Appendix D:
Focused Traffic Study

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January 8, 2020

Mr. Tim Shannon
Shannon Masonry Construction
525 College Avenue, Suite 15
Santa Rosa, CA 95404

Updated Focused Traffic Study for the Good Onward Medical Cannabis Project

Dear Mr. Shannon;

W-Trans has completed a focused traffic study that addresses the potential traffic and parking issues associated with the proposed change in land use for 3192 Juniper Avenue in the City of Santa Rosa.

Project Description

The proposed project would result in repurposing a site that was most recently permitted as an office and storage facility for a concrete contractor to cannabis cultivation, manufacturing, and distribution facilities. The proposed project would be completed in two phases; the first phase would include converting 3,549 square feet of existing building space and the 1,440 square foot modular home to commercial medical cannabis uses and the second phase would be completed approximately two years later and would involve the provision of a new 20,925 square-foot warehouse building to be located at the southeast corner of the site for the expansion of the commercial cannabis operations. Upon completion of Phase II, the project would include 12,434 square feet of indoor cultivation, 9,836 square feet of manufacturing, and 3,644 square feet of distribution. The operation would require approximately six to eight full- and part-time employees while in the existing buildings and an additional two to four employees at build-out for a maximum of up to ten employees. Shifts would be from 8:00 a.m. to 6:00 p.m. and the operation would be open up to seven days a week, as needed. An exhibit showing the uses that would be accommodated in each building is enclosed along with the project site plan.

Trip Generation

The anticipated trip generations for the most recent past and proposed future uses were estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, *10th Edition*, 2017. Rates for "Single Family Detached Housing" (ITE LU 210) were applied to the existing modular home and rates for "General Light Industrial" (ITE LU 110) were applied to the existing contractor office and storage facilities and the proposed commercial medical cannabis facilities. The reasoning behind the choice of rates applied is discussed below.

Since the initial phase would involve no new buildings and both the previous and proposed uses could reasonably be classified as general light industrial, it is likely that there would be nominal, if any, change in trip generation associated with the site in the near term. The conversion of the existing modular home to general light industrial space would result in a net difference of zero new peak hour trips and approximately two less trips over the course of the day. The following analysis was completed for the second phase of the project, or full buildout.

To determine the anticipated trip generation potential of the cannabis cultivation component, numerous trip generation rates and categories were explored. While the 10th Edition of the Manual includes rates for a new land use called "Marijuana Dispensary" (Land Use #882), the proposed project does not include a dispensary component so these rates are not applicable. It was determined that cannabis cultivation is most closely aligned with what would be considered a light industrial use so standard rates for "General Light Industrial" (Land Use #110) were applied to the cultivation area, in addition to the cannabis manufacturing, and distribution space.

Application of standard rates based on floor area, as shown in Table 1, would result in an average of 129 trips per day including 18 trips during the a.m. peak hour and 16 trips during the p.m. peak hour. This appears to be reasonable, though likely conservative, for the proposed project and reflects one trip per employee during each peak hour along with additional trips that could be associated with drop-off of employees, visitors, deliveries, distribution shipments, etc. Compared to the most recent use of the site, the proposed project would result in a net increase of 102 trips over the course of the day including 15 new trips during the morning peak hour and 13 additional trips during the p.m. peak hour. Because the proposed project would be expected to generate fewer than 50 new trips during either peak hour, per the City's *Standard Guidance for the Preparation of Traffic Impact Analysis*, an operational analysis is not required.

Table 1 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Previous											
General Light Industrial	3.549 ksf	4.96	18	0.70	2	2	0	0.63	2	0	2
Single Family Detached Housing	1 du	9.44	9	0.74	1	0	1	0.99	1	1	0
Previous Total			*27*		*3*	*2*	*1*		*3*	*1*	*2*
Proposed											
General Light Industrial	25.914 ksf	4.96	129	0.70	18	16	2	0.63	16	2	14
Net Difference from Previous Use			**102**		**15**	**14**	**1**		**13**	**1**	**12**

Notes: ksf = 1,000 square feet; du = dwelling unit

It should be noted that consideration was given to evaluating the project based on the number of employees anticipated rather than floor area. Application of General Light Industrial rates with the total number of employees as the independent variable would result in five trips during each peak hour. Given that the operation would require up to 10 employees, use of the rates based on employees appears to under-represent the number of peak hour trips that could reasonably be expected. Generally, one trip per employee can be expected during each peak hour, including an inbound trip to work in the morning and an outbound trip leaving work in the evening, or a round trip if being dropped off or picked up.

Access Analysis

Juniper Avenue varies in width between approximately 15 and 18 feet and has a posted speed limit of 25 mph. The project site is located on the east side of Juniper Avenue, approximately 500 feet south of Bellevue Avenue, and would be accessed via two driveways at the approximate location of the existing driveways, though both would be paved as part of the proposed frontage improvements. Proposed improvements to Juniper Avenue include widening the roadway to 20 feet between the project site and Bellevue Avenue and widening the portion along the project frontage to 30 feet consistent with the City's requirements for one-half the required cross-section for an industrial street. Ultimately, the segment to the north of the project site would also be widened to match the section along the project frontage, though even in the near term these improvements would allow adequate space for two-way traffic to occur without one motorist having to pull over onto the shoulder, which would improve access over existing conditions. Additional improvements would include the provision of curb, gutter, and sidewalk along the property frontage.

Finding – As proposed, the project would improve access on Juniper Avenue by widening the roadway to 20 feet north of the project site and to 30 feet along the project frontage.

Sight Distance

At private roads and driveways, a substantially clear line of sight should be maintained between the driver of a vehicle waiting at the driveway and the driver of an approaching vehicle. Adequate time should be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed.

Sight distances along Juniper Avenue at the project driveways were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for minor street approaches that are driveways are based on stopping sight distance, with approach travel speeds used as the basis for determining the recommended sight distance. Sight distance should be measured from a 3.5-foot height at the location of the driver on the minor road to a 4.25-foot object height in the center of the approaching lane of the major road. Set-back for the driver on the driveway of 15 feet, measured from the edge of the traveled way, was used.

For the posted 25-mph speed limit on Juniper Avenue, the recommended stopping sight distance is 150 feet. Based on a review of field conditions, sight distance at both driveways extends more than 400 feet in both directions, which is more than adequate for the posted speed limit.

Finding – Sight distance is adequate at both driveways to accommodate all turns into and out of the site.

On-site Circulation

Both project driveways would connect to a drive aisle that would run along the western side of the site and provide access to surface parking along the northern property boundary. A second drive aisle in the middle of the site would be used to access surface parking located adjacent to Buildings A and D and an ADA accessible parking stall south of Building C. Both proposed drive aisles and all parking stalls would be consistent with City design standards and a full-size fire truck turn around would be located in the middle of the site.

Finding – As proposed, all driveways and drive aisles would be at least 20 feet wide, which is sufficient width to accommodate all anticipated vehicles and on-site circulation would be expected to operate acceptably.

Alternative Modes

A connected sidewalk network is lacking in the project vicinity as neither Juniper Avenue nor Bellevue Avenue have sidewalks, though there is a paved shared use path on the north side of Bellevue Avenue between approximately 280 feet east of Juniper Avenue and Burgess Drive. Given the rural location and type of uses proposed, employees are not expected to want to walk to the site but the project would include construction of a sidewalk along its frontage with Juniper Avenue consistent with the City's future plans for the roadway. This would improve access for pedestrians in the project vicinity. Employees wishing to commute via bicycle could also use the path on the north side of Bellevue Avenue or share the roadway with motorists. The proposed widening of Juniper Avenue would make it more comfortable for bicyclists to share the roadway with motorists.

Finding – The proposed sidewalk along the project frontage and widening of Juniper Avenue would improve access for pedestrians and bicyclists, though given the rural location and type of uses proposed, the project is not expected to generate many pedestrian or bicycle trips.

Parking

Parking was evaluated to determine if the proposed supply would be adequate to satisfy City requirements. Based on the site plan, the project would provide a total of 29 parking spaces, including one ADA accessible space. Section 20-36.00 of the Santa Rosa City code requires cannabis cultivation and distribution uses to provide parking

at a rate of one space per 1,000 square feet of cultivation area, and cannabis manufacturing uses with less than 50,000 square feet of gross floor area to provide parking at a rate of one space per 350 square feet, though more or less parking could be required as determined by a Conditional Use Permit. Based on application of these rates, the proposed supply would not be adequate to satisfy City requirements and the site would experience a deficit of 15 spaces.

Because the proposed cannabis uses are new and not yet well-defined, it was determined that standard rates published in *Parking Generation*, 5th Edition, 2019 (ITE) could provide a more accurate assessment of the potential parking demand imposed by the project. Based on rates for the General Light Industrial land use, the site would experience an average parking demand of 18 spaces on weekdays. Based on the proposed operational plan, the project would be expected to have a maximum of 10 employees so the estimated demand of 18 parking spaces appears reasonable, though likely conservative since even if all 10 employees drove alone only ten spaces would be needed. The proposed supply, City requirements, and estimated demand are shown in Table 2.

Table 2 – Parking Summary

Land Use	Units	Rate	Parking Spaces
City Required Parking			
Cannabis Manufacturing (<50,000 sf)	9,836 sf	1 space/350 sf	28
Cannabis Cultivation	12,434 sf	1 space/1,000 sf	12
Cannabis Distribution	3,644 sf	1 space/1,000 sf	4
Total City Requirements			*44*
ITE Average Demand			
General Light Industrial	25,914 sf	0.65 space/1,000 sf	18
Proposed Parking Supply			**29**

Notes: sf = square feet

According to City requirements, more than four times as many parking spaces would be needed as there would be employees, which would likely result in numerous unused parking spaces on a daily basis and the provision of unnecessary pavement on-site. The estimated demand based on ITE rates appears more reasonable for the proposed employment numbers and would be accommodated within the supply proposed. Although not counted in the permanent supply and not expected to be needed, it should also be noted that there is room for six vehicles to parallel park behind Buildings A, B, and C so a total of up to 35 parked vehicles could be accommodated on-site.

Finding – Although the proposed parking supply is not adequate to meet City requirements, it is more than adequate to accommodate the anticipated typical demand calculated using standard ITE rates.

Recommendation – It is recommended that the City consider approving the project with less on-site parking than required under City Code as the proposed supply is expected to be adequate to accommodate demand and the site would likely be substantially over-parked if the City's standard requirements were applied.

Bicycle Parking

Santa Rosa City Code requires cannabis cultivation and distribution uses to provide one bicycle parking space for every 14,000 square feet of floor area, while cannabis manufacturing uses are required to provide one bicycle space for every 7,000 square feet of floor area. Based on these requirements, two bicycle parking spaces would be required for all three uses collectively. Because employees are more likely to ride their bicycle to work if long-

term covered bike parking is available, it is recommended that the bike parking be inside one of the warehouse buildings; alternatively, two covered bicycle lockers could be provided.

Finding – Two bicycle parking spaces are needed to satisfy City requirements.

Recommendation – Bicycle parking should be located inside a warehouse building or provided via bicycle lockers to encourage employees to ride their bike to the site.

Conclusions and Recommendations

- The proposed project would be expected to result in a nominal change in trip generation in the near term when compared to the most recent permitted use of the site. Upon full-buildout, the proposed project would be expected to result in an average of 102 new trips per day including 15 new trips during the a.m. peak hour and 13 new trips during the p.m. peak hour. Based on the minimal number of trips expected to be generated by the proposed project, it is reasonable to conclude that the change in land use would have a less-than-significant impact.
- The proposed widening of Juniper Avenue would improve access over existing conditions.
- Based on the project site plan, on-site circulation would be expected to operate acceptably.
- Sight distances on Juniper Avenue are adequate for the posted speed limit.
- Pedestrian and bicycle facilities are lacking in the project vicinity, though the project would improve access for these modes with a sidewalk along the project frontage and widening of Juniper Avenue.
- The City may wish to consider approving the project with less on-site parking than required by City Code since the proposed supply would be adequate for demand estimated using ITE rates and the site would likely be substantially over-parked if the City's standard rates were applied.
- Two bike lockers are needed to satisfy City requirements, which should be covered and secured inside a building or bicycle locker.

We hope this information is adequate to address the potential traffic impacts associated with the proposed project. Please contact us if you have any further questions. Thank you for giving us the opportunity to provide these services.

Sincerely,

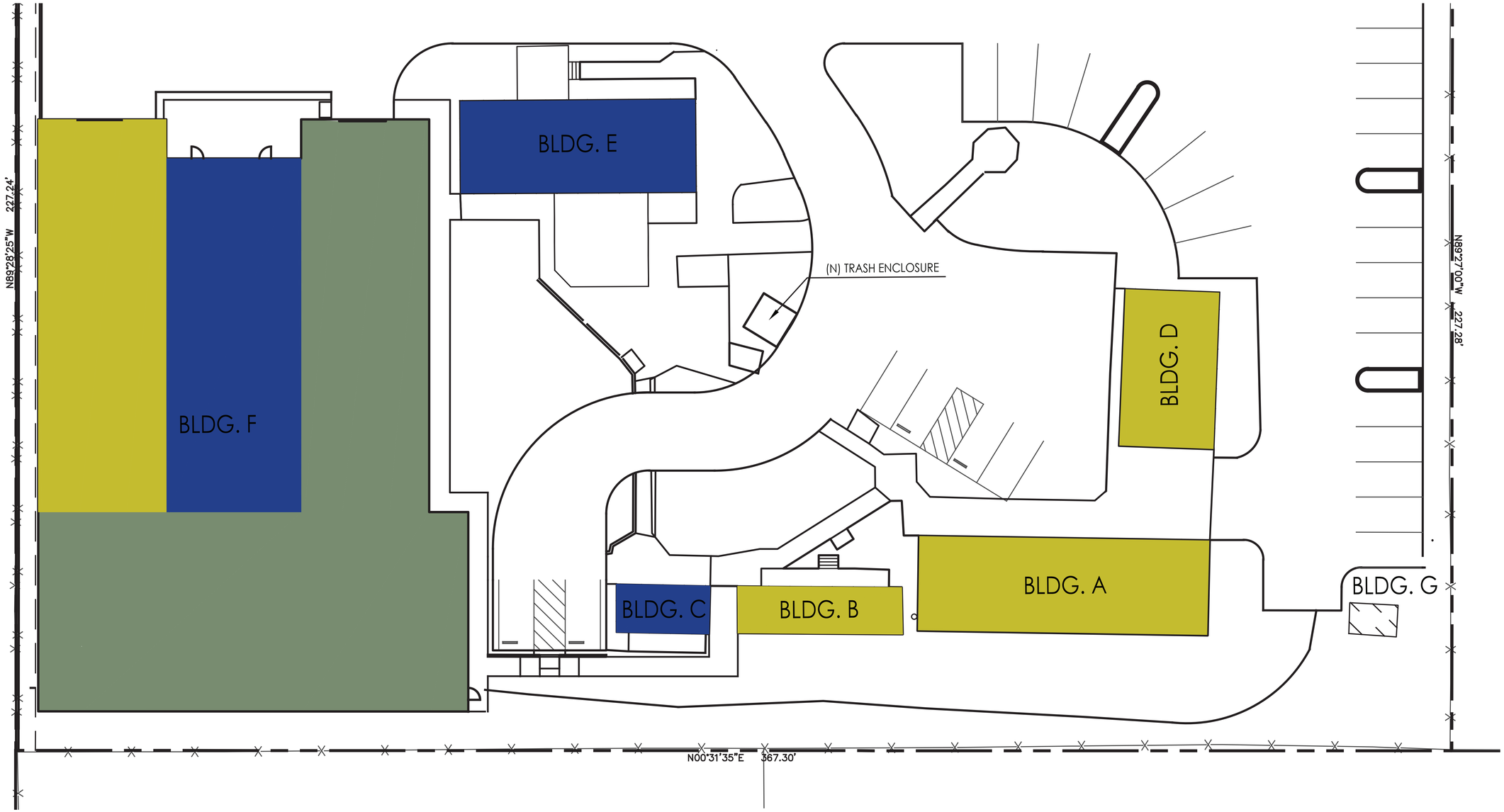
Cameron Nye, EIT
Associate Engineer

Dalene J. Whitlock, PE, PTOE
Senior Principal

DJW/cn/SRO448.L1

Enclosures: Building Uses Exhibit
Site Plan

BUILDING USE



	BLDG. SF A	BLDG. SF B	BLDG. SF C	BLDG. SF D	BLDG. SF E	BLDG. SF F	BLDGS. SF ALL
Cultivation				960		11,474	12,434
Manufacturing	1,800	504				7,532	9,836
Distribution			285		1,440	1,919	3,644
Total SF.	1,800	504	285	960	1,440	20,925	25,914

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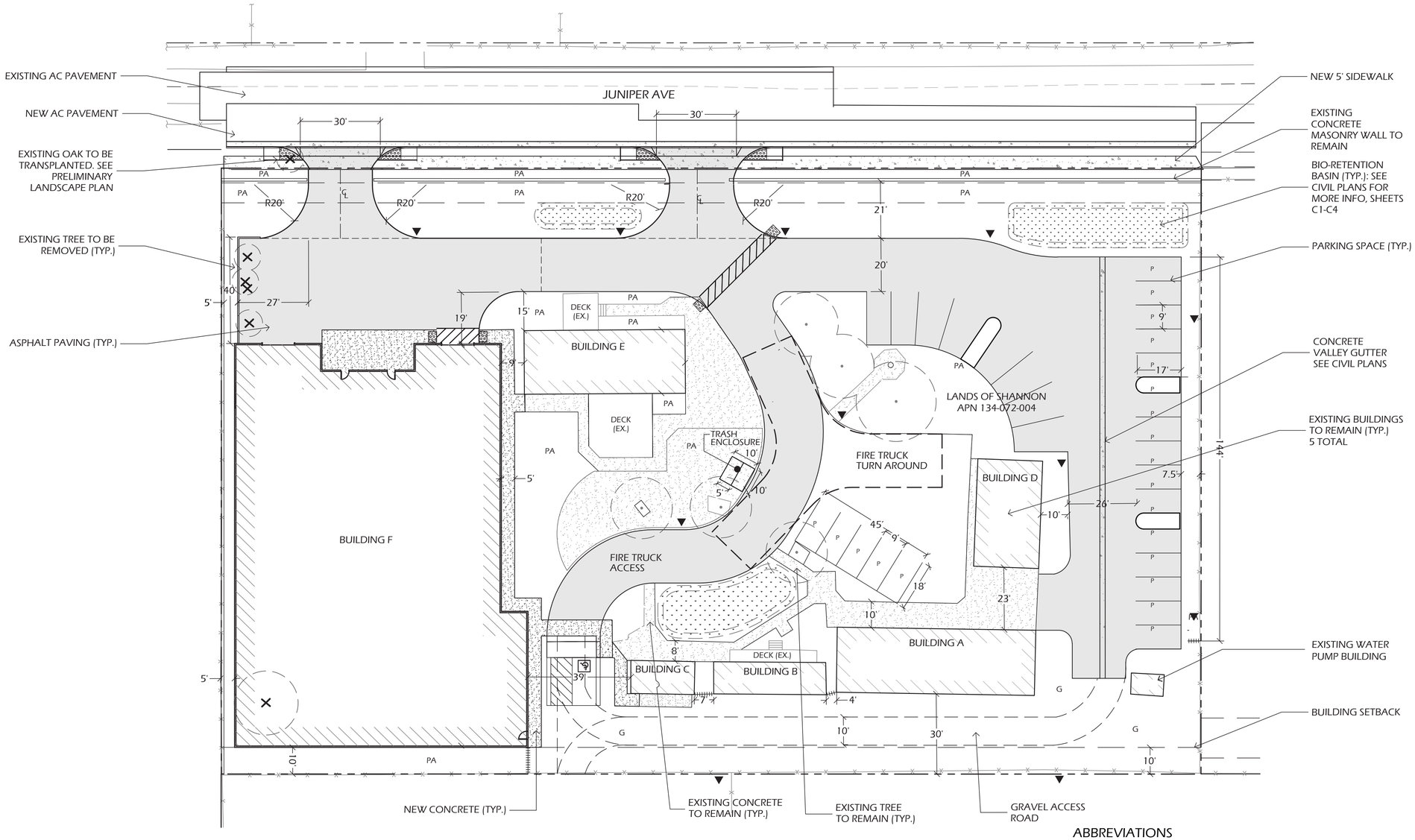
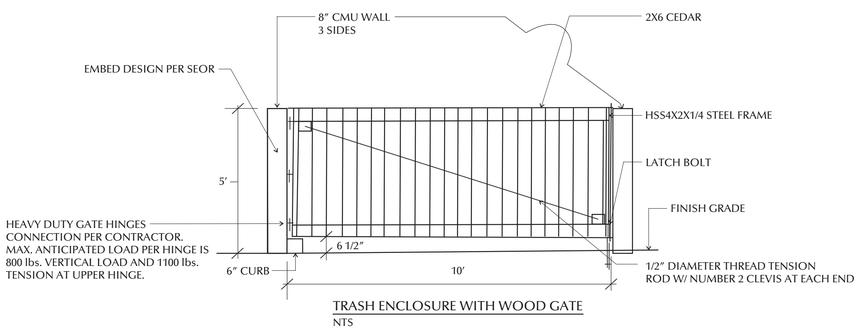
3192 JUNIPER AVENUE
TIM SHANNON

DESIGN REVIEW | 07.12.2019

ARCHILOGIX
DESIGN · DEVELOPMENT STRATEGIES



ABBREVIATIONS
P = PARKING SPACE
HC = HANDICAP PARKING SPACE
PA = PLANTING AREA
G = GRAVEL AREA



TRASH ENCLOSURE WITH WOOD GATE
NTS

SCALE: 1" = 20'
N
20 10 0 20 40

FIRSTCARBON SOLUTIONS™
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SITE DEVELOPMENT PLAN

3192 JUNIPER AVE
SANTA ROSA, CA

Revisions

Number	Description	Date

Date: 1/7/2020

REGISTERED LANDSCAPE ARCHITECT
Steven F. Arago License No. 6827
Signature
Date
STATE OF CALIFORNIA

Project Number: 5129.0001.0

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