

Technical Memorandum

Date: May 31, 2024
To: Brian Glidden, P.E., P.L.S., QSD
From: Sarah Brandenberg, Biling Liu
Subject: **Lancaster TTM 83740 VMT Analysis**

LA22-3392

Fehr & Peers has completed quantifying Vehicle Miles Traveled (VMT) for the Tentative Tract Map No. 83740 (TTM 83740) housing project (the Project) in the City of Lancaster. This analysis compares Home-Based VMT per capita generated by the Project to the City's adopted threshold of 15% below Baseline VMT of the Antelope Valley. An impact will occur if the Project's Home-Based VMT per capita exceeds this threshold. This VMT analysis is consistent with requirements of Senate Bill 743 (SB 743), the Office of Planning and Research's (OPR) Technical Advisory, and the *City of Lancaster Department of Public Works Local Transportation Assessment Guidelines* (January 2021).

This memorandum is divided into four sections: Project Introduction, Modeling Methodology, VMT Analysis, and Conclusions.

1. Project Introduction

The Project proposes a total of 47 single family residential units on vacant land located west of 20th Street West and south of Avenue H in the City of Lancaster. **Attachment 1** presents the Project site plan.

2. Modeling Methodology

The Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) trip-based model is a travel demand forecasting model with socioeconomic and transportation network inputs, such as population, employment, and the regional and local roadway network, that estimates current travel behavior and forecasts future changes in travel demand. The current SCAG model has 2012 as the base year and 2040 as the forecast year and can be used to estimate VMT for existing year 2022 conditions. The 2040



model contains the planned transportation improvements in the RTP and the growth projections in the SCS.

Table 1 presents the socioeconomic inputs for the Project. The Project population was estimated by referring to population per household ratio of the Project TAZ in SCAG base year model.

Table 1: SCAG Model Land Uses Inputs

Project TAZ SED	Households	Population
Proposed Project	47	165

When calculating VMT for a project site, the VMT methodology should match the methodology used to establish the Baseline VMT metrics and impact thresholds. For residential projects in the City of Lancaster, Baseline VMT is defined as a measurement of Home-Based VMT per capita, which reflects all trips that begin or end at a residential unit within the Los Angeles County Antelope Valley Planning Area (Antelope Valley). All Home-Based auto vehicle trips are traced back to the residence of the trip-maker (non-Home-Based trips are excluded) and then divided by the population within the geographic area to get the efficiency metric of Home-Based VMT per capita.

Following the VMT analysis, the Home-Based VMT per capita of the Project was then compared to the Antelope Valley Baseline VMT to determine if it exceeds the City's impact threshold.

3. VMT Assessment

The Home-Based VMT per capita of the Project was calculated for the base year (2022) using the SCAG travel demand model. While the Project will be built over time, the year 2022 analysis shows how the VMT generated by the Project compares to current travel and VMT characteristics in the area. **Table 2** shows the Home-Based VMT per capita of the Project.

Table 2: Project VMT and VMT Threshold for Residential Projects in Lancaster

VMT Metrics for Housing Projects	Home-Based VMT per capita
Project VMT Estimates (2022)	20.6
Antelope Valley Planning Area (AVPA) Baseline VMT (2022)	20.0
Threshold: 15% Below AVPA Baseline VMT	17.0
Percent Higher than VMT Threshold	21%
VMT Exceeds Threshold?	Yes



As shown above, the Project generates 20.6 Home-Based VMT per capita. In comparison to the City's threshold of 15% below Baseline VMT of the Antelope Valley, the Project is 3.6 Home-Based VMT per capita higher and will result in a VMT impact. The higher VMT result is due to the location of the Project in the western area of Lancaster with lower development densities that can result in longer travel distance compared to the broader Antelope Valley area.

To mitigate the Project's VMT impact, the Home-Based VMT per capita needs to be reduced by 21%. This VMT reduction equates to 594 total VMT as shown in **Table 3**. The City adopted a \$150 per VMT mitigation fee under the VMT Mitigation Fee Program (July 2023). Therefore, the Project's VMT impacts will be reduced by contributing \$89,100 to the City's VMT impact fee program. This equates to a fee of approximately \$1,896 per household.

Table 3: VMT Reduction Required

Home-Based VMT for Residential	Project VMT Estimate	VMT Threshold (15% below Baseline)	VMT Reduction Required
VMT / capita	20.6	17.0	3.6
Total VMT	3,399	2,805	594
City of Lancaster VMT Impact Fee Program			
Mitigation Fee per VMT			\$150
Total Mitigation Fee			\$89,100
Total Household			47
Fee per Household			\$1,896

4. Conclusions

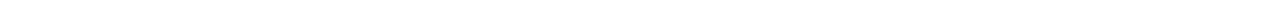
This technical memorandum documents the process to determine the potential VMT impacts of the proposed residential development TTM 83740 in the City of Lancaster. The following summarizes the results of the VMT analysis:

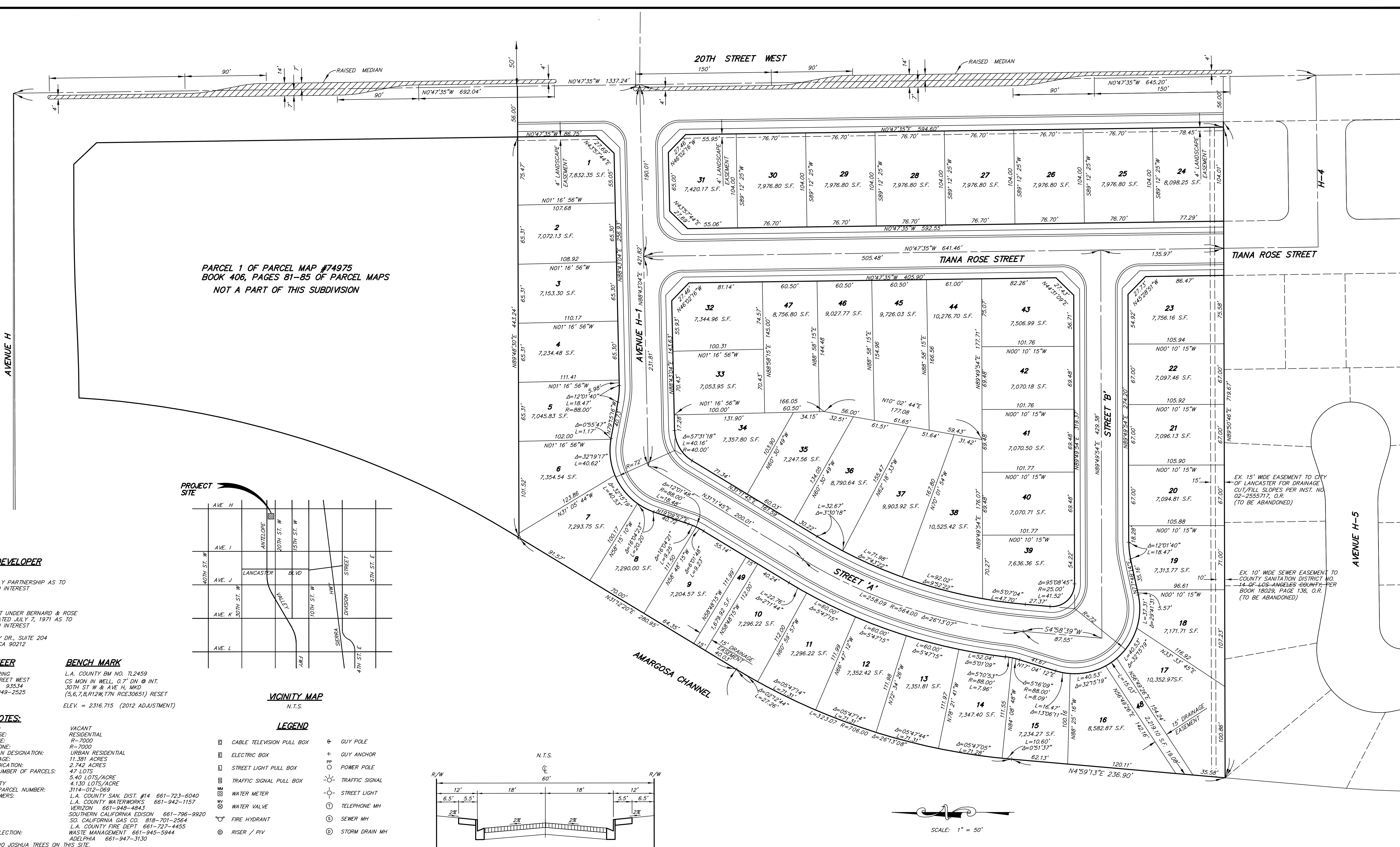
- The VMT analysis for the Project is based on the City's guidance for transportation impacts. The VMT analysis methodology for the Project is consistent with the methodology used to establish the Baseline VMT metrics and impact thresholds for projects in the City of Lancaster.
- For residential projects in the City of Lancaster, the Home-Based VMT per capita is analyzed to determine the VMT impact. The Home-Based VMT per capita generated by the Project under base year (2022) is then compared to the Antelope Valley Baseline VMT.



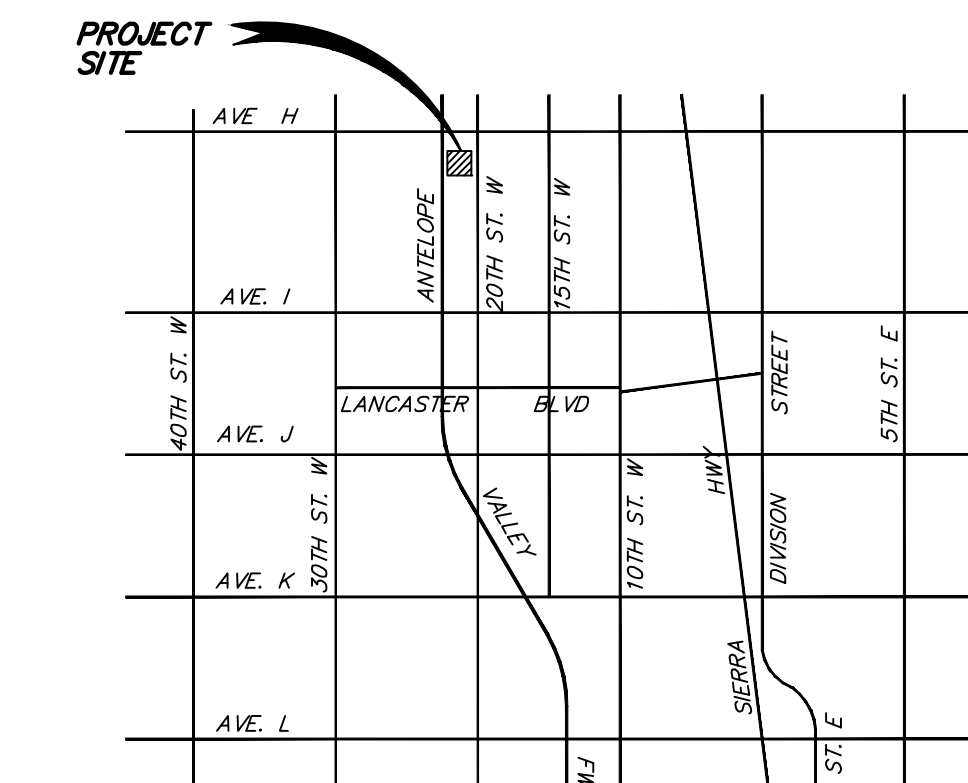
- The Project generates 20.6 Home-Based VMT per capita which is 21% higher than the City's threshold. Therefore, the Project will result in a VMT impact.
- The VMT reduction required by the Project results in a total VMT impact fee of \$89,100 for the overall development, which equates to a fee of approximately \$1,896 per household.

Attachment A - Project Site Plan





PARCEL 1 OF PARCEL MAP #74975
BOOK 406, PAGES 81-85 OF PARCEL MAPS
NOT A PART OF THIS SUBDIVISION



OWNER & DEVELOPER

DAVID HORNE
THE HORNE FAMILY PARTNERSHIP AS TO
A 50% UNDIVIDED INTEREST
AND
SURVIVORS TRUST UNDER BERNARD & ROSE
GRANZ TRUST DATED JULY 7, 1971 AS TO
A 50% UNDIVIDED INTEREST
280 SO. BEVERLY DR., SUITE 204
BEVERLY HILLS, CA 90212

CIVIL ENGINEER

ARROW ENGINEERING
42138 TENTH STREET WEST
LANCASTER, CA 93534
PHONE: 661-949-2525

BENCH MARK

L.A. COUNTY BM NO. TL2459
CS MON IN WELL, 0.7' DN @ INT.
30TH ST W & AVE H, MKD
(S,6,7,8,12,W,17N RCE30651) RESET
ELEV. = 2316.715 (2012 ADJUSTMENT)

GENERAL NOTES:

- EXISTING USE: VACANT
- PROPOSED USE: RESIDENTIAL
- EXISTING ZONE: R-7000
- PROPOSED ZONE: URBAN RESIDENTIAL
- GENERAL PLAN DESIGNATION: 11.381 ACRES
- GROSS ACREAGE: 2.742 ACRES
- AREA OF DEDICATION: 47 LOTS
- PROPOSED NUMBER OF PARCELS: 5.40 LOTS/ACRE
- NET DENSITY: 4.130 LOTS/ACRE
- GROSS DENSITY: 3114-012-069
- ASSESSOR'S PARCEL NUMBER: L.A. COUNTY SAN. DIST. #14 661-723-6040
- SANITARY SEWERS: L.A. COUNTY WATERWORKS 661-942-1157
- WATER: TELERIZON 661-948-4843
- TELEPHONE: SOUTHERN CALIFORNIA EDISON 661-796-9920
- ELECTRICITY: SO. CALIFORNIA GAS CO. 918-701-2564
- GAS: L.A. COUNTY FIRE DEPT. 661-727-4455
- FIRE DEPT: WASTE MANAGEMENT 661-945-5944
- RUBBISH COLLECTION: ADELPHIA 661-947-3130
- CABLE: N/A
- THERE ARE NO JOSHUA TREES ON THIS SITE.
- APN NO. 3114-012-069
- FEMA FLOOD ZONE: ZONE X AREA OF MINIMAL FLOOD HAZARD

LEGAL DESCRIPTION:

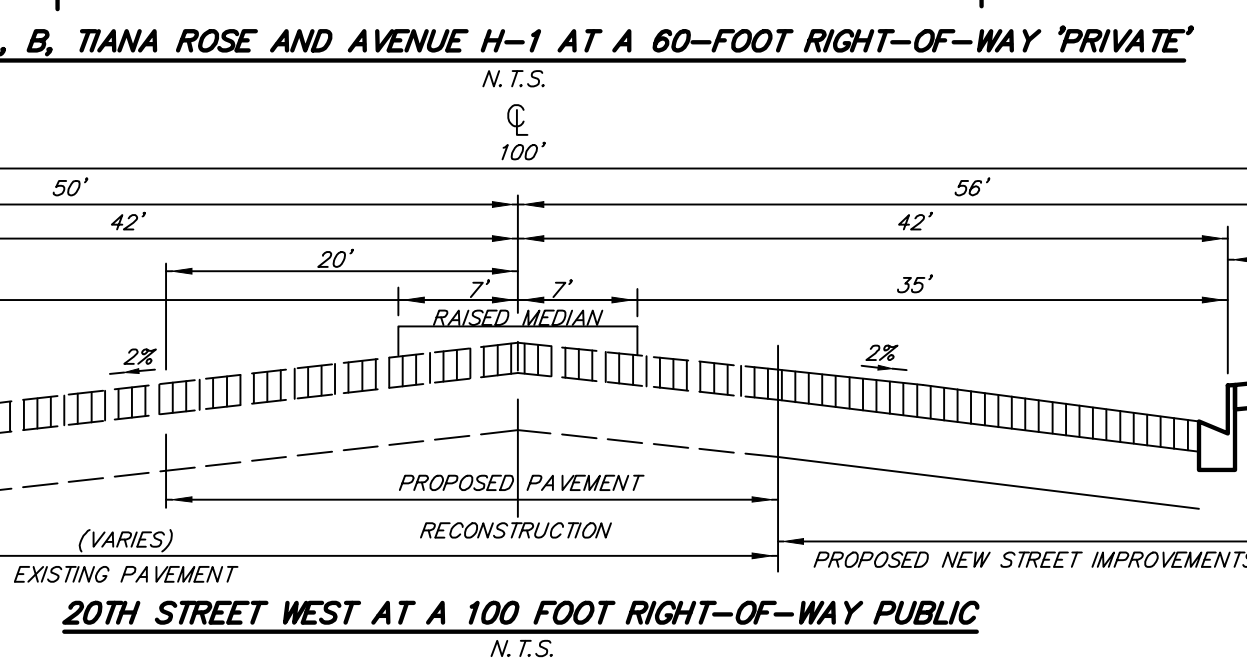
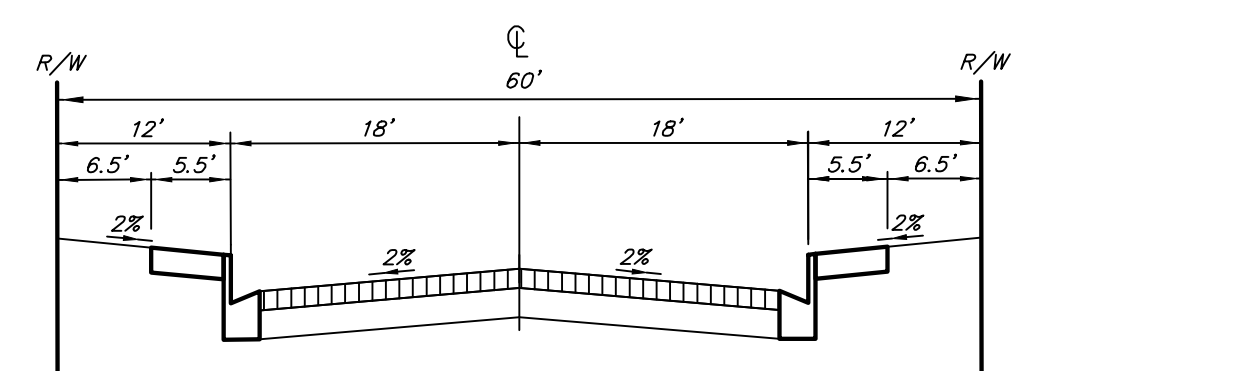
PARCEL 2 OF PARCEL MAP NO. 74975, RECORDED DECEMBER, 10, 2019, IN BOOK 406 AT PAGES 81 THRU 85 OF PARCEL MAPS, BEING A PORTION OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 8, TOWNSHIP 7 NORTH, RANGE 12 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF LANCASTER, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

EASEMENT NOTE:

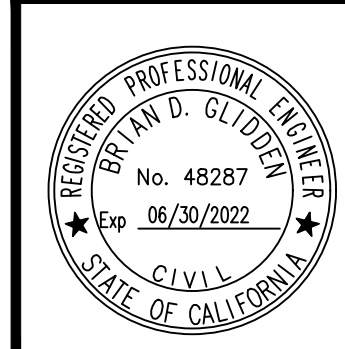
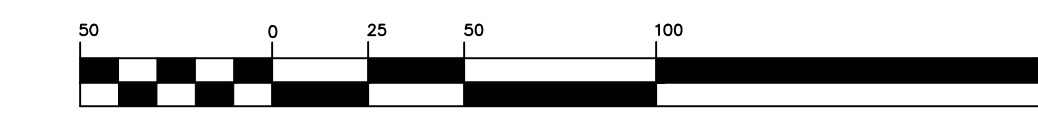
THE PROPERTY IS SUBJECT TO AN EASEMENT TO THE PACIFIC TELEPHONE AND TELEGRAPH COMPANY, RECORDED IN BOOK 9636, PAGE 293 OF OFFICIAL RECORDS. THE LOCATION OF SAID EASEMENT IS NOT SPECIFIED IN SAID DOCUMENT AND IS NOT SHOWN HEREON.

LEGEND

- CABLE TELEVISION PULL BOX
- ELECTRIC BOX
- STREET LIGHT PULL BOX
- TRAFFIC SIGNAL PULL BOX
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- RISER / PIV
- GUY POLE
- GUY ANCHOR
- POWER POLE
- TRAFFIC SIGNAL
- STREET LIGHT
- TELEPHONE MH
- SEWER MH
- STORM DRAIN MH



GRAPHIC SCALE
1 inch = 50 ft.



ARROW ENGINEERING SERVICES, INC.
AESI
42140 TENTH STREET WEST
LANCASTER, CA 93534
PHONE: (661) 940-0043
SIGNATURE: _____ DATE: _____
DRAWING NAME: 216946-TM PLOT DATE: 04/14/2022

**TENTATIVE TRACT
NO. 83740**
BEING A SUBDIVISION OF LOT 2 OF PARCEL MAP NO. 74975
IN THE CITY OF LANCASTER, COUNTY OF LOS ANGELES,
STATE OF CALIFORNIA