



January 31, 2020

Mr. Josh Menvielle
Land Use/Environmental Planner
County of San Diego Planning and Development Services
5510 Overland Avenue, Suite 310
San Diego, California 92123

SUBJECT: NCM402 LAND USE AND ZONING ASSESSMENT, COUNTY OF SAN DIEGO, CALIFORNIA (RICK ENGINEERING COMPANY JOB NUMBER 17536TC)

Dear Josh:

The following land use analysis has been prepared to provide a comparison of Average Daily Traffic (ADT) along Pinecrest Avenue just south of 9th Avenue. This comparison shall be done using various land uses as discussed in further detail below.

PROJECT DESCRIPTION

NCM402 area is located along Pinecrest Avenue just south of 11th Avenue. Per the County's current general plan, this area is designated as Village Residential (VR-15). Likewise, the *County of San Diego's North County Metro Community Planning Area* designates these parcels as Village Residential (VR-15). However, the *County of San Diego's PDS Zoning and Property Information* designates these parcels as Rural Residential. This analysis shall provide a comparison of various land uses and ADT's anticipated to be generated by those land uses. Furthermore, this comparison will allow County of San Diego staff to provide a residential density recommendation for these parcels and recommend a roadway classification change if required.

As part of this assessment the roadway capacity of Pinecrest Avenue will be evaluated based on tables 1 (Average Daily Vehicle Trips), 2A (County of San Diego – Public Road Standards Mobility Element Road Classification) and 2B (County of San Diego – Public Road Standards Non-Mobility Element Road Classification) of the *County of San Diego Department of Public Works Public Road Standards* document dated March 2012 (**Attachment A**).

Per the County of San Diego's *North County Metro Mobility Element Network* Pinecrest Avenue is an unclassified roadway that provides one travel lane in each direction. It is currently stop controlled at its intersection with 9th Avenue in both southbound and northbound travel directions. Sidewalks are provided along the west side Pinecrest Avenue from 9th Avenue to 11th Avenue. The roadway width varies from 32' at its intersection with 9th Avenue to 18' at its southern terminus. There is no posted speed limit. However, the prima facie speed limit of 25 MPH applies to this roadway due to its residential land uses. Signage indicating that Pinecrest Avenue is "Not a Through Street" are posted.

Turning movement counts were conducted on January 14, 2020 at the intersection of 9th Avenue and Pinecrest Avenue during the AM peak hour (7:00 – 9:00) and during the PM peak hour (4:00 – 6:00).

Exhibit 1 shows the project vicinity map and **Exhibit 2** shows the existing geometric conditions and peak hour turning volumes at the intersection of 9th Avenue and Pinecrest Avenue.

ASSESSMENT

As previously mentioned, turning movement counts were conducted at the intersection of 9th Avenue and Pinecrest Avenue. A factor was applied to the PM turning movement counts to estimate the ADT's along Pinecrest Avenue. **Exhibit 2** also shows that approximately 360 vehicles currently travel along Pinecrest Avenue daily.

For the purposes of this assessment, a conservative trip generation rate of 10 vehicles per dwelling unit (Single Family Detached *(not so)* *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*) was assumed. **Table 1** shows the anticipated ADT generation for the various land uses for NCM 402 area and **Table 2** shows the anticipated ADT generation for the various land uses for the southern parcel only.

Based on the 52' of right-of-way along Pinecrest Avenue, shown on parcel map 235-10 (**Attachment B**) and Table 2B of the *County of San Diego Department of Public Works Public Road Standards*, Pinecrest Avenue would be classified as a Residential Cul-de-Sac with an ADT of 200 and a Level of Service (LOS) of C. However, this roadway currently functions as a rural residential collector. The *County of San Diego Department of Public Works Public Road Standards* document dated March 2012, states that rural residential collectors "are designed to accommodate local traffic volumes of between 1,500 and 4,500 average daily trips. Based on this it is anticipated that Pinecrest Avenue will provide adequate roadway capacity for either scenario.

It should be noted that a preliminary intersection level of service analysis was conducted at the intersection of 9th Avenue/Pinecrest Avenue for the AM and PM peak hours. The analysis shows that all the critical movements operate at an acceptable LOS of D or better during both the AM and PM peak hours with the exception of the following:

Northbound left turn LOS E during the PM peak hour
Southbound left turn LOS F during the PM peak hour

It is anticipated that the addition of traffic will further degrade the LOS at this intersection.

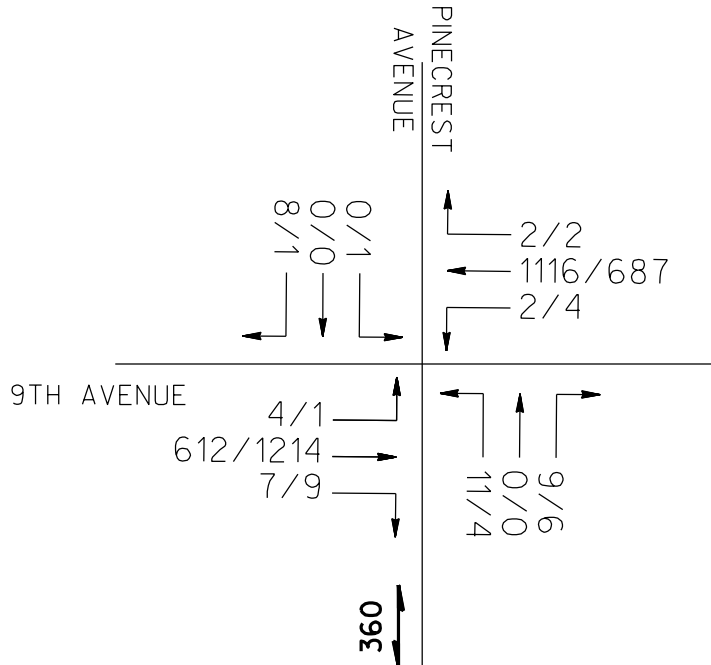
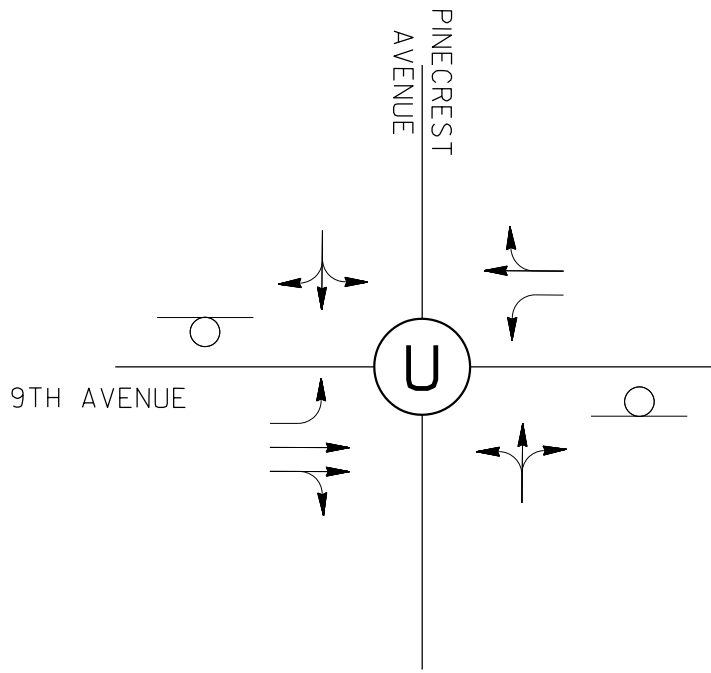
CONCLUSIONS/RECOMMENDATIONS

Based on the assessment results above, Pinecrest Avenue is anticipated to provide adequate roadway capacity. Currently the paved cross section along Pinecrest Avenue varies from 32' to 18'. It is recommended that Pinecrest Avenue be paved to the County's recommended 32', therefore providing a cross section consistent with County standards along this roadway. It is further recommended that a more detailed analysis be conducted at the intersection of 9th Avenue/Pinecrest Avenue to determine any improvements necessary to improve the LOS.

Sincerely,
RICK ENGINEERING COMPANY

Carlos C. Perez M., TE
Assistant Project Engineer





NTS



EXHIBIT 2

EXISTING CONDITIONS AND
TRAFFIC VOLUMES
NCM402 LAND USE AND
ZONING ASSESSMENT

LEGEND

xxx/xxx = AM/PM PEAK HOUR

x,xxx = AVERAGE DAILY TRAFFIC VOLUME

= UNSIGNALIZED

= STOP CONTROLLED

**REVISED TABLE 1
NCM402 LAND USE AND ZONING ASSESSMENT
NCM402 AREA**



| LAND USE | SIZE (AC)* | DWELLING UNITS** | EXISTING DWELLING UNITS | RATE*** | EXISTING ADT**** | ADT | ESTIMATED ALONG PINECREST AVENUE ADT | ANTICIPATED ADT |
|-----------------------------------|--------------------|---------------------|-------------------------------|------------------|---------------------|-------------------|---|--------------------|
| SR-0.5 | 6.70 | 3 | 3 | 10 | 30 | 30 | 360 | 360 |
| SR-1 | 6.70 | 6 | 3 | 10 | 30 | 60 | 360 | 390 |
| VR-2.9 | 6.70 | 19 | 3 | 10 | 30 | 190 | 360 | 520 |
| VR-4.3 | 6.70 | 28 | 3 | 10 | 30 | 280 | 360 | 610 |
| VR-7.3 | 6.70 | 48 | 3 | 10 | 30 | 480 | 360 | 810 |
| <i>VR-10.9¹</i> | <i>6.70</i> | <i>73</i> | <i>3</i> | <i>10</i> | <i>30</i> | <i>730</i> | <i>360</i> | <i>1060</i> |
| VR-15 | 6.70 | 100 | 3 | 10 | 30 | 1000 | 360 | 1330 |

*Acreage calculated based on development constraints such as steep slope

**Factored in the County's policy of rounding down residential densities, if applicable

***Trip rate for Single Family Detached (average 3-6 DU/acre) from Sandag's (not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region

****Deduct from estimated ADT

¹ Per county direction estimated number of dwelling units for land use VR-10.9. Revised 07/15/2020

TABLE 2
NCM402 LAND USE AND ZONING ASSESSMENT
SOUTHERN PARCEL



| LAND USE | SIZE (AC)* | DWELLING UNITS** | RATE*** | ADT | ESTIMATED ALONG PINECREST AVENUE ADT | ANTICIPATED ADT |
|----------|---------------|------------------|---------|-----|---|--------------------|
| SR-0.5 | 2.80 | 6 | 10 | 60 | 360 | 420 |
| SR-1 | 2.80 | 3 | 10 | 30 | 360 | 390 |
| VR-2.9 | 2.80 | 9 | 10 | 90 | 360 | 450 |
| VR-4.3 | 2.80 | 13 | 10 | 130 | 360 | 490 |
| VR-7.3 | 2.80 | 23 | 10 | 230 | 360 | 590 |
| VR-15 | 2.80 | 48 | 10 | 480 | 360 | 840 |

*Acreage calculated based on development constraints such as steep slope

**Factored in the County's policy of rounding down residential densities, if applicable

***Trip rate for Single Family Detached (average 3-6 DU/acre) from Sandag's (not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region

ATTACHMENT A

Table 1 (Average Daily Vehicle Trips)

Table 2A (County of San Diego-Public Roads Standards Mobility Element Road Classification)

Table 2B (County of San Diego-Public Roads Standards Non-Mobility Element Road Classification)

TABLE 1
AVERAGE DAILY VEHICLE TRIPS*

| MOBILITY ELEMENT ROADS | | LEVELS OF SERVICE | | | | |
|-------------------------------------|-------------------------------------|-------------------|---------|---------|---------|----------|
| Road Classification | # of Travel Lanes | A | B | C | D | E |
| Expressway (6.1) | 6 | <36,000 | <54,000 | <70,000 | <86,000 | <108,000 |
| Prime Arterial (6.2) | 6 | <22,200 | <37,000 | <44,600 | <50,000 | <57,000 |
| Major Road | w/ Raised Median (4.1A) | 4 | <14,800 | <24,700 | <29,600 | <33,400 |
| | w/ Intermittent Turn Lanes (4.1B) | 4 | <13,700 | <22,800 | <27,400 | <30,800 |
| Boulevard | w/ Raised Median (4.2A) | 4 | <18,000 | <21,000 | <24,000 | <27,000 |
| | w/ Intermittent Turn Lanes (4.2B) | 4 | <16,800 | <19,600 | <22,500 | <25,000 |
| Community Collector | w/ Raised Median (2.1A) | 2 | <10,000 | <11,700 | <13,400 | <15,000 |
| | w/ Continuous Left Turn Lane (2.1B) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | w/ Intermittent Turn Lane (2.1C) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | w/ Passing Lane (2.1D) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | No Median (2.1E) | 2 | <1,900 | <4,100 | <7,100 | <10,900 |
| Light Collector | w/ Raised Median (2.2A) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | w/ Continuous Left Turn Lane (2.2B) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | w/ Intermittent Turn Lane (2.2C) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | w/ Passing Lane (2.2D) | 2 | <3,000 | <6,000 | <9,500 | <13,500 |
| | No Median (2.2E) | 2 | <1,900 | <4,100 | <7,100 | <10,900 |
| | w/ Reduced Shoulder (2.2F) | 2 | <5,800 | <6,800 | <7,800 | <8,700 |
| Minor Collector | w/ Raised Median (2.3A) | 2 | <3,000 | <6,000 | <7,000 | <8,000 |
| | w/ Intermittent Turn Lane (2.3B) | 2 | <3,000 | <6,000 | <7,000 | <8,000 |
| | No Median (2.3C) | 2 | <1,900 | <4,100 | <6,000 | <7,000 |
| NON-MOBILITY ELEMENT ROADS** | | LEVELS OF SERVICE | | | | |
| Residential Collector | 2 | - | - | <4,500 | - | - |
| Rural Residential Collector*** | 2 | - | - | <4,500 | - | - |
| Residential Road | 2 | - | - | <1,500 | - | - |
| Rural Residential Road*** | 2 | - | - | <1,500 | - | - |
| Residential Cul-de-Sac or Loop Road | 2 | - | - | <200 | - | - |

* The values shown are subject to adjustment based on the geometry of the roadway, side frictions, and other relevant factors as determined by the Director, Department of Public Works.

** Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

*** Rural Residential Collectors and Rural Residential Roads are intended to serve areas with lot sizes of 2 acres or more which do not have a demand for on-street parking. On-street parking is not assured for these cross sections. Additional right-of-way is needed if on-street parking is in paved area.

**** See Tables 2A and 2B for roadway surfacing and right-of-way widths.

TABLE 2A: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

MOBILITY ELEMENT ROAD CLASSIFICATIONS

| ROAD CLASSIFICATION | # LANES / LANE WIDTH | MEDIAN WIDTH | ROAD SURFACING WIDTH | R.O.W. WIDTH | PAVED SHOULDER (# / WIDTH) | PARKWAY WIDTH | MIN. CURVE RADIUS | MAX. DESIRABLE GRADE | MIN. DESIGN SPEED (MPH) |
|---------------------------------------|-------------------------|-----------------|----------------------------|-----------------|----------------------------------|------------------|-------------------------|----------------------------|----------------------------|
| Expressway (6.1) | 6 / 12' | 34' | 126' | 146' | 2 / 10' | 10' | 1,700' | 6% | 65 |
| Prime Arterial (6.2) | 6 / 12' | 14' | 102' | 122' | 2 / 8' | 10' | 1,700' | 6% | 65 |
| Major Road | | | | | | | | | |
| With Raised Median (4.1A) | 4 / 12' | 14' | 78' | 98' | 2 / 8' | 10' | 1,200' | 7% | 55 |
| With Intermittent Turn Lanes (4.1B) | 4 / 12' | - | 64' - 78' | 84' - 98' | 2 / 8' | 10' | 1,200' | 7% | 55 |
| Boulevard | | | | | | | | | |
| With Raised Median (4.2A) | 4 / 12' | 14' | 78' | 106' | 2 / 8' | 14' | 500' | 9% | 40 |
| With Intermittent Turn Lanes (4.2B) | 4 / 12' | - | 64' - 78' | 92' - 106' | 2 / 8' | 14' | 500' | 9% | 40 |
| Community Collector | | | | | | | | | |
| With Raised Median (2.1A) | 2 / 12' | 14' | 54' | 74' | 2 / 8' | 10' | 700' | 9% | 45 |
| With Continuous Left Turn Lane (2.1B) | 2 / 12' | 14' | 54' | 74' | 2 / 8' | 10' | 700' | 9% | 45 |
| With Intermittent Turn Lanes (2.1C) | 2 / 12' | - | 40' - 54' | 60' - 74' | 2 / 8' | 10' | 700' | 9% | 45 |
| With Improvement Options (2.1D) | 2 / 12' | - | 40' - 54' | 84' | 2 / 8' | 15' - 22' | 700' | 9% | 45 |
| No Median (2.1E) | 2 / 12' | - | 40' | 60' | 2 / 8' | 10' | 700' | 9% | 45 |
| Light Collector | | | | | | | | | |
| With Raised Median (2.2A) | 2 / 12' | 14' | 54' | 78' | 2 / 8' | 12' | 500' | 9% | 40 |
| With Continuous Left Turn Lane (2.2B) | 2 / 12' | 14' | 54' | 78' | 2 / 8' | 12' | 500' | 9% | 40 |
| With Intermittent Turn Lanes (2.2C) | 2 / 12' | - | 40' - 54' | 64' - 78' | 2 / 8' | 12' | 500' | 9% | 40 |
| With Improvement Options (2.2D) | 2 / 12' | - | 40' - 54' | 88' | 2 / 8' | 17' - 24' | 500' | 9% | 40 |
| No Median (2.2E) | 2 / 12' | - | 40' | 64' | 2 / 8' | 12' | 500' | 9% | 40 |
| With Reduced Shoulder (2.2F) | 2 / 12' | - | 28' | 52' | 2 / 2' | 12' | 500' | 9% | 40 |
| Minor Collector | | | | | | | | | |
| With Raised Median (2.3A) | 2 / 12' | 14' | 54' | 82' | 2 / 8' | 14' | 350' | 12% | 35 |
| With Intermittent Turn Lanes (2.3B) | 2 / 12' | - | 40' - 54' | 68' - 82' | 2 / 8' | 14' | 350' | 12% | 35 |
| No Median (2.3C) | 2 / 12' | - | 40' | 68' | 2 / 8' | 14' | 350' | 12% | 35 |

NOTES:

- 1 Minimum longitudinal gradient shall be 1.0 percent for all road classificationis shown above.
- 2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.
- 3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.
- 4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.
- 5 Additional pavement and ROW may be required for ME Boulevards / Community Collectors (4 feet) and Light Collectors (12 feet) in Industrial/Commercial Zones.
- 6 ME roads needing additional turn or passing lanes will require an additional 12 to 14 feet of pavement and ROW for each lane.
- 7 The maximum superelevation allowed on ME roads is 6%. Superelevation is not normally required on Non-ME roads.
- 8 ME roads designated with Bike Lanes will require an additional 10 feet of pavement and ROW. This may be increased to 12' for four-lane roads and above based upon the provisions in Section 7.3 of these standards.
- 9 The minimum curve radii, shown in the table above, are based on the design speed with 6% superelevation.
- 10 Interim roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.
- 11 Road surfacing widths include median width.

TABLE 2B: COUNTY OF SAN DIEGO - PUBLIC ROAD STANDARDS

NON-MOBILITY ELEMENT ROAD CLASSIFICATIONS

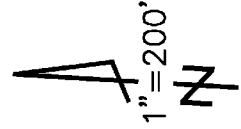
| ROAD CLASSIFICATION | # LANES / LANE WIDTH | MEDIAN WIDTH | ROAD SURFACING WIDTH | R.O.W. WIDTH | PAVED SHOULDER (# / WIDTH) | PARKWAY WIDTH | MINIMUM CURVE RADIUS | MAXIMUM DESIRABLE GRADE | MINIMUM DESIGN SPEED (MPH) |
|---|-------------------------|-----------------|----------------------------|-----------------|----------------------------------|------------------|----------------------------|-------------------------------|----------------------------------|
| Residential Collector | 2 / 12' | - | 40' | 60' | 2 / 8' | 10' | 300' | 12% | 30 |
| Rural Residential Collector * | 2 / 12' | - | 28' | 48' | 2 / 2' | 10' | 300' | 12% | 30 |
| Residential Road | 2 / 12' | - | 36' | 56' | 2 / 6' | 10' | 200' | 15% | 30 |
| Rural Residential Road * | 2 / 12' | - | 28' | 48' | 2 / 2' | 10' | 200' | 15% | 30 |
| Residential Cul-de-sac | 2 / 12' | - | 32' | 52' | 2 / 4' | 10' | 200' | 15% | 30 |
| Residential Loop | 2 / 12' | - | 32' | 52' | 2 / 4' | 10' | 200' | 15% | 30 |
| | | | | | | | | | |
| Industrial/Commerical Collector | 4 / 12' | - | 68' | 88' | 2 / 10' | 10' | 300' | 8% | 30 |
| Industrial/Commerical | 2 / 16' | - | 52' | 72' | 2 / 10' | 10' | 200' | 8% | 30 |
| Industrial/Commercial Cul-de-sac | 2 / 16' | - | 52' | 72' | 2 / 10' | 10' | 200 | 8% | 30 |
| | | | | | | | | | |
| Frontage | 2 / 12' | - | 32' min | 52' min | 1 / 8' | 10' | See above | See above | - |
| Alley | 2 / 10' | - | 20-30' | 20-30' | None | None | 50' | 12% | n/a |
| Hillside Residential | See NOTE 4 | - | - | - | - | - | - | - | - |

- NOTES:**
- 1 Minimum longitudinal gradient shall be 1.0 percent for all road classificationis shown above.
 - 2 The maximum grade for a permanent cul-de-sac street turning area shall be 6 percent.
 - 3 The maximum grade for a temporary cul-de-sac street turning area shall be that of the classification of the road being constructed.
 - 4 For standards, see County Design Standard Drawing DS-2, DS-3, DS-4, and Section 4.5N of these Standards.
 - 5 The minimum curve radii, shown in the table above, are based on the design speed with 6% superelevation.
 - 6 Interim roads are to be a minimum of 28 feet A.C. within a 40 feet graded roadbed. They may be larger if traffic volumes require more travel lanes.

LEGEND: * Serves lots > 2 acres in size w/
no demand for on-street parking

ATTACHMENT B

APN Documents



235-10

232
24

232
26

WEST

9 TH

VINE ST

232
33

02/10/05

SHT 2

CHANGES

| BLK | OLD | NEW | YR | CUT |
|-----|-----|-----------|--------|---------|
| 100 | 8 | 38-39 | 71 | 3727 |
| | | 10-14, 16 | 81 COR | |
| | | 18-30 | 40-46 | 72 7737 |
| | | 39 | 47-50 | 73 1686 |
| | | Pick-up | 48 73 | 2633 |
| | | 38-47 | 49 75 | 225 |
| | | Pick-up | 50 84 | 3553 |
| | | 37 | 51-52 | 86 2663 |
| | | 25-50 | 51 W/O | 87 1708 |
| | | 51-52 | 53-54 | 87 1708 |
| | | 40 | 55-56 | 88 1195 |
| | | 53-54 | 57-58 | 97 1175 |
| | | 48-57 | 59-60 | 98 1188 |
| | | 58-60 | SAME | 98 4684 |
| | | 59 | 61-70 | 98 66 |
| | | 65-66 | 71 05 | 2108 |

S.C.C.

TANGLEWOOD LN

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A vertical ruler with markings from 1 to 6. The ruler is oriented vertically with the number 1 at the top and 6 at the bottom. Each number is placed in the center of a rectangular box. The boxes are separated by thin vertical lines. The ruler has small tick marks between the numbers, indicating increments of 1/10.

40

235-8,11



THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE DATA SHOWN. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL SUBDIVISION OR BUILDING ORDINANCES.

SAN DIEGO COUNTY ASSESSOR'S MAP BK 235 PG 11

JAN 07 1993