

# Technical Memorandum

Date: July 27, 2023  
To: Kris Pinero, Rodeo Credit Enterprises, LLC  
From: Sarah Brandenberg, Biling Liu  
Subject: **Lancaster TTM 83590 VMT Analysis**

LA21-3358

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Fehr & Peers has completed quantifying Vehicle Miles Traveled (VMT) for the Tentative Tract Map No. 83590 (TTM 83590) 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 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 106 single family residential units on vacant land located at the northwest corner of Avenue J and 35<sup>th</sup> Street E 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
<b>Proposed Project</b>	<b>106</b>	<b>371</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>22.3</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>31%</b>
<b>VMT Exceeds Threshold?</b>	<b>Yes</b>

As shown above, the Project generates 22.3 Home-Based VMT per capita. In comparison to the City's threshold of 15% below Baseline VMT of the Antelope Valley, the Project is 5.3 Home-Based VMT per capita higher and will result in a VMT impact. The higher VMT results is due to the location



of the Project in the eastern 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 Home-based VMT per capita impact, Home-based VMT per capita needs to be reduced by 31%. To determine the total amount of VMT that exceeds the City’s VMT threshold for residential projects, the Project Home-Based VMT per capita was multiplied by the estimated population of the Project (22.3 Home-Based VMT per capita as shown in Table 2 multiplied by 371 people as shown in Table 1 which equates to 8,273 VMT as shown in Table 3). The City’s VMT threshold for residential projects was then applied to the Project 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 371 people as shown in Table 1 which equates to 6,307 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 equates to 1,966 total VMT as shown in **Table 3**. Given the size and location of the Project, on-site mitigation strategies are limited and would not reduce VMT to a level needed to eliminate the VMT impact. The City recently adopted \$150 per VMT mitigation fee for the VMT impact fee program. Therefore, the Project’s VMT impacts will be reduced by contributing \$2,782 per unit to the City’s VMT impact fee program.

**Table 3: VMT Reduction Required and Mitigation Fee**

Home-Based VMT for Residential	Project VMT Estimate	VMT Threshold (15% below Baseline, Maximum Allowable VMT)	VMT Reduction Required
VMT / capita	22.3	17.0	5.3
<b>Total VMT</b>	<b>8,273</b>	<b>6,307</b>	<b>1,966</b>
Mitigation Fee per VMT			\$150
<b>Total Mitigation Fee</b>			<b>\$294,900</b>
Total Number of Units			106
<b>Fee/Unit</b>			<b>\$2,782</b>

## 4. Conclusions

This technical memorandum documents the process to determine the potential VMT impacts of the proposed residential development TTM 83590 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 22.3 Home-Based VMT per capita which is 31% higher than the City's threshold. Therefore, the Project will result in a VMT impact.
- The Project's VMT impacts will be reduced by contributing to the City's recently adopted VMT impact fee program.
- The VMT reduction required by the Project results in a total VMT impact fee of \$294,900 for the proposed 106 units, which equates to \$2,782 per unit.

# TENTATIVE TRACT MAP NO. 83590

## CITY OF LANCASTER, STATE OF CALIFORNIA

### LEGAL DESCRIPTION:

REAL PROPERTY IN THE CITY OF LANCASTER, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL 1:

THE EAST 1/2 OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, TOWNSHIP 7 NORTH, RANGE 11 WEST, SAN BERNARDINO MERIDIAN, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND IN THE CITY OF LANCASTER, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA.

EXCEPTING AND RESERVING UNTO MARSHALL D. GRAHAM AND VIRGINIA D. GRAHAM, THEIR SUCCESSORS OR ASSIGNS, 50 PERCENT OF ALL OIL, GAS, HYDROCARBON SUBSTANCES AND MINERALS NOW OR HEREAFTER COMMERCIALY EXPLOITABLE, IN OR UNDER SAID PROPERTY PROVIDED HOWEVER THAT NO RIGHT IS RESERVED TO GRANTORS, THEIR SUCCESSORS OR ASSIGNS, TO ENTER ON THE SURFACE OF SAID PROPERTY, BUT RESERVING TO THEM THE RIGHT TO ENTER THE SUBSURFACE OF SAID PROPERTY BELOW A DEPTH OF 500 FEET, MEASURED VERTICALLY FROM THE SURFACE THEREOF, TO EXPLORE, DRILL, MINE, PRODUCE, EXTRACT, MARKET AND SELL SUCH OIL, GAS, HYDROCARBON SUBSTANCES AND MINERALS BY DEED RECORDED MAY 17, 1977 AS DOCUMENT NO. 77-509731.

APN: 3150-028-001

PARCEL 2:

THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 17, 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.

EXCEPT THEREFROM THE WESTERLY 396 FEET OF SAID LAND.

ALSO EXCEPT THEREFROM THE EAST 1/2 OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SAID SECTION 17.

APN: 3150-028-002

### GENERAL NOTES:

- ASSESSOR'S PARCEL NO.: 3150-028-001, 3150-028-002
- THE PROPERTY SHOWN HEREIN CONTAINS THE ENTIRE CONTIGUOUS OWNERSHIP.
- TOTAL GROSS AREA = 28.5 AC.  
TOTAL NET AREA = 19.3 AC.  
TOTAL AREA TO BE DEDICATED FOR BASIN = 0.3 AC  
TOTAL AREA TO BE DEDICATED FOR R/W = 9.2 AC
- TOTAL NO. OF NUMBERED LOTS = 106.
- TOTAL NO. OF LETTERED LOTS = 1.
- STREETS "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", NUGENT STREET, 35TH STREET EAST, AND AVENUE J ARE STREETS FOR PUBLIC ROAD DEDICATION.
- LOTS 1 THROUGH 106 ARE 7,000 S.F. MIN. (RESIDENTIAL LOTS)  
NET DENSITY = 5.96 DU/AC  
GROSS DENSITY = 4.04 DU/AC
- CONTOUR INTERVAL = 1 FOOT (VARIES).
- ALL SLOPES ARE 2:1 OR FLATTER.
- LOT DIMENSIONS SHOWN HEREIN ARE APPROXIMATE.
- THIS MAP IS COMPILED FROM RECORD INFORMATION ONLY AND IS NOT TO BE USED AS A BOUNDARY SURVEY.
- NO REGULATED TREES EXIST ON SITE, UNLESS NOTED.
- THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS MAP ARE APPROXIMATE. (NO RECORDS AVAILABLE)
- ALL CUL-DE-SACS SHALL COMPLY WITH THE ENGINEERING DESIGN GUIDELINES AND SHALL BE DESIGNED PER THE CITY'S STANDARDS.
- ADD 2300 TO FS ELEVATIONS.

### DEVELOPER:

ROYAL INVESTORS GROUP  
15821 VENTURA BLVD, STE 460  
ENGLEWOOD, CA 91436  
(818) 981-3000

### UTILITIES:

LOS ANGELES COUNTY WATERWORKS  
260 EAST AVENUE K-8  
LANCASTER, CA 93535  
PHONE: (661) 940-9270

LANCASTER CHOICE ENERGY (LCE)  
44933 FERN AVENUE  
LANCASTER, CA 93534  
PHONE: (661) 723-6084

SOUTHERN CALIFORNIA GAS  
LANCASTER VALLEY  
9400 DAKDALE AVE. ML9351  
CHATSORTH, CA 91311  
PHONE: (818) 701-3245

WASTE MANAGEMENT  
600 EAST AVENUE F  
LANCASTER, CA 93535  
PHONE: (661) 947-7197

SPECTRUM  
41551 10TH STREET WEST  
PALMDALE, CA 93551  
PHONE: (661) 483-3030

### LAND USE:

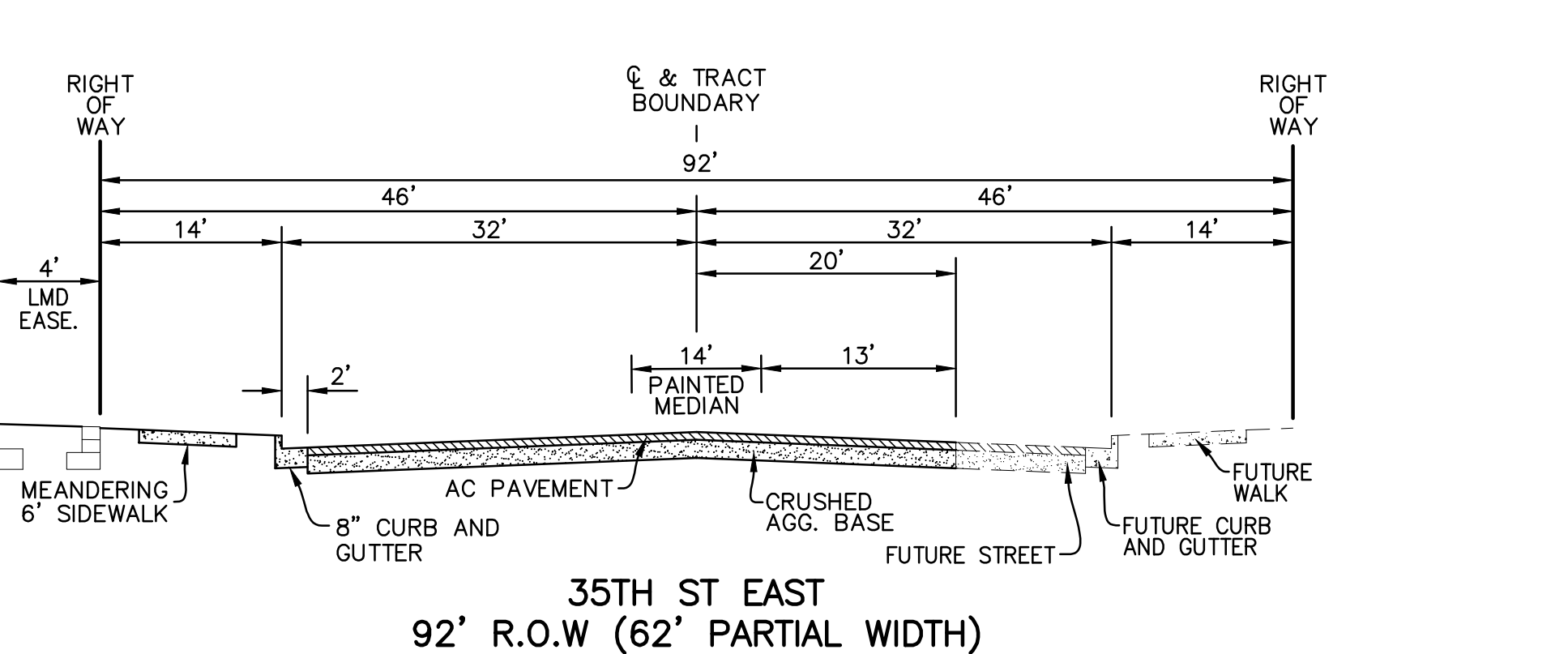
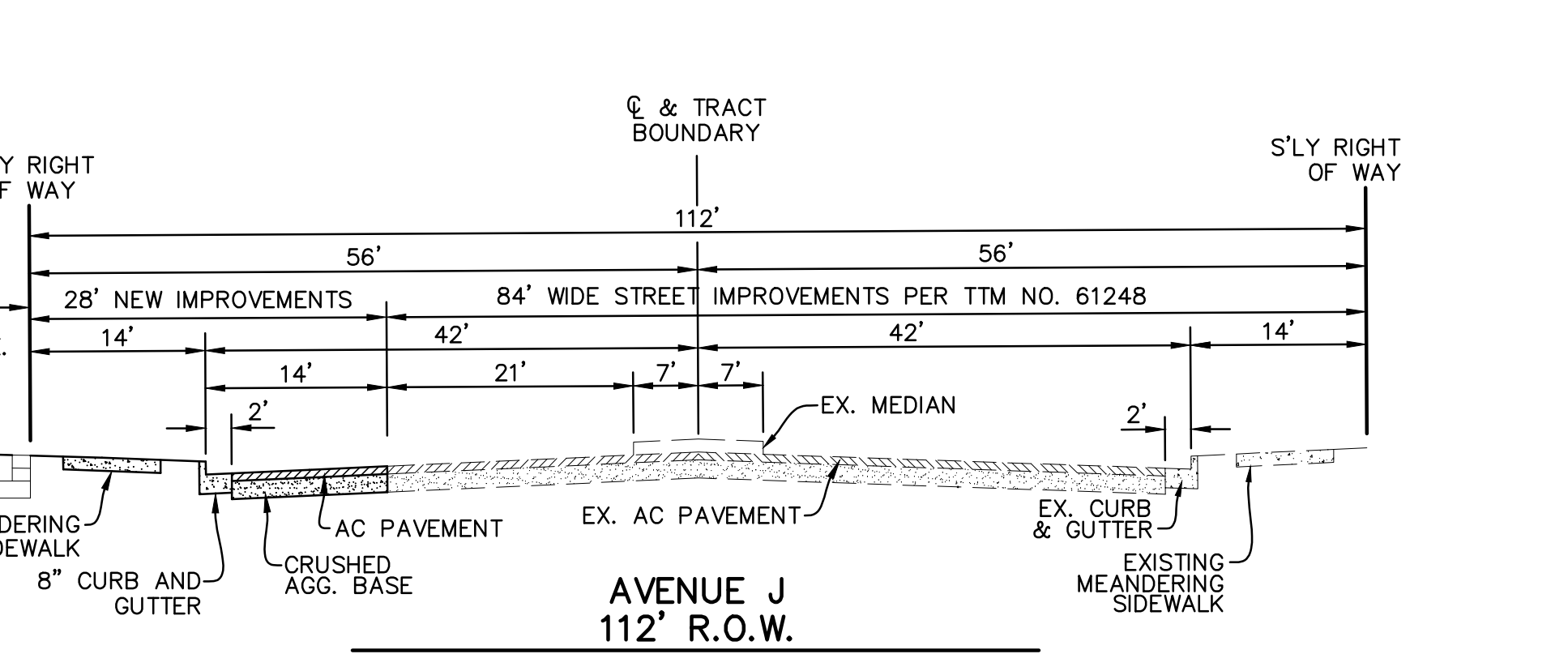
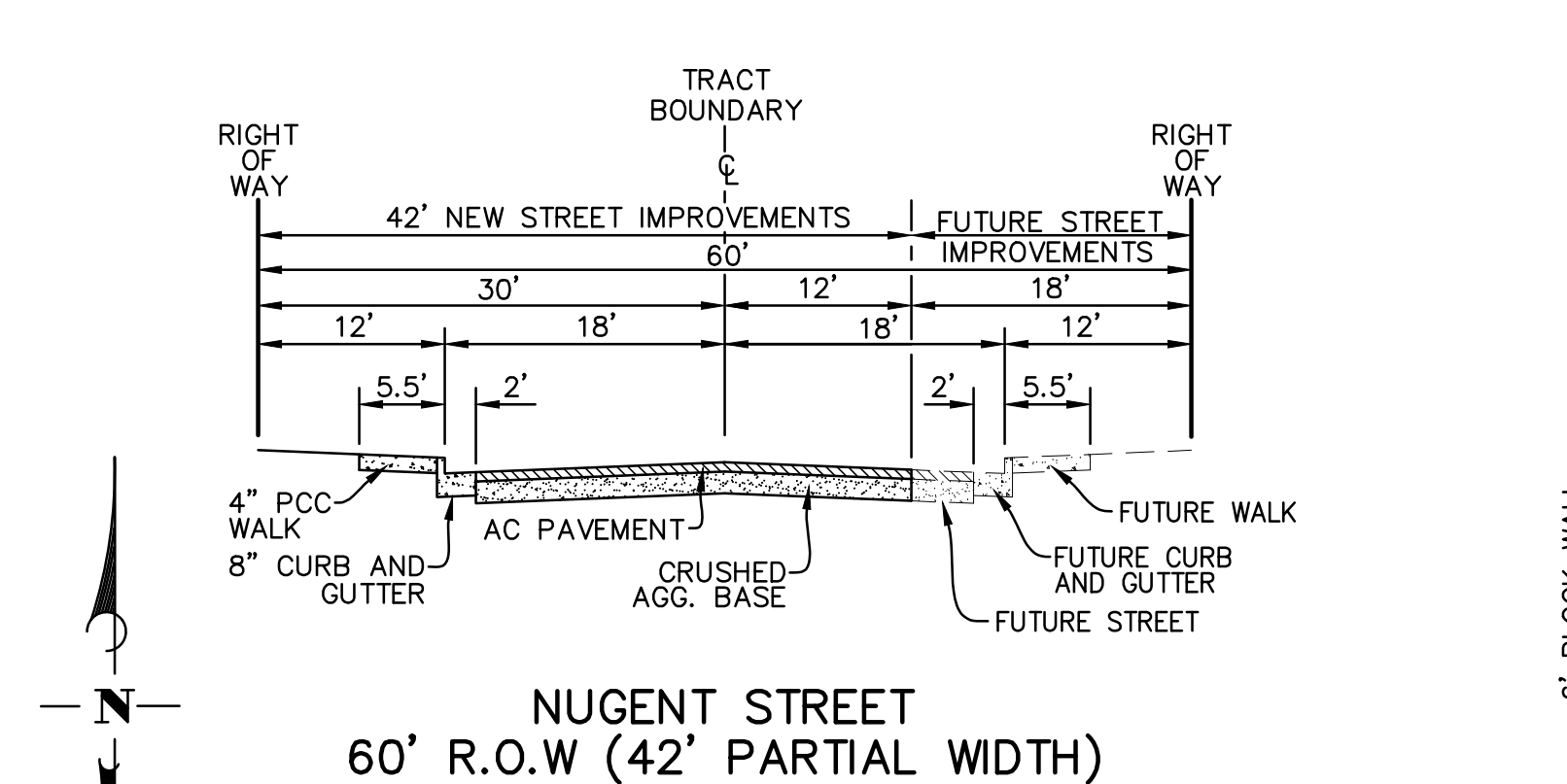
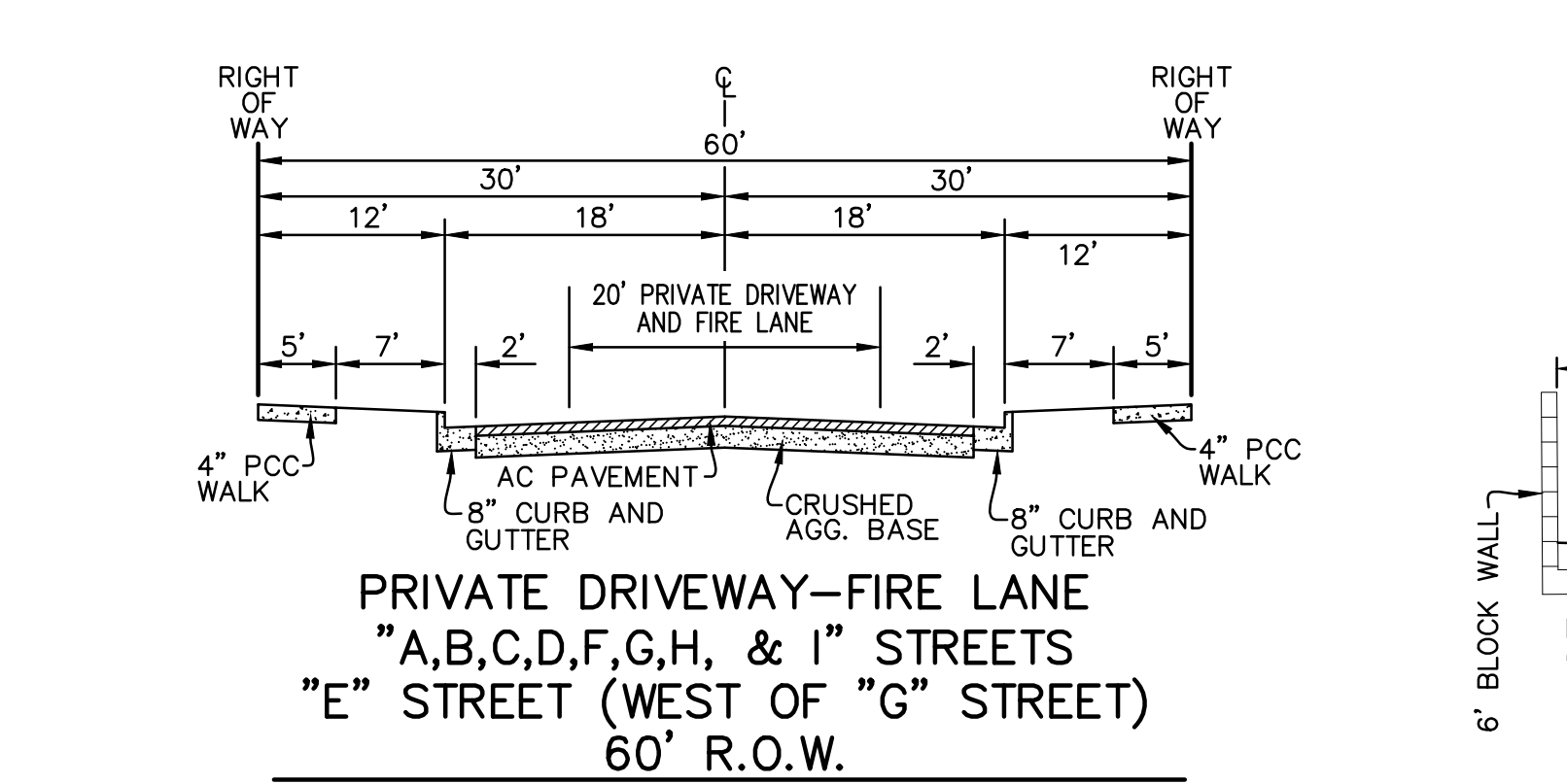
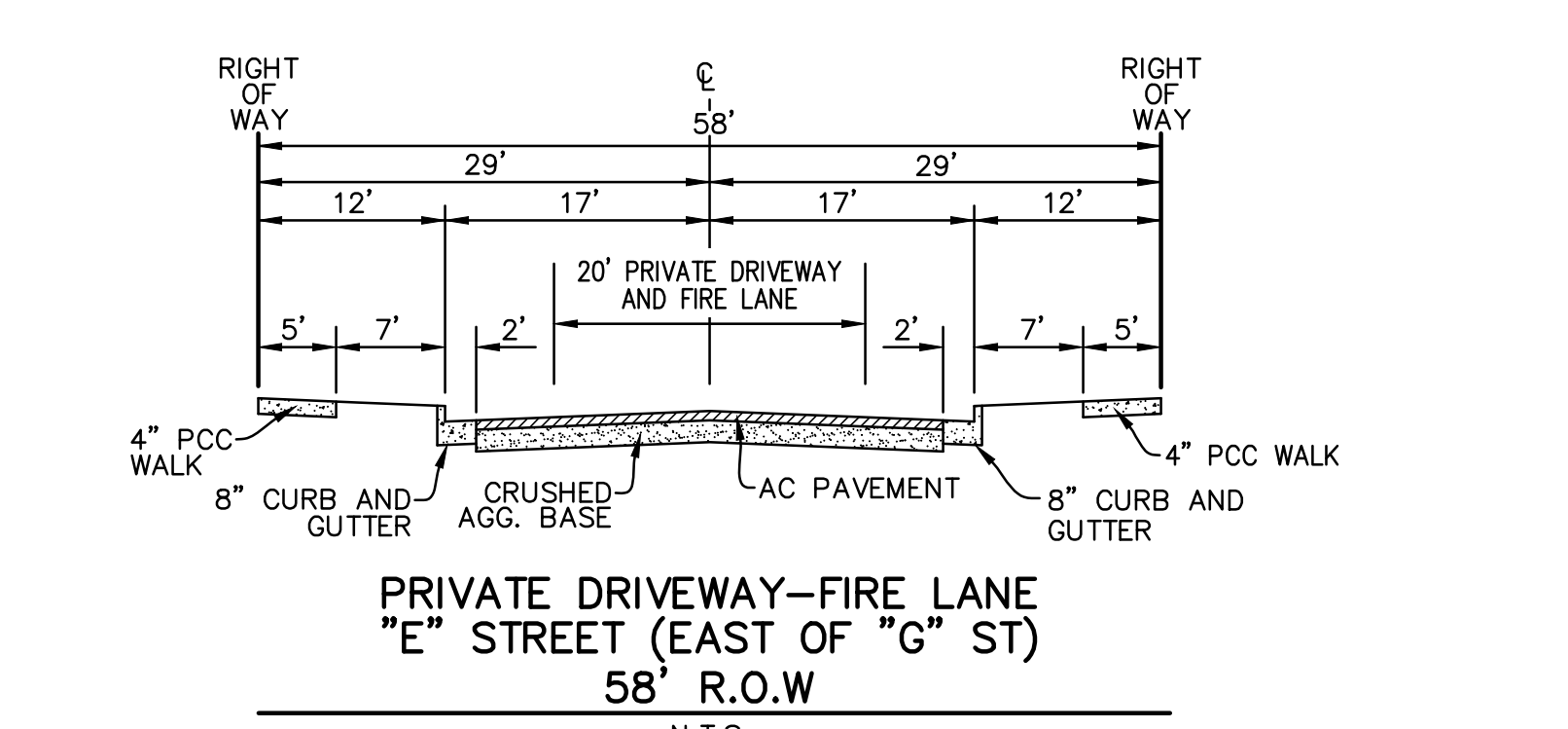
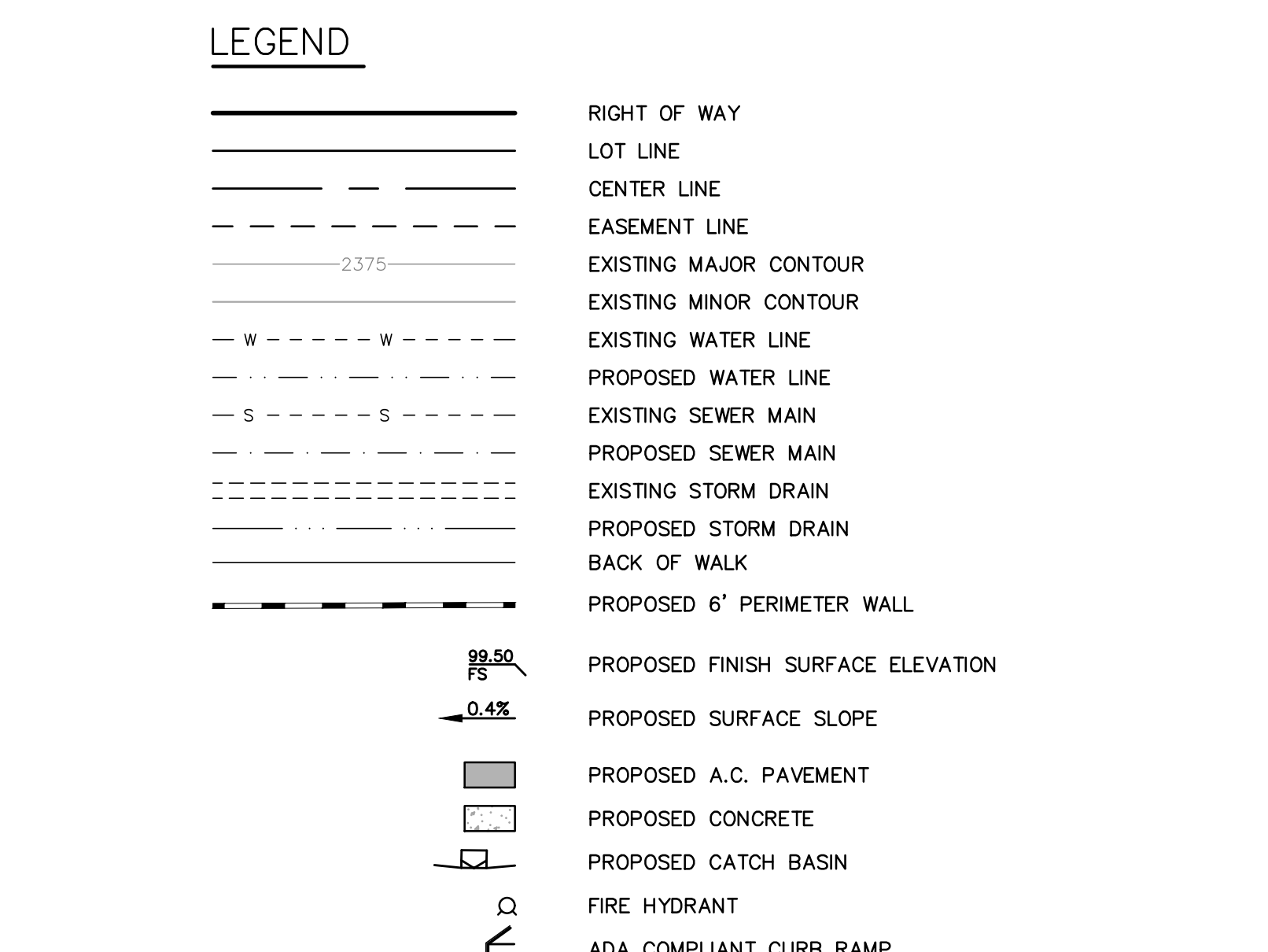
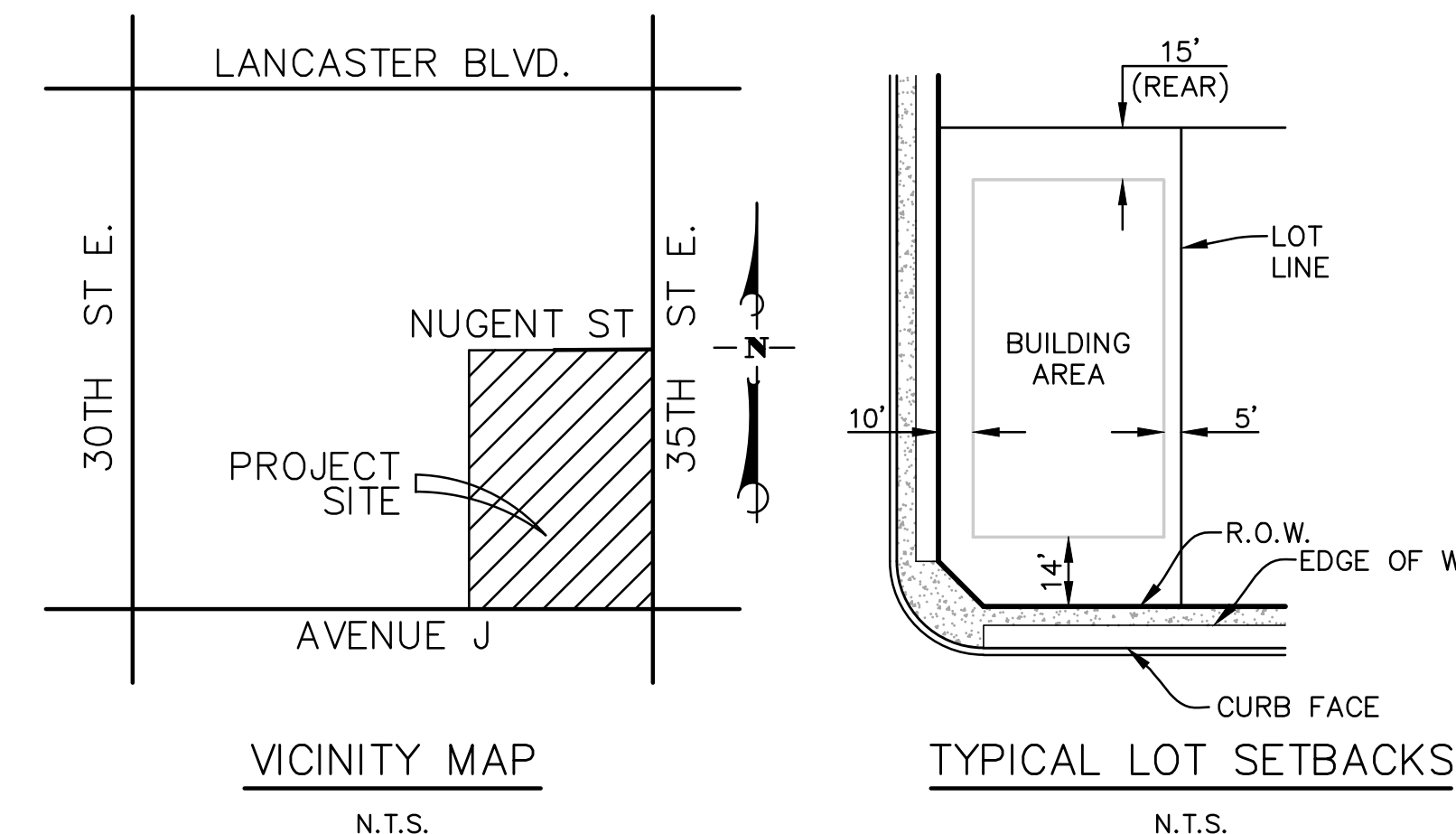
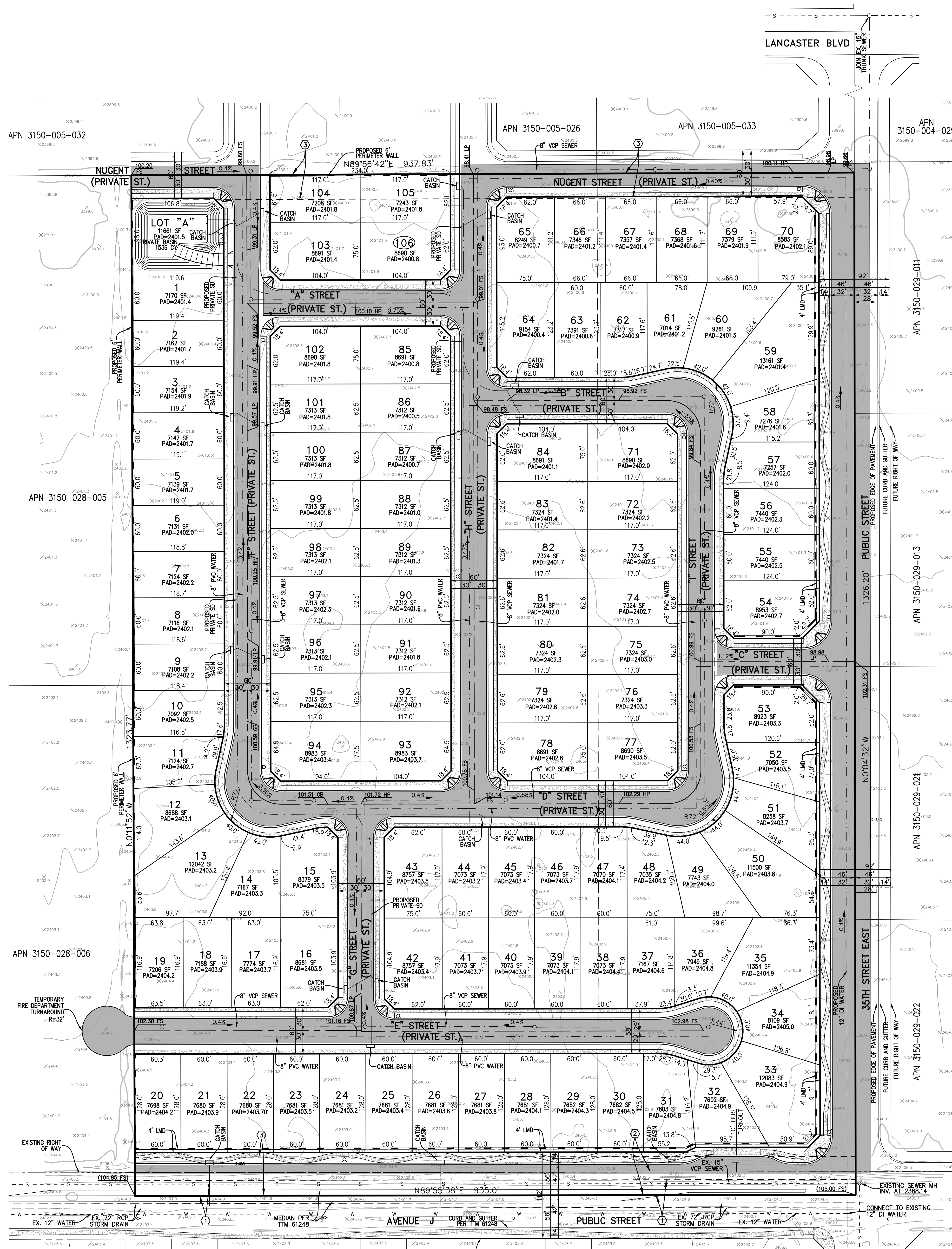
EXISTING LAND USE	R - 7000
ON-SITE - VACANT	R - 7000
NORTH - VACANT	R - 7000
SOUTH - PROF. TR 61248 (R7000)	R - 7000
EAST - VACANT	R - 7000
WEST - VACANT	R - 7000
PROPOSED ZONING	R - 7000

### EASEMENTS:

- A 20 FOOT EASEMENT FOR ROAD AND INCIDENTAL PURPOSES GRANTED TO THE COUNTY OF LOS ANGELES, RECORDED IN BOOK 6885 OF DEEDS, PAGE 285 OF OFFICIAL RECORDS.
- A 30 FOOT EASEMENT FOR STREET AND INCIDENTAL PURPOSES GRANTED TO THE COUNTY OF LOS ANGELES, RECORDED IN BOOK 9353, PAGE 146 OF OFFICIAL RECORDS.
- THE EFFECT OF A DOCUMENT ENTITLED "DECLARATION AND GRANT OF EASEMENT" RECORDED NOVEMBER 2, 1971 AS INSTRUMENT NO. 2234 OF OFFICIAL RECORDS.

### EARTHWORK:

	CUT	FILL
RAW EARTHWORK:	53,392 CY	15,111 CY
OVEREX (5' ENTRANCE) CY	227,655 CY	227,655 CY
SHRINKAGE (15%):		36,415 CY
NET:	1,866 CY (EXPORT)	
(EARTHWORK TO BE BALANCED ON-SITE)		



PREPARED BY:  
**UNITED CIVIL INC**  
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Agoura Hills, CA 91301  
PH: (818) 707-8648

SCALE: 1" = 60'

**CITY OF LANCASTER**  
TENTATIVE TRACT  
NO. 83590

REV #	DATE	REVISIONS

WO. 1642 DATE: 2/24/2022