

DAVID PLUMMER & ASSOCIATES

TRAFFIC ENGINEERING • CIVIL ENGINEERING • TRANSPORTATION PLANNING

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August 11, 2022

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RE: Washington Avenue Office Alternative Driveway Traffic Statement - #22112

Dear Dani,

The proposed Washington Avenue Office project is located at 1665-1667 Washington Avenue in Miami Beach, Florida. The project proposes to demolish an existing office building consisting of 7,583 SF of office and 2,528 SF of retail and replacing it with an office building with 38,332 SF of office space and 500 SF of ground floor retail. As the project will incorporate car elevators into the garage, the project will have valet services for the office employees and visitors to the site.

At the request of the City, a review of the site access was performed. The access proposed by the development is provided via a two-way driveway along Washington Avenue. The City has requested that the site examine the option of providing access to the site via a one-way, inbound driveway along Washington Avenue and the existing adjacent alley to leave the site. (See Attachment A for the proposed site plan and the site plan with the alley access alternative).

Trip Generation

A trip generation was performed for the proposed project to determine the number of trips at the project driveway(s). The proposed project trip generation was calculated based on the rates /

equations published by the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition. This manual provides gross trip generation rates and/or equations by land use type. These rates and equations estimate vehicle trip ends at a free-standing site's driveway. (Trip generation worksheets are available in Attachment B. See Washington Avenue traffic statement for more information).

The US census data states that 24.4% of the area uses alternative modes of transportation (4.5% transit, 19.4% walk, and 0.5% bike). For a more conservative analysis and consistent with the City of Miami Beach standards, only a 20% deduction was taken for other modes of transportation. Trip generation calculations were performed for a typical weekday, as well as, AM and PM peak hours of the adjacent street. The trip generation calculations for the driveway are summarized in Exhibit 1.

Exhibit 1 Project Trip Generation Summary

Proposed ITE Land Use Designation ¹	Number of Units	Daily Vehicle Trips	AM Peak Hour Vehicle Trips			PM Peak Hour Vehicle Trips		
			In	Out	Total	In	Out	Total
General Office Building <i>Land Use Code: 710</i>	38,332 SF	504	65	9	74	13	62	75
Strip Retail Plaza (<40k) <i>Land Use Code: 822</i>	500 SF	28	1	0	1	2	2	4
Total Gross Trips		680	66	9	75	15	64	79
Other Modes of Transportation ²		20%	-13	-2	-15	-2	-12	-14
Internalization ³	AM	0.0%	0	0	0	0	0	0
	PM	0%	0	0	0	0	0	0
Net Proposed Trips at Driveway			53	7	60	13	52	65

¹ Based on ITE Trip Generation Manual, 11th Edition.

² Based on US census data tract 42.06 (24.4%) and local characteristics, capped at 20% per City request.

³ Based on ITE Trip Generation Handbook, 3rd Edition.

⁴ Based on two ITE studies the average pass-by rate for shopping centers <40k SF is 66%, a 45% reduction was used for a more conservative analysis.

Project Trip Distribution and Assignment

Project traffic was distributed and assigned to the driveway using the Cardinal Distribution for TAZ 644, shown in Exhibit 2. The Cardinal Distribution gives a generalized distribution of trips from a TAZ to other parts of Miami-Dade County. The TAZ can be summarized as 33% to the

north, 16% to the south, 0% to the east, and 51% to the west. For estimating the trip distribution for the project location, consideration was given to conditions such as the roadway network accessed by the project, driveway placement and land uses, roadways available to travel in the desired direction, and attractiveness of traveling on a specific roadway.

Exhibit 2: Cardinal Distribution Trips (TAZ 644)

DIRECTION	2015	2045	2024
NNE	14.8%	12.1%	13.99%
ENE	0.0%	0.0%	0.00%
ESE	0.0%	0.0%	0.00%
SSE	0.0%	0.0%	0.00%
SSW	16.5%	13.9%	15.72%
WSW	30.4%	34.5%	31.63%
WNW	19.0%	20.3%	19.39%
NNW	19.4%	19.2%	19.34%

As previously stated, the project will be all-valet. The valet circulation for the site with the proposed two-way driveway will be able to be accommodated internally within the site. The outbound valet circulation for the alternative site plan occurs externally to the site to accommodate the addition of the alley access driveway and the one-way circulation of the site. This external valet circulation produces 7 and 52 additional trips during the respective AM and PM peak hour trips at the alley exit and the inbound driveway. Project and valet trip assignment for the proposed and alternative site access are shown in Exhibit 3.

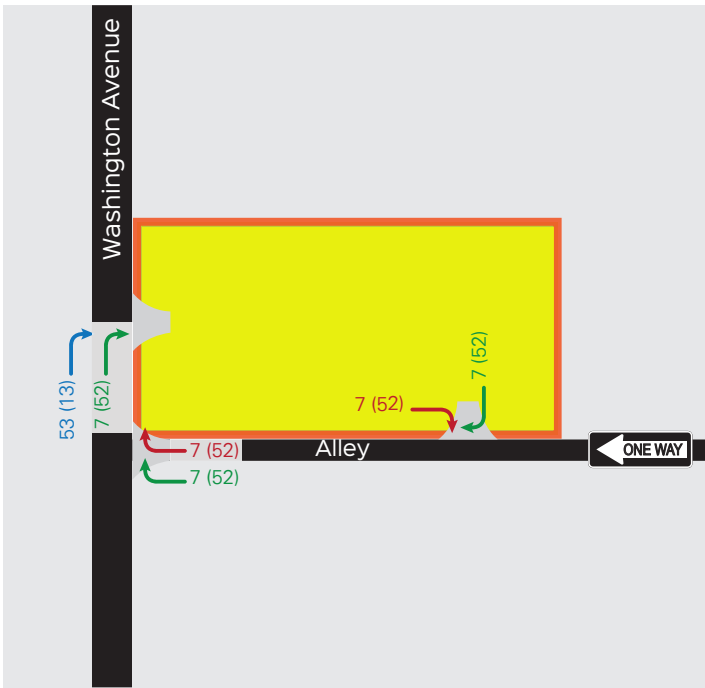
Additionally, a maneuverability analysis was conducted for the site for both the proposed and alternative access site plans. The analysis shows that the proposed site plan (with the two-way driveway) accommodates a garbage truck and SU-30 trucks. The analysis shows that the turning radius of both the garbage truck and the SU-30 trucks cannot successfully maneuver into the alley from the site. See Attachment C for the maneuverability analysis.

Two-Way Driveway Option



- Inbound Trips
- Outbound Trips

One-Way Inbound Driveway with One-Way Alley Outbound Alley Option



- Inbound Trips
- Outbound Trips
- Valet Trips

00 AM
(00) PM
■ Project Location

Exhibit 3

Driveway Trip Assignment

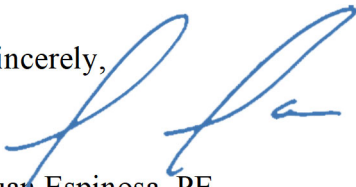


Conclusions

At the request of the City, a review was conducted to compare the proposed access to the site and the alternative access to the site. The analysis shows that the access through the alley would increase the number of trips at the project driveway therefore, increasing vehicular / pedestrian conflicts along Washington Avenue. Furthermore, the maneuverability analysis of the alley access shows that the garbage trucks and SU-30 trucks would be unable to successfully maneuver between the site and the alley. Based on the analysis of the two site plans it is our recommendation that the project proceed with the site plan that provides access to the site via a two-way driveway on Washington Avenue.

We stand ready to provide any support needed for this project. Should you have any questions or comments, please call me at (305) 447-0900.

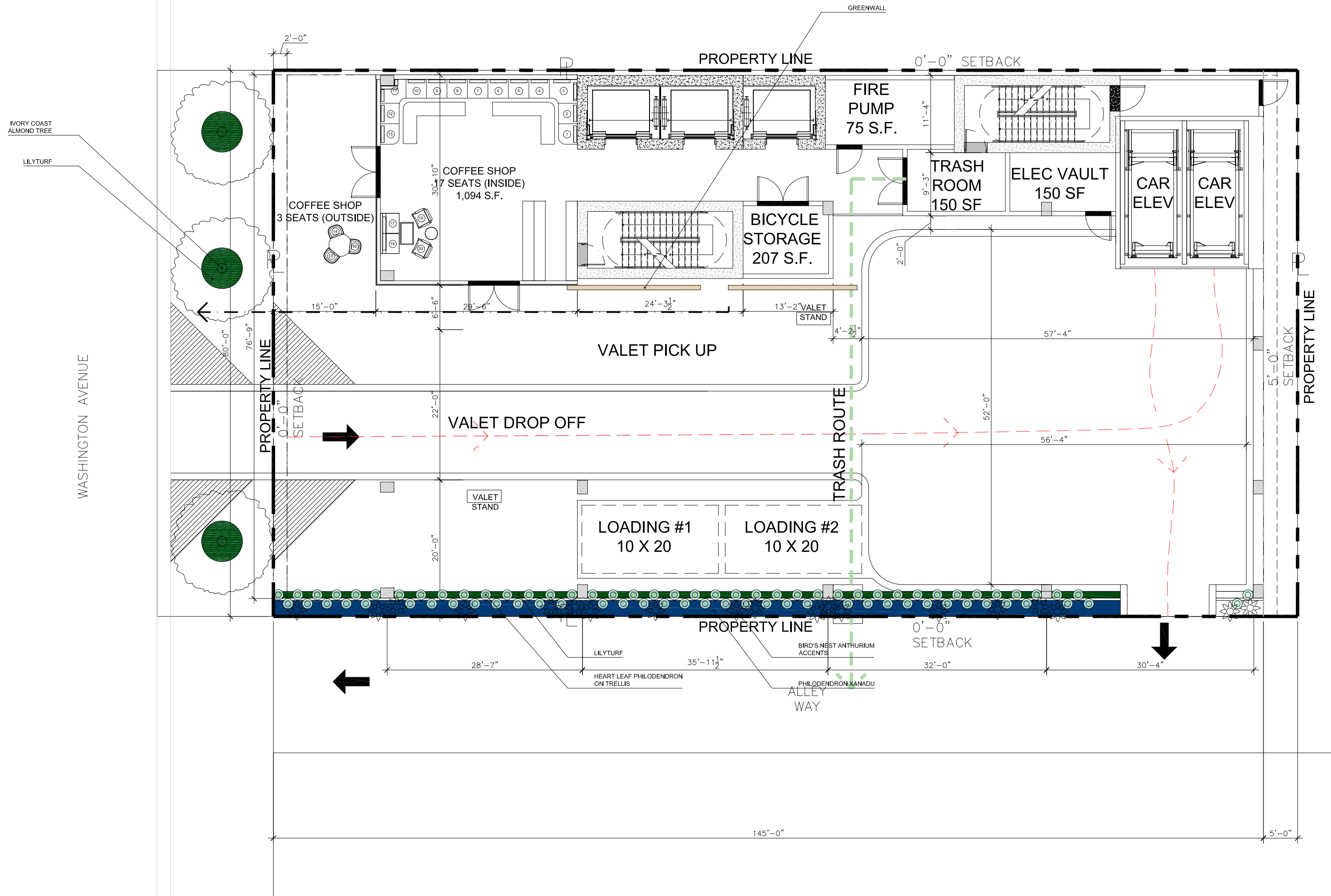
Sincerely,



Juan Espinosa, PE
Vice-President – Transportation

w:\22\22112\alternative driveway letter aug 2022\washington ave driveway letter.docx

Attachment A



Attachment B

Scenario - 1

Scenario Name: Existing

User Group:

Dev. phase: 1

No. of Years to 0

Project Traffic :

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
710 - General Office Building	General	1000 Sq. Ft. GFA	7.58	Weekday	Best Fit (LOG)	62	62	124
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.87\ln(X) + 3.05$	50%	50%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	7.58	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG)	16	2	18
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.86\ln(X) + 1.16$	88%	12%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	7.58	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	3	16	19
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.83\ln(X) + 1.29$	17%	83%	
822 - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.53	Weekday	Average	69	69	138
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				54.45	50%	50%	
822(1) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.53	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	4	2	6
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				2.36	60%	40%	
822(2) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	2.53	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average	8	8	16
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				6.59	50%	50%	

Scenario - 2

Scenario Name: Proposed

User Group:

Dev. phase: 1

No. of Years to 0

Project Traffic :

Analyst Note:

Warning: The time periods among the land uses do not appear to match.

VEHICLE TRIPS BEFORE REDUCTION

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
710 - General Office Building	General	1000 Sq. Ft. GFA	38.33	Weekday	Best Fit (LOG)	252	252	504
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.87\ln(X) + 3.05$	50%	50%	
710(1) - General Office Building	General	1000 Sq. Ft. GFA	38.33	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG)	65	9	74
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.86\ln(X) + 1.16$	88%	12%	
710(2) - General Office Building	General	1000 Sq. Ft. GFA	38.33	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG)	13	62	75
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				$\ln(T) = 0.83\ln(X) + 1.29$	17%	83%	
822 - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	0.5	Weekday	Average	14	14	28
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				54.45	50%	50%	
822(1) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	0.5	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average	1	0	1
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				2.36	60%	40%	
822(2) - Strip Retail Plaza (<40k)	General	1000 Sq. Ft. GLA	0.5	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average	2	2	4
Data Source: Trip Generation Manual, 11th Ed	Urban/Suburban				6.59	50%	50%	

AM Peak Hour Trip Generation and Internalization

Washington Ave Office - Proposed Use

Office Land Use 710 38,332 SF		Retail Land Use 822 500 SF		
In	Out	In	Out	
65	9	1	0	75 ITE Trips
-13	-2	0	0	-15 -20.0% Transit/Pedestrian
52	7	1	0	60 Non transit vehicle Trips
UNBALANCED INTERNALIZATION				
4% 2	28% 2	0	32% 0	
0	0	0	29% 0	
Office		Retail		
In	Out	In	Out	
52	7	1	0	60 Vehicle Trips
BALANCED INTERNALIZATION				
0	0	0	0	
52	7	1	0	
	0.0%		0.0%	
52	7	1	0	60
		0	0	0 0% Passby
52	7	1	0	60 Net New External Trips

PM Peak Hour Trip Generation and Internalization

Washington Ave Office - Proposed Use

Office Land Use 710 38,332 SF		Retail Land Use 822 500 SF		
In	Out	In	Out	
13	62	2	2	79 ITE Trips
-2	-12	0	0	-14 -20.0%
11	50	2	2	65 Non Transit vehicle Trips
UNBALANCED INTERNALIZATION				
31% 3	20% 10	8% 0	2% 0	
0		0		
0		0		
Office		Retail		
In	Out	In	Out	
11	50	2	2	65 Vehicle Trips
BALANCED INTERNALIZATION				
0	0	0	0	
11	50	2	2	
0.0%		0.0%		
11	50	2	2	0 Internal
		-1 -1		65 External Trips
11	50	1	1	0.0% % Internal
				65
				-2 45% Passby
				63 Net New External Trips

COMMUTING CHARACTERISTICS BY SEX



Note: This is a modified view of the original table produced by the U.S. Census Bureau. This download or printed version may have missing information from the original table.

Census Tract 42.06, Miami-Dade County, Florida				
		Total	Male	Female
Label		Estimate	Estimate	Estimate
▼ Workers 16 years and over		578	401	177
▼ MEANS OF TRANSPORTATION TO WORK				
▼ Car, truck, or van		55.9%	64.1%	37.3%
Drove alone		35.6%	43.9%	16.9%
▼ Carpooled		20.2%	20.2%	20.3%
In 2-person carpool		18.2%	17.2%	20.3%
In 3-person carpool		0.0%	0.0%	0.0%
In 4-or-more person carpool		2.1%	3.0%	0.0%
Workers per car, truck, or van		1.24	1.22	1.32
Public transportation (excluding taxicab)		4.5%	2.2%	9.6%
Walked		19.4%	15.2%	28.8%
Bicycle		0.5%	0.0%	1.7%
Taxicab, motorcycle, or other means		2.9%	1.2%	6.8%
Worked from home		16.8%	17.2%	15.8%
➤ PLACE OF WORK				
➤ Workers 16 years and over who did not work from home		481	332	149
➤ VEHICLES AVAILABLE				
➤ PERCENT ALLOCATED				

Table Notes

COMMUTING CHARACTERISTICS BY SEX

Survey/Program: American Community Survey
Year: 2019
Estimates: 5-Year
Table ID: S0801

Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities, and towns and estimates of housing units for states and counties.

Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

When information is missing or inconsistent, the Census Bureau logically assigns an acceptable value using the response to a related question or questions. If a logical assignment is not possible, data are filled using a statistical process called allocation, which uses a similar individual or household to provide a donor value. The "Allocated" section is the number of respondents who received an allocated value for a particular subject.

2019 ACS data products include updates to several categories of the existing means of transportation question. For more information, see: Change to Means of Transportation.

Data are based on a sample and are subject to sampling variability. The degree of uncertainty for an estimate arising from sampling variability is represented through the use of a margin of error. The value shown here is the 90 percent margin of error. The margin of error can be interpreted roughly as providing a 90 percent probability that the interval defined by the estimate minus the margin of error and the estimate plus the margin of error (the lower and upper confidence bounds) contains the true value. In addition to sampling variability, the ACS estimates are subject to nonsampling error (for a discussion of nonsampling variability, see ACS Technical Documentation). The effect of nonsampling error is not represented in these tables.

The 12 selected states are Connecticut, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

Workers include members of the Armed Forces and civilians who were at work last week.

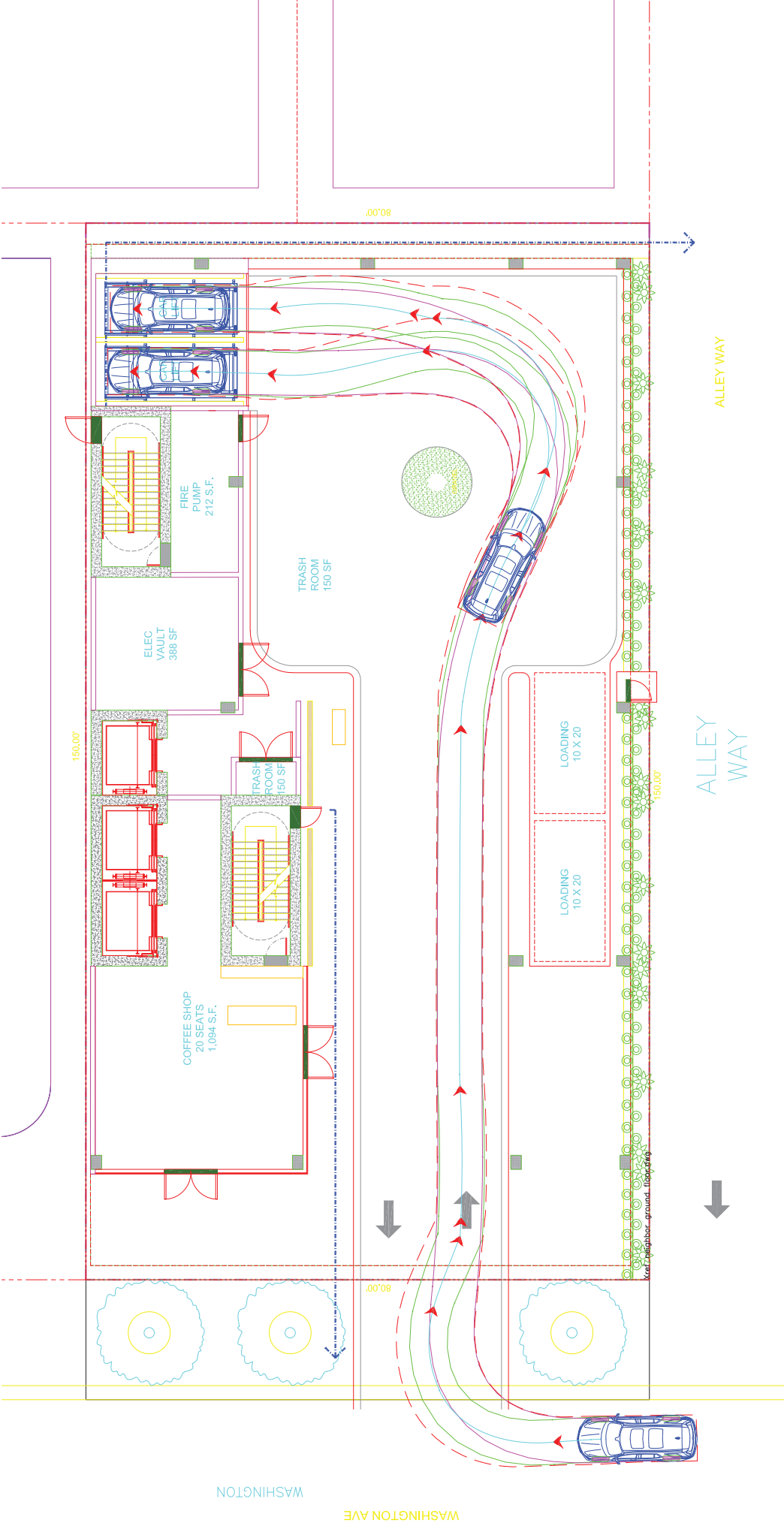
The 2015-2019 American Community Survey (ACS) data generally reflect the September 2018 Office of Management and Budget (OMB) delineations of metropolitan and micropolitan statistical areas. In certain instances, the names, codes, and boundaries of the principal cities shown in ACS tables may differ from the OMB delineation lists due to differences in the effective dates of the geographic entities.

Estimates of urban and rural populations, housing units, and characteristics reflect boundaries of urban areas defined based on Census 2010 data. As a result, data for urban and rural areas from the ACS do not necessarily reflect the results of ongoing urbanization.

Explanation of Symbols:

- An "***" entry in the margin of error column indicates that either no sample observations or too few sample observations were available to compute a standard error and thus the margin of error. A statistical test is not appropriate.
- An "-" entry in the estimate column indicates that either no sample observations or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest interval or upper interval of an open-ended distribution, or the margin of error associated with a median was larger than the median itself.
- An "-" following a median estimate means the median falls in the lowest interval of an open-ended distribution.
- An "+" following a median estimate means the median falls in the upper interval of an open-ended distribution.
- An "***" entry in the margin of error column indicates that the median falls in the lowest interval or upper interval of an open-ended distribution. A statistical test is not appropriate.
- An "*****" entry in the margin of error column indicates that the estimate is controlled. A statistical test for sampling variability is not appropriate.
- An "N" entry in the estimate and margin of error columns indicates that data for this geographic area cannot be displayed because the number of sample cases is too small.
- An "(X)" means that the estimate is not applicable or not available.

Attachment C



LEGEND

Chevrolet Traverse 2018
feet

Width	: 6.55
Track	: 6.35
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

FRONT WHEEL TRACK

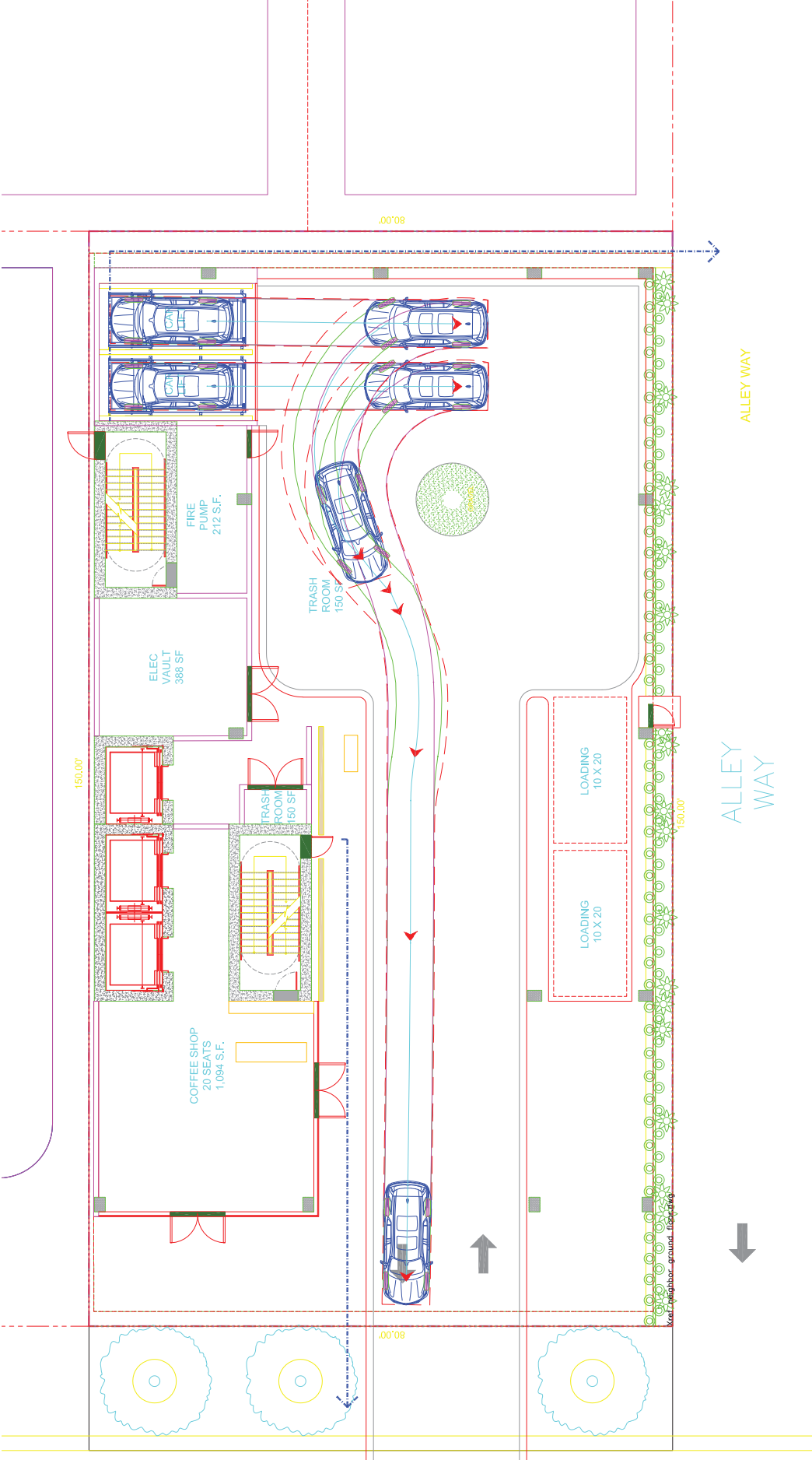
REAR WHEEL TRACK

TRUCK PATH CENTERLINE

TRUCK OVERHANG

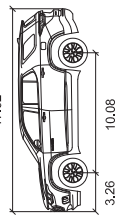
DIRECTION OF TRAVEL





LEGEND

17.02



Chevrolet Traverse 2018
feet

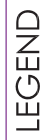
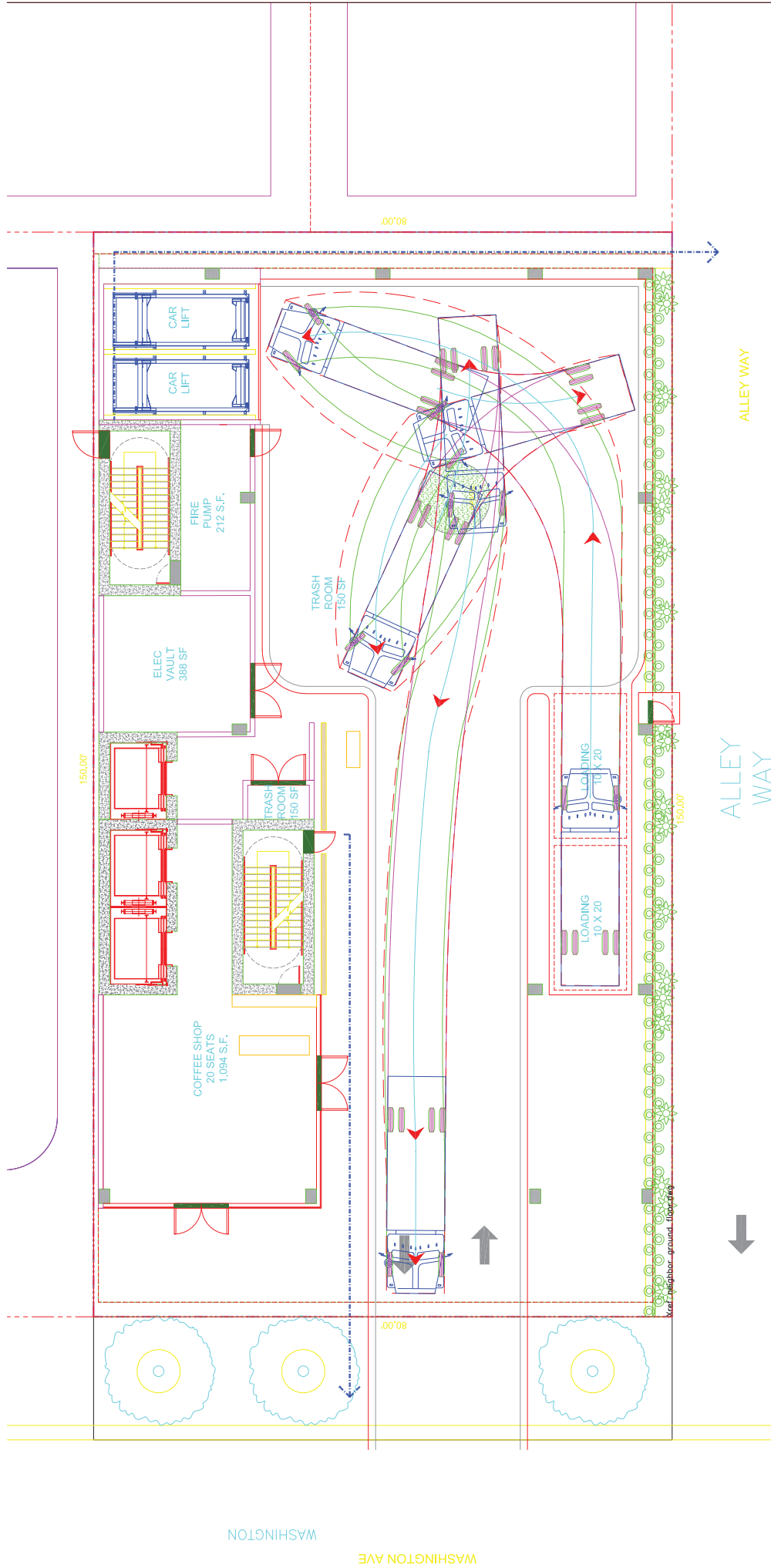
Width : 6.55
Track : 6.35
Lock to Lock Time : 6.0
Steering Angle : 36.6

- FRONT WHEEL TRACK
- REAR WHEEL TRACK
- TRUCK PATH CENTERLINE
- TRUCK OVERHANG
- DIRECTION OF TRAVEL

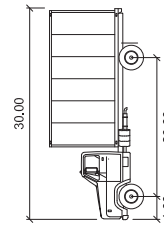
1

PROPOSED OVERALL LEVEL 1 FLOOR PLAN

SCALE: 1" = 16'-0"



FRONT WHEEL TRACK
 REAR WHEEL TRACK
 TRUCK PATH CENTERLINE
 TRUCK OVERHANG
 DIRECTION OF TRAVEL

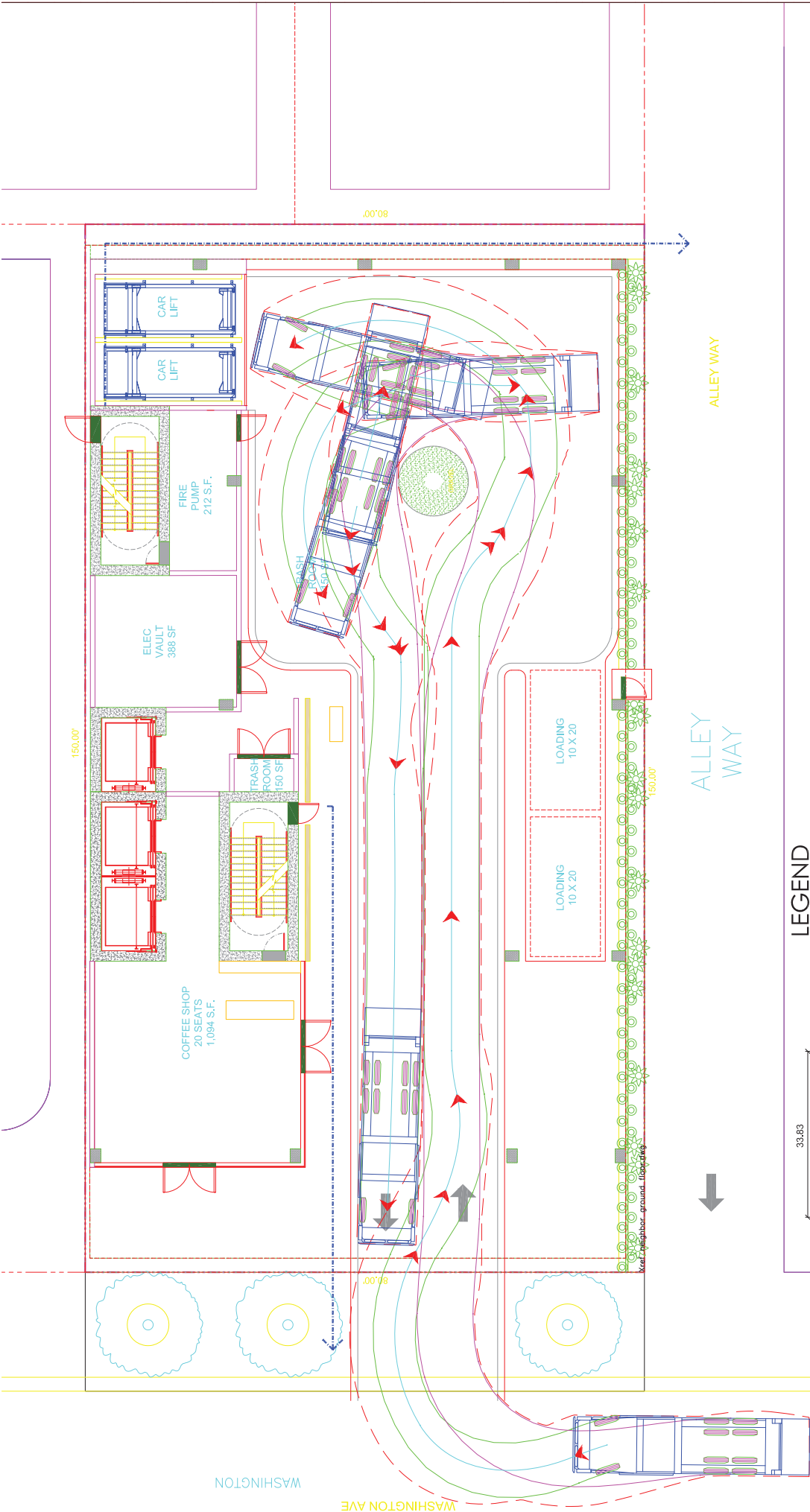


SU-30	
Width	feet
Track	: 8.00
Lock to Lock Time	: 8.00
Steering Angle	: 6.0
	: 31.8



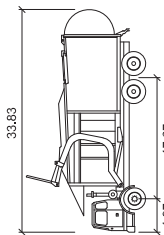
PROPOSED OVERALL LEVEL 1 FLOOR PLAN

SCALE: 1" = 16'-0"



LEGEND

- FRONT WHEEL TRACK
- REAR WHEEL TRACK
- TRUCK PATH CENTERLINE
- TRUCK OVERHANG
- DIRECTION OF TRAVEL

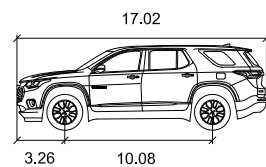
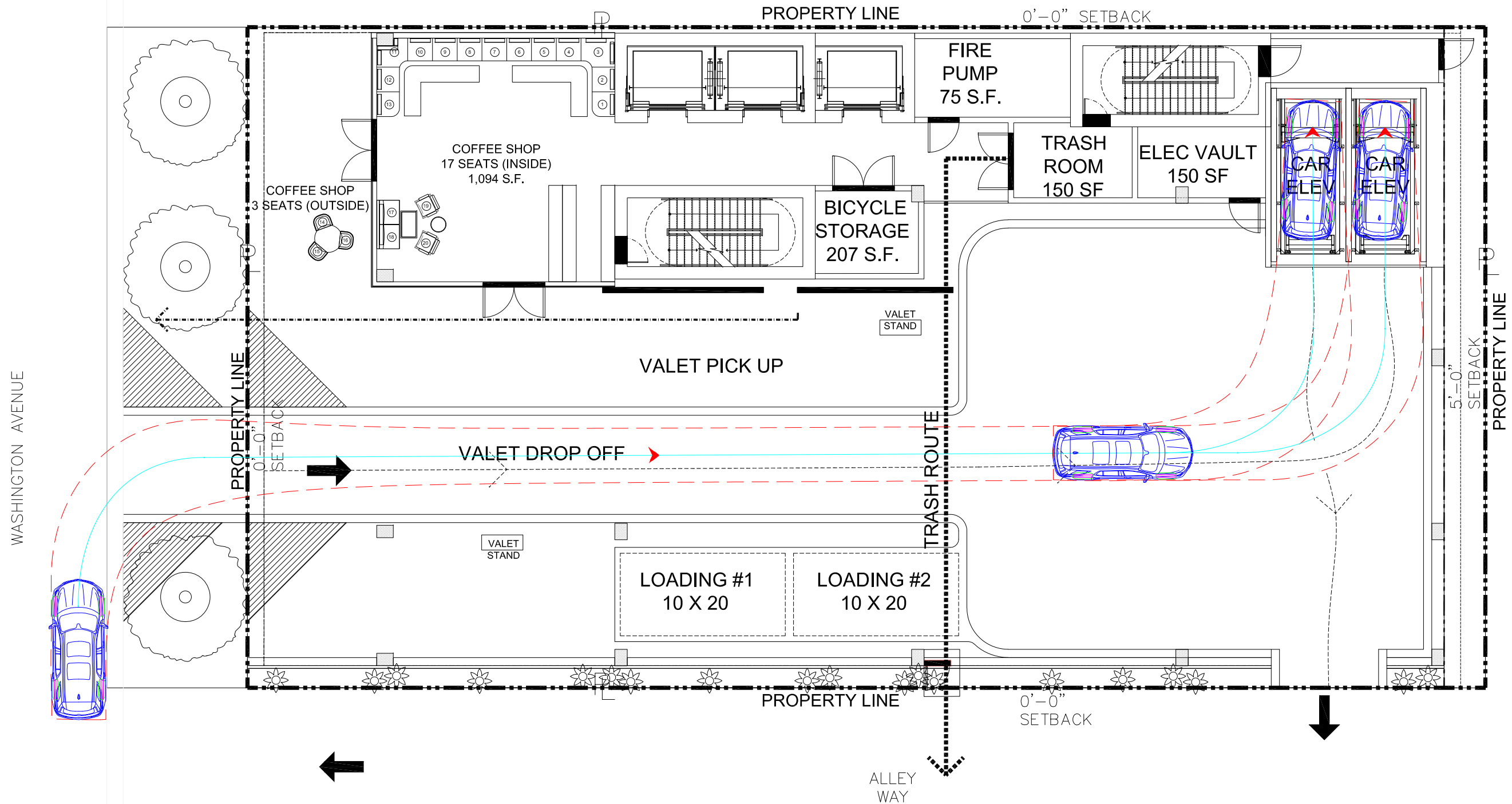


	feet
Width	: 8.46
Track	: 8.00
Lock to Lock Time	: 6.0
Steering Angle	: 45.0

1

PROPOSED OVERALL LEVEL 1 FLOOR PLAN

SCALE: 1" = 16'-0"



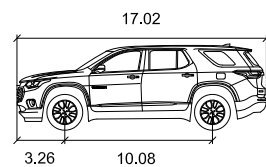
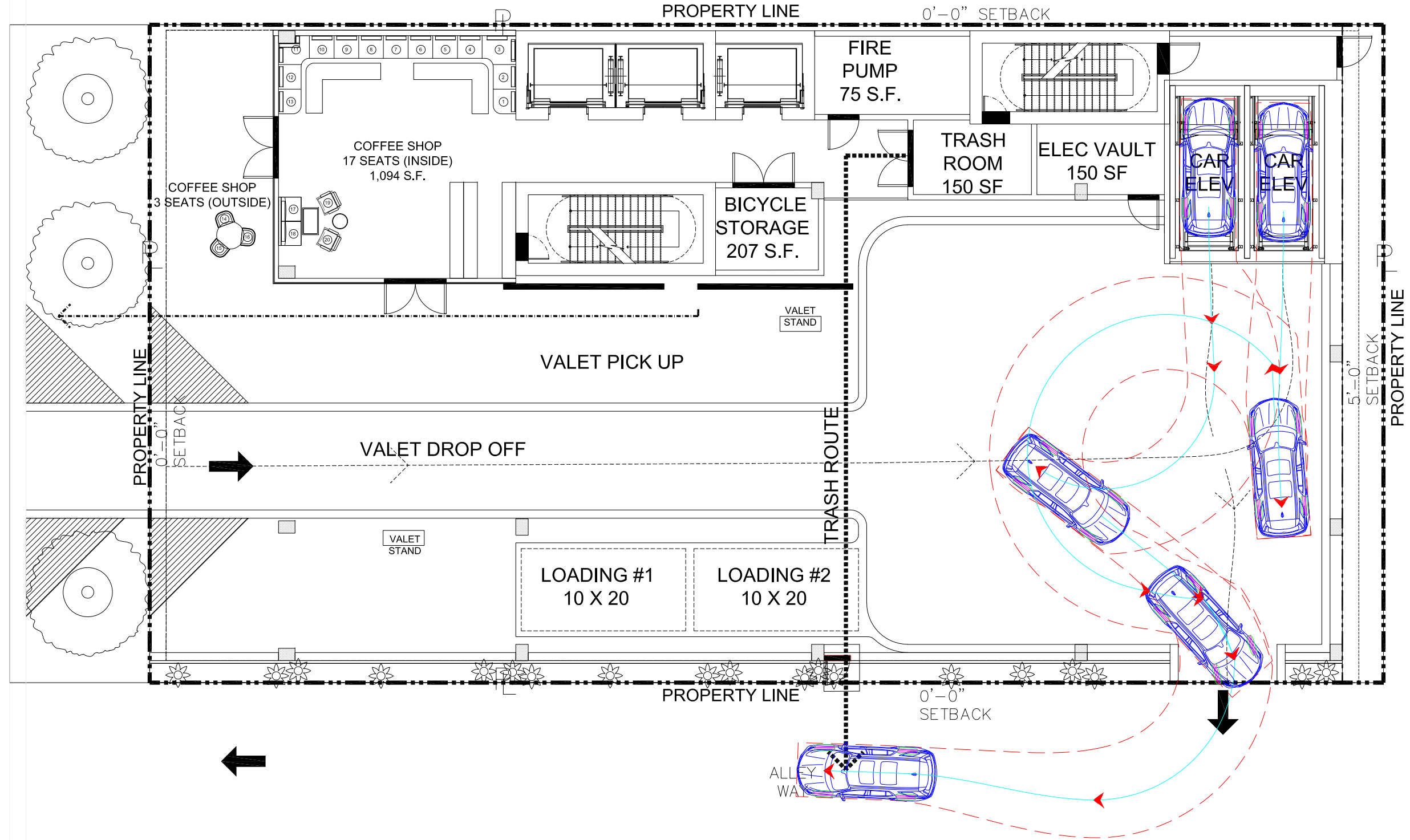
Chevrolet Traverse 2018

	feet
Width	: 6.55
Track	: 6.35
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

LEGEND

- VEHICLE PATH CENTERLINE
- - - VEHICLE OVERHANG
- DIRECTION OF TRAVEL

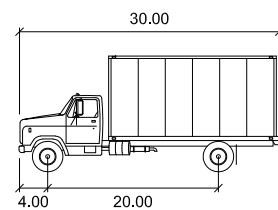
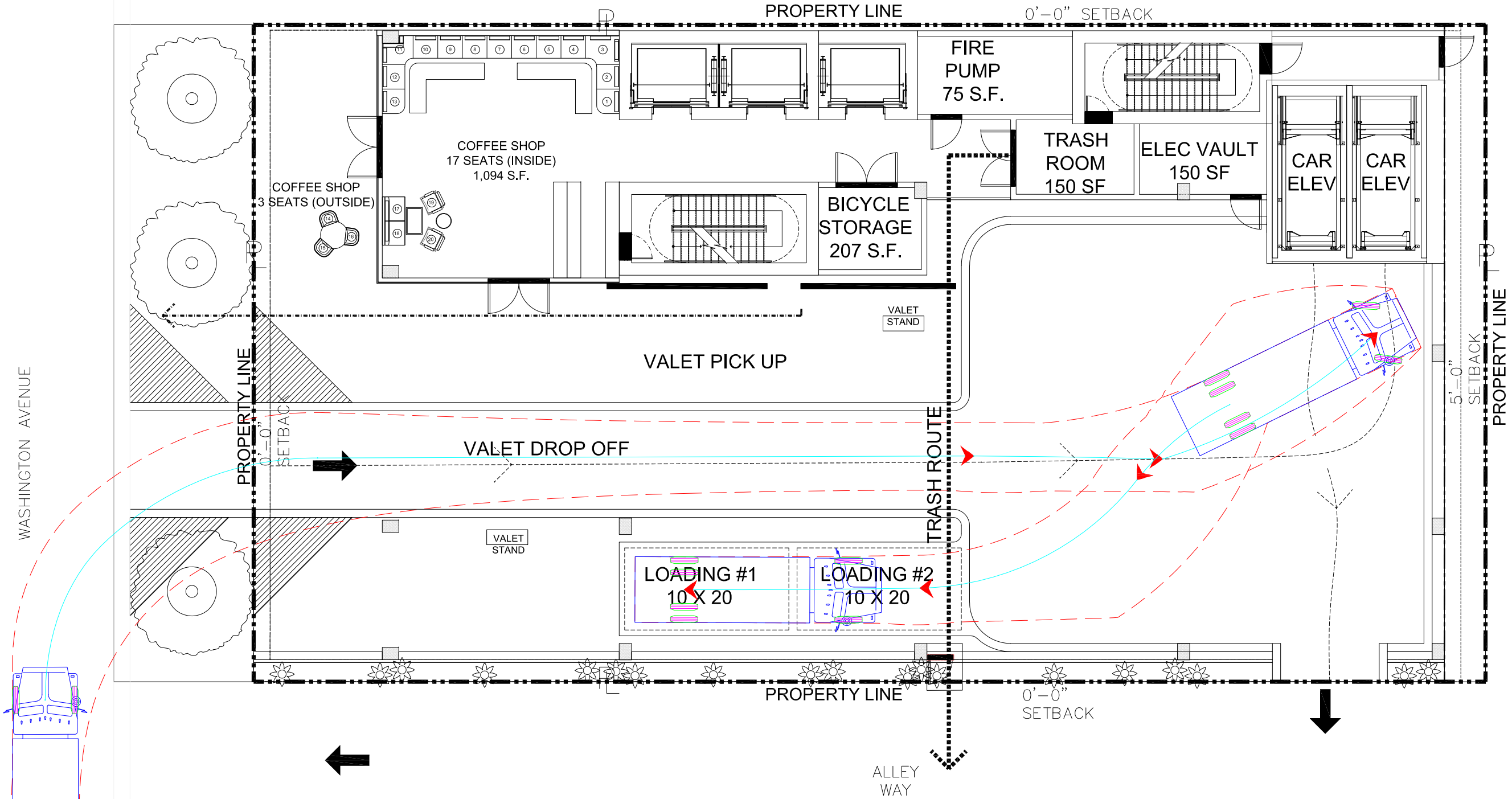
WASHINGTON AVENUE



Chevrolet Traverse 2018
feet
Width : 6.55
Track : 6.35
Lock to Lock Time : 6.0
Steering Angle : 36.6

LEGEND

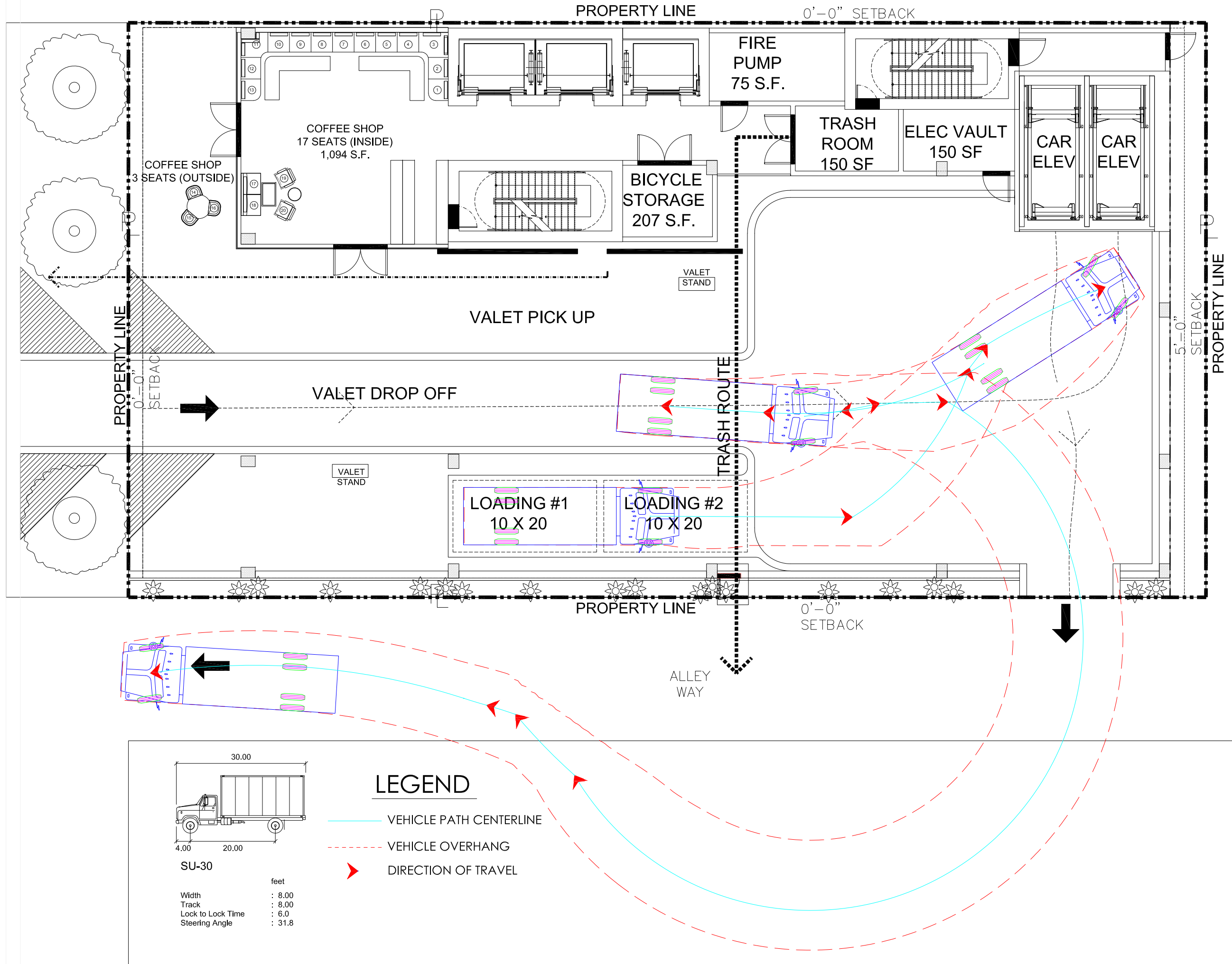
- VEHICLE PATH CENTERLINE
- VEHICLE OVERHANG
- DIRECTION OF TRAVEL

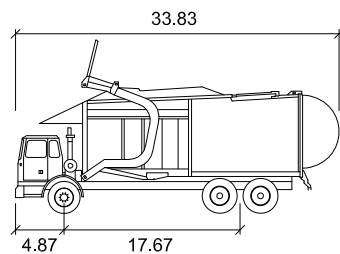
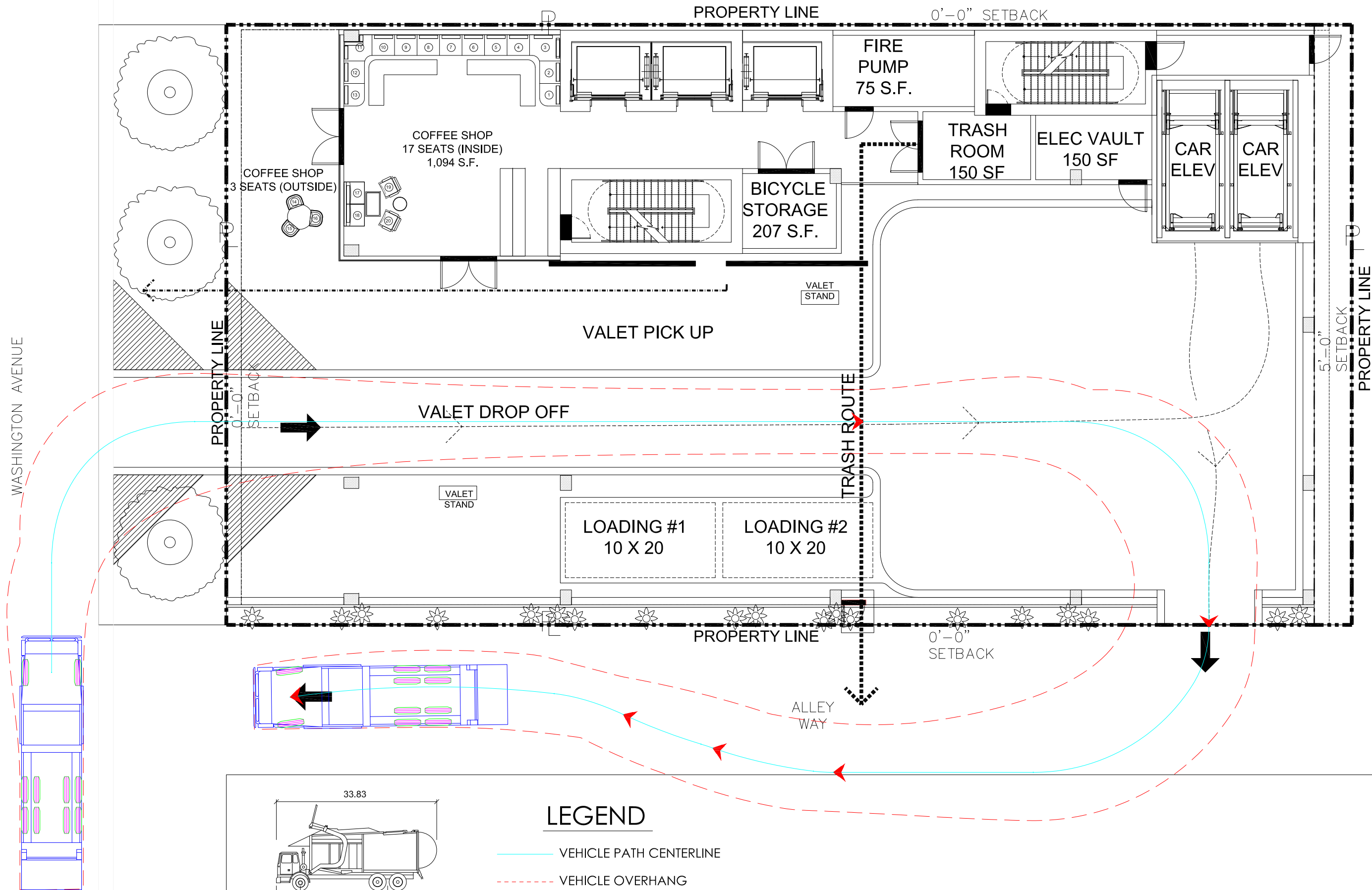


LEGEND

- VEHICLE PATH CENTERLINE
- - - VEHICLE OVERHANG
- DIRECTION OF TRAVEL

WASHINGTON AVENUE





LEGEND

- VEHICLE PATH CENTERLINE
- VEHICLE OVERHANG
- DIRECTION OF TRAVEL