

# Technical Memorandum



Date: June 5, 2024  
 To: Yigal Hassid, Dear Properties  
 From: Sarah Brandenberg, Biling Liu  
**Subject: Lancaster TTM 53256 VMT Analysis**

LA22-3416

Fehr & Peers has completed quantifying Vehicle Miles Traveled (VMT) for the Tentative Tract Map No. 53256 (TTM 53256) 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 150 single family residential units on the vacant land in the northwest quadrant of 35<sup>th</sup> Street East and Avenue K in the City of Lancaster. **Attachment A** 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 the 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
<b>Proposed Project</b>	<b>150</b>	<b>525</b>

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
<b>Project VMT Estimates (2022)</b>	<b>17.5</b>
<b>Antelope Valley Planning Area (AVPA) Baseline VMT (2022)</b>	20.0
<b>Threshold: 15% Below AVPA Baseline VMT</b>	<b>17.0</b>
<b>Percent Higher than VMT Threshold</b>	<b>3%</b>
<b>VMT Exceeds Threshold?</b>	<b>Yes</b>



As shown above, the Project generates 17.5 Home-Based VMT per capita. While the Project's VMT is lower than the average Home-Based VMT per capita for the Antelope Valley, it does not meet the City's threshold of being 15% below the current Baseline VMT. In comparison to the City's threshold of 15% below Baseline VMT of the Antelope Valley, the Project is 0.5 Home-Based VMT per capita higher and could potentially result in a VMT impact.

To mitigate the Project's VMT impact, the Home-Based VMT per capita needs to be reduced by 3% to achieve the VMT threshold of 17.0 Home-Based VMT per capita as shown above in **Table 2**. To determine the total amount of VMT that exceeds the City's VMT threshold, the Project Home-Based VMT per capita was multiplied by the estimated number of residents of the Project (17.5 Home-Based VMT per capita as shown in Table 2 multiplied by 525 residents as shown in Table 1 which equates to 9,188 VMT as shown in Table 3). The City's VMT threshold for residential projects was then applied to the Project's population to determine the maximum amount of VMT that the Project would be allowed to generate without exceeding the City's threshold (17.0 VMT per capita as shown in Table 2 multiplied by 525 residents as shown in Table 1 which equates to 8,925 VMT as shown in Table 3). The Project VMT is then compared to the maximum allowable VMT based on the City's threshold and the excess VMT generated by the Project is used to determine the required VMT reduction. The VMT reduction required equates to 263 total VMT as shown in **Table 3**. The City recently adopted a \$150 per VMT mitigation fee under the VMT impact fee program. Therefore, the Project's VMT impact will be reduced by contributing \$39,450 to the City's VMT impact fee program. This equates to a fee of approximately \$263 per unit.

**Table 3: VMT Reduction Required**

Home-Based VMT for Residential	Project VMT Estimate	VMT Threshold (15% below Baseline)	VMT Reduction Required
VMT / capita	17.5	17.0	0.5
<b>Total VMT</b>	<b>9,188</b>	<b>8,925</b>	<b>263</b>
<b>City of Lancaster VMT Impact Fee Program</b>			
Mitigation Fee per VMT			\$150
<b>Total Mitigation Fee</b>			<b>\$39,450</b>
Total Households			150
Fee per Household			\$263



## 4. Conclusions

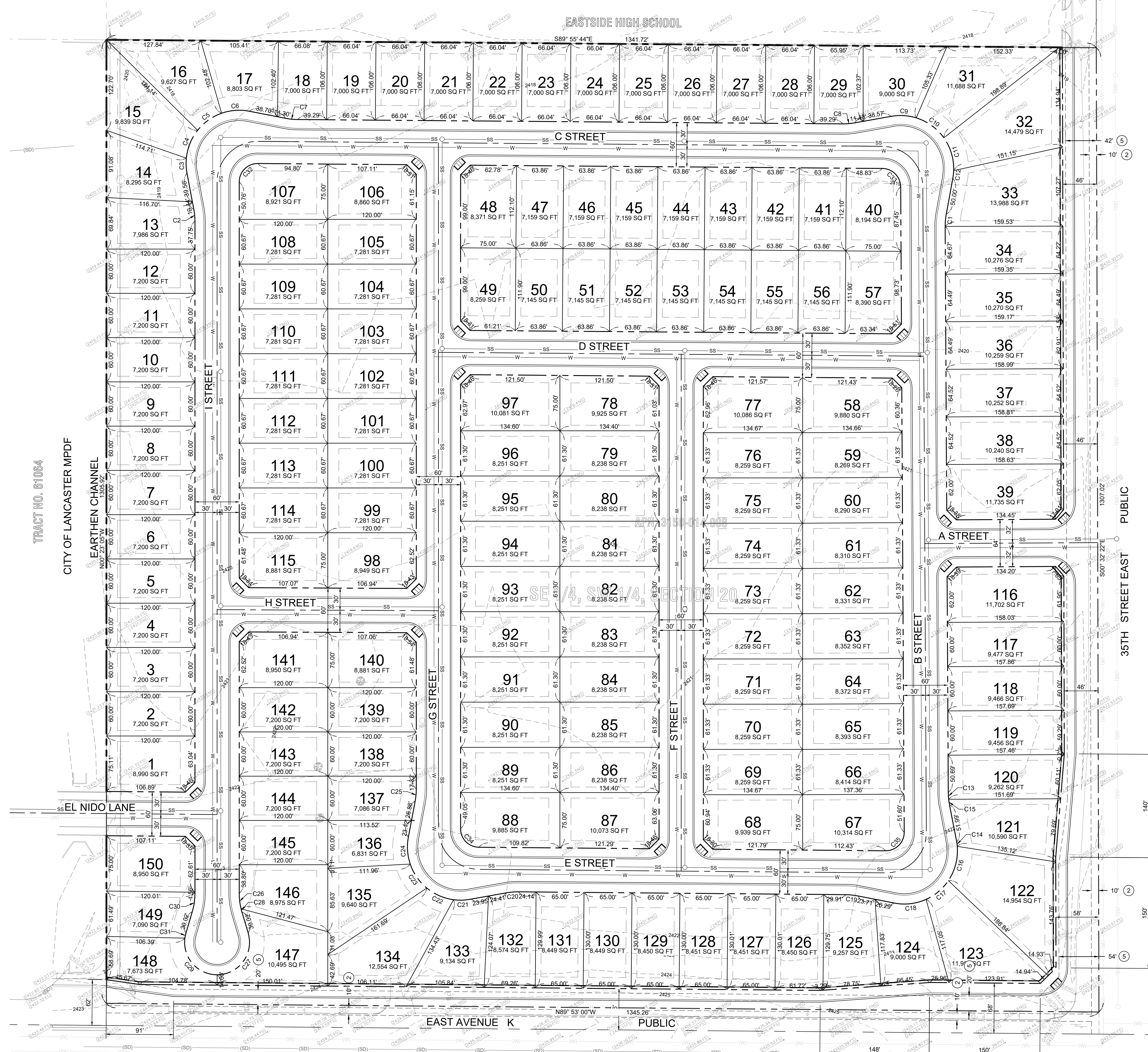
This technical memorandum documents the process to determine the potential VMT impacts of the proposed residential development TTM 53256 in the City of Lancaster. The following summarizes the results of the VMT analysis:

- 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 17.5 Home-Based VMT per capita which is 3% higher than the City's threshold. Therefore, the Project will result in a potential VMT impact.
- The VMT reduction required by the Project results in a total VMT impact fee of \$39,450 for the overall development, which equates to a fee of approximately \$263 per household.

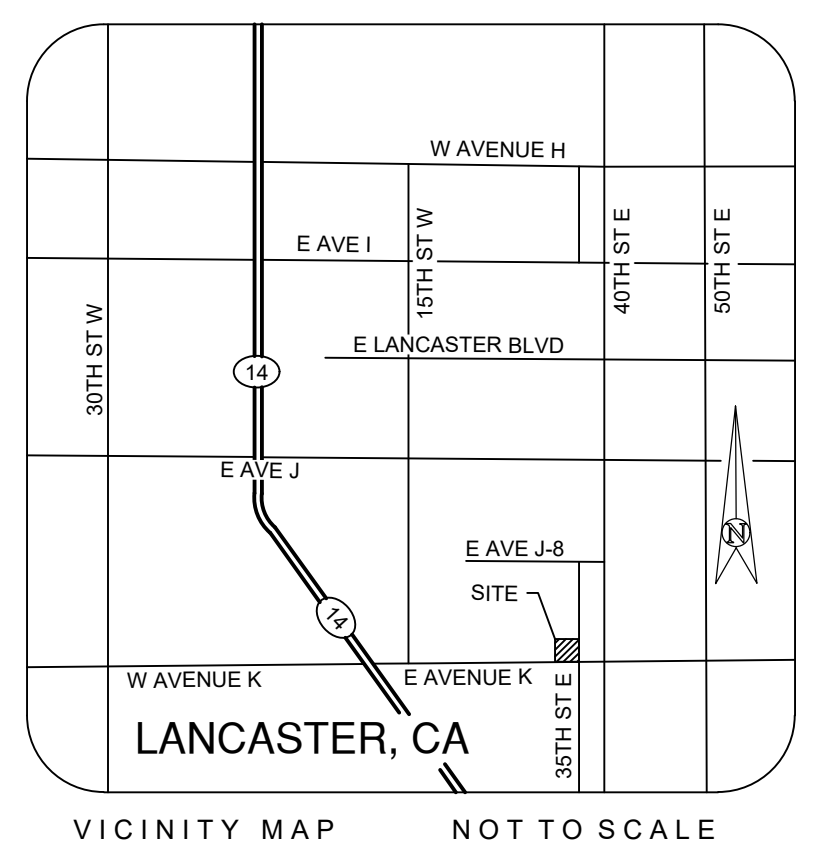
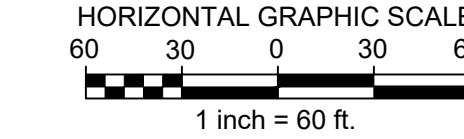


## **Attachment A: Project Site Plan**

# TENTATIVE TRACT MAP NO. 53256



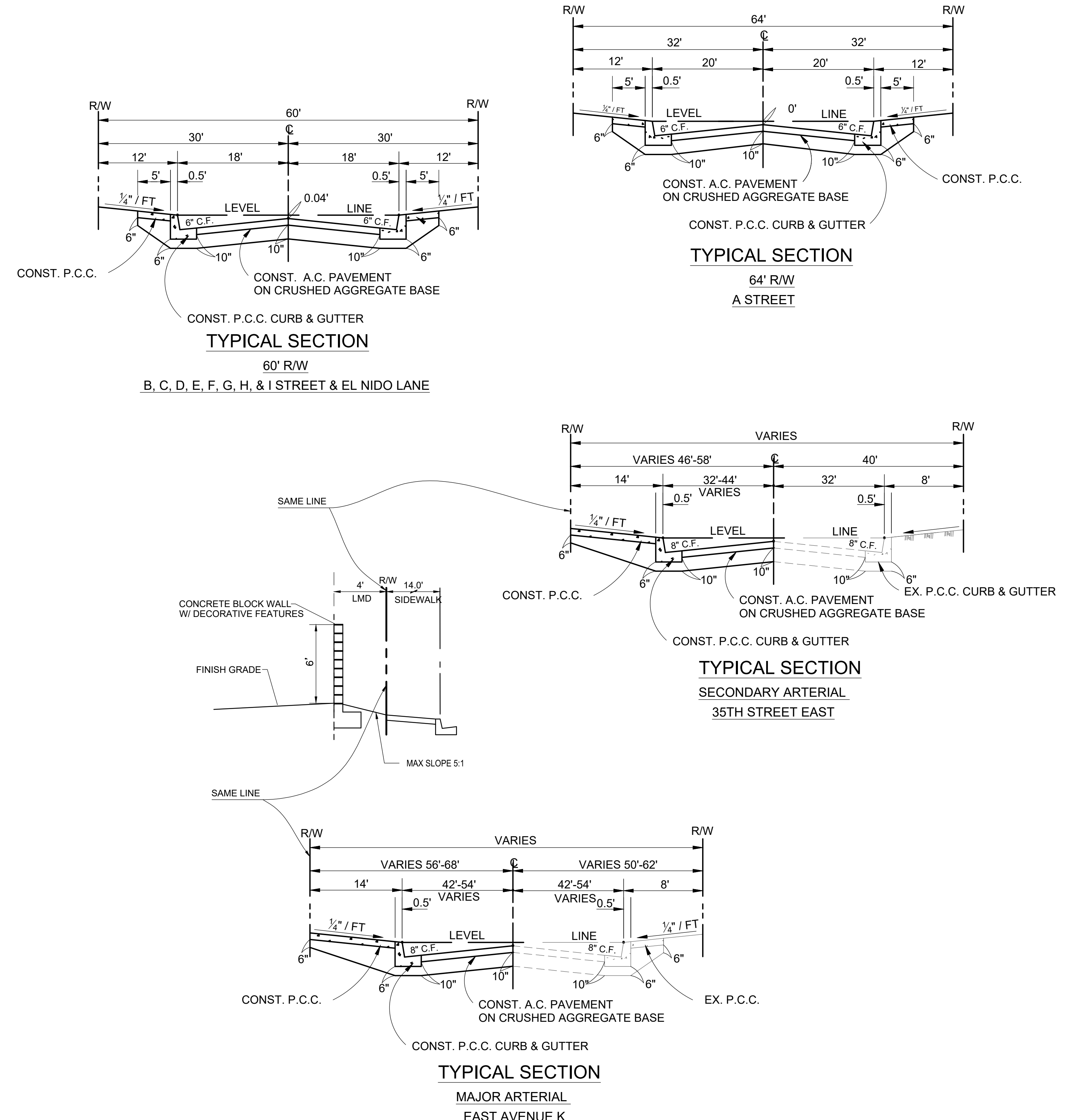
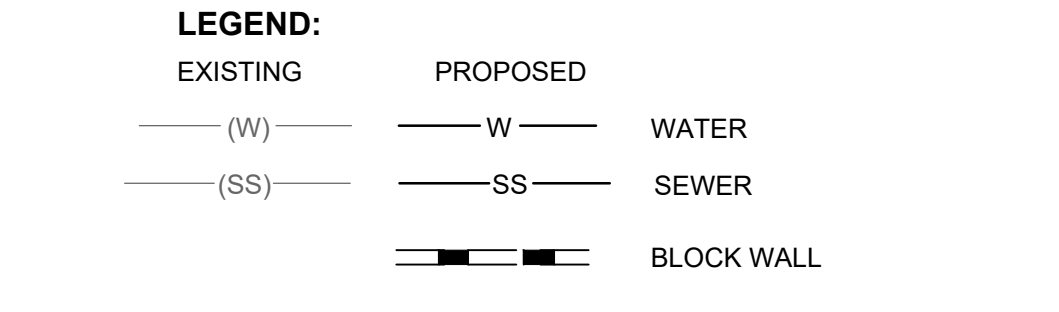
CURVE #	LENGTH	RADIUS	DELTA
C1	16.36	88.00	10°39'09"
C2	16.08	88.00	10°28'00"
C3	20.44	72.00	16°10'11"
C4	41.31	72.00	32°52'24"
C5	48.99	72.00	32°08'38"
C6	38.30	72.00	30°28'37"
C7	16.36	88.00	10°39'09"
C8	16.36	88.00	10°39'09"
C9	34.40	72.00	27°22'19"
C10	47.03	72.00	37°25'11"
C11	47.16	72.00	37°31'45"
C12	10.31	72.00	8°12'20"
C13	9.13	88.00	5°56'37"
C14	5.56	72.00	4°25'32"
C15	7.23	88.00	4°42'32"
C16	48.95	72.00	38°57'13"
C17	40.00	72.00	31°49'52"
C18	44.39	72.00	35°19'28"
C19	16.36	88.00	10°39'09"
C20	16.36	88.00	10°39'09"
C21	23.88	72.00	19°00'19"
C22	40.13	72.00	31°56'04"
C23	40.00	72.00	31°49'52"
C24	36.88	72.00	29°20'53"
C25	16.36	88.00	10°39'09"
C26	21.20	88.00	13°48'04"
C27	81.81	44.00	106°32'00"
C28	4.20	88.00	2°43'55"
C29	74.83	44.00	97°26'39"
C30	25.39	88.00	16°32'00"
C31	6.98	44.00	9°05'22"
C32	39.47	25.00	90°27'20"
C33	38.93	25.00	89°13'43"
C34	39.05	25.00	89°30'06"
C35	38.62	25.00	90°48'49"



- GENERAL NOTES:**
- ASSESSOR'S PARCEL NO. 3150-014-008
  - GROSS AREA = 1,755,142 SQ FT = 40.28 ACRES  
NET AREA = 1,264,914 SQ FT = 28.81 ACRES
  - ZONING: R 7000
  - TOTAL NO. OF LOTS = 150
  - STREETS "A", "B", "C", "D", "E", "F", "G", "H", "I" AND EL NIDO LANE ARE STREETS FOR PUBLIC ROAD DEDICATION.
  - CONTOUR INTERVAL = 1 FOOT
  - ELEVATIONS TRUNCATED, ADD 2,000 FEET
  - THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS MAP ARE APPROXIMATE.
  - FLOOD ZONE: ZONE X  
AREAS OF THE 0.2% ANNUAL CHANCE FLOOD. AREAS OF THE 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AND AREAS PROTECTED BY LEVEES FROM THE 1% ANNUAL CHANCE FLOOD.
  - ADJACENT EXISTING ZONING:  
NORTH = SCHOOL (DEVELOPED SCHOOL)  
SOUTH = R-7000 (DEVELOPED RESIDENTIAL)  
EAST = R-1 (DEVELOPED RESIDENTIAL)  
WEST = R-7000 (DEVELOPED RESIDENTIAL)

- UTILITY PURVEYORS**
- WATER** L.A. COUNTY WATER WORKS  
260 EAST AVENUE K-8  
LANCASTER, CA 93535  
(661) 902-9165
- SEWER** L.A. COUNTY SANITATION DISTRICT  
3930 30TH STREET EAST  
LANCASTER, CA 93555  
(661) 266-4683
- ELECTRIC** SOUTHERN CALIFORNIA EDISON  
4200 N 10TH STREET WEST  
LANCASTER, CA 93534  
(661) 726-5675
- GAS** SOUTHERN CALIFORNIA GAS COMPANY  
44416 N DIVISION STREET  
LANCASTER, CA 93555  
(310) 687-2011
- TELEPHONE** VERIZON  
PO BOX 1929  
LANCASTER, CA 93539  
(661) 713-3994
- TELECOM** SPECTRUM  
844-780-4054  
DL-SOCIAL-CHARTER-ENGINEERING@CHARTER.COM
- TELECOM** FRONTIER  
1450 S BUNDY DR LOS ANGELES, CA 90025  
310-264-0100  
BROWN.CATHY@FR.COM

- REFERENCE DOCUMENT:**  
PROGRESSIVE TITLE COMPANY  
ORDER NO. 433012-00042
- TITLE REPORT EXCEPTIONS:**
- PUBLIC UTILITIES EASEMENT RECORDED IN BOOK 6213, PAGE 221, OF DEEDS  
PLOTTED AS SHOWN
  - CUT/FILL SLOPES IN TERMS AND PROVISIONS ACCEPTANCE RECORDED NOVEMBER 8, 1965 AS INSTRUMENT NO. 86-120328, OF OFFICIAL RECORDS  
AFFECTS PROPERTY, NOT PLOTTED, BLANKET IN NATURE PUBLIC ROAD, HIGHWAY AND UTILITY EASEMENT RECORDED AUGUST 28, 2009 AS INSTRUMENT NO. 20091327094, OF OFFICIAL RECORDS.  
PLOTTED AS SHOWN



NO.	REVISIONS	DATE	ENGINEER'S STATEMENT THIS TENTATIVE MAP WAS PREPARED BY ME OR UNDER MY DIRECTION AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, AND ALL EASEMENTS OF RECORD ARE SHOWN PER THE TITLE REPORT.	LEGAL DESCRIPTION: THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 20, TOWNSHIP 7 NORTH, RANGE 11 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF LANCASTER, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND FILED IN THE DISTRICT LAND OFFICE OF THE BUREAU OF LAND MANAGEMENT.  EXCEPT THE SOUTHERLY 30 FEET THEREOF FOR ROAD PURPOSES TO BE KNOWN AS LANCASTER TIERRA BONITA ROAD, AS GRANTED IN DEED RECORDED IN BOOK 7091, PAGE 331, OF DEEDS.	PREPARED FOR: <b>DEAR PROPERTIES</b> 1420 N SIERRA BONITA LOS ANGELES, CA 90046 PHONE: 213-249-1900	PREPARED BY: <b>Plotnik &amp; Associates</b> Civil Engineering & Land Surveying 18626 S. Wilmington Ave., Suite 100 Rancho Dominguez, California 90220 Tel: (310) 605-6657 Fax: (310) 605-6658 www.plotnik.com	SCALE: 1" = 60'