

MEMORANDUM

To: Erick Bromfield
CoreSite

From: Elizabeth Chau, P.E.
Kimley-Horn and Associates, Inc.

Date: March 18, 2021

Subject: CoreSite SV9 Preliminary Traffic Study

CoreSite is proposing to construct a data center, labeled SV9 (Project) which involves demolishing an existing office building and constructing a 4-story data center in Santa Clara, California. This memorandum summarizes the assumptions, methodology, and results of a preliminary traffic study conducted to validate if the project will provide sufficient parking.

Project Description

The Project is located at 2905 Stender Way in Santa Clara, California. The project consists of redeveloping an existing 51,650 square-foot office building into a 246,660 square-foot data center. The current design has 19,600 square feet of office space that can be occupied full time by on-site staff. A site plan for the Project is included as **Attachment A**.

Trip Generation

A trip generation analysis was conducted to determine the change in the number of trips the project will generate as compared to the existing office building. The trip generation was estimated based on estimated staffing information provided by CoreSite as well as average trip generation rates from Institute of Transportation Engineer's (ITE) publication, *Trip Generation, 10th Edition*.

STAFFING INFORMATION

It is anticipated the data center will be staffed 24-hour, 7 days a week by three shifts (day, mid, and swing) each day. The day shift will have more employees compared to both the mid and swing shift. It is anticipated that a maximum of 10 employees and 15 visitors will be on the site on a given day and less may be present during certain time periods throughout the day (e.g. day versus night shift). It should be noted that number of employees and visitors may change depending on building occupancy and other factors.

For trip generation estimates, it is anticipated that each employee and visitor will generate two (2) daily trips, which equates to a total of 50 daily trips, which does not exceed the 110 daily trip threshold which warrants a CEQA transportation analysis under the City’s Transportation Analysis Policy¹.

ITE TRIP GENERATION

ITE *Trip Generation, 10th Edition* is a standard reference used by jurisdictions throughout the country for the estimation of trip generation potential of proposed projects. This manual provides trip rates based on land use. For the existing land use, ITE Land Use 710: General Office Building was assumed. For the proposed use, ITE Land Use 160: Data Center was assumed. **Table 1** presents the trip generation for the project.

Table 1: Project Trip Generation

	Existing ITE LU 710 General Office Building			Proposed ITE LU 160 Data Center			Net New Trips (Proposed - Existing)		
	Total	In	Out	Total	In	Out	Total	In	Out
Daily	502	251	251	244	122	122	-258	-129	-129
AM Peak	60	52	8	27	15	12	-33	-37	4
PM Peak	59	9	50	22	7	15	-37	-2	-35

Source: ITE *Trip Generation, 10th Edition*

It is estimated that the existing office building will generate 502 daily, 60 AM peak hour, and 59 PM peak hour trips. It is estimated that the proposed data center will generate 244 daily, 27 AM peak hour, 22 PM peak trips. When comparing the existing and proposed trip generation, the proposed project is expected to generate net new -258 daily trips, -33 trips in the AM peak hour, and -37 trips in the PM peak hour. The net trips do not exceed the 110 daily trip threshold which warrants a CEQA transportation analysis under the City’s Transportation Analysis Policy¹.

Parking

Table 2 summarizes the parking requirements for the Project as well as the proposed parking inventory. The City requires data centers to provide one parking space per four thousand (4,000) square feet of gross floor area. The gross floor area of the Project is 246,660 square feet; therefore 61 spaces are required per the Zoning Code; however the Project has requested an exception to provide one space per five thousand (5,000) square feet of gross floor area. Based on staffing information it is anticipated that 26 spaces will be sufficient for this project. Consistent with other data centers, the overall size of the structure is not reflective of staffing density as nearly 90% of the building will be occupied by equipment. In addition, often times CoreSite’s staff will be leveraged by its customers to perform work on their equipment thereby eliminating the need for them to travel to the data center. CoreSite has additional buildings nearby that have a similar staffing model and on-site parking. An overview of existing parking at these buildings found that parking inventory similar to the proposed Project was sufficient to accommodate staff and visitors throughout the day.

¹ City of Santa Clara Resolution No. 20-8861, June 2020

Attachment B shows the proposed parking for the site, which includes 26 parking spaces and 25 land bank spaces. Land bank spaces are located in areas on the site that will be occupied by equipment such as chiller enclosures or generators, but may be removed to provide additional spaces if the property reverts to non-data center use. The proposed parking and land bank spaces will provide 51 spaces, which will exceed the demand needed to accommodate the maximum number of staff and visitors.

Table 2: Project Parking Summary

Land Use	Size	Unit	Santa Clara Municipal Code Requirements	
			Requirement	Parking Spaces Required
Data Center	246,660	square feet	1 space for each 4000 square feet of gross floor area ¹	61
Proposed Parking Spaces				26
Land-Banked Spaces				25
Total Parking Supply				51

¹City municipal code requires 1 space per 4,000 square feet, however the Project has requested an exception to provide 1 space per 5,000 square feet, which would equate to 50 spaces.

Conclusion

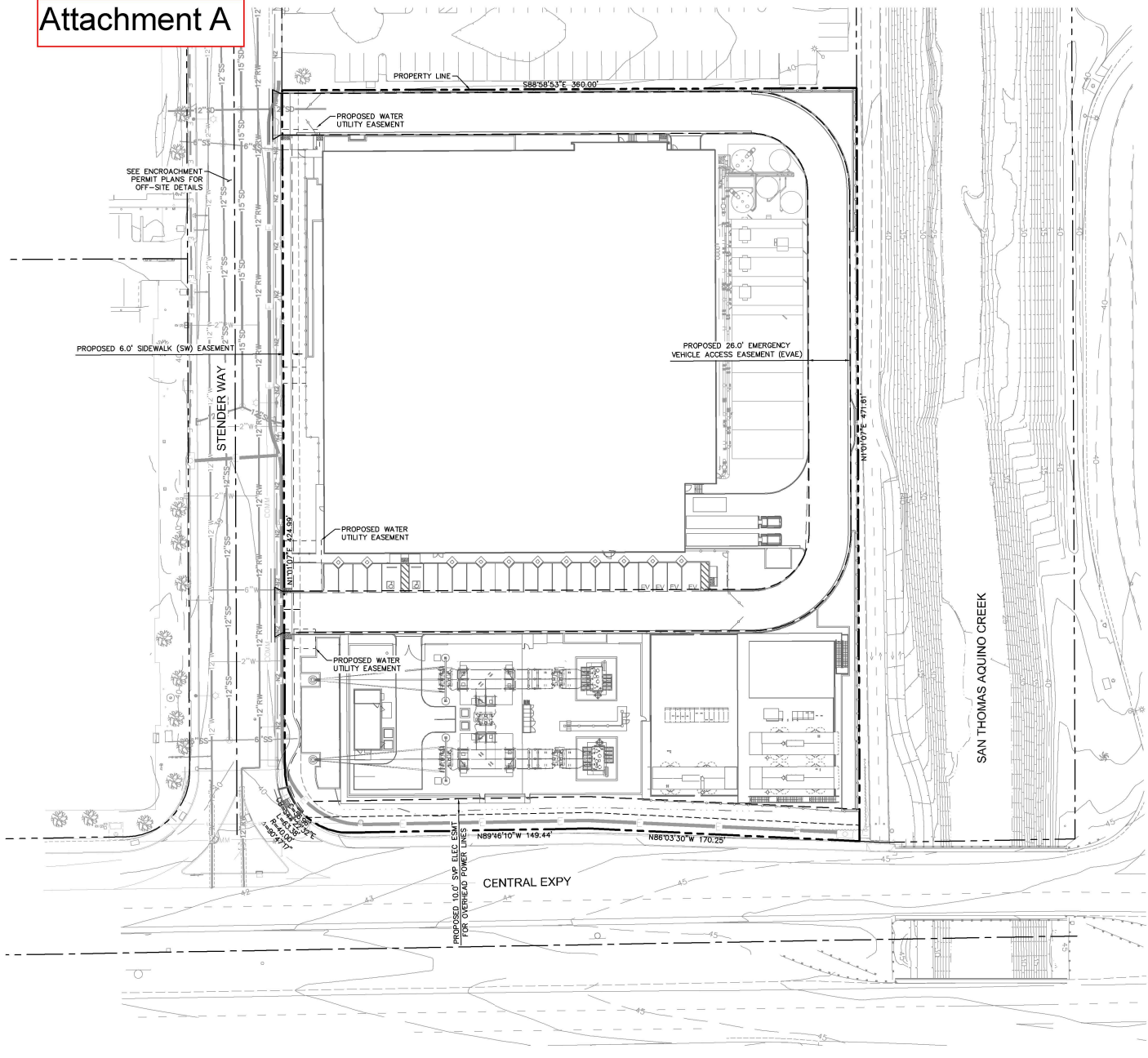
A preliminary traffic study was conducted to determine any potential traffic implications for the proposed SV9 data center. The preliminary traffic study conducted a trip generation and parking analysis. The trip generation analysis found that the project does not exceed the 110 daily trips threshold warranting a CEQA transportation analysis. The parking analysis found that the Project is to provide 26 spaces and 25 land bank spaces for a total of 51 spaces, which will exceed the demand needed to accommodate the maximum number of staff and visitors. The staffing levels included in this study are reflective of a fully stabilized data center. The Project will be constructed in phases over an assumed 5-year period. As designed, the 26 parking spaces will be more than sufficient as the Project stabilizes. At stabilization, the 26 parking spaces are projected to exceed the daily use based on stabilized staffing information, estimated ITE use, analysis of existing sites, and occupied space allocated for staff and visitors. An analysis of our current parking on campus further substantiates the assumed parking requirement for this project.



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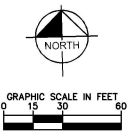
Attachment A – Site Plan
Attachment B – Proposed Parking

Attachment A



LEGEND

- PROPERTY LINE
- CENTER LINE
- - - PROPOSED EASEMENT
- - - EXISTING EASEMENT
- SD EXISTING STORM DRAIN PIPE
- SS EXISTING SEWER PIPE
- E EXISTING ELECTRICAL DUCT BANK
- W EXISTING WATER PIPE
- RW EXISTING RECYCLED WATER PIPE
- UGE EXISTING UNDERGROUND ELECTRIC LINE
- GAS EXISTING GAS PIPE



CORGAN



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ENGINEER OF RECORD
 SEAL



IT IS HEREBY CERTIFIED THAT THE ENGINEER HAS PERSONALLY REVIEWED THESE PLANS AND SPECIFICATIONS AND IS A LICENSED ENGINEER IN THE STATE OF CALIFORNIA.

CORESITE SV9
 CORESITE
 2905 STENDER WAY, SANTA CLARA, CA
 A.P.N.: 216-29-108

JOB NO.: 197252001
 PRINT DATE: 11/13/2020

DESIGNED BY: KN
 CHECKED BY: MJ

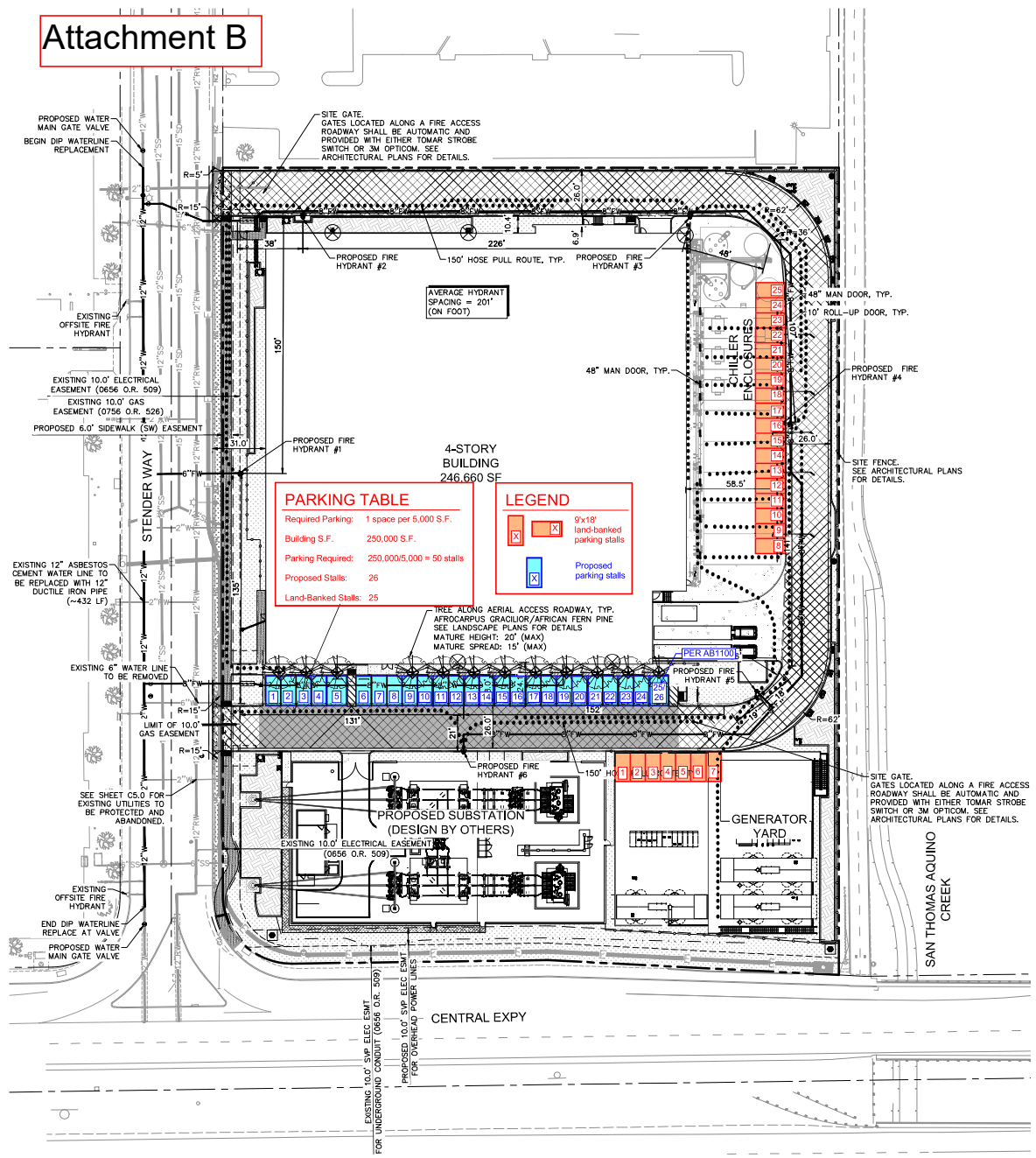
NO.	REVISIONS
1	11/13/2020: REVISION FOR COMMENTS
2	11/13/2020: PLAN CHECK REVISIONS #1
3	11/13/2020: REVISION FOR COMMENTS
4	11/13/2020: PLAN CHECK REVISIONS #2
5	11/13/2020: REVISION FOR COMMENTS

SHEET NAME:
PROPOSED EASEMENT PLAN

SHEET NO.: C3.1

P:\SW\197252001 - SV9 (CORESITE)\CAD\PARAMETERS\CA1 - PROPOSED EASEMENT PLAN\DWG - 2/22/2021 2:45 PM HELSON, GARD

Attachment B



PARKING TABLE

Required Parking: 1 space per 5,000 S.F.
 Building S.F.: 250,000 S.F.
 Parking Required: 250,000/5,000 = 50 stalls
 Proposed Stalls: 26
 Land-Banked Stalls: 25

LEGEND

[Red box with 'X'] 9'x18' land-banked parking stalls
 [Blue box] Proposed parking stalls

LEGEND

- PROPERTY LINE
- - - PROPOSED FIRE WATER LINE
- EXISTING WATER LINE
- 150' HOSE PULL REACH
- [Pattern] LANDSCAPE/PLANTER AREA
- [Pattern] FIRE ACCESS LANE / EMERGENCY VEHICLE ACCESS EASEMENT (EVAE)
- [Pattern] AERIAL ACCESS ROADWAY
- [Pattern] STANDARD DUTY CONCRETE PAVEMENT
- [Pattern] HEAVY DUTY CONCRETE PAVEMENT
- [Pattern] BIORETENTION AREA

SITE DATA

BUILDING CONSTRUCTION TYPE: IIA
 TOTAL BUILDING SQUARE FOOTAGE: 246,660 SF
 REQUIRED FIRE FLOW (PER CFC TABLE B105.1, BEFORE REDUCTION): 6,000 GPM
 MINIMUM REQUIRED HYDRANTS (PER CFC TABLE C102.1): 6 HYDRANTS
 HYDRANTS PROVIDED: 6 HYDRANTS
 AVERAGE HYDRANT SPACING: 200 FT

HYDRANT SPACING TABLE (ON FOOT)

HYDRANT PATH	TOTAL DISTANCE
HYDRANT 1 TO 2	231 FEET
HYDRANT 2 TO 3	226 FEET
HYDRANT 3 TO 4	155 FEET
HYDRANT 4 TO 5	159 FEET
HYDRANT 5 TO 6	192 FEET
HYDRANT 6 TO 1	243 FEET
TOTAL	1,206 FEET
AVERAGE	200 FEET

THE USE OF THE PLANS AND SPECIFICATIONS requires the user to verify all dimensions, materials, and methods of construction with the local authority having jurisdiction. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY HAVING JURISDICTION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY HAVING JURISDICTION. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL AUTHORITY HAVING JURISDICTION.

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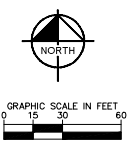
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 10/28/2019 PCC SUBMITTAL 1
 02/12/2020 PCC SUBMITTAL 2
 02/24/2020 SCHEMATIC DESIGN
 06/28/2020 PCC SUBMITTAL 3

SHEET NAME:
FIRE TRUCK ACCESS PLAN

SHEET NO.: **C1.0**



16:5441241V17252001 - SV9 CORESITE COORDINATES/UTILITIES/EXISTING/PROPOSED FIRE HYDRANT AND ACCESS PLAN/DATE: 7/29/2020 10:49 AM REVISION: N/A