



Whipple Consulting Engineers, Inc.

January 31, 2019

W.O. No. 2018-2112

City of Spokane
Department of Public Works
808 W. Spokane Falls Blvd
Spokane, WA 99201

Attn: Inga Note, P.E.

**Re: Vinegar Flats Cottages
Inland Empire Way, Spokane, WA
Trip Generation & Distribution Letter**

Dear Ms. Note,

This Trip Generation and Distribution Letter (TGDL) is for the proposed Vinegar Flats Cottages. This letter will establish the anticipated trip generation and distribution for the development as shown on Figure 2, Preliminary Site Plan. This report will follow the standards for traffic letters as required by Chapter 3 of City of Spokane road standards.

PROJECT DESCRIPTION

The project proposes to develop approximately 2.2 +/- acres of 3.18 +/- acres from four parcels into 23 cottages. The development proposes to include private streets driveways, water, sewer, and storm systems. The property is currently developed as a nursery and is to be utilized as community space. The project proposes to have four accesses: two via Chestnut Street and two via Inland Empire Way. Please see Figure 2, Preliminary Site Plan for more information.

VICINITY / SITE PLAN

The site is currently zoned as agricultural (RA). The subject properties are located on a portion of the NE ¼ Section 02, T 25 N., R 43 E., W.M. The parcel numbers for the project are 25251.1805, 25251.1806, 25251.1807, and 25251.1808. The surrounding area is generally residential and commercial to the west.

TRIP GENERATION AND DISTRIBUTION

Trip Types

The proposed use is a Residential development; Institute of Transportation Engineers (ITE) has developed data regarding various trip types that all developments experience. These are found in several places, however, for this analysis the *Trip Generation Manual 10th Edition* as well as the *Trip Generation Handbook* were used to develop the criteria for this analysis.

Generally, all existing and proposed developments will be made up of one or more of the following four trip types: new (destination) trips, pass-by trips, diverted trips, and shared (internal trips). In order to better understand the trip types available for land access a description of each specific trip type follows.

New (Destination) Trips - These types of trips occur only to access a specific land use such as a new retail development or a new residential subdivision. These types of trips will travel to and from the new site and a single other destination such as home or work. This is the only trip type that will result in a net increase in the total amount of traffic within the study area. The reason primarily is that these trips represent planned trips to a specific destination that never took trips to that part of the City prior to the development being constructed and occupied. This project will develop new trips.

Pass-by Trips - These trips represent vehicles which currently use adjacent roadways providing primary access to new land uses or projects and are trips of convenience. These trips, however, have an ultimate destination other than the project in question. They should be viewed as customers who stop in on their way home from work. An example would be on payday, where an individual generally drives by their bank every day without stopping, except on payday. On that day, this driver would drive into the bank, perform the prerequisite banking and then continue on home. In this example, the trip started from work with a destination of home, however on the way, the driver stopped at the grocery store/latte stand and/or bank directly adjacent to their path. Pass-by trips are most always associated with commercial/retail types of development along major roadways. Therefore, for this project pass-by trips will not be considered.

Diverted (Linked) Trips - These trips occur when a vehicle takes a different route than normal to access a specific facility. Diverted trips are similar to pass-by trips, but diverted trips occur from roadways which do not provide direct access to the site. Instead, one or more streets must be utilized to get to and from the site. For this project, no diverted trips are anticipated.

Shared Trips - These are trips which occur on the site where a vehicle/consumer will stop at more than one place on the site. For example, someone destined for a certain shop at a commercial site may stop at a bank just before or after they visit the shop that they went to the site to visit. This trip type reduces the number of new trips generated on the public road system and is most commonly used for commercial developments. Since the project has only one land use and no cross-access driveways with other land uses, no shared trips were considered.

Trip Generation Characteristics for the Proposed Project

As noted earlier, trip generation rates for the AM & PM peak hours are determined by the use of the *Trip Generation Manual, 10th Edition* published by the Institute of Transportation Engineers (ITE). The purpose of the *Trip Generation Manual* is to compile and quantify empirical data into trip generation rates for specific land uses within the US, UK and Canada.

Proposed Land Use

For the proposed 23 lot cottage development, Land Use Code (LUC) #210, Single Family Detached Housing was used to establish the number of potential trips generated by the proposed land use. The trip generation rates and the anticipated number of AM and PM peak hour trips for the proposed land use are shown on Table 1.

Table 1-Trip Generation Rates for LUC # 210 – Single Family Detached Housing (Fig. 3)

Dwelling Units	AM Peak Hour Trips			PM Peak Hour Trips		
	Vol. @ 0.74 trips/units	Directional Distribution		Vol. @ 0.99 trips / Units	Directional Distribution	
		25% In	75% Out		63% In	37% Out
23	18	4	14	23	14	9
Average Daily Trip Ends (ADT)						
Units	Rate	ADT				
23	9.44	218				

As shown in Table 1, the proposed land use is anticipated to generate a total of 18 trips in the AM peak hour with 4 trips entering the site and 14 trips exiting the site. In the PM peak hour, the proposed land use is anticipated to generate a total of 23 trips in the PM peak hour with 14 trips entering the site and 9 trips exiting the site. The proposed land use is anticipated to generate 218 average daily trips to/from the project. Please see Figure 3 for Trip Distribution.

TRIP DISTRIBUTION

As shown on the preliminary site plan, the site will be accessed by Chestnut Street and Inland Empire Way.

Chestnut Street is generally a north/south, two-way, 2-lane local access road that extends north from 27th Avenue through 13th Avenue and terminates with a parking lot. Chestnut Street serves both commercial and residential land uses. The speed limit on Chestnut Street is 25 MPH.

Inland Empire Way is generally a north-south, two-way, 2-lane collector that extends south from Sunset Boulevard and goes through 23rd Avenue to Oak St. The posted speed limit on Inland Empire way is 35 MPH and 30 MPH as an urban minor arterial.

Thorpe Road is generally an east/west, two way, 2-lane collector and a principal arterial. Thorpe Road extends east from Westbow Boulevard and goes through Grove Road and Abbott Road, Assembly Road, Interstate 195 and Inland Empire Way within the study area. Thorpe Road primarily serves residential land uses. The speed limit on Thorpe Road is 30 MPH.

Considering many factors such as the surrounding transportation facilities, typical commuting patterns, existing development in the area, and Average Daily Traffic counts, traffic for the proposed development is anticipated as follows: 10% of the trips will go to/from the south via State Route 195, 20% of the trips will go to/from the north via State Route 195, 10% of the trips will go to/from the north via Chestnut Street, and 60% of the trips will go to/from the north via Inland Empire Way.

The above-mentioned traffic distribution percentages are based on engineering judgment and actual traffic observations.

CONCLUSIONS AND RECOMMENDATIONS

It is anticipated that the proposed project will generate 18 new trips in the AM peak hour and 23 trips in the PM peak hour trips. Based upon the number of anticipated trips, and the distribution of those trips, we believe that the proposed project will have a minimal impact on the transportation system. Therefore, we recommend that the project complete frontage improvements on Chestnut Street and Inland Empire Way, pay the impact fee and be allowed to move forward without further traffic analysis.

Should you have any questions related to this document please do not hesitate to contact us at (509) 893-2617.

Sincerely,
WHIPPLE CONSULTING ENGINEERS, INC.



Todd R Whipple, P.E.

TRW/tae

encl. Appendix (Vicinity Map, Preliminary Site Plan, Trip Dist. %.)

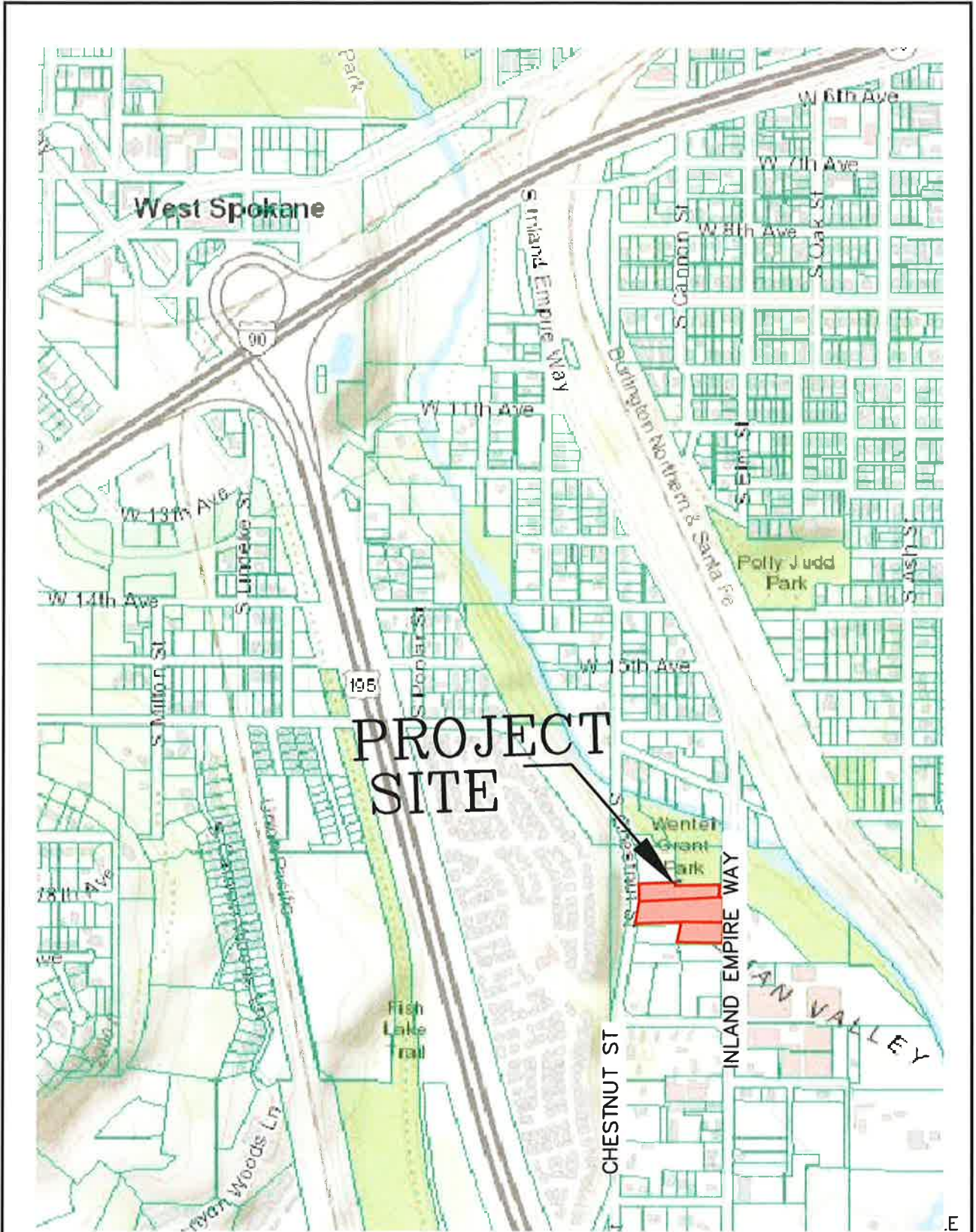
cc: Sponsor
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APPENDIX

1. Vicinity Map

2. Site Plan

3. Trip Distribution by Percentage



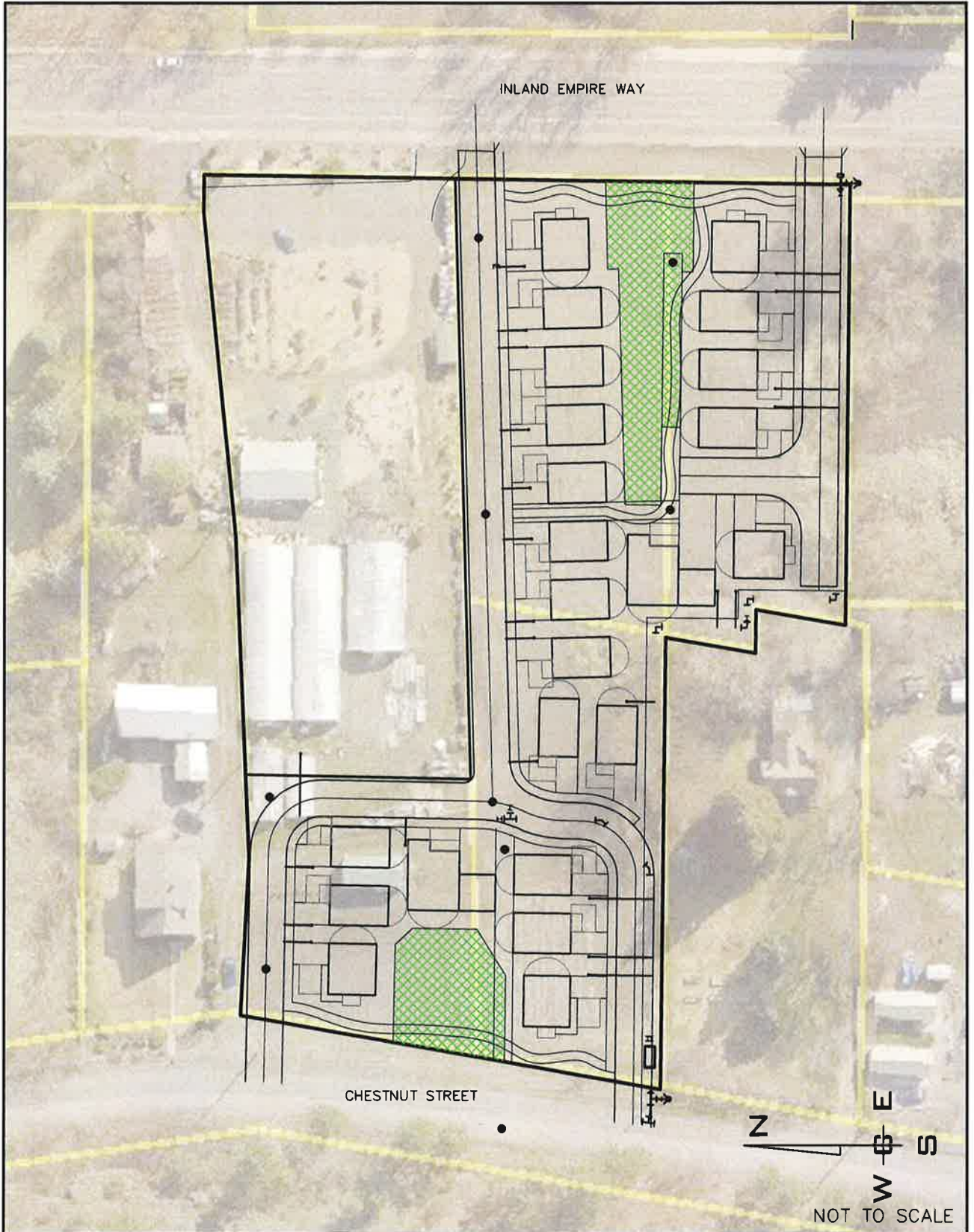
PROJ #: 18-2112
DATE: 01/31/19
DRAWN: TAE
APPROVED: TRW

FIGURE 1

**TRIP GENERATION & DISTRIBUTION
VINEGAR FLATS COTTAGES
INLAND EMPIRE WAY
SPOKANE, WASHINGTON**

VICINITY MAP

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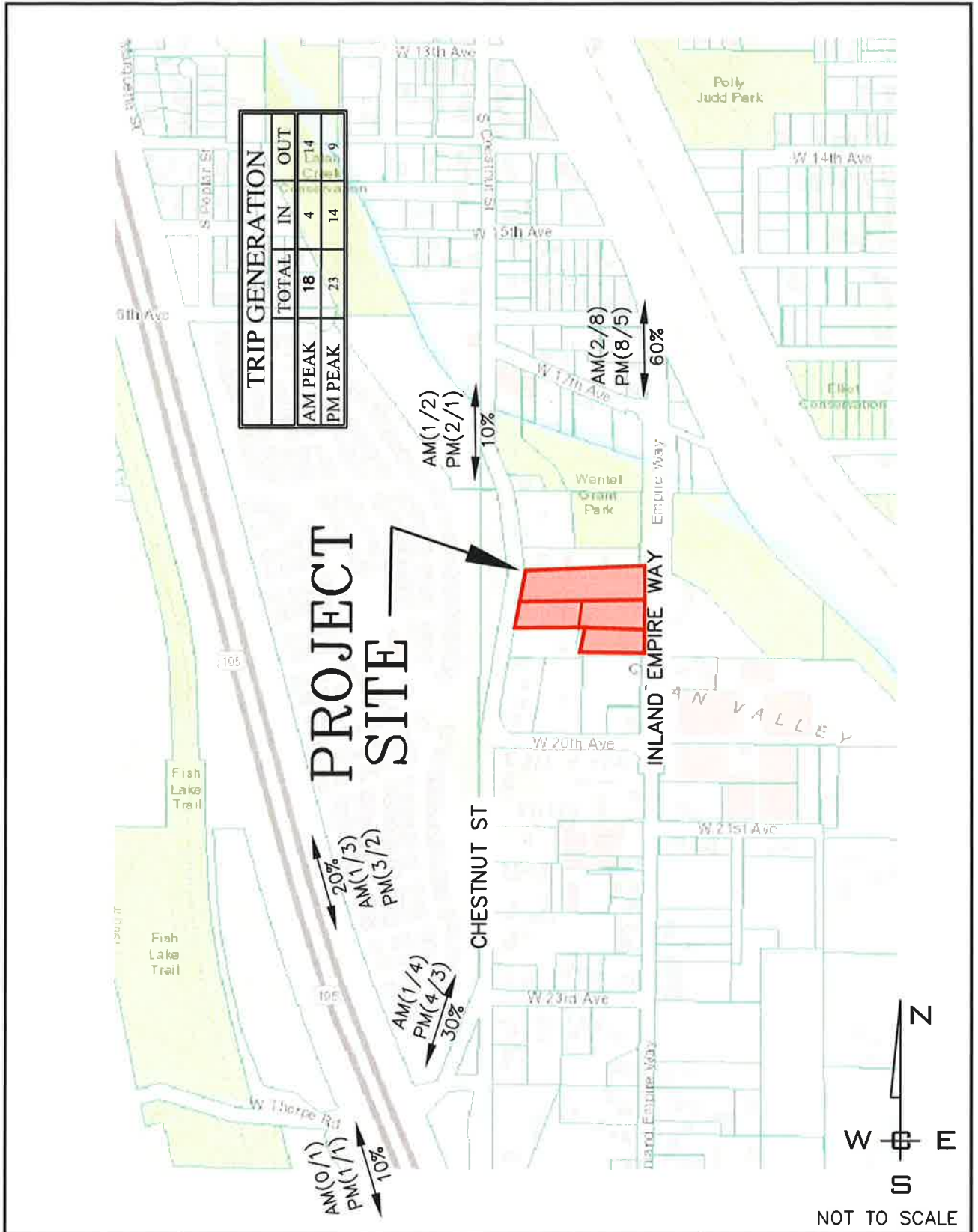
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FIGURE 2

PRELIMINARY SITE PLAN



PROJ #: 18-2112
 DATE: 08/06/18
 DRAWN: STT
 APPROVED: TRW

**TRIP GENERATION & DISTRIBUTION
 VINEGAR FLATS COTTAGES
 INLAND EMPIRE WAY
 SPOKANE, WASHINGTON**

FIGURE 3 PROJECT TRIP DISTRIBUTION

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