	C	C	C	B	B	B	A	A	A	B	B	B
ApproachDel:	15.5			11.1			9.8			10.5		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	15.5			11.1			9.8			10.5		
LOS by Appr:	C			B			A			B		
AllWayAvgQ:	36.1	36.1	36.1	12.8	12.8	12.8	5.2	5.2	5.2	7.5	7.5	7.5

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 S Bernardo Ave / S Knickerbocker Dr

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign							
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	105	298		32		36	201		3		28	22		75		57	48		55	

Major Street Volume: 675
Minor Approach Volume: 160
Minor Approach Volume Threshold: 324

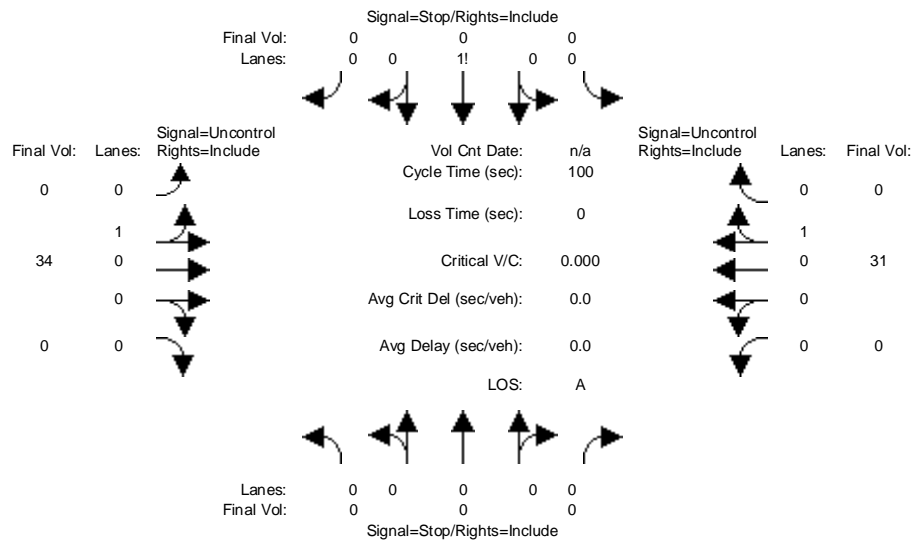
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #7: Project Driveway/ Brookfield Ave



Street Name:	Project Driveway						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:AM												
Base Vol:	0	0	0	0	0	0	0	34	0	0	31	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	34	0	0	31	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	34	0	0	31	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	34	0	0	31	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	0	0	34	0	0	31	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	xxxx	xxxx	xxxxx	65	65	31	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	946	830	1049	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	946	830	1049	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	31	0	0	0
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					xxxxxx				

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	34	0	0	0	0	31	0	0	0
Major Street Volume:						65														
Minor Approach Volume:						0														
Minor Approach Volume Threshold:						948														

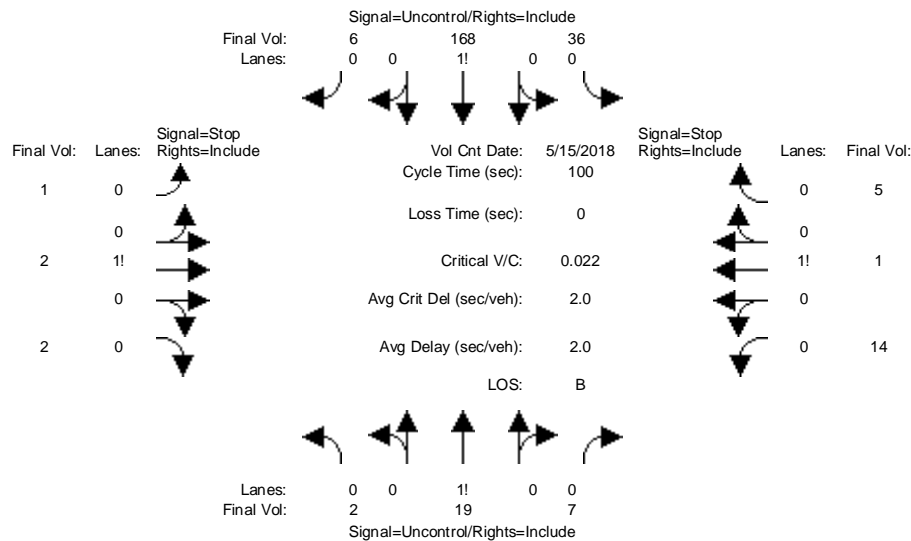
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1: S Knickerbocker Dr / Brookfield Ave



Street Name:	S Knickerbocker Dr						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	2	19	7	36	168	6	1	2	2	14	1	5
Growth 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
Initial Bse:	2	19	7	36	168	6	1	2	2	14	1	5
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	19	7	36	168	6	1	2	2	14	1	5
User 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
PHF 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
PHF Volume:	2	19	7	36	168	6	1	2	2	14	1	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	19	7	36	168	6	1	2	2	14	1	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	174	xxxx	xxxxx	26	xxxx	xxxxx	273	273	171	272	273	23
Potent Cap.:	1415	xxxx	xxxxx	1601	xxxx	xxxxx	684	637	878	685	638	1060
Move Cap.:	1415	xxxx	xxxxx	1601	xxxx	xxxxx	667	622	878	669	622	1060
Volume/Cap:	0.00	xxxx	xxxx	0.02	xxxx	xxxx	0.00	0.00	0.00	0.02	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	1.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	715	xxxxx	xxxx	734	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.1	xxxxx	xxxxx	10.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx				10.1			10.0	
ApproachLOS:	*			*				B			B	

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	2 19 7	36 168 6	1 2 2	14 1 5
ApproachDel:	xxxxxx	xxxxxx	10.1	10.0

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=5]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=263]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=20]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=263]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	2 19 7	36 168 6	1 2 2	14 1 5

Major Street Volume: 238

Minor Approach Volume: 20

Minor Approach Volume Threshold: 602

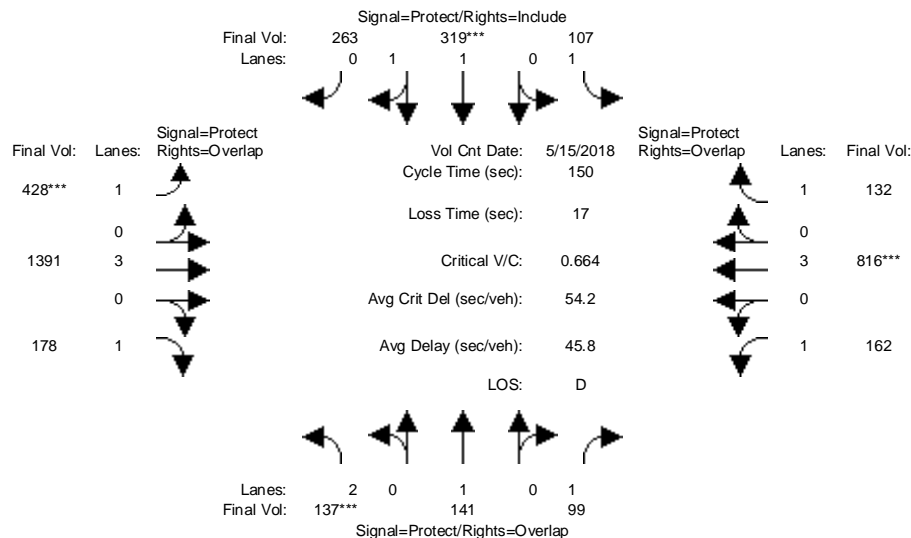
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

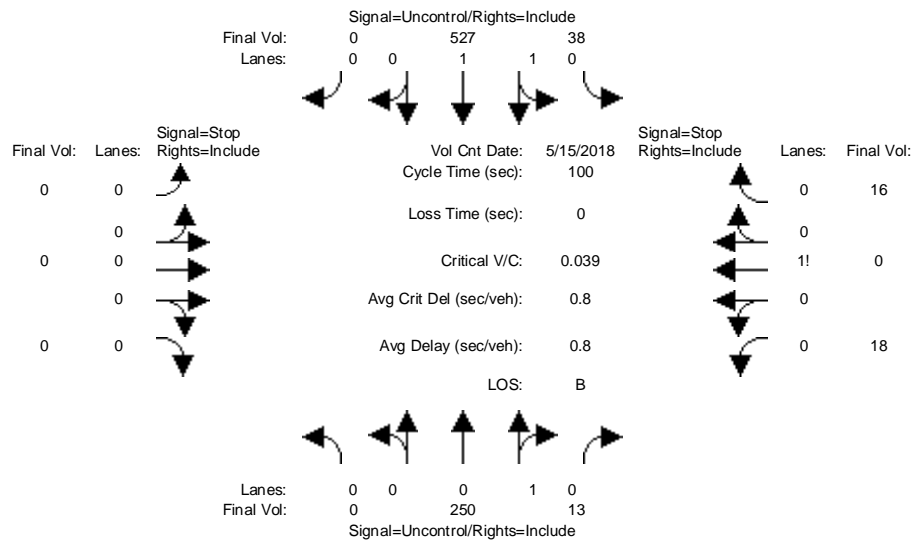
Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module:	>> Count Date: 15 May 2018 << 5:45 PM - 6:45 PM											
Base Vol:	137	141	99	107	319	263	428	1391	178	162	816	132
Growth 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
Initial Bse:	137	141	99	107	319	263	428	1391	178	162	816	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	141	99	107	319	263	428	1391	178	162	816	132
User 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
PHF 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
PHF Volume:	137	141	99	107	319	263	428	1391	178	162	816	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	141	99	107	319	263	428	1391	178	162	816	132
PCE 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
MLF 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
Final Volume:	137	141	99	107	319	263	428	1391	178	162	816	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.07	0.93	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	2027	1671	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.07	0.06	0.06	0.16	0.16	0.24	0.24	0.10	0.09	0.14	0.08
Crit Moves:	****				****		****				****	
Green Time:	14.0	24.2	47.5	24.2	34.4	34.4	53.4	61.4	75.4	23.3	31.3	55.4
Volume/Cap:	0.47	0.46	0.18	0.38	0.69	0.69	0.69	0.60	0.20	0.60	0.69	0.20
Uniform Del:	64.5	57.0	37.2	56.2	52.9	52.9	41.2	34.6	20.7	59.0	54.9	32.2
IncrementDel:	1.2	1.1	0.2	0.9	2.4	2.4	3.2	0.4	0.1	3.6	1.7	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	65.6	58.1	37.3	57.1	55.3	55.3	44.4	35.1	20.8	62.6	56.6	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.6	58.1	37.3	57.1	55.3	55.3	44.4	35.1	20.8	62.6	56.6	32.4
LOS by Move:	E	E+	D+	E+	E+	E+	D	D+	C+	E	E+	C-
HCM2kAvgQ:	89	143	85	123	334	334	464	413	118	204	311	108
Note: Queue reported is the distance per lane in feet.												

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3: S Bernardo Ave / Blair Ave



Street Name:	S Bernardo Ave						Blair Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- ----- -----												
Volume Module: >> Count Date:	15 May 2018 << 5:15 PM - 6:15 PM											
Base Vol:	0	250	13	38	527	0	0	0	0	18	0	16
Growth 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
Initial Bse:	0	250	13	38	527	0	0	0	0	18	0	16
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	250	13	38	527	0	0	0	0	18	0	16
User 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
PHF 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
PHF Volume:	0	250	13	38	527	0	0	0	0	18	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	250	13	38	527	0	0	0	0	18	0	16
----- ----- ----- ----- -----												
Critical Gap Module:												
Critical Gp:xxxxxx xxxxx xxxxxx	4.1 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			6.4			6.5		
FollowUpTim:xxxxxx xxxxx xxxxxx	2.2 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			3.5			4.0		
----- ----- ----- ----- -----												
Capacity Module:												
Cnflict Vol: xxxxx xxxxx xxxxxx	263 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			596			860		
Potent Cap.: xxxxx xxxxx xxxxxx	1313 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			470			296		
Move Cap.: xxxxx xxxxx xxxxxx	1313 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			459			287		
Volume/Cap: xxxxx xxxxx xxxxx	0.03 xxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxx			0.04			0.00		
----- ----- ----- ----- -----												
Level Of Service Module:												
2Way95thQ: xxxxx xxxxx xxxxxx	2.2 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx		
Control Del:xxxxxx xxxxx xxxxxx	7.8 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx		
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.: xxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			571 xxxxxx		
SharedQueue:xxxxxx xxxxx xxxxxx	0.1 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			0.2 xxxxxx		
Shrd ConDel:xxxxxx xxxxx xxxxxx	7.8 xxxxx xxxxxx xxxxxx			xxxxxx xxxxx xxxxxx			xxxxxx xxxxx xxxxxx			11.7 xxxxxx		
Shared LOS:	*	*	*	A	*	*	*	*	*	B	*	*
ApproachDel: xxxxxxxx	xxxxxxx			xxxxxxx			xxxxxxx			11.7		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 250 13	38 527 0	0 0 0 0	18 0 16
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	11.7

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=34]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=862]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 250 13	38 527 0	0 0 0 0	18 0 16

Major Street Volume: 828

Minor Approach Volume: 34

Minor Approach Volume Threshold: 350

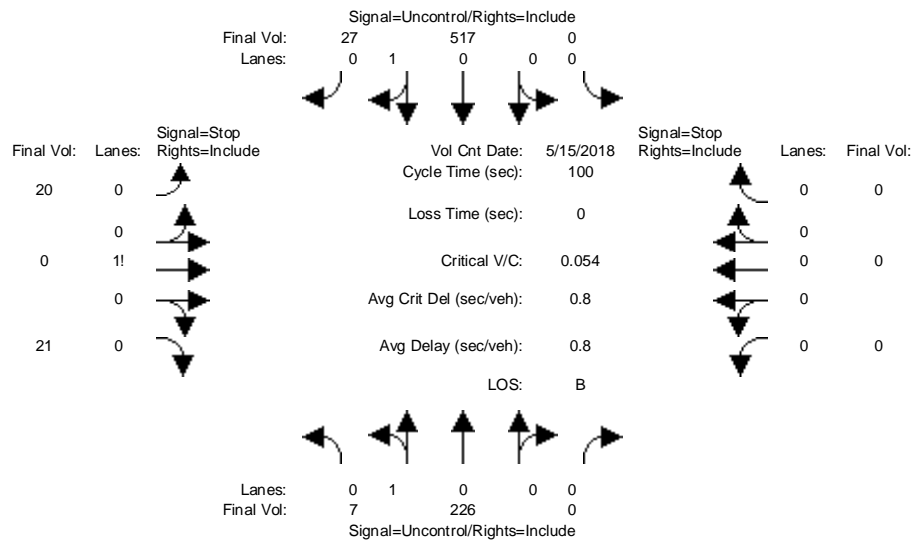
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #4: S Bernardo Ave / Brookfield Ave



Street Name:	S Bernardo Ave						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	7	226	0	0	517	27	20	0	21	0	0	0
Growth 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
Initial Bse:	7	226	0	0	517	27	20	0	21	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	226	0	0	517	27	20	0	21	0	0	0
User 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
PHF 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
PHF Volume:	7	226	0	0	517	27	20	0	21	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	7	226	0	0	517	27	20	0	21	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	544	xxxx	xxxxx	xxxx	xxxx	xxxxx	771	771	531	xxxx	xxxx	xxxxx
Potent Cap.:	1035	xxxx	xxxxx	xxxx	xxxx	xxxxx	371	333	552	xxxx	xxxx	xxxxx
Move Cap.:	1035	xxxx	xxxxx	xxxx	xxxx	xxxxx	370	331	552	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.04	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT					LT - LTR - RT	LT - LTR - RT			LT - LTR - RT	
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	445	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.9	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx	xxxxxx					13.9	xxxxxx				
ApproachLOS:	*	*					B	*				

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	7 226 0	0 517 27	20 0 21	0 0 0 0
ApproachDel:	xxxxxx	xxxxxx	13.9	xxxxxx

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.2]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=41]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=818]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 1 0 0 0	0 0 0 1 0	0 0 1! 0 0	0 0 0 0 0
Initial Vol:	7 226 0	0 517 27	20 0 21	0 0 0 0

Major Street Volume: 777

Minor Approach Volume: 41

Minor Approach Volume Threshold: 287

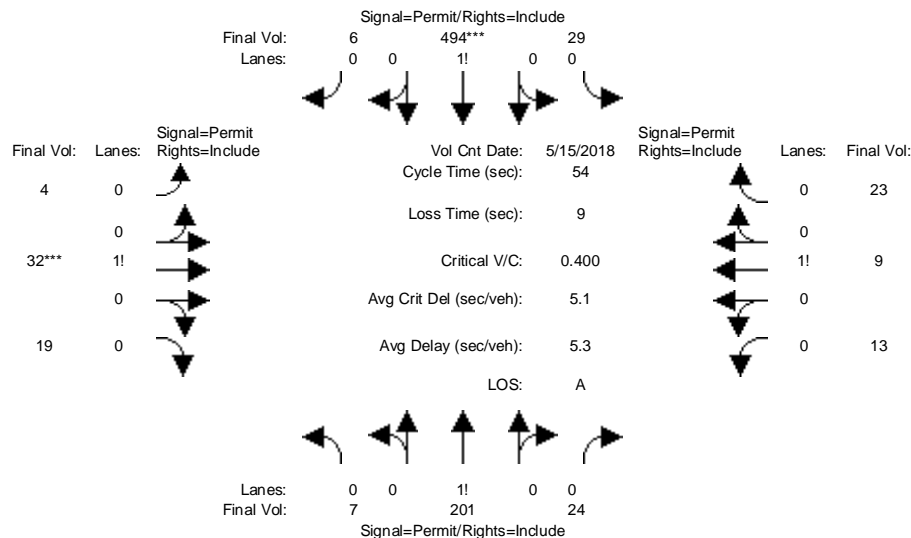
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #5: S Bernardo Ave / Heatherstone Wy



Street Name:	S Bernardo Ave						Heatherstone Wy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	15	15	15	15	15	15	6	6	6	6	6	6
Y+R:	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:	>> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM											
Base Vol:	7	201	24	29	494	6	4	32	19	13	9	23
Growth 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
Initial Bse:	7	201	24	29	494	6	4	32	19	13	9	23
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	201	24	29	494	6	4	32	19	13	9	23
User 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
PHF 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
PHF Volume:	7	201	24	29	494	6	4	32	19	13	9	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	201	24	29	494	6	4	32	19	13	9	23
PCE 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
MLF 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
Final Volume:	7	201	24	29	494	6	4	32	19	13	9	23
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	0.03	0.87	0.10	0.05	0.94	0.01	0.07	0.58	0.35	0.29	0.20	0.51
Final Sat.:	53	1516	181	96	1634	20	127	1018	605	506	350	894
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.30	0.30	0.30	0.03	0.03	0.03	0.03	0.03	0.03
Crit Moves:				****			****					
Green Time:	39.0	39.0	39.0	39.0	39.0	39.0	6.0	6.0	6.0	6.0	6.0	6.0
Volume/Cap:	0.18	0.18	0.18	0.42	0.42	0.42	0.28	0.28	0.28	0.23	0.23	0.23
Uniform Del:	2.4	2.4	2.4	3.0	3.0	3.0	22.0	22.0	22.0	21.9	21.9	21.9
IncrementDel:	0.1	0.1	0.1	0.2	0.2	0.2	0.8	0.8	0.8	0.6	0.6	0.6
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	2.5	2.5	2.5	3.2	3.2	3.2	22.8	22.8	22.8	22.5	22.5	22.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	2.5	2.5	2.5	3.2	3.2	3.2	22.8	22.8	22.8	22.5	22.5	22.5
LOS by Move:	A	A	A	A	A	A	C+	C+	C+	C+	C+	C+
HCM2kAvgQ:	6	6	6	93	93	93	30	30	30	24	24	24
Note: Queue reported is the distance per lane in feet.												

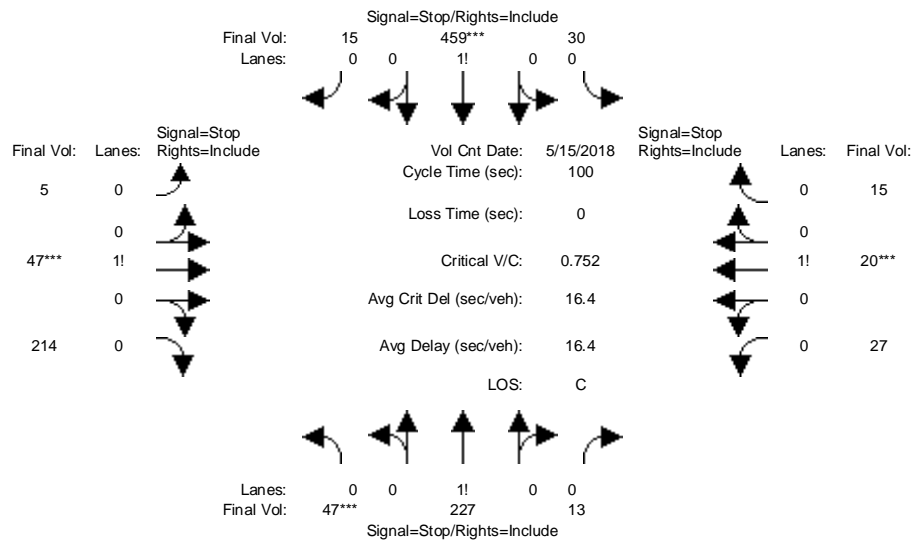
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Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing PM

Intersection #6: S Bernardo Ave / S Knickerbocker Dr



Street Name:	S Bernardo Ave						S Knickerbocker Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:	>> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM											
Base Vol:	47	227	13	30	459	15	5	47	214	27	20	15
Growth 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
Initial Bse:	47	227	13	30	459	15	5	47	214	27	20	15
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	227	13	30	459	15	5	47	214	27	20	15
User 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
PHF 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
PHF Volume:	47	227	13	30	459	15	5	47	214	27	20	15
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	227	13	30	459	15	5	47	214	27	20	15
PCE 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
MLF 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
Final Volume:	47	227	13	30	459	15	5	47	214	27	20	15
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.79	0.05	0.06	0.91	0.03	0.02	0.18	0.80	0.44	0.32	0.24
Final Sat.:	101	486	28	40	611	20	11	106	482	209	155	116
Capacity Analysis Module:												
Vol/Sat:	0.47	0.47	0.47	0.75	0.75	0.75	0.44	0.44	0.44	0.13	0.13	0.13
Crit Moves:	****			****			****			****		
Delay/Veh:	12.9	12.9	12.9	21.4	21.4	21.4	12.2	12.2	12.2	10.1	10.1	10.1
Delay 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
AdjDel/Veh:	12.9	12.9	12.9	21.4	21.4	21.4	12.2	12.2	12.2	10.1	10.1	10.1
LOS by Move:	B	B	B	C	C	C	B	B	B	B	B	B
ApproachDel:	12.9			21.4			12.2			10.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	12.9			21.4			12.2			10.1		
LOS by Appr:	B			C			B			B		
AllWayAvgQ:	18.5	18.5	18.5	61.2	61.2	61.2	15.5	15.5	15.5	2.6	2.6	2.6

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 S Bernardo Ave / S Knickerbocker Dr

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Future Volume Alternative: Peak Hour Warrant NOT Met															
----- ----- ----- ----- -----															
Approach:	North Bound				South Bound				East Bound				West Bound		
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
----- ----- ----- ----- -----															
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign		
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	47	227		13	30	459		15	5	47	214	27	20		15
----- ----- ----- ----- -----															
Major Street Volume:					791										
Minor Approach Volume:					266										
Minor Approach Volume Threshold: 282															

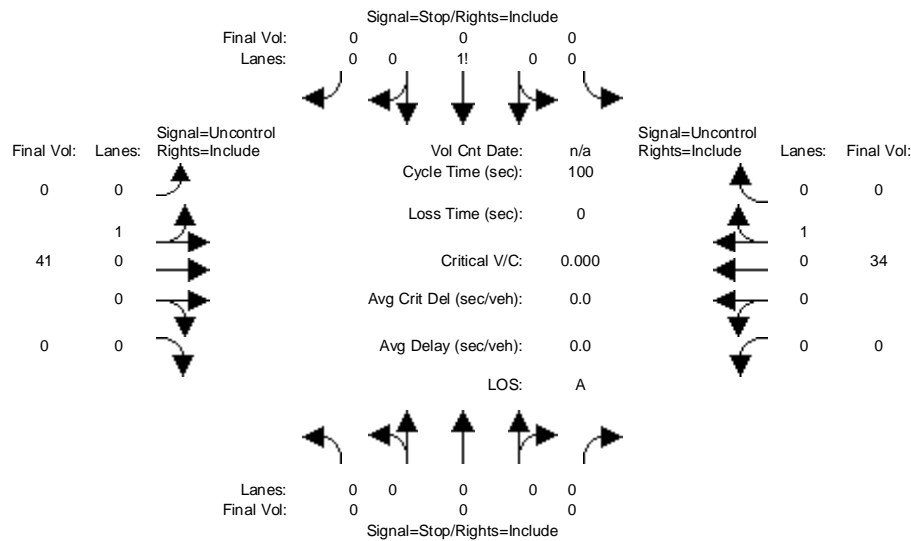
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #7: Project Driveway/ Brookfield Ave



Street Name:	Project Driveway						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: PM												
Base Vol:	0	0	0	0	0	0	0	41	0	0	34	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	41	0	0	34	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	41	0	0	34	0
User 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
PHF 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
PHF Volume:	0	0	0	0	0	0	0	41	0	0	34	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	0	0	0	0	41	0	0	34	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	xxxx	xxxx	xxxxx	75	75	34	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	933	819	1045	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	933	819	1045	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.00	0.00	0.00	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	*			*			*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L - T - R					L - T - R					L - T - R					L - T - R				
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	0 0 0 0 0					0 0 1! 0 0					0 0 1 0 0					0 0 1 0 0				
Initial Vol:	0 0 0 0					0 0 0					0 41 0					0 34 0				
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					xxxxxx				

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign					Stop Sign					Uncontrolled					Uncontrolled				
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0
Initial Vol:	0	0	0	0	0	0	0	0	0	0	0	41	0	0	0	0	34	0	0	0
Major Street Volume:						75														
Minor Approach Volume:						0														
Minor Approach Volume Threshold:						910														

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Appendix D

Approved Project Trips

Approved Project Trip Generation - 803 W. El Camino Real

Land Use	Size	Unit	Daily Rate	Daily Trips	AM Peak Hour			PM Peak Hour		
					Rate	In%	In	Out%	Out	Total
Existing Commercial										
Not in Use... Under construction										
Proposed										
Single Family Homes ²	9	dwelling units	9.44	85	0.74	25%	2	75%	5	7
Hotel Rooms ³	51	rooms	8.36	426	0.47	59%	14	41%	10	24
Apartments ⁴	40	dwelling units	5.44	218	0.36	26%	4	74%	11	14
Commercial ¹	5,662	sq ft	37.75	214	0.94	62%	3	38%	2	5
Total Proposed Trips				943			23		28	50
Proposed with Trip Reduction										
Single Family Homes ²				76			1		5	6
Hotel Rooms ³				418			14		15	23
Apartments ⁴				209			4		10	14
Commercial ¹				205			3		10	5
Total Proposed Trips with reduction				909			22		26	48
Net New Trips				909			22		26	48

Notes:

All rates are from Institute of Transportation Engineers, Trip Generation, 10th Edition

1. Land Use Code 820: Shopping Center (average rates, expressed in trips per 1000 sq ft).

2. Land Use Code 210: Single-Family Detached Housing (average rates, expressed in trips per dwelling unit).

3. Land Use Code 310: Hotel (average rates, expressed in trips per room).

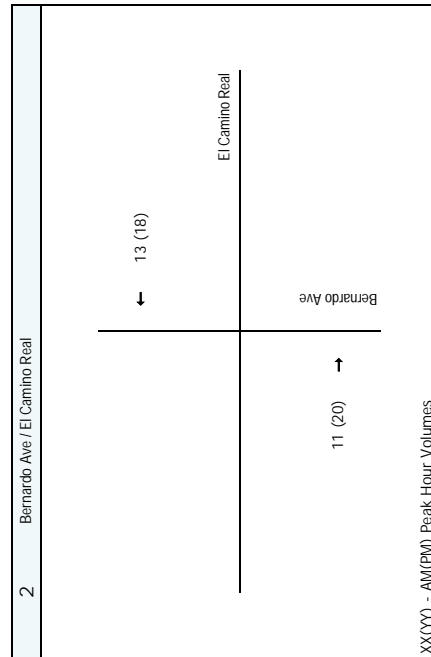
4. Land Use Code 221: Multifamily Housing (Mid-Rise) (average rates, expressed in trips per dwelling unit).

The project is eligible for Trip reductions according to VTA TIA Guidelines...the min reduction of 10% is used for this calculation

approved project trips

[illegible]

It is assumed that half of the trips generated by the approved project will go to/from west and half go to/from east and half go to/from west from the approved project...therefore, the study intersection gets only half of the trips generated from the approved project.



Appendix E

Background Conditions Analysis

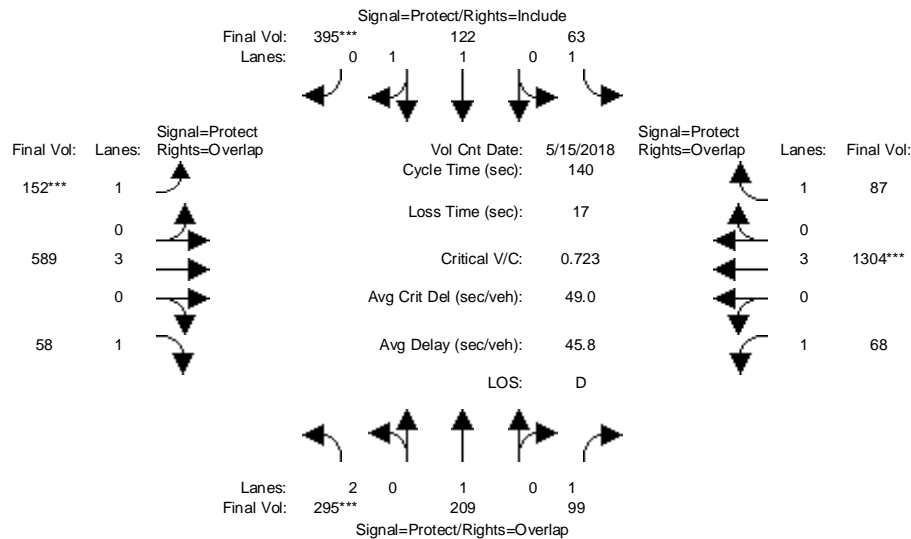
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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Background AM

Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module: >> Count Date:	15 May 2018 << 8:00 AM - 9:00 AM											
Base Vol:	295	209	99	63	122	395	152	578	58	68	1291	87
Growth 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
Initial Bse:	295	209	99	63	122	395	152	578	58	68	1291	87
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
approved:	0	0	0	0	0	0	0	11	0	0	13	0
Initial Fut:	295	209	99	63	122	395	152	589	58	68	1304	87
User 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
PHF 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
PHF Volume:	295	209	99	63	122	395	152	589	58	68	1304	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	295	209	99	63	122	395	152	589	58	68	1304	87
PCE 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
MLF 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
Final Volume:	295	209	99	63	122	395	152	589	58	68	1304	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.06	0.04	0.06	0.23	0.09	0.10	0.03	0.04	0.23	0.05
Crit Moves:	****					****	****				****	
Green Time:	18.1	32.4	59.6	29.5	43.7	43.7	16.8	34.0	52.1	27.2	44.3	73.8
Volume/Cap:	0.72	0.48	0.13	0.17	0.21	0.72	0.72	0.43	0.09	0.20	0.72	0.09
Uniform Del:	58.5	46.5	24.5	45.3	35.4	42.8	59.3	44.8	28.5	47.3	42.4	16.5
IncrementDel:	6.3	0.8	0.1	0.2	0.0	3.6	11.7	0.2	0.1	0.3	1.5	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	64.8	47.3	24.6	45.5	35.4	46.4	71.0	45.0	28.6	47.6	43.9	16.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.8	47.3	24.6	45.5	35.4	46.4	71.0	45.0	28.6	47.6	43.9	16.5
LOS by Move:	E	D	C	D	D+	D	E	D	C	D	D	B
HCM2kAvgQ:	188	187	66	60	94	429	206	179	42	66	433	48
Note:	Queue reported is the distance per lane in feet.											

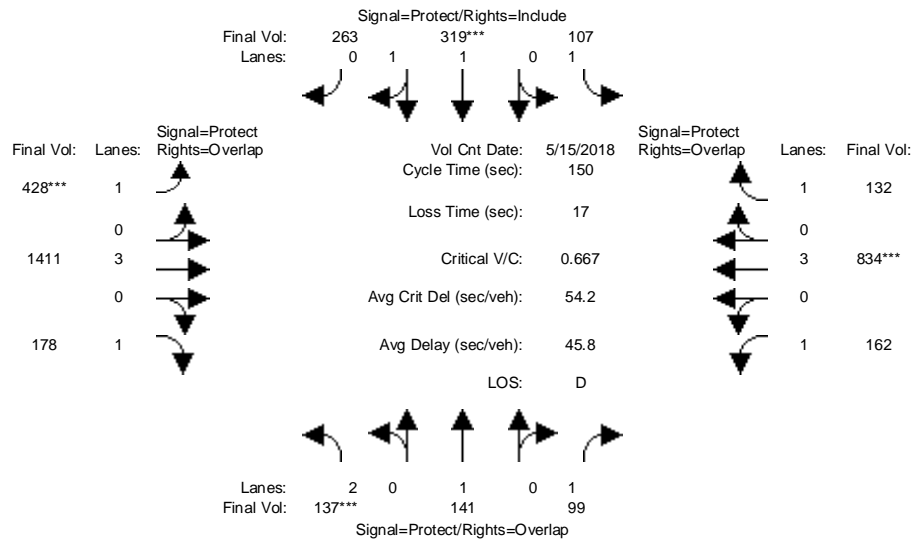
COMPARE

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Background PM

Intersection #2: S Bernardo Ave / W El Camino Real



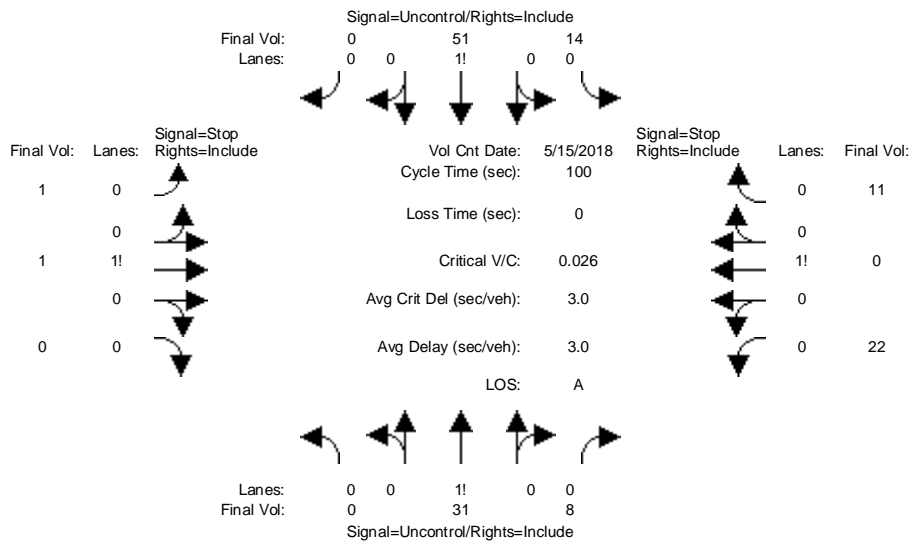
Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T	-	R		L	-	T	-	R	
Min. Green:	14		14		14		12	15	15		12	15
Y+R:	4.0		4.0		4.0		4.5	4.5	4.5		4.5	4.5
Volume Module: >> Count Date:	15 May 2018 << 5:45 PM - 6:45 PM											
Base Vol:	137	141	99	107	319	263	428	1391	178	162	816	132
Growth 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
Initial Bse:	137	141	99	107	319	263	428	1391	178	162	816	132
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
approved:	0	0	0	0	0	0	0	20	0	0	18	0
Initial Fut:	137	141	99	107	319	263	428	1411	178	162	834	132
User 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
PHF 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
PHF Volume:	137	141	99	107	319	263	428	1411	178	162	834	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	141	99	107	319	263	428	1411	178	162	834	132
PCE 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
MLF 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
Final Volume:	137	141	99	107	319	263	428	1411	178	162	834	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.07	0.93	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	2027	1671	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.07	0.06	0.06	0.16	0.16	0.24	0.25	0.10	0.09	0.15	0.08
Crit Moves:	****				****		****				****	
Green Time:	14.0	24.1	47.2	24.1	34.2	34.2	53.1	61.7	75.7	23.1	31.8	55.8
Volume/Cap:	0.47	0.46	0.18	0.38	0.69	0.69	0.69	0.60	0.20	0.60	0.69	0.20
Uniform Del:	64.5	57.1	37.4	56.3	53.1	53.1	41.4	34.5	20.5	59.2	54.6	32.0
IncrementDel:	1.2	1.1	0.2	0.9	2.5	2.5	3.3	0.4	0.1	3.8	1.7	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	65.6	58.2	37.5	57.2	55.6	55.6	44.8	34.9	20.6	62.9	56.3	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.6	58.2	37.5	57.2	55.6	55.6	44.8	34.9	20.6	62.9	56.3	32.1
LOS by Move:	E	E+	D+	E+	E+	E+	D	C-	C+	E	E+	C-
HCM2kAvgQ:	89	143	85	123	335	335	466	419	117	205	317	108
Note: Queue reported is the distance per lane in feet.												

Appendix F

Existing + Project Conditions Analysis

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #1: S Knickerbocker Dr / Brookfield Ave



Street Name: S Knickerbocker Dr Brookfield Ave

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Volume Module: >> Count Date: 15 May 2018 << 8:00 AM - 9:00 AM

Base Vol:	0	31	5	6	51	0	1	1	0	20	0	11
Growth 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
Initial Bse:	0	31	5	6	51	0	1	1	0	20	0	11
Added Vol:	0	0	3	8	0	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	8	14	51	0	1	1	0	22	0	11
User 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
PHF 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
PHF Volume:	0	31	8	14	51	0	1	1	0	22	0	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	8	14	51	0	1	1	0	22	0	11

Critical Gap Module:

Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxxx	39	xxxx	xxxxx	120	118	xxxxx	115	114	35
Potent Cap.:	xxxx	xxxx	xxxxx	1584	xxxx	xxxxx	861	776	xxxxx	867	780	1044
Move Cap.:	xxxx	xxxx	xxxxx	1584	xxxx	xxxxx	846	769	xxxxx	860	773	1044
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.00	xxxx	0.03	0.00	0.01

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	806	xxxx	xxxxx	xxxx	914	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	9.5	xxxx	xxxxx	xxxxx	9.1	xxxxx
Shared LOS:	*	*	*	A	*	*	A	*	*	*	A	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	9.5	xxxxxx	xxxxxx	xxxxxx	9.1	xxxxxx
ApproachLOS:	*	*	*	A	*	*	A	*	*	*	A	*

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 0 0 0	0 1 0 0 0	0 0 1! 0 0
Initial Vol:	0 31 8	14 51 0	1 1 0	22 0 11
ApproachDel:	xxxxxx	xxxxxx	9.5	9.1

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=2]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=139]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=33]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=139]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 0 0 0	0 1 0 0 0	0 0 1! 0 0
Initial Vol:	0 31 8	14 51 0	1 1 0	22 0 11

Major Street Volume: 104

Minor Approach Volume: 33

Minor Approach Volume Threshold: 823

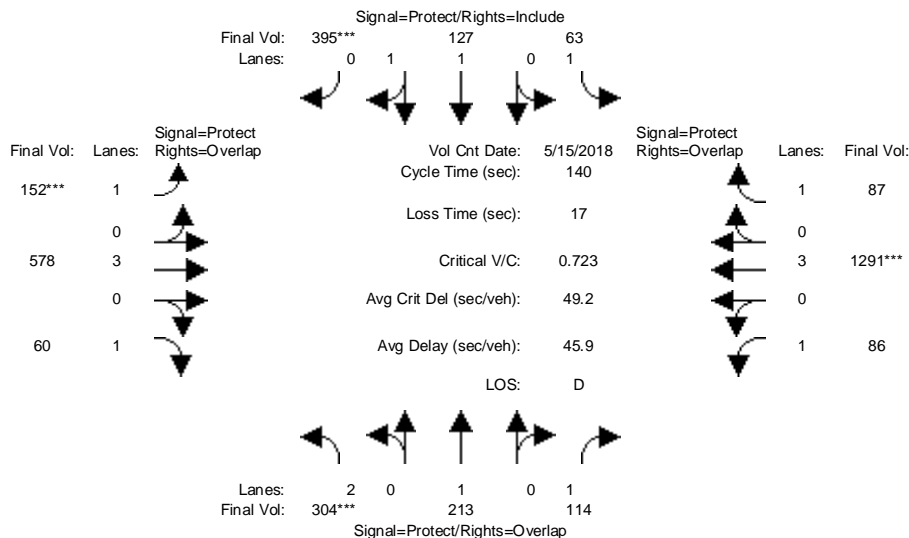
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project AM

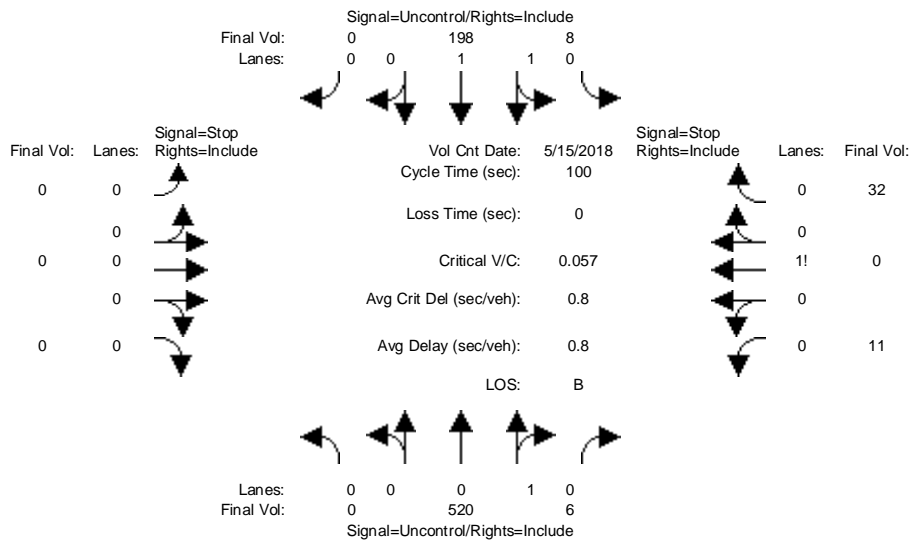
Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module: >> Count Date:	15 May 2018 << 8:00 AM - 9:00 AM											
Base Vol:	295	209	99	63	122	395	152	578	58	68	1291	87
Growth 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
Initial Bse:	295	209	99	63	122	395	152	578	58	68	1291	87
Added Vol:	9	4	15	0	5	0	0	0	2	18	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	304	213	114	63	127	395	152	578	60	86	1291	87
User 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
PHF 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
PHF Volume:	304	213	114	63	127	395	152	578	60	86	1291	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	213	114	63	127	395	152	578	60	86	1291	87
PCE 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
MLF 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
Final Volume:	304	213	114	63	127	395	152	578	60	86	1291	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.11	0.07	0.04	0.07	0.23	0.09	0.10	0.03	0.05	0.23	0.05
Crit Moves:	****					****	****				****	
Green Time:	18.7	33.0	59.9	29.4	43.7	43.7	16.8	33.7	52.4	27.0	43.8	73.2
Volume/Cap:	0.72	0.48	0.15	0.17	0.21	0.72	0.72	0.42	0.09	0.26	0.72	0.10
Uniform Del:	58.2	46.1	24.5	45.3	35.5	42.8	59.4	44.9	28.4	48.0	42.7	16.8
IncrementDel:	6.1	0.8	0.1	0.2	0.0	3.6	11.7	0.2	0.1	0.4	1.5	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	64.3	46.9	24.6	45.5	35.6	46.4	71.1	45.1	28.5	48.4	44.2	16.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.3	46.9	24.6	45.5	35.6	46.4	71.1	45.1	28.5	48.4	44.2	16.8
LOS by Move:	E	D	C	D	D+	D	E	D	C	D	D	B
HCM2kAvgQ:	193	190	77	60	98	429	206	176	44	86	430	49
Note: Queue reported is the distance per lane in feet.												

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #3: S Bernardo Ave / Blair Ave



Street Name:			S Bernardo Ave						Blair Ave								
Approach:			North Bound			South Bound			East Bound			West Bound					
Movement:			L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
			----- -----			----- -----			----- -----			----- -----					
Volume Module: >> Count Date:			15 May 2018 <<			8:00 AM - 9:00 AM											
Base Vol:	0	491	4	8	173	0	0	0	0	8	0	32					
Growth 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					
Initial Bse:	0	491	4	8	173	0	0	0	0	8	0	32					
Added Vol:	0	29	2	0	25	0	0	0	0	3	0	0					
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0					
Initial Fut:	0	520	6	8	198	0	0	0	0	11	0	32					
User 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					
PHF 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					
PHF Volume:	0	520	6	8	198	0	0	0	0	11	0	32					
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0					
FinalVolume:	0	520	6	8	198	0	0	0	0	11	0	32					
			----- -----			----- -----			----- -----			----- -----					
Critical Gap Module:																	
Critical Gp:xxxxxx xxxxx xxxxxx				4.1	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	6.4	6.5	6.2							
FollowUpTim:xxxxxx xxxxx xxxxxx				2.2	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	3.5	4.0	3.3							
			----- -----			----- -----			----- -----			----- -----					
Capacity Module:																	
Cnflct Vol: xxxxx xxxxx xxxxxx				526	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	638	737	523							
Potent Cap.: xxxxx xxxxx xxxxxx				1051	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	444	348	558							
Move Cap.: xxxxx xxxxx xxxxxx				1051	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	441	346	558							
Volume/Cap: xxxxx xxxxx xxxxx				0.01	xxxxxx xxxxx	xxxxxx xxxxx xxxxx	xxxxxx xxxxx xxxxx	0.02	0.00	0.06							
			----- -----			----- -----			----- -----			----- -----					
Level Of Service Module:																	
2Way95thQ: xxxxx xxxxx xxxxxx				0.6	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx							
Control Del:xxxxxx xxxxx xxxxxx				8.5	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx							
LOS by Move: * * *				A	* * *	* * *	* * *	* * *	* * *								
Movement: LT - LTR - RT				LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT								
Shared Cap.: xxxxx xxxxx xxxxxx				xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	523	xxxxxx xxxxx xxxxxx						
SharedQueue:xxxxxx xxxxx xxxxxx				0.0	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	0.3	xxxxxx xxxxx xxxxxx						
Shrd ConDel:xxxxxx xxxxx xxxxxx				8.5	xxxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	xxxxxx xxxxx xxxxxx	12.5	xxxxxx xxxxx xxxxxx						
Shared LOS: * * *				A	* * *	* * *	* * *	* * *	B	* * *							
ApproachDel: xxxxxx				xxxxxxx	xxxxxxx	xxxxxxx	xxxxxxx	12.5									
ApproachLOS: *				*	*	*	*	B									

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 520 6	8 198 0	0 0 0 0	11 0 32
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	12.5

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=43]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=775]

SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 520 6	8 198 0	0 0 0 0	11 0 32

Major Street Volume: 732

Minor Approach Volume: 43

Minor Approach Volume Threshold: 392

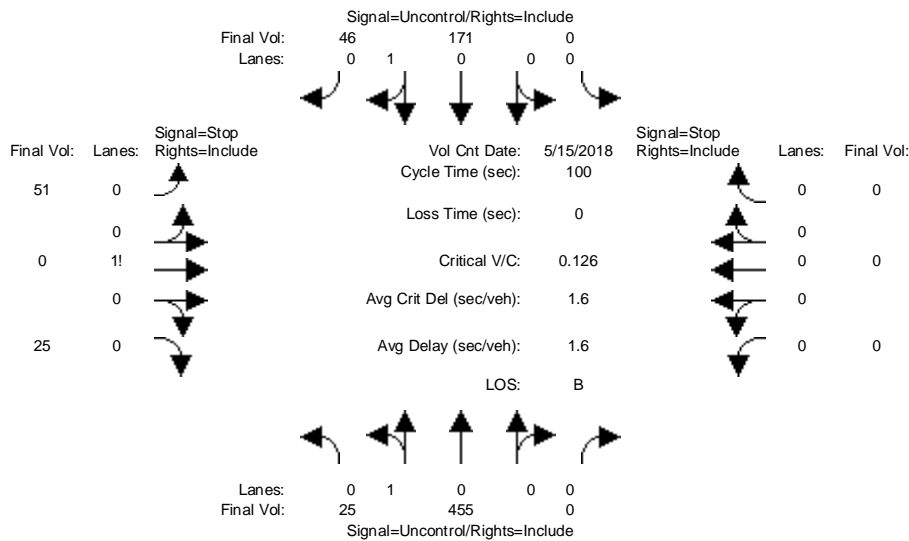
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #4: S Bernardo Ave / Brookfield Ave



Street Name:	S Bernardo Ave						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 8:00 AM - 9:00 AM												
Base Vol:	12	455	0	0	171	19	20	0	14	0	0	0
Growth 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
Initial Bse:	12	455	0	0	171	19	20	0	14	0	0	0
Added Vol:	13	0	0	0	0	27	31	0	11	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	25	455	0	0	171	46	51	0	25	0	0	0
User 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
PHF 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
PHF Volume:	25	455	0	0	171	46	51	0	25	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	25	455	0	0	171	46	51	0	25	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	217	xxxx	xxxxx	xxxx	xxxx	xxxxx	699	699	194	xxxx	xxxx	xxxxx
Potent Cap.:	1365	xxxx	xxxxx	xxxx	xxxx	xxxxx	409	366	853	xxxx	xxxx	xxxxx
Move Cap.:	1365	xxxx	xxxxx	xxxx	xxxx	xxxxx	403	360	853	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.13	0.00	0.03	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	1.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	488	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			13.7			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Initial Vol:	25	455		0		0	171	46			51	0	25			0	0		0	0
ApproachDel:	xxxxxxx					xxxxxxx					13.7					xxxxxxx				

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.3]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=76]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=773]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Initial Vol:	25	455		0		0	171	46		51	0	25		0	0	0	0		0	0

Major Street Volume: 697

Minor Approach Volume: 76

Minor Approach Volume Threshold: 316

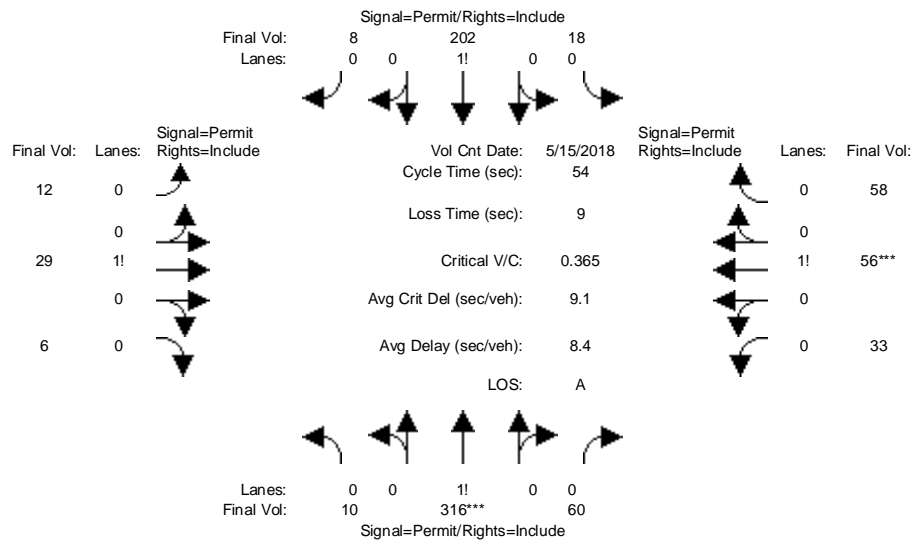
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project AM

Intersection #5: S Bernardo Ave / Heatherstone Wy



Street Name:	S Bernardo Ave						Heatherstone Wy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T	-	R		L	-	T	-	R	
Min. Green:	15		15		15		6		6		6	
Y+R:	5.0		5.0		5.0		4.0		4.0		4.0	
Volume Module:	>> Count Date: 15 May 2018 << 7:45 AM - 8:45 AM											
Base Vol:	10	306	60	16	193	8	12	29	6	33	56	55
Growth 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
Initial Bse:	10	306	60	16	193	8	12	29	6	33	56	55
Added Vol:	0	10	0	2	9	0	0	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	316	60	18	202	8	12	29	6	33	56	58
User 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
PHF 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
PHF Volume:	10	316	60	18	202	8	12	29	6	33	56	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	316	60	18	202	8	12	29	6	33	56	58
PCE 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
MLF 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
Final Volume:	10	316	60	18	202	8	12	29	6	33	56	58
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	0.03	0.82	0.15	0.08	0.89	0.03	0.25	0.62	0.13	0.22	0.38	0.40
Final Sat.:	45	1433	272	138	1550	61	447	1080	223	393	667	690
Capacity Analysis Module:												
Vol/Sat:	0.22	0.22	0.22	0.13	0.13	0.13	0.03	0.03	0.03	0.08	0.08	0.08
Crit Moves:	****									****		
Green Time:	32.6	32.6	32.6	32.6	32.6	32.6	12.4	12.4	12.4	12.4	12.4	12.4
Volume/Cap:	0.37	0.37	0.37	0.22	0.22	0.22	0.12	0.12	0.12	0.37	0.37	0.37
Uniform Del:	5.4	5.4	5.4	4.9	4.9	4.9	16.5	16.5	16.5	17.5	17.5	17.5
IncrementDel:	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.6	0.6	0.6
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	5.7	5.7	5.7	5.0	5.0	5.0	16.6	16.6	16.6	18.0	18.0	18.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	5.7	5.7	5.7	5.0	5.0	5.0	16.6	16.6	16.6	18.0	18.0	18.0
LOS by Move:	A	A	A	A	A	A	B	B	B	B-	B-	B-
HCM2kAvgQ:	58	58	58	26	26	26	18	18	18	53	53	53
Note: Queue reported is the distance per lane in feet.												

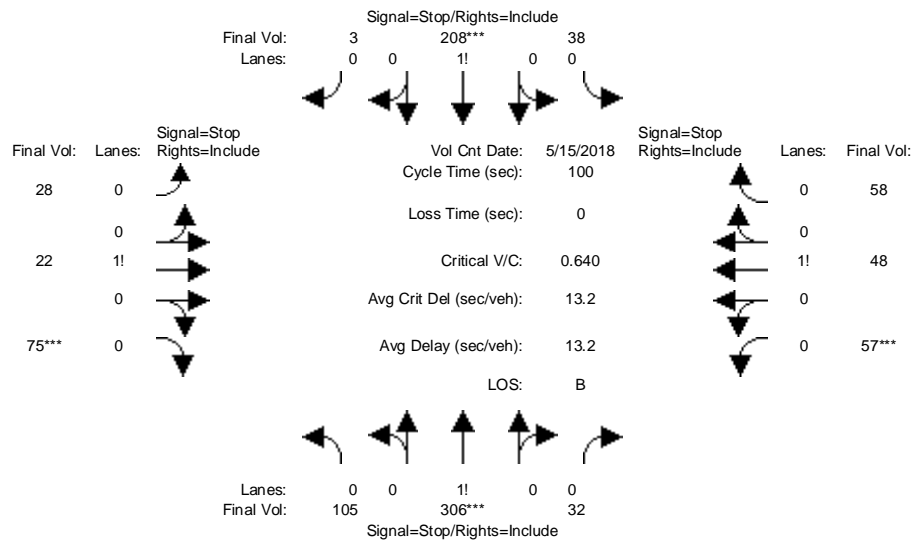
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Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing plus Project AM

Intersection #6: S Bernardo Ave / S Knickerbocker Dr



Street Name:	S Bernardo Ave						S Knickerbocker Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date:	15 May 2018 << 7:45 AM - 8:45 AM											
Base Vol:	105	298	32	36	201	3	28	22	75	57	48	55
Growth 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
Initial Bse:	105	298	32	36	201	3	28	22	75	57	48	55
Added Vol:	0	8	0	2	7	0	0	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	105	306	32	38	208	3	28	22	75	57	48	58
User 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
PHF 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
PHF Volume:	105	306	32	38	208	3	28	22	75	57	48	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	105	306	32	38	208	3	28	22	75	57	48	58
PCE 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
MLF 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
Final Volume:	105	306	32	38	208	3	28	22	75	57	48	58
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.24	0.69	0.07	0.15	0.84	0.01	0.22	0.18	0.60	0.35	0.29	0.36
Final Sat.:	164	478	50	98	535	8	128	100	342	200	169	204
Capacity Analysis Module:												
Vol/Sat:	0.64	0.64	0.64	0.39	0.39	0.39	0.22	0.22	0.22	0.28	0.28	0.28
Crit Moves:	****			****			****			****		
Delay/Veh:	16.0	16.0	16.0	11.4	11.4	11.4	9.9	9.9	9.9	10.6	10.6	10.6
Delay 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
AdjDel/Veh:	16.0	16.0	16.0	11.4	11.4	11.4	9.9	9.9	9.9	10.6	10.6	10.6
LOS by Move:	C	C	C	B	B	B	A	A	A	B	B	B
ApproachDel:	16.0			11.4			9.9			10.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	16.0			11.4			9.9			10.6		
LOS by Appr:	C			B			A			B		
AllWayAvgQ:	38.3	38.3	38.3	13.7	13.7	13.7	5.3	5.3	5.3	7.7	7.7	7.7

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 S Bernardo Ave / S Knickerbocker Dr

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign							
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	105	306		32		38	208		3		28	22		75		57	48		58	

Major Street Volume: 692
Minor Approach Volume: 163
Minor Approach Volume Threshold: 318

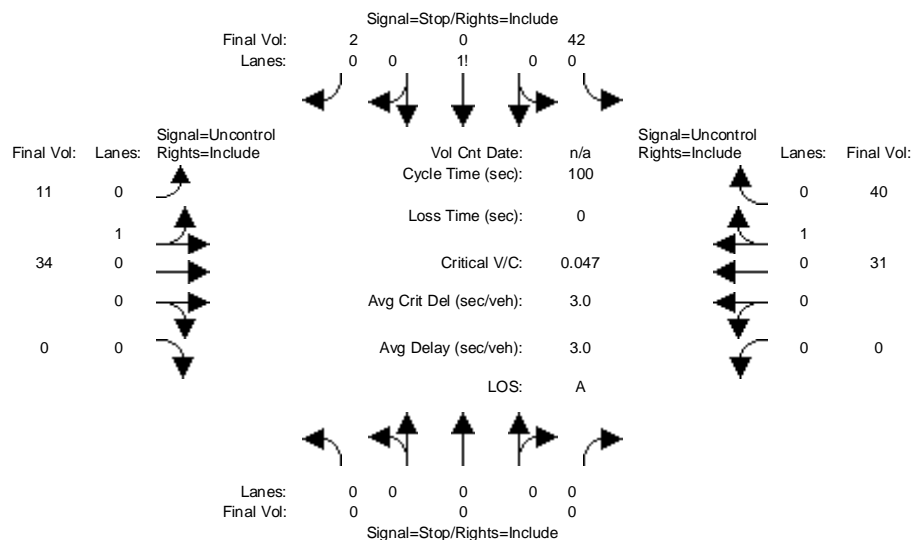
SIGNAL WARRANT DISCLAIMER

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project AM

Intersection #7: Project Driveway/ Brookfield Ave



Street Name:	Project Driveway						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:AM												
Base Vol:	0	0	0	0	0	0	0	34	0	0	31	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	34	0	0	31	0
Added Vol:	0	0	0	42	0	2	11	0	0	0	0	40
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	42	0	2	11	34	0	0	31	40
User 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
PHF 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
PHF Volume:	0	0	0	42	0	2	11	34	0	0	31	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	42	0	2	11	34	0	0	31	40
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	107	107	51	71	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	895	787	1023	1542	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	890	781	1023	1542	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.05	0.00	0.00	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	896	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.2	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				9.2		xxxxxx			xxxxxx		
ApproachLOS:	*				A		*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
Initial Vol:	0	0	0	0	0	42	0	0	2	11	34	0	0	0	31	40				
ApproachDel:	xxxxxxx				9.2				xxxxxxx				xxxxxxx							

Approach[southbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=44]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=160]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	
Initial Vol:	0	0	0	0	0	42	0	0	2	11	34	0	0	0	31	40				

Major Street Volume: 116

Minor Approach Volume: 44

Minor Approach Volume Threshold: 794

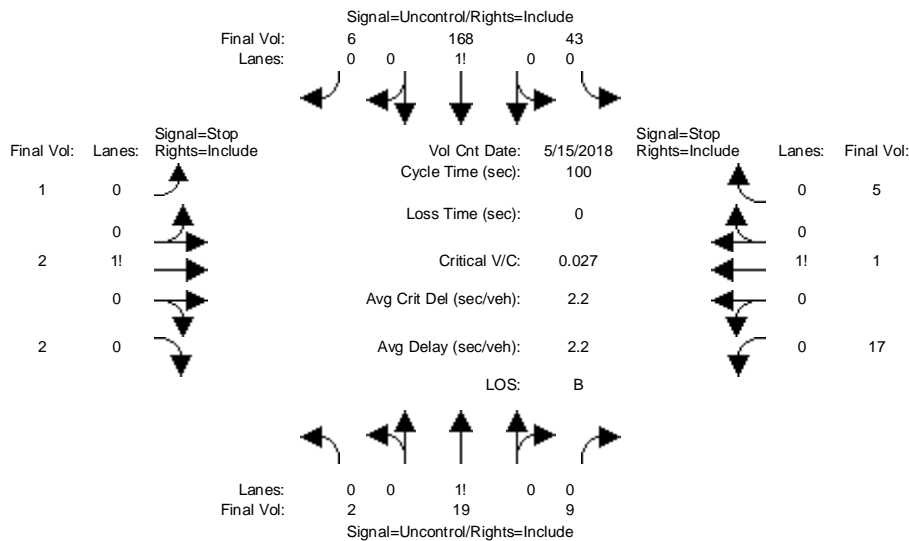
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #1: S Knickerbocker Dr / Brookfield Ave



Street Name:	S Knickerbocker Dr						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	2	19	7	36	168	6	1	2	2	14	1	5
Growth 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
Initial Bse:	2	19	7	36	168	6	1	2	2	14	1	5
Added Vol:	0	0	2	7	0	0	0	0	0	3	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	19	9	43	168	6	1	2	2	17	1	5
User 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
PHF 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
PHF Volume:	2	19	9	43	168	6	1	2	2	17	1	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	19	9	43	168	6	1	2	2	17	1	5
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflct Vol:	174	xxxx	xxxxx	28	xxxx	xxxxx	288	289	171	287	288	24
Potent Cap.:	1415	xxxx	xxxxx	1599	xxxx	xxxxx	669	624	878	670	626	1059
Move Cap.:	1415	xxxx	xxxxx	1599	xxxx	xxxxx	650	606	878	652	608	1059
Volume/Cap:	0.00	xxxx	xxxx	0.03	xxxx	xxxx	0.00	0.00	0.00	0.03	0.00	0.00
Level Of Service Module:												
2Way95thQ:	0.1	xxxx	xxxxx	2.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.5	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	703	xxxxx	xxxx	709	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.0	xxxxx	xxxxx	0.1	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	10.2	xxxxx	xxxxx	10.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	B	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx				10.2			10.2	
ApproachLOS:		*			*			B			B	

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	2 19 9	43 168 6	1 2 2	17 1 5
ApproachDel:	xxxxxx	xxxxxx	10.2	10.2

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.0]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=5]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=275]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=23]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=4][total volume=275]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #1 S Knickerbocker Dr / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0
Initial Vol:	2 19 9	43 168 6	1 2 2	17 1 5

Major Street Volume: 247

Minor Approach Volume: 23

Minor Approach Volume Threshold: 592

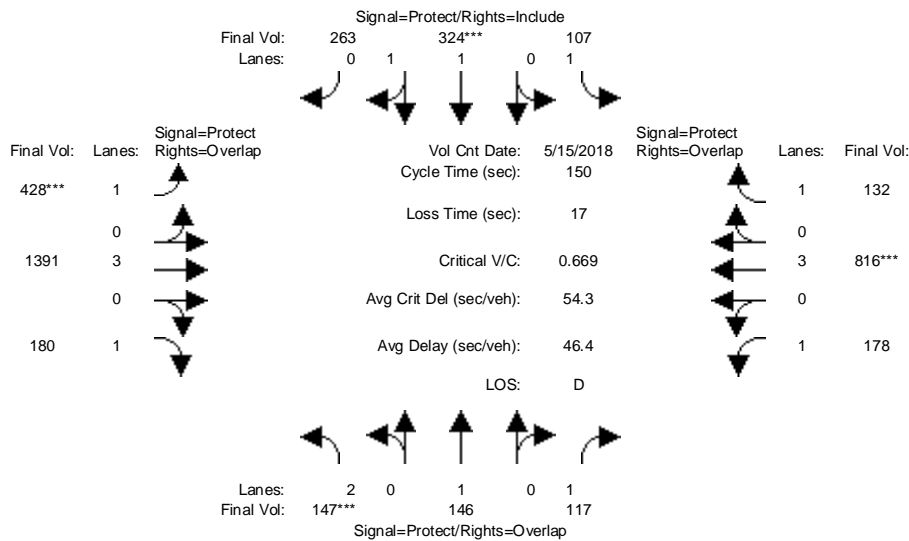
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project PM

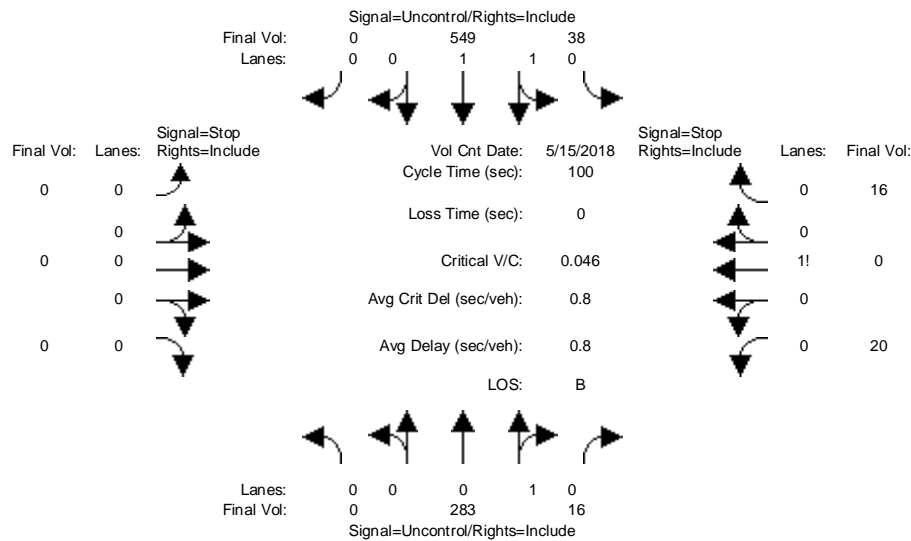
Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module:	>> Count Date: 15 May 2018 << 5:45 PM - 6:45 PM											
Base Vol:	137	141	99	107	319	263	428	1391	178	162	816	132
Growth 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
Initial Bse:	137	141	99	107	319	263	428	1391	178	162	816	132
Added Vol:	10	5	18	0	5	0	0	0	2	16	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	147	146	117	107	324	263	428	1391	180	178	816	132
User 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
PHF 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
PHF Volume:	147	146	117	107	324	263	428	1391	180	178	816	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	146	117	107	324	263	428	1391	180	178	816	132
PCE 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
MLF 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
Final Volume:	147	146	117	107	324	263	428	1391	180	178	816	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.08	0.92	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	2041	1657	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.07	0.06	0.16	0.16	0.24	0.24	0.10	0.10	0.14	0.08
Crit Moves:	****			****			****			****		
Green Time:	14.0	24.3	49.1	24.3	34.6	34.6	53.3	59.6	73.6	24.8	31.2	55.5
Volume/Cap:	0.50	0.47	0.20	0.38	0.69	0.69	0.69	0.61	0.21	0.61	0.69	0.20
Uniform Del:	64.7	57.1	36.4	56.1	52.8	52.8	41.3	36.0	21.7	58.1	54.9	32.2
IncrementDel:	1.3	1.2	0.2	0.8	2.4	2.4	3.3	0.5	0.1	3.9	1.7	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	66.0	58.2	36.5	57.0	55.2	55.2	44.6	36.5	21.8	62.0	56.7	32.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.0	58.2	36.5	57.0	55.2	55.2	44.6	36.5	21.8	62.0	56.7	32.4
LOS by Move:	E	E+	D+	E+	E+	E+	D	D+	C+	E	E+	C-
HCM2kAvgQ:	96	148	100	123	337	337	465	423	122	223	311	108
Note: Queue reported is the distance per lane in feet.												

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #3: S Bernardo Ave / Blair Ave



Street Name:	S Bernardo Ave						Blair Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	0	250	13	38	527	0	0	0	0	18	0	16
Growth 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
Initial Bse:	0	250	13	38	527	0	0	0	0	18	0	16
Added Vol:	0	33	3	0	22	0	0	0	0	2	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	283	16	38	549	0	0	0	0	20	0	16
User 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
PHF 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
PHF Volume:	0	283	16	38	549	0	0	0	0	20	0	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	283	16	38	549	0	0	0	0	20	0	16
Critical Gap Module:												
Critical Gp:xxxxxx xxxxx xxxxxx				4.1	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				6.4	6.5	6.2
FollowUpTim:xxxxxx xxxxx xxxxxx				2.2	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				3.5	4.0	3.3
Capacity Module:												
Cnflict Vol: xxxxx xxxxx xxxxxx				299	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				642	916	291
Potent Cap.: xxxxx xxxxx xxxxxx				1274	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				442	274	753
Move Cap.: xxxxx xxxxx xxxxxx				1274	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				432	266	753
Volume/Cap: xxxxx xxxxx xxxxx				0.03	xxxx xxxxx	xxxxxx xxxxx xxxxx				0.05	0.00	0.02
Level Of Service Module:												
2Way95thQ: xxxxx xxxxx xxxxxx				2.3	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				xxxx	xxxx	xxxxxx
Control Del:xxxxxx xxxxx xxxxxx				7.9	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				xxxxxx	xxxx	xxxxxx
LOS by Move: * * *				A	* *	* *				* *	* *	*
Movement: LT - LTR - RT				LT - LTR - RT		LT - LTR - RT				LT - LTR - RT		
Shared Cap.: xxxxx xxxxx xxxxxx				xxxx xxxxx xxxxxx		xxxx xxxxx xxxxxx				xxxx	533	xxxxxx
Shared Queue:xxxxxx xxxxx xxxxxx				0.1	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				xxxxxx	0.2	xxxxxx
Shrd ConDel:xxxxxx xxxxx xxxxxx				7.9	xxxx xxxxxx	xxxxxx xxxxx xxxxxx				xxxxxx	12.2	xxxxxx
Shared LOS: * * *				A	* *	* *				* *	B	*
ApproachDel: xxxxxx				xxxxxx		xxxxxx				12.2		
ApproachLOS: *				*		*				B		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 283 16	38 549 0	0 0 0 0	20 0 16
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	12.2

Approach[westbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=36]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=922]

SUCCEED - Total volume greater than or equal to 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #3 S Bernardo Ave / Blair Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Lanes:	0 0 0 1 0	0 1 1 0 0	0 0 0 0 0	0 0 1! 0 0
Initial Vol:	0 283 16	38 549 0	0 0 0 0	20 0 16

Major Street Volume: 886

Minor Approach Volume: 36

Minor Approach Volume Threshold: 327

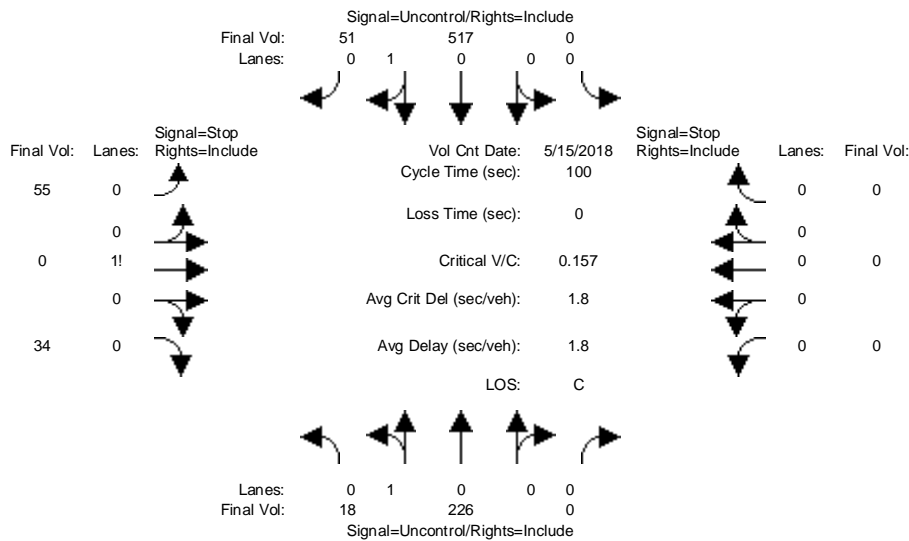
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #4: S Bernardo Ave / Brookfield Ave



Street Name:	S Bernardo Ave						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	7	226	0	0	517	27	20	0	21	0	0	0
Growth 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
Initial Bse:	7	226	0	0	517	27	20	0	21	0	0	0
Added Vol:	11	0	0	0	0	24	35	0	13	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	18	226	0	0	517	51	55	0	34	0	0	0
User 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
PHF 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
PHF Volume:	18	226	0	0	517	51	55	0	34	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	18	226	0	0	517	51	55	0	34	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	568	xxxx	xxxxx	xxxxx	xxxx	xxxxx	805	805	543	xxxx	xxxx	xxxxx
Potent Cap.:	1014	xxxx	xxxxx	xxxxx	xxxx	xxxxx	355	319	544	xxxx	xxxx	xxxxx
Move Cap.:	1014	xxxx	xxxxx	xxxxx	xxxx	xxxxx	350	313	544	xxxx	xxxx	xxxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxxx	xxxx	xxxxx	0.16	0.00	0.06	xxxx	xxxx	xxxxx
Level Of Service Module:												
2Way95thQ:	1.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxx	405	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	16.4	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			16.4		xxxxxx			
ApproachLOS:	*			*			C		*			

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
Initial Vol:	18	226		0		0	517		51		55	0		34		0	0		0	0
ApproachDel:	xxxxxxx					xxxxxxx					16.4					xxxxxxx				

Approach[eastbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.4]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=89]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=901]

SUCCEED - Total volume greater than or equal to 650 for intersection with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #4 S Bernardo Ave / Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign							
Lanes:	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Initial Vol:	18	226		0		0	517	51		55	0	34		0	0	0	0		0	0

Major Street Volume: 812

Minor Approach Volume: 89

Minor Approach Volume Threshold: 275

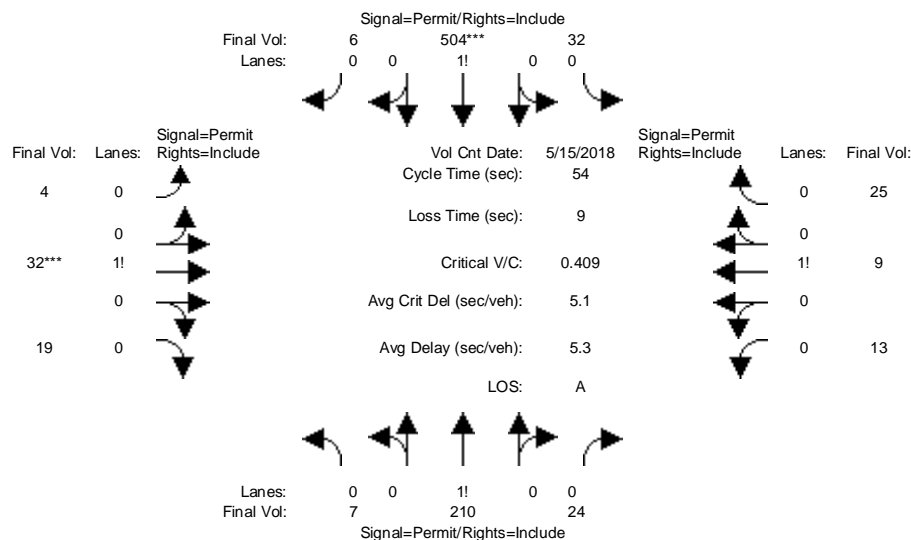
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Project PM

Intersection #5: S Bernardo Ave / Heatherstone Wy



Street Name:	S Bernardo Ave						Heatherstone Wy					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T	-	R		L	-	T	-	R	
Min. Green:	15		15		15		6		6		6	
Y+R:	5.0		5.0		5.0		4.0		4.0		4.0	
Volume Module: >> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM												
Base Vol:	7	201	24	29	494	6	4	32	19	13	9	23
Growth 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
Initial Bse:	7	201	24	29	494	6	4	32	19	13	9	23
Added Vol:	0	9	0	3	10	0	0	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	210	24	32	504	6	4	32	19	13	9	25
User 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
PHF 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
PHF Volume:	7	210	24	32	504	6	4	32	19	13	9	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	210	24	32	504	6	4	32	19	13	9	25
PCE 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
MLF 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
Final Volume:	7	210	24	32	504	6	4	32	19	13	9	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	0.03	0.87	0.10	0.06	0.93	0.01	0.07	0.58	0.35	0.28	0.19	0.53
Final Sat.:	51	1525	174	103	1627	19	127	1018	605	484	335	931
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.14	0.31	0.31	0.31	0.03	0.03	0.03	0.03	0.03	0.03
Crit Moves:	****						****					
Green Time:	39.0	39.0	39.0	39.0	39.0	39.0	6.0	6.0	6.0	6.0	6.0	6.0
Volume/Cap:	0.19	0.19	0.19	0.43	0.43	0.43	0.28	0.28	0.28	0.24	0.24	0.24
Uniform Del:	2.4	2.4	2.4	3.0	3.0	3.0	22.0	22.0	22.0	21.9	21.9	21.9
IncrcmntDel:	0.1	0.1	0.1	0.2	0.2	0.2	0.8	0.8	0.8	0.6	0.6	0.6
InitQueuDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	2.5	2.5	2.5	3.3	3.3	3.3	22.8	22.8	22.8	22.6	22.6	22.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	2.5	2.5	2.5	3.3	3.3	3.3	22.8	22.8	22.8	22.6	22.6	22.6
LOS by Move:	A	A	A	A	A	A	C+	C+	C+	C+	C+	C+
HCM2kAvgQ:	6	6	6	96	96	96	30	30	30	25	25	25
Note: Queue reported is the distance per lane in feet.												

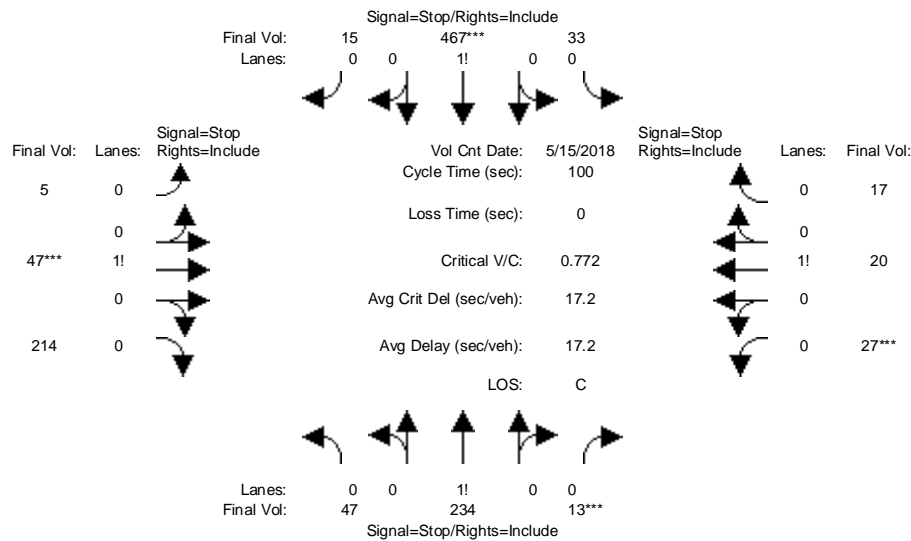
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Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Existing plus Project PM

Intersection #6: S Bernardo Ave / S Knickerbocker Dr



Street Name:	S Bernardo Ave						S Knickerbocker Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module:	>> Count Date: 15 May 2018 << 5:15 PM - 6:15 PM											
Base Vol:	47	227	13	30	459	15	5	47	214	27	20	15
Growth 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
Initial Bse:	47	227	13	30	459	15	5	47	214	27	20	15
Added Vol:	0	7	0	3	8	0	0	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	234	13	33	467	15	5	47	214	27	20	17
User 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
PHF 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
PHF Volume:	47	234	13	33	467	15	5	47	214	27	20	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	234	13	33	467	15	5	47	214	27	20	17
PCE 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
MLF 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
Final Volume:	47	234	13	33	467	15	5	47	214	27	20	17
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.16	0.80	0.04	0.06	0.91	0.03	0.02	0.18	0.80	0.42	0.31	0.27
Final Sat.:	98	486	27	43	605	19	11	104	476	203	150	128
Capacity Analysis Module:												
Vol/Sat:	0.48	0.48	0.48	0.77	0.77	0.77	0.45	0.45	0.45	0.13	0.13	0.13
Crit Moves:	****			****			****			****		
Delay/Veh:	13.2	13.2	13.2	22.8	22.8	22.8	12.4	12.4	12.4	10.2	10.2	10.2
Delay 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
AdjDel/Veh:	13.2	13.2	13.2	22.8	22.8	22.8	12.4	12.4	12.4	10.2	10.2	10.2
LOS by Move:	B	B	B	C	C	C	B	B	B	B	B	B
ApproachDel:	13.2			22.8			12.4			10.2		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	13.2			22.8			12.4			10.2		
LOS by Appr:	B			C			B			B		
AllWayAvgQ:	19.6	19.6	19.6	67.0	67.0	67.0	15.8	15.8	15.8	2.7	2.7	2.7

Note: Queue reported is the distance per lane in feet.

Peak Hour Volume Signal Warrant Report [Urban]

Intersection #6 S Bernardo Ave / S Knickerbocker Dr

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign							
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0	0	0	1!	0	0
Initial Vol:	47	234		13		33	467		15		5	47		214		27	20		17	

Major Street Volume: 809
Minor Approach Volume: 266
Minor Approach Volume Threshold: 276

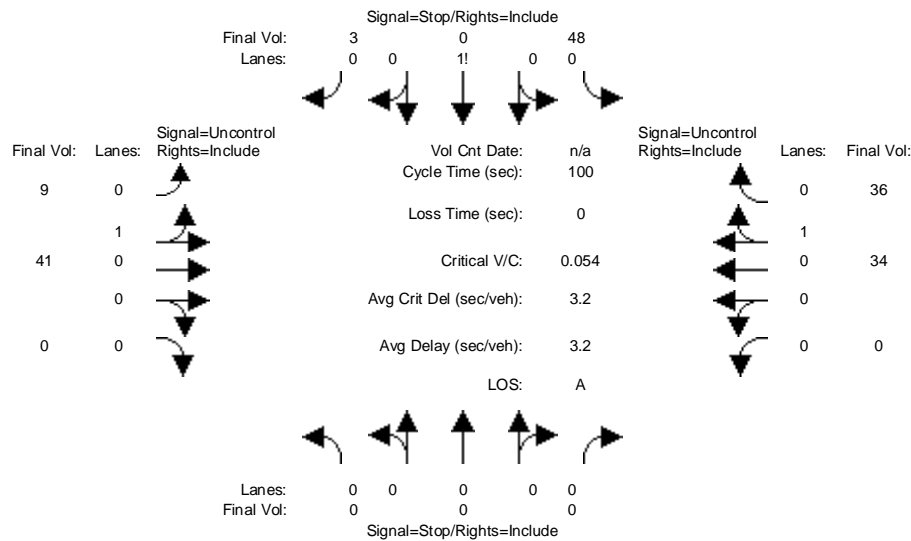
SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

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Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing plus Project PM

Intersection #7: Project Driveway/ Brookfield Ave



Street Name:	Project Driveway						Brookfield Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: PM												
Base Vol:	0	0	0	0	0	0	0	41	0	0	34	0
Growth 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
Initial Bse:	0	0	0	0	0	0	0	41	0	0	34	0
Added Vol:	0	0	0	48	0	3	9	0	0	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	48	0	3	9	41	0	0	34	36
User 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
PHF 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
PHF Volume:	0	0	0	48	0	3	9	41	0	0	34	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	48	0	3	9	41	0	0	34	36
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflct Vol:	xxxx	xxxx	xxxxx	111	111	52	70	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	891	783	1021	1544	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	887	778	1021	1544	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.05	0.00	0.00	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	894	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared Queue:	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	9.3	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	A	*	*	*	*	*
ApproachDel:	xxxxxx				9.3		xxxxxx			xxxxxx		
ApproachLOS:	*				A		*			*		

Note: Queue reported is the distance per lane in feet.

Peak Hour Delay Signal Warrant Report

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

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Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	
Initial Vol:	0	0			0	48	0			3	9	41			0	0	34		36	
ApproachDel:	xxxxxxx				9.3				xxxxxxx				xxxxxxx							

Approach[southbound][lanes=1][control=Stop Sign]

Signal Warrant Rule #1: [vehicle-hours=0.1]

FAIL - Vehicle-hours less than 4 for one lane approach.

Signal Warrant Rule #2: [approach volume=51]

FAIL - Approach volume less than 100 for one lane approach.

Signal Warrant Rule #3: [approach count=3][total volume=171]

FAIL - Total volume less than 650 for intersection
with less than four approaches.

SIGNAL WARRANT DISCLAIMER

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Peak Hour Volume Signal Warrant Report [Urban]

Intersection #7 Project Driveway/ Brookfield Ave

Future Volume Alternative: Peak Hour Warrant NOT Met

Approach:	North Bound				South Bound				East Bound				West Bound							
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled							
Lanes:	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0		
Initial Vol:	0		0		0	48		0		3	9		41		0	0		34		36

Major Street Volume: 120

Minor Approach Volume: 51

Minor Approach Volume Threshold: 785

SIGNAL WARRANT DISCLAIMER

This peak hour signal warrant analysis should be considered solely as an "indicator" of the likelihood of an unsignalized intersection warranting a traffic signal in the future. Intersections that exceed this warrant are probably more likely to meet one or more of the other volume based signal warrant (such as the 4-hour or 8-hour warrants).

The peak hour warrant analysis in this report is not intended to replace a rigorous and complete traffic signal warrant analysis by the responsible jurisdiction. Consideration of the other signal warrants, which is beyond the scope of this software, may yield different results.

Appendix G

Queuing Summary

existing am q
Future Queue Length Report (feet)

Node	Intersection on	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	xxxx	xxxx	xxxx	0.3	0.3	xxxx	0.2	0.2	xxxx	2.6	2.6	2.6
#2	[HCM2kAvgQ]:	187	187	66	60	93	428	206	176	42	66	429	48
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	0.6	0.6	xxxx	xxxx	xxxx	xxxx	5.8	5.8	5.8
#4	[2Way95thQ]:	0.7	0.7	xxxx	xxxx	xxxx	xxxx	5.0	5.0	5.0	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	56	56	56	24	24	24	18	18	18	51	51	51
#6	[All WayAvgQ]	36.1	36.1	36.1	12.8	12.8	12.8	5.2	5.2	5.2	7.5	7.5	7.5
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

existing pm q
Future Queue Length Report (feet)

Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	0.1	xxxx	xxxx	1.7	xxxx	xxxx	0.5	0.5	0.5	2.1	2.1	2.1
#2	[HCM2kAvgQ]:	89	143	85	123	334	334	464	413	118	204	311	108
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	2.2	2.2	xxxx	xxxx	xxxx	xxxx	4.7	4.7	4.7
#4	[2Way95thQ]:	0.5	0.5	xxxx	xxxx	xxxx	xxxx	7.6	7.6	7.6	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	6	6	6	93	93	93	30	30	30	24	24	24
#6	[All WayAvgQ]	18.5	18.5	18.5	61.2	61.2	61.2	15.5	15.5	15.5	2.6	2.6	2.6
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

existing+prj am q
Future Queue Length Report (feet)

Node	Intersection on	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	xxxx	xxxx	xxxx	0.7	0.7	xxxx	0.2	0.2	xxxx	2.8	2.8	2.8
#2	[HCM2kAvgQ]:	193	190	77	60	98	429	206	176	44	86	430	49
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	0.6	0.6	xxxx	xxxx	xxxx	xxxx	6.7	6.7	6.7
#4	[2Way95thQ]:	1.4	1.4	xxxx	xxxx	xxxx	xxxx	13.7	13.7	13.7	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	58	58	58	26	26	26	18	18	18	53	53	53
#6	[AllWayAvgQ]	38.3	38.3	38.3	13.7	13.7	13.7	5.3	5.3	5.3	7.7	7.7	7.7
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	3.9	3.9	3.9	0.5	0.5	xxxx	xxxx	xxxx	xxxx

existing+prj pm q
Future Queue Length Report (feet)

Node	Intersection on	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	0.1	xxxx	xxxx	2.1	xxxx	xxxx	0.5	0.5	0.5	2.5	2.5	2.5
#2	[HCM2kAvgQ]:	96	148	100	123	337	337	465	423	122	223	311	108
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	2.3	2.3	xxxx	xxxx	xxxx	xxxx	5.4	5.4	5.4
#4	[2Way95thQ]:	1.4	1.4	xxxx	xxxx	xxxx	xxxx	20.7	20.7	20.7	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	6	6	6	96	96	96	30	30	30	25	25	25
#6	[All WayAvgQ]	19.6	19.6	19.6	67.0	67.0	67.0	15.8	15.8	15.8	2.7	2.7	2.7
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	4.5	4.5	4.5	0.4	0.4	xxxx	xxxx	xxxx	xxxx

background am q
Future Queue Length Report (feet)

Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	xxxx	xxxx	xxxx	0.3	0.3	xxxx	0.2	0.2	xxxx	2.6	2.6	2.6
#2	[HCM2kAvgQ]:	188	187	66	60	94	429	206	179	42	66	433	48
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	0.6	0.6	xxxx	xxxx	xxxx	xxxx	5.8	5.8	5.8
#4	[2Way95thQ]:	0.7	0.7	xxxx	xxxx	xxxx	xxxx	5.0	5.0	5.0	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	56	56	56	24	24	24	18	18	18	51	51	51
#6	[AllWayAvgQ]	36.1	36.1	36.1	12.8	12.8	12.8	5.2	5.2	5.2	7.5	7.5	7.5
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

background pm q
Future Queue Length Report (feet)

Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	0.1	xxxx	xxxx	1.7	xxxx	xxxx	0.5	0.5	0.5	2.1	2.1	2.1
#2	[HCM2kAvgQ]:	89	143	85	123	335	335	466	419	117	205	317	108
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	2.2	2.2	xxxx	xxxx	xxxx	xxxx	4.7	4.7	4.7
#4	[2Way95thQ]:	0.5	0.5	xxxx	xxxx	xxxx	xxxx	7.6	7.6	7.6	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	6	6	6	93	93	93	30	30	30	24	24	24
#6	[All WayAvgQ]	18.5	18.5	18.5	61.2	61.2	61.2	15.5	15.5	15.5	2.6	2.6	2.6
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx

background+prj am q
Future Queue Length Report (feet)

Node	Intersection	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	xxxx	xxxx	xxxx	0.7	0.7	xxxx	0.2	0.2	xxxx	2.8	2.8	2.8
#2	[HCM2kAvgQ]:	193	190	77	60	98	430	207	180	44	85	435	49
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	0.6	0.6	xxxx	xxxx	xxxx	xxxx	6.7	6.7	6.7
#4	[2Way95thQ]:	1.4	1.4	xxxx	xxxx	xxxx	xxxx	13.7	13.7	13.7	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	58	58	58	26	26	26	18	18	18	53	53	53
#6	[AllWayAvgQ]	38.3	38.3	38.3	13.7	13.7	13.7	5.3	5.3	5.3	7.7	7.7	7.7
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	3.9	3.9	3.9	0.5	0.5	xxxx	xxxx	xxxx	xxxx

background+prj pm q
Future Queue Length Report (feet)

Node	Intersection on	Northbound			Southbound			Eastbound			Westbound		
		L	--	T -- R	L	--	T -- R	L	--	T -- R	L	--	T -- R
#1	[2Way95thQ]:	0.1	xxxx	xxxx	2.1	xxxx	xxxx	0.5	0.5	0.5	2.5	2.5	2.5
#2	[HCM2kAvgQ]:	96	148	100	123	338	338	467	430	122	224	317	108
#3	[2Way95thQ]:	xxxx	xxxx	xxxx	2.3	2.3	xxxx	xxxx	xxxx	xxxx	5.4	5.4	5.4
#4	[2Way95thQ]:	1.4	1.4	xxxx	xxxx	xxxx	xxxx	20.7	20.7	20.7	xxxx	xxxx	xxxx
#5	[HCM2kAvgQ]:	6	6	6	96	96	96	30	30	30	25	25	25
#6	[AllWayAvgQ]	19.6	19.6	19.6	67.0	67.0	67.0	15.8	15.8	15.8	2.7	2.7	2.7
#7	[2Way95thQ]:	xxxx	xxxx	xxxx	4.5	4.5	4.5	0.4	0.4	xxxx	xxxx	xxxx	xxxx

Appendix H

Intersection #4 Proposed Improvements

PRELIMINARY
FOR DISCUSSION PURPOSES ONLY
July 09, 2018



Intersection #4 Proposed Improvements



LEGEND:

- Proposed Pavement Delineation
- Proposed Gutter and Sidewalk
- Remove Sidewalk and AC
- Remove Existing Pavement Delineation

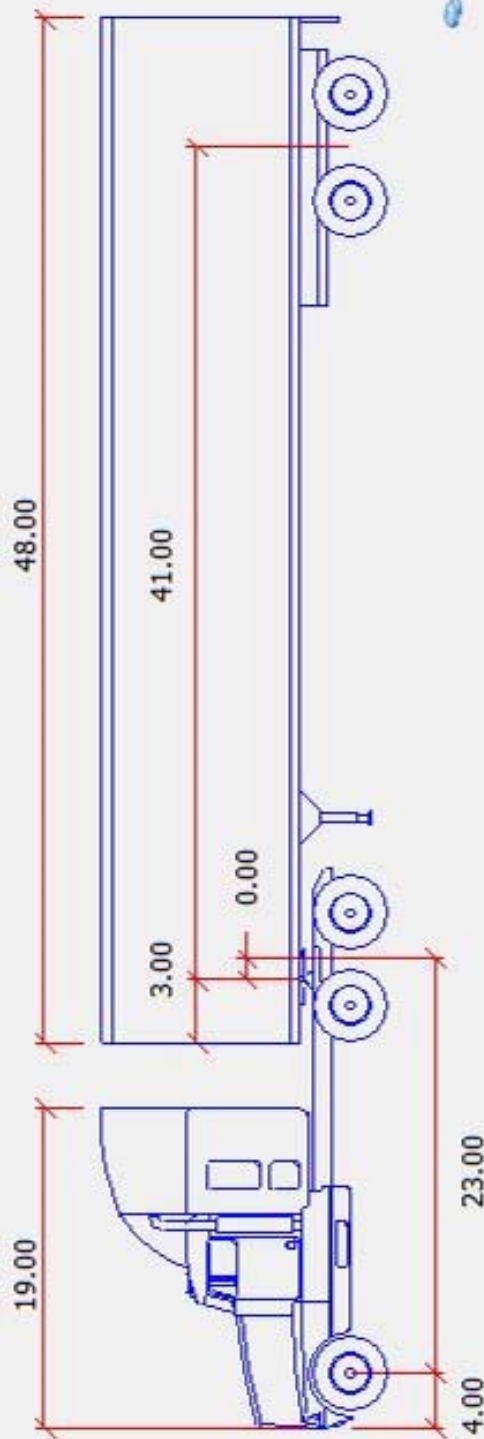
Select Current Vehicle

Group Vehicles By:

- ☒ Library
☐ Class
☐ # of Parts
☐ Recent
- ☐ Region
☐ Country
☐ No Group
- 5

CALTRANS 2012 (US)
CALTRANS 2005 (US)
CALTRANS 2008 (US)
CERMA 2014 (FR)
CERTU-AFNOR 2013 (FR)
CET-SP BT33 1983 (BR)
CROW (NL)
CROW 2004 (NL)
CROW 2012 (NL)
CROW Advieslijst LZV

Units: feet



Library	Vehicle Name	Class	Region	Lock	# Parts	Length	Wheelbase	Trailer Len.
CALTRANS 2012 (US)	40' BUS	Bus	North A...	41.0	1	40.00	25.00	N/A
CALTRANS 2012 (US)	45' BUS	Bus	North A...	44.3	1	45.00	28.50	N/A
CALTRANS 2012 (US)	ARTICULATED BUS	Bus	North A...	38.3	2	60.00	22.00	21.20
CALTRANS 2012 (US)	CA LEGAL - 65 FT (60 F...	Transport Truck	North A...	20.9	2	65.00	20.00	45.00
CALTRANS 2012 (US)	CA LEGAL - 65 FT	Transport Truck	North A...	26.3	2	65.00	20.00	45.00
CALTRANS 2012 (US)	STAA - STANDARD	Transport Truck	North A...	26.3	2	72.00	23.00	48.00

Appendix I

Background + Project Conditions Analysis

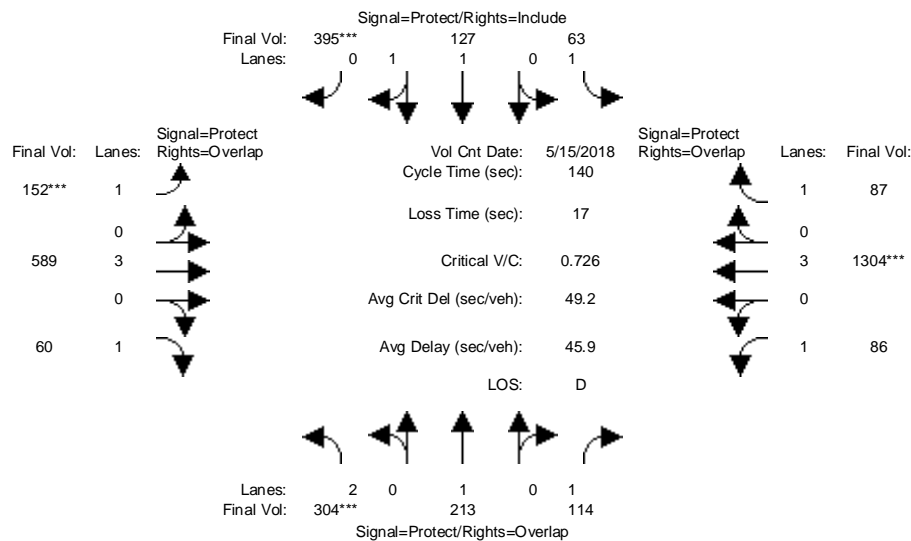
COMPARE

Tue Jun 19 14:34:07 2018

Page 2-1

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Background plus Project AM

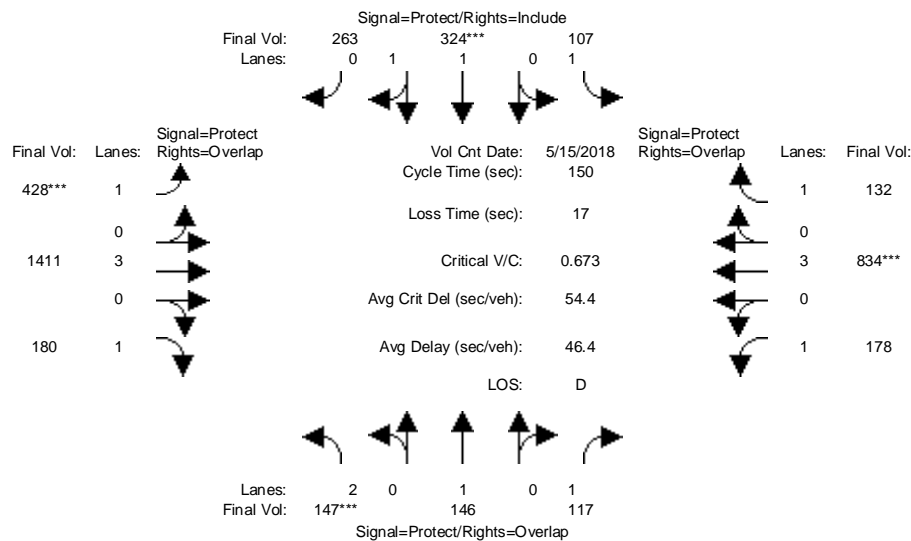
Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module: >> Count Date:	15 May 2018 << 8:00 AM - 9:00 AM											
Base Vol:	295	209	99	63	122	395	152	578	58	68	1291	87
Growth 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
Initial Bse:	295	209	99	63	122	395	152	578	58	68	1291	87
Added Vol:	9	4	15	0	5	0	0	0	2	18	0	0
approved:	0	0	0	0	0	0	0	11	0	0	13	0
Initial Fut:	304	213	114	63	127	395	152	589	60	86	1304	87
User 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
PHF 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
PHF Volume:	304	213	114	63	127	395	152	589	60	86	1304	87
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	304	213	114	63	127	395	152	589	60	86	1304	87
PCE 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
MLF 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
Final Volume:	304	213	114	63	127	395	152	589	60	86	1304	87
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.11	0.07	0.04	0.07	0.23	0.09	0.10	0.03	0.05	0.23	0.05
Crit Moves:	****					****	****				****	
Green Time:	18.6	32.8	59.9	29.3	43.5	43.5	16.7	33.8	52.4	27.1	44.1	73.4
Volume/Cap:	0.73	0.48	0.15	0.17	0.21	0.73	0.73	0.43	0.09	0.25	0.73	0.09
Uniform Del:	58.2	46.2	24.5	45.4	35.6	42.9	59.4	44.9	28.4	47.9	42.6	16.7
IncrementDel:	6.2	0.8	0.1	0.2	0.0	3.7	12.0	0.2	0.1	0.4	1.5	0.0
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	64.5	47.0	24.6	45.6	35.7	46.6	71.4	45.1	28.4	48.3	44.1	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.5	47.0	24.6	45.6	35.7	46.6	71.4	45.1	28.4	48.3	44.1	16.7
LOS by Move:	E	D	C	D	D+	D	E	D	C	D	D	B
HCM2kAvgQ:	193	190	77	60	98	430	207	180	44	85	435	49
Note:	Queue reported is the distance per lane in feet.											

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing plus Background plus Project PM

Intersection #2: S Bernardo Ave / W El Camino Real



Street Name:	S Bernardo Ave						W El Camino Real					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	14	14	14	14	14	14	12	15	15	12	15	15
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.5	4.5	4.5	4.5	4.5	4.5
Volume Module: >> Count Date:	15 May 2018 << 5:45 PM - 6:45 PM											
Base Vol:	137	141	99	107	319	263	428	1391	178	162	816	132
Growth 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
Initial Bse:	137	141	99	107	319	263	428	1391	178	162	816	132
Added Vol:	10	5	18	0	5	0	0	0	2	16	0	0
approved:	0	0	0	0	0	0	0	20	0	0	18	0
Initial Fut:	147	146	117	107	324	263	428	1411	180	178	834	132
User 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
PHF 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
PHF Volume:	147	146	117	107	324	263	428	1411	180	178	834	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	147	146	117	107	324	263	428	1411	180	178	834	132
PCE 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
MLF 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
Final Volume:	147	146	117	107	324	263	428	1411	180	178	834	132
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.95	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.08	0.92	1.00	3.00	1.00	1.00	3.00	1.00
Final Sat.:	3150	1900	1750	1750	2041	1657	1750	5700	1750	1750	5700	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.07	0.06	0.16	0.16	0.24	0.25	0.10	0.10	0.15	0.08
Crit Moves:	****			****			****			****		
Green Time:	14.0	24.2	48.8	24.2	34.4	34.4	53.0	60.0	74.0	24.6	31.7	55.9
Volume/Cap:	0.50	0.48	0.21	0.38	0.69	0.69	0.69	0.62	0.21	0.62	0.69	0.20
Uniform Del:	64.7	57.2	36.6	56.2	53.0	53.0	41.6	35.9	21.5	58.3	54.7	31.9
IncrementDel:	1.3	1.2	0.2	0.9	2.5	2.5	3.4	0.5	0.1	4.1	1.8	0.2
InitQueueDel:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Delay 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
Delay/Veh:	66.0	58.3	36.7	57.1	55.5	55.5	44.9	36.4	21.6	62.4	56.4	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.0	58.3	36.7	57.1	55.5	55.5	44.9	36.4	21.6	62.4	56.4	32.1
LOS by Move:	E	E+	D+	E+	E+	E+	D	D+	C+	E	E+	C-
HCM2kAvgQ:	96	148	100	123	338	338	467	430	122	224	317	108
Note: Queue reported is the distance per lane in feet.												

Cindy Hom

From: Allen Yu
Sent: Monday, September 16, 2019 1:58 PM
To: Cindy Hom
Subject: Re: File # 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hi Cindy,

I'm not sure if my last email was a little too open-ended... but if you have a more detailed agenda of the hearing and a summary of current state of project, can you please point me where to get it?

Regarding my concerns, here is a brief summary:

Looks like the city is to hold a hearing regarding a project to put in a 120 children childcare / after school facility at 755 S. Bernardo Ave. and to do a class 1 categorical exemption from CEQA (environmental studies) next week.

A quick google search revealed that Class 1 categorical exemptions are meant for facilities that are put to existing uses.

The building concerned used to be a AAA building then a half occupied medical facility. A 120 children student is a very different beast! I do not think a 120 children student facility should count as existing use!

A 120 children facility is a large facility. It would be located right at the center of a bend that is already busy and tricky to navigate. There is that Safeway shopping plaza right down the street, a gas station across the street, and a couple of neighborhood strip malls already. The bend already has blind spots. Depending on how cars are parked, and how fast people may be driving, I have seen several close calls! I am very concerned that we are now contemplating adding a large childcare facility right at the bend and potentially have busy parents rushing in and out during rush hours to pick up and drop off their kids.

This is already a very densely occupied area. There are apartments all around the building. The intersection concerned is just a block or two from Cherry Chase Elementary. It will make Cherry Chase feel different.

And it's not just the traffic. There is a large apartment complex, for example. I wonder if anyone has thought about waking up to sound of children around 7 and dealing with noises all the way till 6...?

I don't think it is a good idea to go through with a categorical exemption for this project. Putting a large childcare / after school will be very disruptive for the community. I think the city should do its utmost diligence in doing a careful detailed review of this project of all potential impacts - noise, traffic, and other things that a regular citizen may not even be aware - before allowing it to continue.

Best,

Allen

16.09.2019, 13:08, "Allen Yu"

Hi Cindy,

We got a letter regarding 755 S. Bernardo Ave special development permit notice of public hearing. Where can we find more information about this? I personally have several objections to having a major childcare / afterschool at that location...

Thanks,

Allen

Cindy Hom

From: Marti Coppage
Sent: Monday, September 16, 2019 8:06 PM
To: Cindy Hom
Subject: Proposed daycare on Bernardo

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

I saw a rant on the Nextdoor about this - 755 S. Bernardo. The guy who posted the rant encouraged folks to direct their comments to you, so that's why I'm writing.

I think a daycare at this location is a fine idea. We desperately need more daycare options for parents and this actually is a great spot. There's parking, it's close to Cherry Chase, and walkable from Sunnyvale Middle.

I don't know if you will get a bunch of complaints, but I hope not.

Marti Coppage
1095 Blair Ave.

RECOMMENDED FINDINGS

The project is categorical exempt from further environmental review pursuant to Section 15301, Class 1 (Existing Facilities), Section 15303, Class 3 (New Construction and Conversion of Small Structures) and Section 15332, Class 32 (Infill Development Project) of the California Environmental Quality Act (CEQA):

Class 1 (Existing Facilities) CEQA Guidelines, Section 15301: "Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of existing or former use. ... The key consideration is whether the project involves negligible or no expansion of use."

Staff Analysis

- Based on the environmental assessment, there is no evidence of significant impacts on the environment from the proposed child care use compared to the former medical office. As such, the project can be considered to be no more than a negligible expansion of the former use for purposes of the Class 1 Exemption. .

Class 3 (New Construction or Conversion of Small Structures) CEQA Guidelines, Section 15301: "Class 3 consists of construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure. The numbers of structures described in this section are the maximum allowable on any legal parcel."

Includes: "(c) A store, motel, office, restaurant or similar structure not involving the use of significant amounts of hazardous substances, and not exceeding 2500 square feet in floor area. In urbanized areas, the exemption also applies to up to four such commercial buildings not exceeding 10,000 square feet in floor area on sites zoned for such use if not involving the use of significant amounts of hazardous substances where all necessary public services and facilities are available and the surrounding area is not environmentally sensitive."

Staff Analysis:

- For purposes of the Class 3 Exemption, the project involves conversion of an existing structure that is less than 10,000 square feet in size along with minor exterior and site modifications. The project consists of re-using existing office area and lobby areas for childcare center administration area and converting existing vacant space into classrooms and restroom facilities
- The mere fact that a project could *potentially* have an environmental effect is not sufficient to create "unusual circumstances" that negate reliance on a categorical

exemption under CEQA Guidelines, Section 15300.2(c) (*Berkeley Hillside Preservation v. City of Berkeley* (2015) 60 Cal.4th 1086).

- The mere fact that a project is located on heavily traveled streets or intersections is not an “unusual circumstance” where the project conforms to zoning requirements and the surrounding traffic volumes are commonplace for the urban area (*Telegraph Hill v. City and County of San Francisco* (2017) 16 Cal.App.5th 261).
- There is no evidence that 755 S. Bernardo has any unusual features compared to other commercial sites, or that the configuration of Bernardo Ave. (including the “curve” in the roadway) or existing traffic volumes on Bernardo Ave. are unusual compared to other arterial streets in Sunnyvale.
- This project falls within the rationale of *Waters v. City of Redondo Beach* (2016) 1 Cal.App.5th 809, where the court held that the Class 3 CEQA exemption applied to construction of a car wash and coffee shop in a commercial zone that abutted residential uses, because the building site was adequate to accommodate the proposed use; the proposed use had adequate street access and would not have a significant impact on traffic; the proposed use would not have an adverse effect on abutting properties; and the noise that will be generated by the car wash blowers and vacuum drops does not exceed the permitted interior and exterior limits; and there was nothing unusual about a car wash and coffee shop compared to other allowed commercial uses.
- The commenter’s additional arguments based on “health and safety problems” with the proposed child care center do not raise CEQA issues.

Class 32 (Infill Development projects) CEQA Guidelines, Section 15332: “Class 32 consist of infill development that is consistent with the applicable General Plan, Zoning Ordinance located within the city limits on a project site of no more than 5 acres that is surrounded by urban uses.”

Staff Analysis:

- The proposed project implements the City of Sunnyvale General Plan by encouraging child care in an area that would be neighborhood serving and compatible with the surrounding residential, quasi-public and commercial uses. The project is consistent with Policy LT-14.12 that recognizes child care and places of assembly as essential services and land uses that support the diverse needs of the community.
- The project is zoned Neighborhood Commercial (C-1) zoning district which allows for neighborhood serving retail and commercial services including child care centers. Child care centers are conditionally permitted with a special

development permit in the C-1 zone.

- The project site is on a 0.83-acre site located within the Sunnyvale city limits. The project site is within an urbanized area surrounded by residential and commercial buildings and uses.
- The site is currently developed with a 6,920-square foot, one-story commercial building, surface parking and landscaping.
- Approval of the project would not result in any significant effects related to traffic, noise, air quality, or water quality.

A traffic operation analysis (TOA) was prepared by AECOM, dated September 2018. Based on the TOA, the proposed child care center will not generate over 100 peak hour vehicle trips and is expected to add less than one car to the queues during the peak hours. As such, the project will not negatively impact the level of service of adjacent roadways or generate operational issues with queuing of cars anticipated with the pick-up and drop-off operations. Furthermore, with implementation staff's recommended improvements, there should be minimal impacts related traffic.

A Noise Study was prepared by Edward J. Pack and Associates, dated May 7, 2019. Based on the noise study, the project-generated noise levels and noise exposures will be within the limits of the City of Sunnyvale Noise Ordinance and Noise Element standards and within the allowable noise increases of CEQA policy. The playground noise levels will range from 51 to 60 dBA at the most impacted property line of the Citra Apartments to the west, from 52 to 56 dBA at the Citra Apartments first floor patios and upper floor balconies to the west, from 57 to 60 dBA at the Citra Apartments property line to the north and from 56 to 59 dBA at the Citra Apartments upper floor balconies to the north. Thus, the short-term playground noise levels will be within the 60 dBA daytime standard of the City of Sunnyvale Noise Ordinance at the common property lines and at the exterior living areas of the adjacent apartment complex. Noise from project traffic on the local road network is expected to be negligible due to the small size of the project and low expected traffic volumes, project traffic is expected not to add to the existing noise exposures.

- The project site is already served by all required utilities, such as water, sewer and solid waste. Public services are also adequately provided, such as police and fire. All required utilities and public services will continue to be provided after completion of the proposed project.

Special Development Permit

FINDINGS

In order to approve the Special Development Permit the following findings must be

made:

- The proposed use attains the objectives and purposes of the General Plan of the City of Sunnyvale as the project. Finding met.

The proposed project implements the City of Sunnyvale General Plan by encouraging child care in an area that would be neighborhood serving and compatible with the surrounding residential, quasi-public and commercial uses. The project is consistent with the below policy:

- Policy LT-14.12 - Recognize child care and places of assembly as essential services and land uses that support the diverse needs of the community. Avoid locating these sensitive uses near hazardous materials, noise, dust, etc.
- The proposed use ensures that the general appearance of proposed structures, or the uses to be made of the property to which the application refers, will not impair either the orderly development of, or the existing uses being made of, adjacent properties. Finding met.

The proposed use is a desirable addition to the community, as it provides child care services that is conveniently located to residential and commercial uses. The proposed project provides the required parking as well as safe and adequate pick-up and drop-off circulation. The project minimizes potential noise impacts by locating the play areas away from residential homes. Therefore, the proposed use would not be detrimental to the public welfare or injurious to the property, improvements, or uses within the immediate vicinity.

**RECOMMENDED
CONDITIONS OF APPROVAL AND
STANDARD DEVELOPMENT REQUIREMENTS
SEPTEMBER 25, 2019**

**Planning Application 2019-7502
755 S. Bernardo Ave.**

SPECIAL DEVELOPMENT PERMIT: To allow for the operations of a 6,920-square foot child care center within an existing one-story office building and installation of associated site improvements.

The following Conditions of Approval [COA] and Standard Development Requirements [SDR] apply to the project referenced above. The COAs are specific conditions applicable to the proposed project. The SDRs are items which are codified or adopted by resolution and have been included for ease of reference, they may not be appealed or changed. The COAs and SDRs are grouped under specific headings that relate to the timing of required compliance. Additional language within a condition may further define the timing of required compliance. Applicable mitigation measures are noted with "Mitigation Measure" and placed in the applicable phase of the project.

In addition to complying with all applicable City, County, State and Federal Statutes, Codes, Ordinances, Resolutions and Regulations, Permittee expressly accepts and agrees to comply with the following Conditions of Approval and Standard Development Requirements of this Permit:

<p>GC: THE FOLLOWING GENERAL CONDITIONS AND STANDARD DEVELOPMENT REQUIREMENTS SHALL APPLY TO THE APPROVED PROJECT.</p>

GC-1. CONFORMANCE WITH APPROVED PLANNING APPLICATION:

All building permit drawings and subsequent construction and operation shall substantially conform with the approved planning application, including: drawings/plans, materials samples, building colors, and other items submitted as part of the approved application. Any proposed amendments to the approved plans or Conditions of Approval are subject to review and approval by the City. The Director of Community Development shall determine whether revisions are considered major or minor. Minor changes are subject to review and approval by the Director of Community Development. Major changes are subject to review at a public hearing. [COA] [PLANNING]

GC-2. ENTITLEMENTS—EXERCISE AND EXPIRATION:

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- The approved entitlements shall be null and void two years from the date of approval by the final review authority if the approval is not exercised, unless a written request for an extension is received prior to the expiration date and is approved by the Director of Community Development. [SDR] (PLANNING)
- GC-3. ENTITLEMENTS—DISCONTINUANCE AND EXPIRATION:
The entitlements shall expire if discontinued for a period of one year or more. [SDR] (PLANNING)
- GC-4. INDEMNITY:
The applicant/developer shall defend, indemnify, and hold harmless the City, or any of its boards, commissions, agents, officers, and employees (collectively, "City") from any claim, action, or proceeding against the City to attack, set aside, void, or annul, the approval of the project when such claim, action, or proceeding is brought within the time period provided for in applicable state and/or local statutes. The City shall promptly notify the developer of any such claim, action or proceeding. The City shall have the option of coordinating the defense. Nothing contained in this condition shall prohibit the City from participating in a defense of any claim, action, or proceeding if the City bears its own attorney's fees and costs, and the City defends the action in good faith. [COA] [OFFICE OF THE CITY ATTORNEY]
- GC-5. NOTICE OF FEES PROTEST:
As required by California Government Code Section 66020, the project applicant is hereby notified that the 90-day period has begun as of the date of the approval of this application, in which the applicant may protest any fees, dedications, reservations, or other exactions imposed by the city as part of the approval or as a condition of approval of this development. The fees, dedications, reservations, or other exactions are described in the approved plans, conditions of approval, and/or adopted city impact fee schedule. [SDR] [PLANNING / OCA]
- GC-6. SIGNS:
All existing/new signs shall be brought into conformance with Title 19 of the Sunnyvale Municipal Code. [PLANNING] [COA]
- GC-7. PUBLIC IMPROVEMENTS:
Developer shall install public improvements as required by the City, including but not limited to, curb & gutter, sidewalks, driveway approaches, curb ramps, street pavements, meters/vaults, trees and landscaping, striping, street lights, etc.

All public improvements shall be designed and constructed in accordance with current City design standards, standard details and specifications, and Americans with Disabilities Act (ADA) requirements where applicable, unless otherwise approved by the Department of Public Works. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process.

The developer is required to complete the installation of all public improvements and other improvements deemed necessary by the Public Works Department, prior to occupancy of the first building, or to the satisfaction of the Public Works Department.

[COA] [PUBLIC WORKS]

GC-8. OFF-SITE IMPROVEMENT PLANS:

Submit off-site improvement plans separate from the Building on-site improvement plans as the off-site improvement plans are approved through a Public Works Encroachment Permit process. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. [SDR] [PUBLIC WORKS]

GC-9. ENCROACHMENT PERMIT:

Prior to any work in the public right-of-way, obtain an encroachment permit with insurance requirements for all public improvements including a traffic control plan per the latest California Manual on Uniform Traffic Control Devices (MUTCD) standards to be reviewed and approved by the Department of Public Works. [COA] [PUBLIC WORKS]

<p>PS: THE FOLLOWING CONDITIONS SHALL BE MET PRIOR TO SUBMITTAL OF BUILDING PERMIT, AND/OR GRADING PERMIT.</p>

PS-1. EXTERIOR MATERIALS REVIEW:

Final exterior building materials and color scheme are subject to review and approval by the Director of Community Development prior to submittal of a building permit. [COA] [PLANNING]

PS-2. FENCING:

Prior to building permit issuance, the Permittee shall revise plans to incorporate the following:

- (1) Install a 6-foot tall masonry wall along the west and north property line if adjacent property owner provide consent.

(2) Install bollards to provide additional protection between the drive aisle and of the west corner of the playground on the south side of the building.

(3) Fencing around the outdoor play areas shall be a 6-feet in height.

PS-3. FRONTAGE TREES:

Prior to building permit issuance, the landscaping plan shall be revised to install 24-inch box Crape Myrtle trees along the Bernardo frontage to help make up the loss of tree canopy

PS-4. APPROVAL FROM UTILITY COMPANIES:

Prior to any plan check submittal, developer shall coordinate with utility companies for new private improvements in the existing PG&E easement present on the property.

Approval letters from the utility company is required for private improvements in the easement with recordation of a notice of covenant for private improvements located in the easement prior to building permit issuance.

Alternative arrangement may be considered to the City's satisfaction with consent from the utility companies. [COA] [PLANNING/PUBLIC WORKS]

BP: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS SUBMITTED FOR ANY DEMOLITION PERMIT, BUILDING PERMIT, GRADING PERMIT, AND/OR ENCROACHMENT PERMIT AND SHALL BE MET PRIOR TO THE ISSUANCE OF SAID PERMIT(S).

BP-1. CONDITIONS OF APPROVAL:

Final plans shall include all Conditions of Approval included as part of the approved application starting on sheet 2 of the plans. [COA] [PLANNING]

BP-2. RESPONSE TO CONDITIONS OF APPROVAL:

A written response indicating how each condition has or will be addressed shall accompany the building permit set of plans. [COA] [PLANNING]

BP-3. NOTICE OF CONDITIONS OF APPROVAL:

A Notice of Conditions of Approval shall be filed in the official records of the County of Santa Clara and provide proof of such recordation to the City prior to issuance of any City permit, allowed use of the

property, or Final Map, as applicable. The Notice of Conditions of Approval shall be prepared by the Planning Division and shall include a description of the subject property, the Planning Application number, attached conditions of approval and any accompanying subdivision or parcel map, including book and page and recorded document number, if any, and be signed and notarized by each property owner of record.

For purposes of determining the record owner of the property, the applicant shall provide the City with evidence in the form of a report from a title insurance company indicating that the record owner(s) are the person(s) who have signed the Notice of Conditions of Approval. [COA] [PLANNING]

BP-4. FEES AND BONDS:

The following fees and bonds shall be paid in full prior to issuance of building permit.

- a) TRANSPORTATION IMPACT FEE - Pay Traffic Impact fee for the net new trips resulting from the proposed project, estimated at \$8,172.52, prior to issuance of a Building Permit. (SMC 3.50). [SDR] [PLANNING]

BP-5. BLUEPRINT FOR A CLEAN BAY:

The building permit plans shall include a "Blueprint for a Clean Bay" on one full sized sheet of the plans. [SDR] [PLANNING]

BP-6. RECYCLING AND SOLID WASTE CONTAINER:

All recycling and solid waste containers shall be metal or State Fire Marshall listed non-metallic. The building permit plans shall provide details illustrating compliance with this condition. [COA] [PLANNING]

BP-7. SOLID WASTE AND RECYCLING ENCLOSURE:

The building permit plans shall include details for the installation of recycling and solid waste enclosures that are consistent with SMC 19.38.030. The solid waste disposal and recycling facilities within the enclosure area or within buildings shall be designed with adequate size, space and clearance based upon City's latest guidelines. The required enclosures shall:

- a) Match the design, materials and color of the main building;
- b) Be of masonry construction;
- c) Be screened from view;
- d) All gates, lids and doors shall be closed at all times;
- e) Shall not conflict with delivery/receiving areas;

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- f) Shall be consistent with the approved Solid Waste and Recycling Management Plan;
 - g) Solid waste and recycling diversion systems shall be incorporated into the facilities and tenant improvements. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- BP-8. SOLID WASTE SERVICES:
Waste and recycling services shall be maintained under one account for each of the public domestic water meters that serve an occupied building held by the applicant, owner or landlord, unless otherwise approved by the city. The account holder is responsible for ensuring adequate services and that all locations, private sidewalks and streets are kept free of litter and stains. Requirements shall be specified in the approved documents and be submitted for approval by the city. [COA] [FINANCE/ENVIRONMENTAL SERVICES]
- BP-9. SOLID WASTE DISPOSAL AND RECYCLING DESIGN PLAN:
A detailed solid waste disposal and recycling design plan shall be submitted for review and approval by the Director of Community Development prior to issuance of building permit. The solid waste disposal plan and building permit plans shall demonstrate compliance with current City requirements and guidelines for non-residential projects. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- BP-10. ROOF EQUIPMENT:
Roof vents, pipes and flues shall be combined and/or collected together on slopes of roof or behind parapets out of public view as per Title 19 of the Sunnyvale Municipal Code and shall be painted to match the roof. [COA] [PLANNING]
- BP-11. EXHAUST AND OPENINGS:
No exhaust fans, doors, windows, or openings, of any kind shall be placed on the wall to the rear or where residential use is to the rear of the proposed building, except as may be required by the City, nor shall any machines or fans be placed on the roof of the building which exhaust dust or odors. The building permit plans shall clearly indicate the location of all exhaust equipment, doors and window and shall be subject to review and approval by the Planning Director. [COA] [PLANNING]
- BP-12. LANDSCAPE PLAN:
Landscape and irrigation plans shall be prepared by a certified professional, and shall comply with Sunnyvale Municipal Code Chapter 19.37 requirements. Landscape and irrigation plans are subject to review and approval by the Director of Community Development

through the submittal of a Miscellaneous Plan Permit (MPP). The landscape plan shall include the following elements:

- a) Ground cover shall be planted so as to ensure full coverage eighteen months after installation.

BP-13. TREE PROTECTION PLAN:

Prior to issuance of a Demolition Permit, a Grading Permit or a Building Permit, whichever occurs first, obtain approval of a tree protection plan from the Director of Community Development. Two copies are required to be submitted for review. The tree protection plan shall include measures noted in Title 19 of the Sunnyvale Municipal Code and at a minimum:

- a) An inventory shall be taken of all existing trees on the plan including the valuation of all 'protected trees' by a certified arborist, using the latest version of the "Guide for Plant Appraisal" published by the International Society of Arboriculture (ISA).
- b) All existing (non-orchard) trees on the plans, showing size and varieties, and clearly specify which are to be retained.
- c) Provide fencing around the drip line of the trees that are to be saved and ensure that no construction debris or equipment is stored within the fenced area during the course of demolition and construction.
- d) The tree protection plan shall be installed prior to issuance of any Building or Grading Permits, subject to the on-site inspection and approval by the City Arborist and shall be maintained in place during the duration of construction and shall be added to any subsequent building permit plans. [COA] [PLANNING/CITY ARBORIST]

BP-14. BEST MANAGEMENT PRACTICES - STORMWATER:

The project shall comply with the following source control measures as outlined in the BMP Guidance Manual and SMC 12.60.220. Best management practices shall be identified on the building permit set of plans and shall be subject to review and approval by the Director of Public Works:

- a) Storm drain stenciling. The stencil is available from the City's Environmental Division Public Outreach Program, which may be reached by calling (408) 730-7738.
- b) Landscaping that minimizes irrigation and runoff, promotes surface infiltration where possible, minimizes the use of pesticides and fertilizers, and incorporates appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping.

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- c) Appropriate covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas.
 - d) Covered trash, food waste, and compactor enclosures.
 - e) Plumbing of the following discharges to the sanitary sewer, subject to the local sanitary sewer agency's authority and standards:
 - i) Discharges from indoor floor mat/equipment/hood filter wash racks or covered outdoor wash racks for restaurants.
 - ii) Dumpster drips from covered trash and food compactor enclosures.
 - iii) Discharges from outdoor covered wash areas for vehicles, equipment, and accessories.
 - iv) Swimming pool water, spa/hot tub, water feature and fountain discharges if discharge to onsite vegetated areas is not a feasible option.
 - v) Fire sprinkler test water, if discharge to onsite vegetated areas is not a feasible option. [SDR] [PLANNING]

BP-15. CITY STREET TREES:

The landscape plan shall including street trees and shall be submitted for review and approval by the City Arborist prior to issuance of building permit. [COA] [ENGINEERING/CITY ARBORIST]

BP-16. EXTERIOR LIGHTING PLAN:

Prior to issuance of a Building Permit submit an exterior lighting plan, including fixture and pole designs, for review and approval by the Director of Community Development. Driveway and parking area lights shall include the following:

- a) Pole heights to be uniform and compatible with the areas, including the adjacent residential areas. Light standards shall not exceed 18 feet on the interior of the project and 8 feet in height on the periphery of the project near residential uses.
- b) Provide photocells for on/off control of all security and area lights.
- c) All exterior security lights shall be equipped with vandal resistant covers.
- d) Wall packs shall not extend above the roof of the building.
- e) Lights shall have shields to prevent glare onto adjacent residential properties. [COA] [PLANNING]

BP-17. PARKING MANAGEMENT PLAN (NONRESIDENTIAL):

A Parking Management Plan shall be submitted for review and approval by the Director of Community Development prior to issuance of a

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- building permit. The Parking Management Plan shall include the following:
- a) Employee parking locations shall be away from the building, in parking spaces that are the least used.
 - b) Specify the location and term of short-term parking.
 - c) Allow the use of valet parking when appropriate on sites with limited parking.
 - d) Employees shall be required to park on the site.
 - e) Provide adequate signage to direct traffic and pedestrians [COA] [PLANNING]
- BP-18. BICYCLE SPACES:
Provide eight Class II bicycle parking spaces per Citywide Design Guidelines and as approved by the Director of Community Development. Clearly indicate the location and the number of bicycle parking spaces on the Building Permit plans. [COA] [PLANNING]
- BP-19. CARPOOL PARKING:
A total of two preferential parking spaces shall be reserved and so marked in the closest possible rows adjoining the building (allowing for visitor, disabled and pool van parking) for exclusive use by carpool vehicles carrying at least two employees per vehicle. [COA] [PLANNING]
- BP-20. CONSTRUCTION MANAGEMENT PLAN:
The project applicant shall implement a Construction Management Plan (CMP) to minimize impacts of construction on surrounding residential uses to the extent possible. The CMP shall be subject to review and approval by the Director of Community Development prior to issuance of a demolition permit, grading permit, or building permit. The CMP shall identify measures to minimize the impacts of construction including the following:
- a) Measures to control noise by limiting construction hours to those allowed by the SMC, avoiding sensitive early morning and evening hours, notifying residents prior to major construction activities, and appropriately scheduling use of noise-generating equipment.
 - b) Use 'quiet' models of air compressors and other stationary noise sources where such technology exists.
 - c) Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.

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- d) Locate all stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences or other noise-sensitive land uses.
 - e) Locate staging areas and construction material areas as far away as possible from residences or noise-sensitive land uses.
 - f) Route all construction traffic to and from the project site via designated truck routes where possible. Prohibit construction-related heavy truck traffic in residential areas where feasible. Obtain approval of proposed construction vehicle truck routes from the Department of Public Works.
 - g) Manage construction parking so that neighbors are not impacted by construction vehicles. When the site permits, all construction parking shall be on-site and not on the public streets.
 - h) Prohibit unnecessary idling of internal combustion engine-driven equipment and vehicles.
 - i) Notify all adjacent business, residents, and noise-sensitive land uses of the construction schedule in writing. Notify nearby residences of significant upcoming construction activities at appropriate stages in the project using mailing or door hangers.
 - j) Designate a “disturbance coordinator” who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint and will require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. [COA] [PLANNING]

BP-21. CONSTRUCTION MATERIAL AND STAGING:

All construction related materials, equipment, and construction workers parking need to be managed on-site and not located in any public right-of-ways or public easements. [COA] [PUBLIC WORKS]

BP-22. DEMOLITION/CONSTRUCTION/RECYCLING WASTE REPORT FORM:

To mitigate the impacts of large projects on local waste disposal and recycling levels, demolition waste weights/volumes, construction weights/volumes, and recycling weights/volumes are to be reported to the City using Sunnyvale.wastetracking.com hosted by Green Halo. As part of the project’s construction specifications, the developer shall track the type, quantity, and disposition of materials generated, and submit these records through the website both periodically and at project completion [COA][ENVIRONMENTAL SERVICES]

BP-23. STORMWATER MANAGEMENT PLAN:

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- Submit two copies of a Stormwater Management Plan subject to review and approval by Director of Community Development, pursuant to SMC 12.60, prior to issuance of building permit. The Stormwater Management Plan shall include an updated Stormwater Management Data Form. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- BP-24. STORMWATER MANAGEMENT PLAN THIRD-PARTY CERTIFICATION: Third-party certification of the Stormwater Management Plan is required per the following guidance: City of Sunnyvale – Stormwater Quality BMP Applicant Guidance Manual for New and Redevelopment Projects - Addendum: Section 3.1.2 Certification of Design Criteria Third-Party Certification of Stormwater Management Plan Requirements. The third-party certification shall be provided prior to building permit issuance. [SDR] [PLANNING/ENVIRONMENTAL SERVICES]

EP: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED AS PART OF AN ENCROACHMENT PERMIT APPLICATION.

- EP-1. COMPLETE OFF-SITE IMPROVEMENT PLAN SET:
A complete plan check set applicable to the project, which may include street improvement plans, streetscape plans, streetlight plans, photometric analysis, striping plans, erosion control plans, and traffic control plans shall be submitted as part of the first off-site improvement plans, including on-site and off-site engineering cost estimate and the initial Engineer and Inspection plan review fee. Joint trench plans may be submitted at a later date. No partial sets are allowed unless otherwise approved by the Department of Public Works. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. See Improvement Plan Checklist and Improvement Plan Submittal Checklist at the following 2 links:
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=24002>
<https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23625> [COA] [PUBLIC WORKS]
- EP-2. UPGRADE OF EXISTING PUBLIC IMPROVEMENTS:
As part of the off-site improvement plan review and approval, any existing public improvements to be re-used by the project, which are not in accordance with current City standards and are not specifically identified in the herein project, shall be upgraded to current City standards and as required by the Department of Public Works. [COA] [PUBLIC WORKS]

- EP-3. BENCHMARKS:
The improvement plans shall be prepared by using City's latest benchmarks (NAVD88) available on City's website <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23803> Plans based on NGVD29 will not be accepted. [COA] [PUBLIC WORKS]
- EP-4. UTILITY CONNECTION:
This project requires connection to all City utilities or private utilities operating under a City or State franchise which provide adequate levels of service. [COA] [PUBLIC WORKS]
- EP-5. EXISTING UTILITY ABANDONMENT/RELOCATION:
Developer is responsible for research on all existing utility lines to ensure that there are no conflicts with the project. All existing utility lines (public or private) and/or their appurtenances not serving the project and/or have conflicts with the project, shall be capped, abandoned, removed, relocated and/or disposed of to the satisfaction of the City. Existing public facilities within the street right-of-way shall be abandoned per City's Abandonment Notes and procedures, including abandonment by other utility owners. [COA] [PUBLIC WORKS]
- EP-6. MODIFICATIONS TO EXISTING PUBLIC UTILITIES:
Developer is required to pay for all changes or modifications to existing City utilities, streets and other public utilities within or adjacent to the project site, including but not limited to utility facilities/conduits/vaults relocation due to grade change in the sidewalk area, caused by the development. [COA] [PUBLIC WORKS]
- EP-7. DRY UTILITIES:
Submit dry utility plans and/or joint trench plans (PG&E, telephone, cable TV, fiber optic, etc.) to the Public Works Department for review and approval prior to issuance of any permits for utility work within any public right-of-way or public utility easements. Separate encroachment permits shall be required for various dry utility construction. [SDR] [PUBLIC WORKS]
- EP-8. WET UTILITIES:
All wet utilities (water, sanitary sewer, storm drain) on private property shall be privately owned and maintained. The fire and domestic water systems shall be privately owned and maintained beyond the meter. [COA] [PUBLIC WORKS]
- EP-9. RE-USE OF EXISTING CITY UTILITY SERVICE LINES:

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- Re-use of existing City sanitary sewer and storm drain service lines and appurtenances is subject to City's review and approval. Developer's contractor shall expose the existing facilities during construction for City's evaluation or provide video footage of the existing pipe condition. Developer's contractor shall replace any deficient facilities as deemed necessary by Public Works Department. The site development plan with sheets A-101 and C-01 through C-13 dated 9/11/19 is subject to change during the plan check process. [COA] [PUBLIC WORKS]
- EP-10. **SANITARY SEWER CLEANOUT:**
Install new sanitary sewer cleanout at the street right-of-way lines for all existing and proposed sanitary sewer laterals to be used for the project. [SDR] [PUBLIC WORKS]
- EP-11. **SANITARY SEWER AND STORM DRAIN TRIBUTARY PATTERN:**
This project is required to follow the existing sanitary sewer and storm drain tributary pattern. Any deviations would require additional analysis and be subject to approval by the Department of Public Works as part of the off-site improvement plan review process. This project shall not cause any negative impact on the drainage pattern for adjacent properties. [COA] [PUBLIC WORKS]
- EP-12. **CATCH BASIN TRASH CAPTURE DEVICES AND STENCILING:**
Pursuant to SMC 12.60.130, install full trash capture devices on the project site, prior to connecting to the City's storm drain collection system. The developer shall be responsible for perpetual maintenance of those trash capture devices. All storm drain inlet facilities located in the public right-of-way shall be stenciled that read "NO DUMPING". Stencils may be borrowed and returned by coordinating with the Environmental Services Department by calling 408-730-7738. [COA] [PLANNING/ENVIRONMENTAL SERVICES]
- EP-13. **UTILITY METER/VAULT:**
No existing or new utility meters or vaults shall be located within the new driveway approach areas. All existing or new utility vaults serving the project site shall be located on-site and not within the public utility easement, if any. [COA] [PUBLIC WORKS]
- EP-14. **DRIVEWAY APPROACHES:**
Remove existing driveway approach on Brookfield Avenue and install new driveway approach to comply with Americans with Disabilities Act (ADA) requirements and per city standard details and specifications.
- The two unused existing driveway approaches along the Bernardo Avenue frontage shall be replaced with new curb, gutter and sidewalk. [COA] [PUBLIC WORKS]

EP-15. CURB RAMPS:

Remove and replace existing curb ramp and install new curb ramp at the northwest corner of Bernardo Ave and Brookfield Ave. Additional re-grading of asphalt may be required to ensure there are no localized low points and positive surface runoff occurs along the flow line. [COA] [PUBLIC WORKS]

EP-16. STREETSCAPE IMPROVEMENTS:

Remove existing curb, gutter, and sidewalk along the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue and install new curb, gutter, and sidewalk per City of Sunnyvale standard details with a curb return radius of 30 feet at the face of curb, or as directed by Public Works.

Remove existing curb, gutter, and sidewalk along Bernardo Avenue between the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue and the north edge of the existing southernmost driveway approach along the project frontage and install new curb, gutter, and 9.5-foot sidewalk (not including 6-inch curb) per City of Sunnyvale standard detail 9C, or as directed by Public Works.

Remove existing curb, gutter, and sidewalk along Brookfield Avenue from the curb return at the northwest corner of Bernardo Avenue and Brookfield Avenue to a point 20 feet west of said curb return and install new curb, gutter, and 6-foot sidewalk per City of Sunnyvale standard detail 9C, or as directed by Public Works. [COA] [PUBLIC WORKS]

EP-17. STREET PARKING:

Vehicle parking, passenger loading and unloading, and vehicle stopping are not permitted along Bernardo Avenue project frontage as well as Brookfield Avenue project frontage. Installation of signage is subject to review and approval by Public Works. [COA] [PUBLIC WORKS]

EP-18. INTERSECTION CORNER RADIUS AND CROSSWALK DISTANCE:

The corner radius at the northwest corner of the intersection of Bernardo Avenue and Brookfield Avenue shall be reduced to 30 feet measured at the face of curb, or as directed by the Department of Public Works. Additionally, the crosswalk crossing distance shall be reduced. Removal, addition, and or relocation of striping will be required to the satisfaction of the Department of Public Works. Removal of existing striping will require pavement grinding and slurry seal restoration. [COA] [PUBLIC WORKS]

EP-19. CIRCULATION PLAN:

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- Provide a pedestrian and vehicle circulation plan as part of the off-site improvement plans. Include fire truck turning templates, truck turning templates (WB-40), and garbage truck turning templates for both off-site and on-site turning movements. [COA] [PUBLIC WORKS]
- EP-20. PHOTOMETRIC ANALYSIS:
- The developer is required to provide a photometric analysis based upon LED fixtures for S Bernardo Avenue and Brookfield Avenue so as to determine that the street lighting meets current City's Roadway Lighting Design Criteria. Roadway, sidewalk and crosswalk Illuminance calculations shall be calculated separately from each other.
- The roadway and sidewalk illuminance values required to be met for S Bernardo Avenue are:
1. Minimum Maintained Average Illuminance ≥ 0.4 fc
 2. Uniformity Ratio (Avg/Min) ≤ 6.0
 3. Max/Min ratio ≤ 20
 4. Desirable lighting level for marked crosswalks is 2.2 fc. However, if this is not achievable the developer shall install at least one safety light on each side of the crosswalk.
- The roadway and sidewalk illuminance values required to be met for Brookfield Avenue are:
1. Minimum Maintained Average Illuminance ≥ 0.6 fc
 2. Uniformity Ratio (Avg/Min) ≤ 4.0
 3. Max/Min ratio ≤ 20
 4. Desirable lighting level for marked crosswalks is 2.2 fc. However, if this is not achievable the developer shall install at least one safety light on each side of the crosswalk.
- The photometric analysis shall include all existing streetlights on both sides of S Bernardo Avenue and Brookfield Avenue along the project frontage, with streetlight being LED fixtures. Developer shall relocate existing streetlights or install new ones along the project frontage based upon City approved photometric analysis, unless otherwise directed by the City.
- The developer shall upgrade all existing streetlight fixtures along the S Bernardo Avenue and Brookfield Avenue project frontage to LED fixtures. All LED fixtures shall be of the same make and model (current approved manufacturers are GE and Philips).
- If the photometric analysis shows the need to relocate or install new street lights, the developer shall also replace all existing streetlight conduits, wires and pull boxes with new ones along the Bordeaux

project frontage per City's current standards, unless otherwise directed by the City.

The light lost factor (LLF) to be used is 0.95. The LED fixture should have an efficiency of at least 90 lumens/watt and should have the International Dark-Sky Association (IDA) fixture seal of approval (FSA) and be on their IDA-ApprovedTM Products list. Along with the photometric analysis the developer shall provide cut sheets for proposed fixture, ies files used to perform analysis, test results from certified independent lab, and electronic copy of the photometric analysis in AGi32 format. All LED fixtures shall have a 10-year warranty.

Submit separate streetlight plans concurrently with the off-site improvement plan review to include installation of new conduits, existing and/or new locations of power source connection and new service pedestal, conductors, pull boxes, voltage drop and load calculations, and any other streetlight equipment as required to be installed by the Developer per latest City standard details and specifications and National Electric Code.

Developer shall comply with City street light design guidelines and plan check submittal requirements as provided by the City upon request.

Obtain PG&E's approval for new service pedestal, if required, prior to Encroachment Permit issuance.

Upon Completion of the streetlight improvements, developer shall provide photometric file in IES format. [COA] [PUBLIC WORKS]

EP-21. SIGNING AND STRIPING PLANS:

Submit a signing and striping plan in accordance with the latest edition of the CA MUTCD to City for review and approval by the Public Works Department for the required restriping of the crosswalk and . [SDR] [PUBLIC WORKS]

EP-22. TRAFFIC CONTROL PLAN:

Submit a traffic control plan with the off-site improvement plans for review and approval. Per the City's Temporary Traffic Control Checklist, the traffic control plan shall include a summary of the traffic control types, dates, times and blocks affected. All construction related materials, equipment, and construction workers parking need to be stored on-site and the public streets need to be kept free and clear of construction debris. [COA] [PUBLIC WORKS]

EP-23. SCHOOL ZONE:

-
- At no point shall this site operate as a public or private educational institution recognized by the state education authority for one or more grades K through 12 or as otherwise defined by the State without the approval from Department of Public Works, Division of Transportation and Traffic. Such modification may require traffic analysis (scoped by the City and funded by the applicant) and signing and striping improvements to be funded by the applicant. These improvements may include, but are not limited to those identified in Part 7 of the 2014 CA MUTCD to establish a school zone per State requirements. The design and implementation are to be funded by the applicant. The conceptual design will be done by a City-selected consultant and the final design shall be submitted to the City as off-site improvement plans. The signing and striping design shall be done by a Professional Traffic Engineer per CA MUTCD. [COA] [PUBLIC WORKS]
- EP-24. VISION TRIANGLES:
The site plan design shall comply with the requirements per Sunnyvale Municipal Code Section 19.34.060 for driveway and corner vision triangles. [COA] [PUBLIC WORKS]
- EP-25. CITY STREET TREES:
The developer shall install required street trees along the project frontage as follows: S Bernardo Ave: tree species to be provided to the developer at a later date; Brookfield Ave: existing trees to be protected in place. Street trees and frontage landscaping shall be included in the detailed landscape and irrigation plan subject to review and approval by the Department of Public Works prior to issuance of encroachment permit. New street trees shall be 24-inch box size or 15 gallon size. The city tree spacing should be approximately 35 feet apart. A continuous root barrier shall be installed along the parkstrip area. No trees are to be planted within 10' of a sanitary sewer lateral and within any existing or proposed Public Utility Easement. [SDR] [PUBLIC WORKS]
- EP-26. PROTECTION OF EXISTING TREES:
No utility trench shall be allowed within 15' radius of an existing mature tree. Boring, air spade or other excavation method as approved by the City Arborist shall be considered to protect existing mature tree. Consult with the City Arborist prior to adjusting locations of utility lines. [SDR] [PUBLIC WORKS]
- EP-27. DAMAGE TO EXISTING PUBLIC IMPROVEMENTS:
Developer shall be responsible to rectify any damage to the existing public improvements fronting and adjacent to the project site as a result of project construction to City's satisfaction by the Department of Public Works. All existing traffic detector loops and conduits shall be protected in place during construction. Any damaged detector loops

shall be replaced within 7 days at the expense of the developer. [COA]
[PUBLIC WORKS]

EP-28. RECORD DRAWINGS:

Stamped and signed hard copy record drawings of the off-site improvements (including off-site street, storm drain, and landscaping plans) shall be submitted to the City prior to encroachment permit sign-off. In addition, streetlight record drawings shall be in AutoCAD format & GIS format. Developer shall pay the record drawing fee. [COA]
[PUBLIC WORKS]

EP-29. PUBLIC WORKS DEVELOPMENT FEES:

Developer shall pay all applicable Public Works development fees associated with the project, including but not limited to, utility frontage and/or connection fees, off-site improvement plan check and inspection fees, prior to any permit issuance. The exact fee amount shall be determined based upon the fee rate at the time of fee payment. [COA] [PUBLIC WORKS]

EP-30. IMPROVEMENT AGREEMENT AND IMPROVEMENT SECURITIES:

Developer shall execute an Improvement Agreement and provide improvement securities and/or cash deposit(s) for all proposed public improvements prior to any permit issuance. [COA] [PUBLIC WORKS]

EP-31. OFF-SITE IMPROVEMENT COST ESTIMATE:

Provide an itemized engineer's estimate for all off-site public improvements for the entire project. [COA] [PUBLIC WORKS]

EP-32. BERNARDO AVENUE PAVEMENT MORATORIUM:

Bernardo Avenue is currently under a three-year pavement moratorium. Any work that significantly disrupts condition of pavement may require restoration as determined by Department of Public Works. [COA] [PUBLIC WORKS]

<p>PF: THE FOLLOWING CONDITIONS SHALL BE ADDRESSED ON THE CONSTRUCTION PLANS AND/OR SHALL BE MET PRIOR TO RELEASE OF UTILITIES OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.</p>
--

PF-1. LANDSCAPING AND IRRIGATION:

All landscaping and irrigation as contained in the approved building permit plan shall be installed prior to occupancy. [COA] [PLANNING]

PF-2. IRRIGATION METERS:

For commercial and industrial projects, to ensure appropriate sewer billing (water used for irrigation may not be billed for sewer), the

developer may provide separate (irrigation and other) intake meters. Such meters could be installed prior to occupancy of the building. [COA] [PLANNING]

- PF-3. **PARKING LOT STRIPING:**
All parking lot striping, guest spaces, and compact spaces shall be striped as per the approved building permit plans and Public Works standards prior to occupancy. [COA] [PLANNING/PUBLIC WORKS]
- PF-4. **COMPLETION OF PUBLIC IMPROVEMENTS:**
Developer shall complete all required public improvements in accordance with City approved plans, prior to any building occupancy. [COA] [PUBLIC WORKS]
- PF-5. **NEW PUBLIC EASEMENTS LOCATED ON-SITE:**
AT-1. Any new easements required for public use purpose shall be either shown on the recorded parcel map or on a separate recorded Easement Deed deemed necessary by the Department of Public Works prior to any building occupancy. [COA] [PUBLIC WORKS]
- PF-6. **PARKING LOT STRIPING:**
All parking lot striping, guest spaces, and compact spaces shall be striped as per the approved building permit plans and Public Works standards prior to occupancy. [COA] [PLANNING/PUBLIC WORKS]
- PF-7. **COMPLETION OF PUBLIC IMPROVEMENTS:**
Developer shall complete all required public improvements in accordance with City approved plans, prior to any building occupancy. [COA] [PUBLIC WORKS]

DC: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

- DC-1. **BLUEPRINT FOR A CLEAN BAY:**
The project shall be in compliance with stormwater best management practices for general construction activity until the project is completed and either final occupancy has been granted. [SDR] [PLANNING]
- DC-2. **TREE PROTECTION:**
All tree protection shall be maintained, as indicated in the tree protection plan, until construction has been completed and the installation of landscaping has begun. [COA] [PLANNING]
- DC-3. **CLIMATE ACTION PLAN – OFF ROAD EQUIPMENT REQUIREMENT:**

OR 2.1: Idling times will be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]), or less. Clear signage will be provided at all access points to remind construction workers of idling restrictions.

OR 2.2: Construction equipment must be maintained per manufacturer's specifications.

OR 2.3: Planning and Building staff will work with project applicants to limit GHG emissions from construction equipment by selecting one of the following measures, at a minimum, as appropriate to the construction project:

- a) Substitute electrified or hybrid equipment for diesel- and gasoline-powered equipment where practical.
- b) Use alternatively fueled construction equipment on-site, where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane, or biodiesel.
- c) Avoid the use of on-site generators by connecting to grid electricity or utilizing solar-powered equipment.
- d) Limit heavy-duty equipment idling time to a period of 3 minutes or less, exceeding CARB regulation minimum requirements of 5 minutes. [COA] [PLANNING]

DC-4. DUST CONTROL:

At all times, the Bay Area Air Quality Management District's CEQA Guidelines and "Basic Construction Mitigation Measures Recommended for All Proposed Projects", shall be implemented. [COA] [PLANNING]

AT: THE FOLLOWING CONDITIONS SHALL BE COMPLIED WITH AT ALL TIMES THAT THE USE PERMITTED BY THIS PLANNING APPLICATION OCCUPIES THE PREMISES.
--

AT-1. HOURS OF OPERATION:

The hours of operation are limited to 7:30 a.m. to 7:00 p.m.. Changes to hours of operation shall require approval of the Director of Community Development through a Miscellaneous Plan Permit. [COA] [PLANNING]

AT-2. DELIVERY HOURS:

Delivery hours for the approved use shall comply with SMC 19.42.030:

-
- a) Delivery hours are limited to daytime (period from 7:00 a.m. to 10:00 p.m. daily) only.
 - b) Nighttime delivery (period from 10 p.m. to 7:00 a.m. daily) is prohibited. [SDR] [PLANNING]
- AT-3. RECYCLING AND SOLID WASTE:
All exterior recycling and solid waste shall be confined to approved receptacles and enclosures. [COA] [PLANNING]
- AT-4. LOUDSPEAKERS PROHIBITED:
Out-of-door loudspeakers shall be prohibited at all times. [COA] [PLANNING]
- AT-5. EXTERIOR EQUIPMENT:
All unenclosed materials, equipment and/or supplies of any kind shall be maintained within approved enclosure area. Any stacked or stored items shall not exceed the height of the enclosure. Individual air conditioning units shall be screened with architecture or landscaping features. [COA] [PLANNING]
- AT-6. LANDSCAPE MAINTENANCE:
All landscaping shall be installed in accordance with the approved landscape plan and shall thereafter be maintained in a neat, clean, and healthful condition. Trees shall be allowed to grow to the full genetic height and habit (trees shall not be topped). Trees shall be maintained using standard arboriculture practices. [COA] [PLANNING]
- AT-7. PARKING LOT MAINTENANCE:
The parking lot shall be maintained in accordance with the approved plans and as follows:
- a) Clearly mark all employee, customer, and compact spaces. This shall be specified on the Building Permit plans and completed prior to occupancy.
 - b) Maintain all parking lot striping and marking.
 - c) Assure that adequate lighting is available in parking lots to keep them safe and desirable for the use.
 - d) Require signs to direct vehicles to additional parking spaces on-site, as needed.

Cindy Hom

From: Allen Yu
Sent: Monday, September 16, 2019 1:58 PM
To: Cindy Hom
Subject: Re: File # 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hi Cindy,

I'm not sure if my last email was a little too open-ended... but if you have a more detailed agenda of the hearing and a summary of current state of project, can you please point me where to get it?

Regarding my concerns, here is a brief summary:

Looks like the city is to hold a hearing regarding a project to put in a 120 children childcare / after school facility at 755 S. Bernardo Ave. and to do a class 1 categorical exemption from CEQA (environmental studies) next week.

A quick google search revealed that Class 1 categorical exemptions are meant for facilities that are put to existing uses.

The building concerned used to be a AAA building then a half occupied medical facility. A 120 children student is a very different beast! I do not think a 120 children student facility should count as existing use!

A 120 children facility is a large facility. It would be located right at the center of a bend that is already busy and tricky to navigate. There is that Safeway shopping plaza right down the street, a gas station across the street, and a couple of neighborhood strip malls already. The bend already has blind spots. Depending on how cars are parked, and how fast people may be driving, I have seen several close calls! I am very concerned that we are now contemplating adding a large childcare facility right at the bend and potentially have busy parents rushing in and out during rush hours to pick up and drop off their kids.

This is already a very densely occupied area. There are apartments all around the building. The intersection concerned is just a block or two from Cherry Chase Elementary. It will make Cherry Chase feel different.

And it's not just the traffic. There is a large apartment complex, for example. I wonder if anyone has thought about waking up to sound of children around 7 and dealing with noises all the way till 6...?

I don't think it is a good idea to go through with a categorical exemption for this project. Putting a large childcare / after school will be very disruptive for the community. I think the city should do its utmost diligence in doing a careful detailed review of this project of all potential impacts - noise, traffic, and other things that a regular citizen may not even be aware - before allowing it to continue.

Best,

Allen

16.09.2019, 13:08, "Allen Yu" <ayu@hiddenharmonies.net>:

Hi Cindy,

We got a letter regarding 755 S. Bernardo Ave special development permit notice of public hearing. Where can we find more information about this? I personally have several objections to having a major childcare / afterschool at that location...

Thanks,

Allen

Cindy Hom

From: Marti Coppage
Sent: Monday, September 16, 2019 8:06 PM
To: Cindy Hom
Subject: Proposed daycare on Bernardo

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

I saw a rant on the Nextdoor about this - 755 S. Bernardo. The guy who posted the rant encouraged folks to direct their comments to you, so that's why I'm writing.

I think a daycare at this location is a fine idea. We desperately need more daycare options for parents and this actually is a great spot. There's parking, it's close to Cherry Chase, and walkable from Sunnyvale Middle.

I don't know if you will get a bunch of complaints, but I hope not.

Marti Coppage
1095 Blair Ave.

Cindy Hom

From: Satish Kambala
Sent: Sunday, September 22, 2019 9:32 PM
To: Cindy Hom
Cc: Sulochana
Subject: Concerns about 755 S. Bernardo Ave. 120 Children facility

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hi,

We reside at 788 S Bernardo Ave (owner) and are very concerned about the upcoming plans.

The curve around that area is already dangerous (visibility is limited) so having many parents come-in/go-out for pickup/drops during rush morning/evening will make this worse.

Also, that facility for 120 kids doesn't have sufficient parking for staff (~20+) and parents so the limited available street parking (already made worse by many businesses around from gas station onwards) will be even worse.

Also thinking about the location close to HT lines, it doesn't seem like a good idea to have kids/parents kind of business.

I hope these concerns are taken seriously. Please let us know if providing the same in any other forum will help.
Thanks

Satish.

Cindy Hom

From: Qiang Wang <[REDACTED]>
Sent: Wednesday, September 25, 2019 1:35 PM
To: Cindy Hom
Cc: Marek Stoklosa; Sheth; Lynne Kilpatrick
Subject: Re: Denial of Project 2019-7502.pdf

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear Cindy, and all Planning commissioners,
City of Sunnyvale, CA

I am formally requesting you to postpone public hearing scheduled this afternoon on my application on your file # 2019-7502.

I prefer to have my legal council represent me and satisfy all the inquiries anyone has on my application at next public hearing.

Owner of the property is in full agreement to my decision. I will appreciate your confirmation of the same.

On Sep 25, 2019, at 12:22 PM, Qiang Wang <[REDACTED]> wrote:

Thank you Cindy!
Please continually forward the project, if there needs further review!
Thanks!
Qiang

On Sep 25, 2019, at 10:58 AM, Cindy Hom <CHom@sunnyvale.ca.gov> wrote:

Hi Qiang,

Attached is another comment letter in opposition of the project. They have cited issues with the CEQA exemption. They are in the opinion that it reviews further environmental review because of the traffic.

We have provided a copy to the City Attorney for advisement. Based on the advisement these are the options that you can take:

1. Request to continue the item so that you can consult with a lawyer. She can provide a few references. Ultimately, if this gets legally challenged, it is the applicant's responsibility to defend. It may be in your best interest to consult with attorney to know if exemption used is defensible. recourse.
2. Proceed at your own risk.

Lastly, I want you to bear in mind, there's high chance this may be appeal. Based on the number of comments, one of the commenters will appeal to Planning Commission if the project is approved. Even though staff stands by the analysis, there's always an off-chance the Zoning Administrator may agree and remand it back to staff for further review (continue the item) or deny the project similar to last time. In that event that it is denied, you also have the option to appeal to Planning Commission.

Please call to discuss.

<Denial of Project 2019-7502.pdf>

ARNOTT & RUDISILI, BUILDERSPAUL BRADLEY
2003

POST OFFICE BOX 102, SUNNYVALE, CALIFORNIA 94088

August 3, 1955

Mr. Homer A. Pfeiffer
274 South Murphy Avenue
Sunnyvale, California


Dear Mr. Pfeiffer:

Re: Sale of Lot 68 to Missionary Baptist Church

This is to advise you that the entire north frontage of Brookfield Avenue for a depth of approximately 150 feet lies under the P.O. & E. power lines, for which they have a right of way. According to our master plan this will be a parking lot for Cherry Chase Center, and will contain space for 150 to 200 cars. This, of course, is to be public parking, and will be available for the use of the church people. It would also be well to point out that church parking will not interfere with the Cherry Chase commercial parking as they will use it at different times.

Very truly yours,

KAR CONSTRUCTION COMPANY


Jas. A. Arnott

TO: STAFF

FR: JAMES

RE: PARKING

ENC: DOCUMENTS FOR
SHARED PARKING.

April 20, 1956

Mr. Wm. Patapoff,
P. O. Box 7,
San Jose, Calif.

Dear Sir:

RE: Church Parking in
Cherry Chase Center

As per our agreement when your church is completed on the corner of Brookfield and Bernardo, Lot 71, we will provide parking area across the street in Cherry Chase Center underneath the power line.

Yours very truly,
CHERRY CHASE CENTER, INC.

FCR:bk

Fred C. Rudisill

CC: John Cone

Sunnyvale Planning Commission - Agenda

March 25, 1963

USE PERMIT

876 - First Orthodox Presbyterian Church of Sunnyvale: application for approval of plans to add 3700 square feet to present building. Property located corner of Bernardo Avenue and Brookfield Avenue, 1210 Brookfield Avenue. (P-C Zone)

Staff Recommendation:

Approval of plans with yards as indicated, subject to the following conditions:

1. Provide proof that off-street parking meets ordinance requirements and will remain available to the church.
2. Parking area shall be paved per City standards.
3. Street cut permit and payment of standard City utility fees required.
4. Approval of landscape plans by Director of Planning.

Staff Discussion:

The City has no written evidence indicating that off-street parking is available to the church.

MINUTES

March 25, 1963

Public Discussion:

Mr. William Patapoff, P.C. Box 7, San Jose, representing the applicant, stated that he believed a letter had been submitted with the original use permit confirming the fact that the area across the street from the church, under the power poles, had been paved and was available for parking. Mr. Patapoff stated that he took no exception to the conditions of the Staff Recommendation.

Planning Commission Action:

Comm. Lawson moved that the Commission approve the plans in accordance with the Staff Recommendation, seconded by Comm. Leary and carried unanimously.

Reason for Action:

The Commission approved this addition as a logical extension of the present use already approved.

Sanctuary - Seating - 272 x 15 = 3700

To: Cindy Hom, Sunnyvale Community Development Department, Planning Division
RE: File 2019-7502, 755 S. Bernard Ave, Special Development Permit
From: Anonymous, Long-Time Citizen of Cherry Chase Neighborhood
Date: 9/24/2019

Introduction

This Comment is provided for the Zoning Administrator Hearing regarding File# 2019-7502 scheduled for Wednesday, September 25, 2019 at 3:00 PM. Several issues appear to be on the agenda.

Below please find my reasoning why the City should:

- Deny the contemplated Categorical 1 exemption because the contemplated use for the project involves a major expansion of use of the property at 755 S. Bernardo Ave.;
- Deny the contemplated Categorical 3 exemption because due to “unusual circumstances” surrounding the “location” of the project, the project would cause adverse impacts on the community in a “cumulative” and “significant” way; and
- Deny the contemplated Special Development Permit because the project raises critical safety and health issues that are unacceptable under guidelines that the City of Sunnyvale, PG&E, California Department of Education, and the EPA have all published regarding the location and design of commercial child care facilities.

The City Should Not Grant Class 1 and class 3 Categorical Exemption to the Project

According to the City’s Report numbered 19-0975 for the project, the city is contemplating both a Class 1 and/or Class 3 Categorization Exemption for the Project. The City should deny both.

Class 1 Categorical Exemption

According to CEQA Article 19, Class 1 exemptions apply to the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities ... involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

The use of the current property as a full-time child-care center would constitute a major expansion, not a negligible or no expansion, of use. The Sunnyvale City Planning department has already determined that the existing use for the property is a medical office. Public records show that before being used as a medical office, the facility was an AAA office before. Throughout the history of the building, the facility had always been used as an office, and never as a full-day child-care center.

A few more possibly relevant details: while being used as a medical office, the office was never very busy. Even at its most used, it was at most 40% occupied, and 60% vacant. The doctors who practiced in the facility went into apparent semi-retirement early 2010's. During most of the last decade, the building had been used mainly as a weekend parking lot for a nearby church.

A commercial, 120-student, full-day child care center – one of the biggest of its kind in the area – would constitute a major extension of use of what was formerly a (not very busy) medical and AAA office.

Consider that child-care centers are generally governed by dramatically different regulations such as fire codes, environment codes, health codes, etc. than medical offices or general offices. Under Sunnyvale permit regulations, a medical office and a general office are often categorized

under the same overall category while a full-day child care center is listed under a completely separate permit category.

Further, client traffic is generally distributed over the day for offices while traffic is clumped during rush hours for child-care facilities. Child-care centers in general are also noisier – with children playing (or crying as the case may be) outside – than medical or general office quiet.

Finally, as the next section will detail, because of the “unusual” “blind curve” on Bernardo at the site of the proposed child care, the project will pose significant, adverse impacts on the community beyond that ever posed by medical or general offices.

In McQueen v. Mid-Peninsula Regional Open Space (1988) 202 Cal. App. 3d 1136, the court reiterated that categorical exemptions are to be construed strictly, and shall not be unreasonably expanded beyond their terms. Granting a Class 1 exemption for a full-day child-care center – in light of the issues discussed above – would constitute an unreasonable expansion of exemptions under the CEQA.

Class 3 Categorical Exemption should also not be allowed

In addition to denying a Class 1 Categorical Exemption, the city should also deny a Class 3 Categorization Exemptions for the Project.

Under Article 19 of the CEQA, Class 3 exemptions applies to construction and location of limited numbers of new, small facilities or structures; installation of small new equipment and facilities in small structures; and the conversion of existing small structures from one use to another where only minor modifications are made in the exterior of the structure.

While Section 15303(c) allows conversion of commercial buildings in urbanized areas up to 10,000 square feet, Section 15300.2 stipulates that these exemptions are qualified by considerations of a project's "location," "cumulative impact," as well as "significant effect."

The corner of Bernardo and Brookfield, where the project is located, constitutes an unusually difficult to navigate section of Bernardo. Traffic coming into and out of Brookfield onto Bernardo (and vice versa) faces multiple "blind spots" due to a "blind curve" on Bernardo right at the property. Traffic coming into and out of both existing curb entrances on Bernardo also faces similar issues. Depending on where cars are parked on the street, the problem can be especially acute.

The danger the "blind curve" poses does not just apply to cars, but to pedestrians and bicyclists who use this section of the road.

The Traffic Report that has thus far been done for the project is insufficient for several reasons.

First, by presuming an AM peak hour traffic of only 94 (50 inbound trips and 44 outbound trips) and a PM peak hour traffic of 95 (45 inbound trips and 50 outbound trips), the study presumes a distributed traffic pattern more attuned to that of a general or medical offices than a full-day child care center.

A 120 student facility will need a staff of 29 (24 teachers based on comparable teacher/student ratios in the child cares in the area, plus at least 5 supporting – e.g. admin and cleaning staff). This will result in two peak hour traffic, one during morning rush hour and one during evening rush hour, of around 250 plus cars (120 in + 120 out = 240 just for the students).

Second, the study does not take into consideration the existence of the “blind curve” on Bernardo. It is one thing when traffic increases are purged orderly through a “normal” intersection and along “normal” sections of a major thoroughfare where traffic is delayed. It is however quite another when traffic increases are funneled through a blind intersection along a tricky section of a major thoroughfare. Now the community is not just dealing with a traffic delay and nuisance issue, but a public safety and hazard issue.

This safety issues will be further exacerbated by the parking problem this project will generate. According to the planning documents, the facility will provide 31 parking slots – including 2 ADA slots, 1 for EV charging, and two for ridesharing. Assuming the facility will require 29 for its staff (as discussed above), and assuming that the ADA, EV, and Ridesharing slots will often be left unused, the facility will require 34 spots in reality but only provide 31, leaving no parking spaces for the parents of its 120 students!

The parents will probably end up parking on both sides of Brookfield and utilize the crossway to cross Brookfield and sidewalk along Brookfield and Bernardo to get into the facility, impeding the general traffic on Brookfield as well as facility traffic going into and out of the parking lot. Combine this additional foot traffic together with the additional peak traffic of 250 cars, and add to that the general bustle of rush hour traffic, the distraction of the blind corners in the area, and the fact that all this takes place in the dark (as the case may be during Winter months), the hazard described above will have turned into a menace for the community.

Finally, since the City is seeking a public hearing because the contemplated facility is large (i.e. more than 30 students), the City might as well take note of the legislative history of Article 19 class 3 exemptions. Originally and until 1998, the regulation required an occupant load of 30

persons or less for Class 3 exemptions. However, to simplify the application process (some applicants were gaming the process to lower their occupant load to get an “automatic” exemption), the state removed the occupant load requirement and went with a square footage limitation, compelling cities to leverage Section 15300.2 exceptions to control the issuance of the exemptions.

While occupant load *per se* is no longer a current factor to consider, it is interesting to note that a 120 student facility would probably generate an occupant load of over 200, which is almost an order of magnitude larger than the 30 persons or less originally contemplated for Category 3 exemptions. This is another warning flag that the current project is not of the type contemplated to be categorically exempted under the CEQA.

In McQueen v. Mid-Peninsula Regional Open Space, the court pronounced that categorical exemptions such as Class exemptions 3 should be denied where there is substantial evidence that there are “unusual circumstances” that might create “significant impact” on the surrounding environment, as there is in this case.

The above section discusses several foreseeable significant negative impacts that due to the projects “unusual” location will generate “cumulative” and “significant” impacts on the community. Accordingly, the City should refute a category 3 exemption for the project.

The City Should Deny the Conditional Permit location a 120 full-day child-care facility on 755 S. Bernardo

The rest of this comment will address several important health and safety problems that approval of this project will impose on the students of this facility for many years to come.

The Contemplated Child-Center is Located Directly Across from an Auto Repair Business

The current project contemplates locating a child care center directly across an auto repair business. The City has published a document titled “**Guidelines for Commercial Child Care Centers in Sunnyvale**” in which it established general guidelines for locating large child care centers in Commercial zones. The Guidelines stated that “[t]he location of the child care center is critical to a child’s safety, well-being and quality of care. ... Commercially-zoned areas can include many different types of uses, some of which may not be compatible with the presence of many children. Examples include auto repair uses, businesses with high turnover of cars entering and leaving the facility, the use of chemicals or processes that could endanger children, and adult businesses. ... Child care centers should not be located within close proximity to adult businesses, auto repair uses and hazardous material sites. ... ”

Given the City’s clear guidelines, the City should not be approving a 120 full-day child-care center located directly across from an auto repair shop and gas station.

The Contemplated Child-Center is Located Directly under 110 Kilo olt High Power Transmission Lines

The property for the proposed project is also located directly right under 110 KVt high power transmission lines. Both PG&E and the California Department of Education have recognized the sensitive nature of children to potential environmental hazards such as EMF. As declared in the document “**Electromagnetic Fields Design Guidelines for Electrical Facilities in Compliance with Decision 06-01-042**” (see e.g. https://www.pge.com/notes/rates/tariffs/tm2/pdf/ELEC_2864-E.pdf), PG&E has since 2006 adopted a general EMF policy to refrain from locating any new high power transmission directly over “schools” (which includes also “licensed day cares”).

PG&E has also prioritized “schools” over all other property types – including “homes” – for relocating preexisting high power electrical wires.

Working with PG&E, the California Education board has codified minimal setbacks for high power transmission wires for all new schools (See <https://www.cde.ca.gov/ls/fa/sf/powerlinesetback.asp> and **California Code of Regulations, Title 5, Section 14010(c)** <https://www.cde.ca.gov/ls/fa/sf/title5regs.asp>). Today, without special exemption, no school in the State can be built with a high power transmission line over any section of its premise.

If California is not building new “schools” under high power transmission; if PG&E is not building any new high power transmission lines over “schools” – including “licensed day cares”; and if PG&E has prioritized moving high power transmission from existing “schools” – including “licensed day cares” – the City should not be approving a new 120 student commercial care center directly under a set of 110 KVt high-power transmission lines!

The Contemplated Child-Center Locates Sensitive Areas of the School Such as Playgrounds Immediately Adjoining a Busy Street

Another problem is that as currently planned, the project will locate the children’s play areas immediately adjoining Bernardo, a busy street that is also frequented by buses.

In the document titled “**Best Practices for Reducing Near-Road Pollution Exposure at Schools,**” the EPA acknowledges the long-term dangers of near-road pollution to children at Schools. The agency specifically recommends “locating land uses such as maintenance, storage, parking, and office facilities in the area closest to the roadway [so] classroom and play areas can be located farther from the roadway in areas where air pollutant concentrations tend to be lower.”

(See e.g. <https://www.epa.gov/schools/best-practices-reducing-near-road-pollution-exposure-schools>)

Besides near-road air pollutions, researchers have also found near-road noise pollutions to be an independent major primary environmental stressor on par with air pollution. (See e.g. “Noise Effects on Health in the Context of Air Pollution Exposure,” Int. J. Environ. Res. Public Health 2015, 12, 12735-12760 available at <https://pdfs.semanticscholar.org/c31f/f744febd5a27764d6fd8cc01327518f6562c.pdf>)

By locating playgrounds immediately adjoining Bernardo Ave, with no meaningful setbacks, the current plan design is incompatible with the recommendation that EPA has explicitly made and that current research strongly supports. The City should not be ignoring well-established policies and scientific knowledge regarding the toxic effects of near-road pollution on children. Approval of the plan would subject generations of children to near-road pollution for years to come.

The Conditional Use Permit should be denied

According to Neighborhood Action Group v. County of Calaveras (1984) 156 Cal.App.3d 1176, conditional use permits allow cities to consider special uses which may be essential or desirable to a particular community, but which are not allowed as a matter of right within a zoning district, through a public hearing process. **However, conditional use permits also provide flexibility within a zoning ordinance and enable a municipality to control certain uses which could have detrimental effects on the community.**

As a long member of the community, I acknowledge that quality child-care centers are in high demand in the area. However, the City has a responsibility to ensure that the sites chosen

for commercial child-care facilities do not harm the safety of children and does not adversely impact the safety of a neighborhood. The current project not only harms the safety of children but will also bring about a hazardous traffic impact to the neighborhood that is “cumulative” and “significant” for years to come. As such, the City should deny not just both Class 1 and Class 3 categorical exemption under the CEQA, but also the entire special development permit.

Cindy Hom

From: Juan (Joanne) Gao <[REDACTED]>
Sent: Wednesday, September 25, 2019 2:11 PM
To: Cindy Hom
Subject: support for File#2019-7502 from a mom of two

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hey, Dear Sir/Madam,

I just heard about this hearing during my lunch break and feel obligated to express my strong support for File#2019-7502. The benefit of opening this day-care/after-school program far outweighs the cost. I am listing out reasons below, please pardon the raw format and typos in a rush.

Jingying international school is lead and operated by great people. I don't know what's a better word can describe their leaders and employees. Just as an example: Their head teacher host parent meetings in the evening sometimes without having the time for dinner himself. As a business, they care more about the students than making money.

Jingying international school plays a very positive role in enriching the culture diversity of the community. They teach kids in US how life in China is really like. Such understanding is especially critical in today's US-China situation. They don't just teach Chinese and take care of the kids, they make dumplings during Spring Festival with the kids, they celebrate mid-autumn day with a party, they do their sudo-market in China, and they make Chinese shows at class.

Of course, there will be more noise and traffic from the school. But if Sunnyvale can allow Google and Facebook open their huge offices, but can't allow a school to operate due to traffic and noise impact, then perhaps Sunnyvale is not the kind of city we think it is.

Yours sincerely,
Joanne
1088 West Remington Drive,
Sunnyvale, CA 94087

Cindy Hom

From: Yan Liang <[REDACTED]>
Sent: Wednesday, September 25, 2019 2:14 PM
To: Cindy Hom
Subject: Support JY school

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear,

As a father of two kids, I would say JY school is very good for not only our family but also the community. The site is close to both cherry chase and Cumberland school. That's a big advantage. That's also one of the reasons the JY school grows fast, and parents and kids love it.

If anyone has concerns about traffic or noise, I would suggest to have open discussion to solve them, instead of ban the school.

Thanks,
Yan
Peralta Ave Sunnyvale

Cindy Hom

From: zhen guo <[REDACTED]>
Sent: Wednesday, September 25, 2019 2:42 PM
To: Cindy Hom
Subject: support project 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

To Whom It May Concern,

I am writing this letter to support the project. I am living in the Cherry Chase neighborhood and my kids attend Jingying International School. As a full time working parents, we are in dire need of affordable child care and after school facility.

Jingying is an accredited after school care who provides quality service to parents in the community. The school is also heavily involved with community service. The concern raised in the document would be to able to mitigate by proper management. I have witnessed the growth of the current school site. My kids have learned a lot in this after school.

With the large business opening sites in the city of Sunnyvale, I can envisioned more and more young parents becoming the resident of Sunnyvale. At the same rate, child care facility will be in high demand.

Sincerely Yours,

Zhen Guo
745 Sheraton Dr.
Sunnyvale CA 94087

Cindy Hom

From: LEI CHEN <[REDACTED]>
Sent: Wednesday, September 25, 2019 2:04 PM
To: Cindy Hom
Subject: Supporting JingYing International Chinese School

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear Sir/Madam,

Here are the reasons I support JingYing International Chinese School opening.

1. This is a great school run by an owner who is truly caring about kids and have integrity.

With high demand of after school services in this area, many wants to open schools to rip the profits. It's hard to find a good program with school runners who truly care about the well being of kids. Mr. Wang, the owner of JingYing, is different. I first encountered him in 2016 waiting for my daughter outside her classroom. He was there waiting to pick up kids of his newly opened school. For some reason my toddler started crying from far away in the playground. Before I can reach him, Mr Wang had already walked over to attend him with concern. Most after school caretakers, by my observations, could care less. They only focus on their phones or screaming and hauling kids under their care to vans. From that moment, I know I would want to put my kids there should I started working full time again in future.

2. Our community is in dire need of after school service

Nextdoor users will find posts about after school care, pickup, and drivers continues to pop up all the time. Recently there is a mom who just could not find any affordable service to pick up her kid. It's a huge relief to know JingYing is expanding under a good manager so more parents can continue their career without interruption.

We often question the city if environmental planning like traffic / housing are increased to meet the new jobs. In my opinion, more after school programs share the high-priority as those. We are lucky to have one opening up which is of great quality!

3. This school is heavily involved with community service.

The owner sent his troops of young but mighty kung fu masters and lion dance performers to school festivals. These festivals turnouts are great. Many residents enjoyed them while connecting with each other over the fun events. These performance and skills are rare and expensive if have to pay nowadays. I appreciate the owner's efforts to contribute to the community amidst his daunting daily tasks. (Amazingly I have never seen him look stressed, raise voice. He always did it with a smile)

There performances also help raise culture awareness which is an essential skill to have in bay area.

4. Cherry chase on-site CDC is already full. This is the closest location to the school which has a decent facility. Imagine working parents can pick up kids near school and home. It really relief them. From the traffic nightmare. And buy more time for the precious family gathering time at night.

5. This school expands fast! I saw it states with a handful of kids in 2016, then acquiring the unit next to it. And now the building across the street. I believe it's due to its high quality.

Therefore, I urge the city to approve the opening of this school at medical center site.

Thanks,

Lei

Cindy Hom

From: Holly ZHOU <h[REDACTED]>
Sent: Wednesday, September 25, 2019 1:59 PM
To: Cindy Hom
Subject: Support Zoning Administrator Hearing regard File #2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

I'd like to support Jingying International school regarding hearing file #2019-7502. This school provide convenience and care to cherry chase neighborhood parents and kids. It is difficult to find a good place to take care after school kids for the neighborhood. Cherry Chase CDC is full. And plus Jingying provide many good and fun activity to kids. The parents really need their program.

A Cherry chase neighbor parent.

Cindy Hom

From: Peggy (Jin) Peng <[REDACTED]>
Sent: Wednesday, September 25, 2019 1:52 PM
To: Cindy Hom
Subject: Pledge

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

I didn't know about this hearing until now. Please consider this email as a pledge to let them open the school.

I have 2 kids in their program. Here are the reasons I support their opening.

1. This is a great school run by an owner who is truly caring about kids and have integrity.

With high demand of after school services in this area, many wants to open schools to rip the profits. It's hard to find a good program with school runners who truly care about the well being of kids. Mr. Wang, the owner of jingying, is different. I first encountered him in 2016 waiting for my daughter outside her classroom. He was there waiting to pick up kids of his newly opened school. For some reason my toddler started crying from far away in the playground. Before I can reach him, Mr Wang had already walked over to attend him with concern. Most after school caretakers, by my observations, could care less. They only focus on their phones or screaming and hauling kids under their care to vans. From that moment, I know I would want to put my kids there should I started working full time again in future.

2. Our community is in dire need of after school service

Nextdoor users will find posts about after school care, pickup, and drivers continues to pop up all the time. Recently there is a mom who just could not find any affordable service to pick up her kid. It's a huge relief to know Jingying is expanding under a good manager so more parents can continue their career without interruption.

We often question the city if environmental planning like traffic / housing are increased to meet the new jobs. In my opinion, more after school programs share the high-priority as those. We are lucky to have one opening up which is of great quality!

3. This school is heavily involved with community service.

The owner sent his troops of young but mighty kung fu masters and lion dance performers to school festivals. These festivals turnouts are great. Many residents enjoyed them while connecting with each other over the fun events. These performance and skills are rare and expensive if have to pay nowadays. I appreciate the owner's

efforts to contribute to the community amidst his daunting daily tasks. (Amazingly I have never seen him look stressed, raise voice. He always did it with a smile)

There performances also help raise culture awareness which is an essential skill to have in bay area.

4. Negotiate over concerns, do not block.

I understand there are concerns about this opening. Please sit down and discuss how to resolve issues instead of turning down the opening. It will only add burden to Sunnyvale working parents if they have to find after school programs in other cities, which of course will make the already congesting traffic even worse.

5. Cherry chase on-site CDC is already full. This is the closest location to the school which has a decent facility. Imagine working parents can pick up kids near school and home. It really relief them. From the traffic nightmare. And buy more time for the precious family gathering time at night.

6. This school expands fast! I saw it states with a handful of kids in 2016, then acquiring the unit next to it. And now the building across the street. I believe it's due to its high quality.

Therefore, I urge the city to approve the opening of this school at medical center site.

Thank you.

Peggy

Cindy Hom

From: Willow Yang <[REDACTED]>
Sent: Wednesday, September 25, 2019 1:31 PM
To: Cindy Hom
Subject: Support for Childcare Facility at 755 S. Bernardo - File # 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear Ms. Hom,

I am a resident of Sunnyvale and I am writing in support of the proposed project to grant a development permit for a childcare center at 755 S. Bernardo Avenue (File # 2019-7502). Given the changing demographics of our city and the increase of young families moving into our community, it is absolutely critical that additional childcare facilities be developed to meet the growing childcare needs.

I am a parent of two young children and we live in the Cherry Chase area. It has been very difficult to find appropriate childcare, and especially after school care, nearby. A new facility at the 755 S. Bernardo location, with its proximity to Cherry Chase elementary, would be ideal. Therefore I urge the Zoning Commission to approve the proposed project and grant the necessary development permits.

Sincerely,
Willow Yang

~~~~~  
Liu Willow Yang  
845.499.3059

[REDACTED]

## Cindy Hom

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**From:** Ying Huang <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 1:24 PM  
**To:** Cindy Hom  
**Subject:** Re: support for project 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

By the way, my address:

1232 Parkington Ave, Sunnyvale CA

> On Sep 25, 2019, at 12:47 PM, Ying Huang <[REDACTED]> wrote:

>

> To support Zoning Administrator Hearing regarding File#2019-7502

>

>

> We live in the cherry chase neighborhood and here to express our support to the project 2019-7502. The project would provide convenience and care to parents and kids live in the neighborhood, as well as boost the culture diversity for the community. This project has passed all the requirements (traffic study, noise study etc.) and we all look forward to its approval and its future contribution to the local community.

> Thank you!

>

> Cherry chase neighbors

**Cindy Hom**

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**From:** T C <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 1:00 PM  
**To:** Cindy Hom  
**Subject:** Re: To Support Zoning Administrator Hearing regarding File#2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

BTW, I live in 1015 Hiawatha Ct, Sunnyvale, 94087, with both kids benefited from the after school education program.

On Wed, Sep 25, 2019 at 12:55 PM T C <[REDACTED]> wrote:

To whom it may concern,

We live in the cherry chase neighborhood and here to express our support to the project 2019-7502.

The project follows all the required regulation. It also provides convenience and care to parents and kids live in the neighborhood, as well as boost the culture diversity for the community.

This project has passed all the requirements (traffic study, noise study etc.) and we all look forward to its approval and its future contribution to the local community.

Bests,

Ting

**Cindy Hom**

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**From:** fookloong chin <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:58 PM  
**To:** Cindy Hom  
**Subject:** Project File#2019-7502 Hearing

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear Ms. Hom,

My name is Fook Chin, I live in the Cherry Chase neighborhood in Sunnyvale, and my home address is 1175 Blair Ave. Sunnyvale, CA 94087. Here, I would like to let you know that I support this Project file #2019-7502. The reason for me to support this project is because it brings the convenience and diversity in term of the living quality in our Sunnyvale community.

Thanks for your attention.

Best regards.

Sincerely Yours,

Fook Chin

[REDACTED]

## Cindy Hom

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**From:** Linda Lu <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:58 PM  
**To:** Cindy Hom  
**Subject:** Jingying application for afterschool

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hi Cindy,

I didn't know about this hearing until now. Please consider this email as a pledge to let them open the school.

I have never had a kid in their program. Here are the reasons I support their opening. I have very limited time to write because I need to pick up three kids separately today but I need to make sure residents know about the benefit this opening will be adding to the community. Pardon my grammatical mistakes because I don't have chance to review.

1. This is a great school run by an owner who is truly caring about kids and have integrity.

With high demand of after school services in this area, many want to open schools to rip the profits. It's hard to find a good program with school runners who truly care about the well being of kids. Mr. Wang, the owner of Jingying, is different. I first encountered him in 2016 waiting for my daughter outside her classroom. He was there waiting to pick up kids of his newly opened school. For some reason my toddler started crying from far away in the playground. Before I can reach him, Mr Wang had already walked over to attend him with concern. Most after school caretakers, by my observations, could care less. They only focus on their phones or screaming and hauling kids under their care to vans. From that moment, I know I would want to put my kids there should I start working full time again in future.

2. Our community is in dire need of after school service

Nextdoor users will find posts about after school care, pickup, and drivers continues to pop up all the time. Recently there is a mom who just could not find any affordable service to pick up her kid. It's a huge relief to know Jingying is expanding under a good manager so more parents can continue their career without interruption.

We often question the city if environmental planning like traffic / housing are increased to meet the new jobs. In my opinion, more after school programs share the high-priority as those. We are lucky to have one opening up which is of great quality!

3. This school is heavily involved with community service.

The owner sent his troops of young but mighty kung fu masters and lion dance performers to school festivals. These festivals turnouts are great. Many residents enjoyed them while connecting with each other over the fun events. These performance and skills are rare and expensive if have to pay nowadays. I appreciate the owner's efforts to contribute to the community amidst his daunting daily tasks. (Amazingly I have never seen him look stressed, raise voice. He always did it with a smile)

There performances also help raise culture awareness which is an essential skill to have in bay area.

4. Negotiate over concerns, do not block.

I understand there are concerns about this opening. Please sit down and discuss how to resolve issues instead of turning down the opening. It will only add burden to Sunnyvale working parents if they have to find after school programs in other cities, which of course will make the already congesting traffic even worse.

5. Cherry chase on-site CDC is already full. This is the closest location to the school which has a decent facility. Imagine working parents can pick up kids near school and home. It really relief them. From the traffic nightmare. And buy more time for the precious family gathering time at night.

6. This school expands fast! I saw it states with a handful of kids in 2016, then acquiring the unit next to it. And now the building across the street. I believe it's due to its high quality.

Therefore, I urge the city to approve the opening of this school at medical center site.

Thank you.

Linda Chan

■■■■■■■■■■

Susan way, Sunnyvale.

**Cindy Hom**

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**From:** Peng Jiang <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:48 PM  
**To:** Cindy Hom  
**Subject:** support Zoning Administrator Hearing regarding File#2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hello,

We live in the cherry chase neighborhood and would like to show our support to the project 2019-7502. From previous years, we, as families in the neighborhood, has benefited a lot from the school. We wish the project would be approved and continue to contribute to the society.

862 Trenton Dr, Sunnyvale, CA 94087

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Peng



**Cindy Hom**

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**From:** Lei Qin <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:48 PM  
**To:** Cindy Hom  
**Subject:** Support for JY International Education LLC Project

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Hi there,

I am a residence living at 745 S Bernardo Ave, Sunnyvale, CA 94087. I learned about the day care center project next to our apartment building a few months ago. My first impression was that would be great!! I have a 3 year old daughter who goes to a bilingual day care a few miles away. If this day care starts I have a much more convenient location to send her to with still the ability to learn both Chinese and English. I can't wait for the project to start and the center to open asap.

I know there is a public hearing about the project. I just want to let you guys know how much I want this to happen.

Thanks.

Lei Qin

**Cindy Hom**

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**From:** Ying Huang <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:47 PM  
**To:** Cindy Hom  
**Subject:** support for project 2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

To support Zoning Administrator Hearing regarding File#2019-7502

We live in the cherry chase neighborhood and here to express our support to the project 2019-7502. The project would provide convenience and care to parents and kids live in the neighborhood, as well as boost the culture diversity for the community. This project has passed all the requirements (traffic study, noise study etc.) and we all look forward to its approval and its future contribution to the local community.

Thank you!

Cherry chase neighbors

**Cindy Hom**

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**From:** Xiaoyan Zhao <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 12:40 PM  
**To:** Cindy Hom  
**Subject:** To Support Zoning Administrator Hearing regarding File#2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

To Who It May Concern:

We live in the cherry chase neighborhood and want to express our support to the project 2019-7502. This project would provide convenience and care to parents and kids live in the neighborhood, as well as boost the culture diversity for the community. This project has passed all the requirements (traffic study, noise study etc.) and we all look forward to its approval and its future contribution to the local community.

Cherry Chase Neighbor  
Shirley Zhao

**Cindy Hom**

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**From:** Ruohong Zhou <[REDACTED]>  
**Sent:** Wednesday, September 25, 2019 2:09 PM  
**To:** Cindy Hom  
**Subject:** I want to express support to Zoning Administrator Hearing regarding File#2019-7502

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.  
Hi Cindy,

I'm a Sunnyvale resident and live in the cherry chase neighborhood for several years. I'd like to express our support to project 2019-7502. The project has provided great convenience and care to parents and kids living in the neighborhood. I look forward to its approval.

Thanks,  
Ruohong Zhou

**Cindy Hom**

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**From:** Peiyi Zhao <[REDACTED]>  
**Sent:** Monday, October 07, 2019 9:57 AM  
**To:** Cindy Hom  
**Subject:** Approval for 755 S. Bernardo Avenue Childcare project (File No 2019-7502)

ATTN: Email is from an external source; Stop, Look, and Think before opening attachments or links.

Dear Ms. Hom,

I am Peiyi, an over ten-year resident near the Sunnyvale Cherry Chase Elementary School community, a mother of two kids and a California licensed attorney practicing corporate law. I am writing this letter to express my support for a childcare project near my neighborhood at 755 S. Bernardo Avenue, Sunnyvale, 94087.

As a working mother juggling a very demanding job and two boys, I am constantly searching for good quality childcare that is close to my neighborhood at Cherry Chase. I also got inquiries from other working parents in my neighborhood who want to send their kids to a daycare that is close to Cherry Chase in Sunnyvale. If the 755 S. Bernardo Avenue location can be used as a daycare, I believe it will offer significant benefit to families in the Cherry Chase neighborhood with dire childcare needs.

I noticed from Nextdoor.com that a few people expressed concerns regarding whether this location is appropriate for a daycare business. I do not agree with their argument that building a childcare at 755 S. Bernardo Avenue would generate too much traffic. Based on my observation, this location is perfect for doing childcare business. It is spacious, adjacent to the residential area, with a Chinese after school on the other side of the road. Also on the other side of the road is a small gas station that does not offer any auto repair business. The road on S. Bernardo is broad enough to handle increased traffic generated by the childcare. A lot of parents live nearby, so they will be able to walk there and pick up kids without driving cars.

I believe a childcare at 755 S. Bernardo would bring much more benefit to the neighborhood than putting this property in use for any other purposes. I would really appreciate if you could take my and many other parents' opinions into consideration and grant approval for this project. Please let me know if you need any additional information from me.

Sincerely,

Peiyi Zhao

([REDACTED])