

Report

# West Carson TOD Sewer Area Study

West Carson TOD Specific Plan – PC 12386AS

(ESTU2017000163)

SEWER AREA STUDY  
APPROVED

APPROVED BY: Bereket Tadele RCE NO. 80462 DATE 04/25/2018

CHECKED BY: Bereket Tadele DATE 04/25/2018

COUNTY OF LOS ANGELES  
DEPARTMENT OF PUBLIC WORKS  
LAND DEVELOPMENT DIVISION

THIS APPROVAL EXPIRES TWO YEARS FROM THE DATE OF APPROVAL



THIS APPROVAL IS ONLY TO IDENTIFY POTENTIAL AREAS THAT MAY GENERATE FLOW EXCEEDING THE EXISTING SEWER CAPACITY AT FULL BUILDOUT.

DETAILED SEWER AREA STUDY MAY BE REQUIRED AT THE TIME OF SPECIFIC DEVELOPMENTS TO DETERMINE IF SEWER MITIGATION IS NECESSARY.



Prepared  
by IBI Group

April 25, 2018

# 1 Sewer System

## 1.1 Introduction

The sewer infrastructure study is an analysis of the existing and planned sewer utilities/infrastructure within the West Carson Transit Oriented Development (TOD) Specific Plan area. Analysis of the existing sewer infrastructure in comparison to a proposed buildout condition is intended to identify areas of concern where existing infrastructure has the potential to be inadequate based on a full “build-out” of the Specific Plan. The analysis of the existing sewer network is based on information compiled from existing data researched and retrieved from Los Angeles County Department of Public Works (LACDPW), Los Angeles County Sanitation District (LACSD), private utility purveyors, discussion with these agencies, as well as public information presented from each.

The existing area is developed with residential and commercial properties, two public schools, a hospital and associated offices, and an industrial zone. The available infrastructure has no constraints regarding redevelopment and property usage plans.

## 1.2 Site Description

West Carson is an unincorporated area of Los Angeles County located 2 miles west of the City of Carson. The TOD study area is centered on the Metro Silver Line bus station, located at the I-110/Carson Street interchange. The Harbor UCLA Medical Center is located adjacent to the Specific Plan area and within the station area. The medical center is expected to increase the square footage of its facilities as part of a separate master plan. This proposed increase in square footage is included in this analysis as part of growth without the Specific Plan. Two elementary schools are in the area, as well as nearly 140 acres of residential zones. Near the hospital are zones of mixed use – industry, retail, food, etc. The Specific Plan area is bounded on the North by the 208<sup>th</sup> Street Channel and Torrance Boulevard; bounded on the East by the California 110 Freeway; Bounded by the South by 223<sup>rd</sup> Street; and bounded by the West by Normandie Avenue.

## 1.3 Description of Existing Sewer System

The City of West Carson is currently serviced by two sanitary systems. The Los Angeles County Sewer Maintenance District services local collection lines, while trunk sewers and treatment facilities are serviced by Los Angeles County Sanitation Districts (LACSD). Local collection lines are primarily 8” in diameter and composed of Vitrified Clay Pipe (VCP). These are routinely assessed through CCTV inspection, and repaired and replaced as part of a continuous improvement plan maintained by the Department of Public Works. The 8” sanitary collection lines are sufficient size to collect sanitary waste from houses and shops in the area and transport them to the main collection trunks.

There are four main segments of LACSD trunk lines collecting the sewage from the Specific Plan area. The northeast corner of the Specific Plan area is served by a 12” VCP Trunk. Another trunk line runs east on Desford, south on Berendo, and east on Carson Street before connecting with the large trunk that runs south on Vermont Avenue. A third trunk line, 54” in diameter, runs east on Carson Street at the Specific Plan boundary, cutting south through the Harbor-UCLA Medical Center campus along the same center line as Meyler Street, continuing south past the Specific Plan boundary. The final trunk line runs east on 223rd Street, connecting with the second trunk and continuing south on Vermont Avenue. There are three segments of trunk line that are out of service – 1) 63” trunk running east along South Avenue connecting at Vermont Avenue, 2) 66” to 78” trunk running south along Vermont Avenue from Carson Street to 223rd Street, 3) The continuation of the first unused trunk running south from 220th Street to 223rd Street. The majority of these lines are reinforced concrete with linings.

The Specific Plan Area was delineated into 14 sewer main tributary areas which connect into the trunks of the Los Angeles County Sewer Maintenance Districts. These are detailed below and illustrated in Section 3 of the Appendix:

**223<sup>rd</sup> Street West of Meyler (Tributary Area 1)** – Existing 8” pipe on the west side of Meyler Street in the southwestern portion of the Specific Plan area. Collects from proposed zones: Residential 1, Residential 3, Public (as Meyler Street Elementary) and additional flow from Residential 1 zones south of the Specific Plan area. The zone connects to the trunk from manhole 232 into the trunk along 223<sup>rd</sup> Street.

**223<sup>rd</sup> Street East of Meyler (Tributary Area 2)** – Existing 8” pipe on the east side Meyler Street in the southern portion of the Specific Plan area. Collects from proposed zones: Residential 1, Unlimited Commercial, Industrial Flex, and additional flow from Residential 1, Residential Planned Development, and Industrial zones south of the Specific Plan area. The zone connects to the trunk from manhole 195 along 223<sup>rd</sup> Street.

**Jay Street West of Meyler (Tributary Area 3)** – Existing 8” pipe west of Meyler Street along Jay Street. Collects Residential 1 development. Connects to the No. 5 Main Trunk from manhole 973.

**Jay Street East of Meyler (Tributary Area 4)** – Existing 8” pipe east of Meyler Street along Jay Street. Collects Residential 1 development. Connects to the No. 5 Main Trunk from manhole 203.

**220<sup>th</sup> Street (Tributary Area 5)** – Existing 8” pipe on the east side of Meyler Street collecting. Collects Residential 1, Residential 3, and Residential Planned development. Connects to the Meyler Street Trunk at 223<sup>rd</sup> Street from manhole 395.

**Vermont Avenue at 220<sup>th</sup> Street (Tributary Area 6)** – Existing 8” pipe on the east side of Vermont Avenue in the southeastern portion of the Specific Plan area. Collects from proposed zones: Mixed Use Development 2, Industrial Flex, Residential 3, and Residential 4. Connects to Sanitation District Trunk from manhole 1082.

**Medical Center (Tributary Area 7)** – The Harbor-UCLA Medical Center is a collection of existing 8” to 15” pipes bound by Normandie Avenue, Vermont Avenue, 220<sup>th</sup> Street, and Carson Street. Manhole 1056 appears to connect some of this area to the trunk sewer. It is unknown the exact configuration of collection lines nor which trunk system they ultimately connect to because they are privately owned.

**Vermont Avenue South of Carson (Tributary Area 8)** – Existing 8” pipe on the south side of Carson Street that collects sewage in the eastern portion of the plan. Collects from Mixed Use Development 2. Connects to the Joint Outfall D sewer from manhole 130.

**Vermont Avenue North of Carson (Tributary Area 9)** – Existing 8” pipe on the north side of Carson Street that collects a small area north of Carson Street and west of Vermont Avenue. It collects sewage from Residential 4 and Mixed Use Development 1. Connects to the Joint Outfall D sewer from Manhole 132.

**West Carson Street (Tributary Area 10)** – Existing 8” pipe on Carson Street east of Berendo Avenue. Collects a small area of Mixed Use Development 1 zoning. Connects to the Joint Outfall D sewer from manhole 432.

**Berendo and Broadwell Avenue (Tributary Area 11)** – Existing 8” line collecting Residential 1 along Berendo Avenue and Broadwell, extending as far north as the back end of properties on Budlong and Meyler Courts. Collects from zones Mixed Use 1 and Residential 1. Connects to the Joint Outfall D sewer from manhole 271.

**Desford Avenue (Tributary Area 12)** – Existing 8” line collecting all sewage in the northwest portion of the plan through both a force main and gravity fed lines. Collects from zones: Residential 1, Mixed Use Development 1, and Residential 4. It also collects from zones outside of the plan area: Residential 1 north of the 208<sup>th</sup> Street Drain, and a collection line from the City of Los Angeles. Connects to the Joint Outfall D sewer from Manhole 436.

**Van Deene Avenue (Tributary Area 13, 13A, 13A1, 13A2, 13A2)** – Existing 10” line collecting all lines east of Vermont Avenue and north of Carson Street with exception to the Greenhedge cul-de-sac. This collection zone was delineated into 13A and 13B. 13A is further split into 8” collection areas, 13A1 and 13A2. 13A1 collects from Residential 1 East of Van Deene Avenue and South to 212<sup>th</sup> Street, as well as Van Deene Elementary. 13A2 collects from Mixed Use Development 1 and Mixed Use Development 2 east of Vermont and north of Carson, Residential 1 east of Vermont and West of Van Deene Elementary, and

Planned Development east of Vermont. 13A1 and 13A2 combine at manhole 94. 13B is an 8" line that collects Residential 1 from Doble Avenue and continues to the Torrance Avenue Trunk. It connects with 13A at manhole 96.

Once it combines 13A and 13B into a 10" sewer, it also collects the Neighborhood Commercial Zone on the North end of the Plan Area. Connects to the Torrance Boulevard Trunk from manhole 100.

**Greenhedge Avenue (Tributary Area 14)** – Existing 8" line collecting the Greenhedge cul-de-sacs of Residential 1. Connects with Torrance Boulevard Trunk at Conradi Avenue from manhole 101.

## 1.4 Methodology

The analysis conducted in this section for sewer systems assesses the potential impact of the proposed Specific Plan in terms of the system's physical capacity to transport wastewater through collection mains. There is an increase in land use density in the proposed build-out, with a corresponding increase in water and wastewater demand anticipated. While strictly single-family residential areas are minimally affected, the increases in other zones warrants analysis. Collection areas were delineated from collection line locations. Sewage effluent in each collection area was calculated using the Zoning Coefficient for runoff for a typical sewer area study developed by Los Angeles County Department of Public Works Land Development Division. Each planned development zone's acreage in collection zones was used with the Zoning Coefficient to determine total flow through the lines.

All existing sewer mains in the Specific Plan area are 8" or above in diameter. Using the minimum allowable slope of 0.24% for 8" mains and 0.20% for 10" mains, the half full capacity for the existing sewer pipes is 0.269 cfs for 8" mains and 0.455 cfs for 10" pipes. Design capacity for lines below 15" diameter, defined by LA County Sanitation District, is half of the diameter of the pipe to be filled.

One of the purposes of this study is to determine the deficiencies in existing utilities when using the future development of the Plan Area. Based on this analysis, five (5) of the existing tributary areas have the potential to exceed the existing sewage capacity defined by LA County. Tributary Areas 2, 6, 8, 12, and 13 have the potential to exceed the existing sewage capacity of their connecting sewer mains. Tributary Area 13, which has been further broken into subareas based on pipe sizes has two locations within it that identify as having the potential to exceed the existing sewage capacity of their mains. The remaining tributary areas, based on zoning coefficients from Los Angeles County, should remain below the designed sewage capacity.

- Tributary Area 2 has an estimated cumulative sewage flow of 0.550 cfs which is 204% of the design capacity of 0.269 cfs allowed by an 8" collection line. This area includes flow from Residential 1, Unlimited Commercial, Industrial Flex, and additional flow from outside the TOD Plan Area.
- Tributary Area 6 has an estimated cumulative sewage flow of 0.580 cfs which is 215% of the design capacity of 0.269 cfs allowed by an 8" collection line. This area includes flow from Mixed Use Development 2, Residential 4, Industrial Flex, and Residential 3.
- Tributary Area 8 has an estimated cumulative sewage flow of 0.378 cfs which is 140% of the design capacity of 0.269 cfs allowed by an 8" collection line. This area includes flow from Mixed use Development 2.
- Tributary Area 12 has an estimated cumulative sewage flow of 0.625 cfs which is 232% of the design capacity of 0.269 cfs allowed by an 8" collection line. This area includes flow from Residential 1, Mixed Use Development 1, and Residential 4 in the Plan Area. This area also includes flow from Residential 1 outside of the Plan Area, as well as additional flow from a City of Los Angeles sewer that connects to manhole 329. Communications with the City have indicated the peak flow from the most recent analysis performed in 2007 of the 8" sewer to be 0.097 cfs. This analysis is included in Appendix 7.
- Tributary Area 13 has an estimated cumulative flow of 0.551 cfs which is 120% of the design capacity of 0.455 cfs allowed by a 10" collection line. This area includes flow from two lines – 13A

and 13B in the Plan Area and collects from Residential 1, Mixed Use Development 1, Mixed Use Development 2, Residential Planned Development, Neighborhood Commercial, and a public elementary school.

- Area 13A has an estimated cumulative sewage flow of 0.464 cfs which is 102% of the design capacity of 0.455 cfs allowed by a 10" collection line. Area 13A was broken into two subareas based on 8" collection lines – 13A1 and 13A2.
  - The 8" collection pipe associated with Sub-Area 13A2 – as detailed in the map included with this report, has an estimated cumulative sewage flow of 0.369 cfs which is 137% of the design capacity of 0.269 cfs allowed by an 8" collection line.

Due to the preliminary nature of this analysis, final buildout, including building layout and schedule is unknown at this time. As such, exact flows cannot be determined. The purpose of this study is to identify locations where existing infrastructure could potentially be inadequate to service final buildout conditions.

## 1.5 Conclusion

A more detailed analysis of types of buildings and historical flows in areas where little to no build-out will occur can mitigate some of the issues in collection mains

Since the design identifies full "build out" condition, there is no immediate need for upgrades to the existing sewer mains. A detailed study – with projected building and consumer flows – around the existing tributary areas of potential will identify the required upgrades to the tributaries. In general, new or upgraded sewer laterals are required for new buildings. This is paid for by the developers. All new sewer infrastructure development and upgrades will have to be reviewed by the County's Department of Public Works.

The analysis identified five (5) subareas where existing sewer has the potential to exceed the sewer design capacity. These five subareas are: Tributary Area 2, Tributary Area 6, Tributary Area 8, Tributary Area 12, and Tributary Area 13.

## 1.6 Attachments and Exhibits

- Sewer Area Calculation
- Estimated Average Daily Sewage Flows
- Tributary Areas for Calculating Sewer Demand
- Collection Points for Sewer Tributary Areas (2 total)
- LA County Consolidated Sewer Maintenance District (CSMD) Index Maps (2 total)
- LA County Zoning Map
- LA City Pipe Flow 2007

**Sewer Area Study Table**

\* Calculated using Kutter's Formula with n=0.013 (as in S-C4 graph in PC Procedural Manual)

\*\* Based on current land use and coefficients per LA County, (Attach supporting calculations)

\*\*\* For pipes > 15" % Full should be calculated by taking the flow depth divided by 0.75 times the pipe diameter

| Street Name  | Segment     |              | Pipe       |             | *Capacity      |                | Area (Acres) | Zoning Coeff. | Calculated Flow (cfs) | **Cumulative Calculated Flow (cfs) | PC or CI Construction Plan # | Comment   | % Full                     |
|--|-------------|--------------|------------|-------------|----------------|----------------|--------------|---------------|-----------------------|------------------------------------|------------------------------|---|----------------------------|
|  | M.H. #      | M.H. #       | Size (in.) | Slope (%)   | 1/2 Full(<15") | 3/4 Full(>15") |              |               |                       |                                    |                              |   | Cumulative Flow / Capacity |
| <b>Tributary Area 1 (223rd Street West of Meyler)</b>                                    | <b>232</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>89.01%</b>              |
| Residential 1  |             |              |            |             |                |                | 6.6          | 0.004         | 0.026                 | 0.026                              |                              |   | 9.80%                      |
| Residential 3  |             |              |            |             |                |                | 2            | 0.012         | 0.024                 | 0.050                              |                              |   | 18.71%                     |
| Public - Meyler Street Elementary - 1050 Students * 10 gallons/student/day*2.5 peak flow |             |              |            |             |                |                |              |               | 0.041                 | 0.091                              |                              | 1,050 student capacity                                    | 33.93%                     |
| Additional Area (Residential 1, as A1)   |             |              |            |             |                |                | 8.6          | 0.004         | 0.034                 | 0.126                              |                              |   | 46.70%                     |
| Additional Area (Light Industrial, as M1)  |             |              |            |             |                |                | 7.6          | 0.015         | 0.114                 | 0.240                              |                              |   | 89.01%                     |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 2 (223rd Street East of Meyler)</b>                                    | <b>195</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>204.27%</b>             |
| Residential 1  |             |              |            |             |                |                | 4.1          | 0.004         | 0.016                 | 0.016                              |                              |   | 6.09%                      |
| Unlimited Commercial   |             |              |            |             |                |                | 6.8          | 0.015         | 0.102                 | 0.118                              |                              | Higher zoning coefficient than estimated zion evangelical | 43.95%                     |
| Industrial Flex  |             |              |            |             |                |                | 4.9          | 0.021         | 0.103                 | 0.221                              |                              |   | 82.14%                     |
| Additional Area (Residential 1)  |             |              |            |             |                |                | 30.6         | 0.004         | 0.122                 | 0.344                              |                              |   | 127.58%                    |
| Additional Area (RPD R-3-17U-DP)   |             |              |            |             |                |                | 1            | 0.017         | 0.017                 | 0.361                              |                              |   | 133.89%                    |
| Additional Area (RPD R-3-24U-DP)   |             |              |            |             |                |                | 1            | 0.024         | 0.024                 | 0.385                              |                              |   | 142.80%                    |
| Additional Area (RPD-5000-12U)   |             |              |            |             |                |                | 5.9          | 0.012         | 0.071                 | 0.456                              |                              |   | 169.08%                    |
| Additional Area (Residential 3)  |             |              |            |             |                |                | 4.4          | 0.012         | 0.053                 | 0.508                              |                              |   | 188.68%                    |
| Additional Area (Light Industrial, as M1)  |             |              |            |             |                |                | 2.8          | 0.015         | 0.042                 | 0.550                              |                              |   | 204.27%                    |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 3 (Jay Street West of Meyler)</b>                                      | <b>973</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>9.21%</b>               |
| Residential 1  |             |              |            |             |                |                | 6.2          | 0.004         | 0.025                 | 0.025                              |                              |   | 9.21%                      |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 4 (Jay Street East of Meyler)</b>                                      | <b>203</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>6.53%</b>               |
| Residential 1  |             |              |            |             |                |                | 4.4          | 0.004         | 0.018                 | 0.018                              |                              |   | 6.53%                      |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 5 (200 th Street)</b>  | <b>395</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>48.11%</b>              |
| Residential 1  |             |              |            |             |                |                | 20.4         | 0.004         | 0.082                 | 0.082                              |                              |   | 30.29%                     |
| Residential 3  |             |              |            |             |                |                | 2.1          | 0.012         | 0.025                 | 0.107                              |                              |   | 39.64%                     |
| Residential Planned Development  |             |              |            |             |                |                | 1.9          | 0.012         | 0.023                 | 0.130                              |                              |   | 48.11%                     |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 6 (Vermont Ave. at 220th Street)</b>                                   | <b>1082</b> | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>215.33%</b>             |
| Mixed Use Development 2  |             |              |            |             |                |                | 3.1          | 0.015         | 0.047                 | 0.047                              |                              |   | 17.26%                     |
| Residential 4  |             |              |            |             |                |                | 5.9          | 0.016         | 0.094                 | 0.141                              |                              |   | 52.30%                     |
| Industrial Flex  |             |              |            |             |                |                | 18.8         | 0.021         | 0.395                 | 0.536                              |                              |   | 198.85%                    |
| Residential 3  |             |              |            |             |                |                | 3.7          | 0.012         | 0.044                 | 0.580                              |                              |   | 215.33%                    |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 7 (Medical Center)</b>   | <b>1056</b> | <b>Trunk</b> |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| Medical Center (NOT USED)  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 8 (Vermont Ave. South of Carson)</b>                                   | <b>130</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>140.31%</b>             |
| Mixed Use Development 2  |             |              |            |             |                |                | 25.2         | 0.015         | 0.378                 | 0.378                              |                              |   | 140.31%                    |
|  |             |              |            |             |                |                |              |               |                       |                                    |                              |   |                            |
| <b>Tributary Area 9 (Vermont Ave. North of Carson)</b>                                   | <b>132</b>  | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |   | <b>53.60%</b>              |
| Residential 4  |             |              |            |             |                |                | 4.9          | 0.016         | 0.078                 | 0.078                              |                              |   | 29.10%                     |
| Mixed Use Development 1  |             |              |            |             |                |                | 4.4          | 0.015         | 0.066                 | 0.144                              |                              |   | 53.60%                     |

**Sewer Area Study Table**

\* Calculated using Kutler's Formula with n=0.013 (as in S-C4 graph in PC Procedural Manual)

\*\* Based on current land use and coefficients per LA County, (Attach supporting calculations)

\*\*\* For pipes > 15" % Full should be calculated by taking the flow depth divided by 0.75 times the pipe diameter

| Street Name   | Segment    |              | Pipe       |             | *Capacity      |                | Area (Acres) | Zoning Coeff. | Calculated Flow (cfs) | **Cumulative Calculated Flow (cfs) | PC or CI Construction Plan # | Comment                 | % Full<br>Cumulative Flow / Capacity |
|---|------------|--------------|------------|-------------|----------------|----------------|--------------|---------------|-----------------------|------------------------------------|------------------------------|-------------------------|--------------------------------------|
|   | M.H. #     | M.H. #       | Size (in.) | Slope (%)   | 1/2 Full(<15") | 3/4 Full(>15") |              |               |                       |                                    |                              |                         |                                      |
| <b>Tributary Area 10 (West Carson Street)</b>   | <b>433</b> | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>8.91%</b>                         |
| Mixed Use Development 1   |            |              |            |             |                |                | 1.6          | 0.015         | 0.024                 | 0.024                              |                              |                         | 8.91%                                |
| <b>Tributary Area 11 (Berendo and Broadwell Ave.)</b>                                 | <b>271</b> | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>12.03%</b>                        |
| Residential 1   |            |              |            |             |                |                | 5.1          | 0.004         | 0.020                 | 0.020                              |                              |                         | 7.57%                                |
| Mixed Use Development 1   |            |              |            |             |                |                | 0.8          | 0.015         | 0.012                 | 0.032                              |                              |                         | 12.03%                               |
| <b>Tributary Area 12 (Desford Ave.)</b>   | <b>436</b> | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>231.85%</b>                       |
| Residential 1   |            |              |            |             |                |                | 64.3         | 0.004         | 0.257                 | 0.257                              |                              |                         | 95.47%                               |
| Mixed Use Development 1   |            |              |            |             |                |                | 9            | 0.015         | 0.135                 | 0.392                              |                              |                         | 145.58%                              |
| Residential 4   |            |              |            |             |                |                | 3            | 0.016         | 0.048                 | 0.440                              |                              |                         | 163.40%                              |
| Additional Area (Residential 1)   |            |              |            |             |                |                | 21.8         | 0.004         | 0.087                 | 0.527                              |                              |                         | 195.77%                              |
| Additional Flow From City of LA - 25% full depth of pipe, 8" pipe                     |            |              |            |             |                |                | 1            | 0.0972        | 0.097                 | 0.625                              |                              | Connects to Manhole 329 | 231.85%                              |
| <b>Tributary Area 13A</b>   | <b>95</b>  | <b>96</b>    | <b>10</b>  | <b>0.2</b>  | <b>0.46</b>    |                |              |               |                       |                                    |                              |                         | <b>101.93%</b>                       |
| Residential 1   |            |              |            |             |                |                | 35.8         | 0.004         | 0.143                 | 0.143                              |                              |                         | 31.44%                               |
| Mixed Use Development 1   |            |              |            |             |                |                | 5.8          | 0.015         | 0.087                 | 0.230                              |                              |                         | 50.55%                               |
| Mixed Use Development 2   |            |              |            |             |                |                | 9.2          | 0.015         | 0.138                 | 0.368                              |                              |                         | 80.85%                               |
| Residential Planned Development   |            |              |            |             |                |                | 6            | 0.012         | 0.072                 | 0.440                              |                              |                         | 96.66%                               |
| Public - Van Deene Elementary - 625 students * 10 gallons/student/day * 2.5 peak flow |            |              |            |             |                |                |              |               | 0.024                 | 0.464                              |                              | 625 student capacity    | 101.93%                              |
| <b>Tributary Area 13A1</b>  | <b>93</b>  | <b>94</b>    | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>136.97%</b>                       |
| Residential 1   |            |              |            |             |                |                | 18           | 0.004         | 0.072                 | 0.072                              |                              |                         | 26.73%                               |
| Mixed Use Development 1   |            |              |            |             |                |                | 5.8          | 0.015         | 0.087                 | 0.159                              |                              |                         | 59.02%                               |
| Mixed Use Development 2   |            |              |            |             |                |                | 9.2          | 0.015         | 0.138                 | 0.297                              |                              |                         | 110.24%                              |
| Residential Planned Development   |            |              |            |             |                |                | 6            | 0.012         | 0.072                 | 0.369                              |                              |                         | 136.97%                              |
| <b>Tributary Area 13A2</b>  | <b>109</b> | <b>94</b>    | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>35.34%</b>                        |
| Residential 1   |            |              |            |             |                |                | 17.8         | 0.004         | 0.071                 | 0.071                              |                              |                         | 26.43%                               |
| Public - Van Deene Elementary - 625 students * 10 gallons/student/day * 2.5 peak flow |            |              |            |             |                |                |              |               | 0.024                 | 0.095                              |                              | 625 student capacity    | 35.34%                               |
| <b>Tributary Area 13B</b>   | <b>97</b>  | <b>96</b>    | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>24.35%</b>                        |
| Residential 1   |            |              |            |             |                |                | 16.4         | 0.004         | 0.066                 | 0.066                              |                              |                         | 24.35%                               |
| <b>Tributary Area 13 (Van Deene Ave.)</b>   | <b>99</b>  | <b>100</b>   | <b>10</b>  | <b>0.2</b>  | <b>0.46</b>    |                |              |               |                       |                                    |                              |                         | <b>120.94%</b>                       |
| Residential 1   |            |              |            |             |                |                | 52.2         | 0.004         | 0.209                 | 0.209                              |                              |                         | 45.85%                               |
| Mixed Use Development 1   |            |              |            |             |                |                | 5.8          | 0.015         | 0.087                 | 0.296                              |                              |                         | 64.95%                               |
| Mixed Use Development 2   |            |              |            |             |                |                | 9.2          | 0.015         | 0.138                 | 0.434                              |                              |                         | 95.25%                               |
| Residential Planned Development   |            |              |            |             |                |                | 6            | 0.012         | 0.072                 | 0.506                              |                              |                         | 111.06%                              |
| Public - Van Deene Elementary - 625 students * 10 gallons/student/day                 |            |              |            |             |                |                |              |               | 0.024                 | 0.530                              |                              |                         | 116.33%                              |
| Neighborhood Commercial   |            |              |            |             |                |                | 1.4          | 0.015         | 0.021                 | 0.551                              |                              |                         | 120.94%                              |
| <b>Tributary Area 14 (Greenhedge Ave.)</b>  | <b>101</b> | <b>Trunk</b> | <b>8</b>   | <b>0.24</b> | <b>0.27</b>    |                |              |               |                       |                                    |                              |                         | <b>13.81%</b>                        |
| Residential 1   |            |              |            |             |                |                | 9.3          | 0.004         | 0.037                 | 0.037                              |                              |                         | 13.81%                               |

### Estimated Average Daily Sewage Flows for Various Occupancies

| Occupancy                         | Abbreviation | *Average daily flow |                                 |
|-----------------------------------|--------------|---------------------|---------------------------------|
| <b>Apartment Buildings:</b>       |              |                     |                                 |
| Bachelor or Single dwelling units | Apt          | <del>100</del>      | gal/D.U. → 150                  |
| 1 bedroom dwelling units          | Apt          | <del>150</del>      | gal/D.U. → 200                  |
| 2 bedroom dwelling units          | Apt          | <del>200</del>      | gal/D.U. → 250                  |
| 3 bedroom or more dwelling units  | Apt          | <del>250</del>      | gal/D.U. → use 300 GPD per SMD  |
| Auditoriums, churches, etc.       | Aud          | 5                   | gal/seat                        |
| Automobile parking                | P            | 25                  | gal/1000 sq ft gross floor area |
| Bars, cocktails lounges, etc.     | Bar          | 20                  | gal/seat                        |
| Commercial Shops & Stores         | CS           | 100                 | gal/1000 sq ft gross floor area |
| Hospitals (surgical)              | HS           | 500                 | gal/bed                         |
| Hospitals (convalescent)          | HC           | 85                  | gal/bed                         |
| Hotels                            | H            | 150                 | gal/room                        |
| Medical Buildings                 | MB           | 300                 | gal/1000 sq ft gross floor area |
| Motels                            | M            | 150                 | gal/unit                        |
| Office Buildings                  | Off          | 200                 | gal/1000 sq ft gross floor area |
| Restaurants, cafeterias, etc.     | R            | 50                  | gal/seat                        |
| <b>Schools:</b>                   |              |                     |                                 |
| Elementary or Jr. High            | S            | 10                  | gal/student                     |
| High Schools                      | HS           | 15                  | gal/student                     |
| Universities or Colleges          | U            | 20                  | gal/student                     |
| College Dormitories               | CD           | 85                  | gal/student                     |

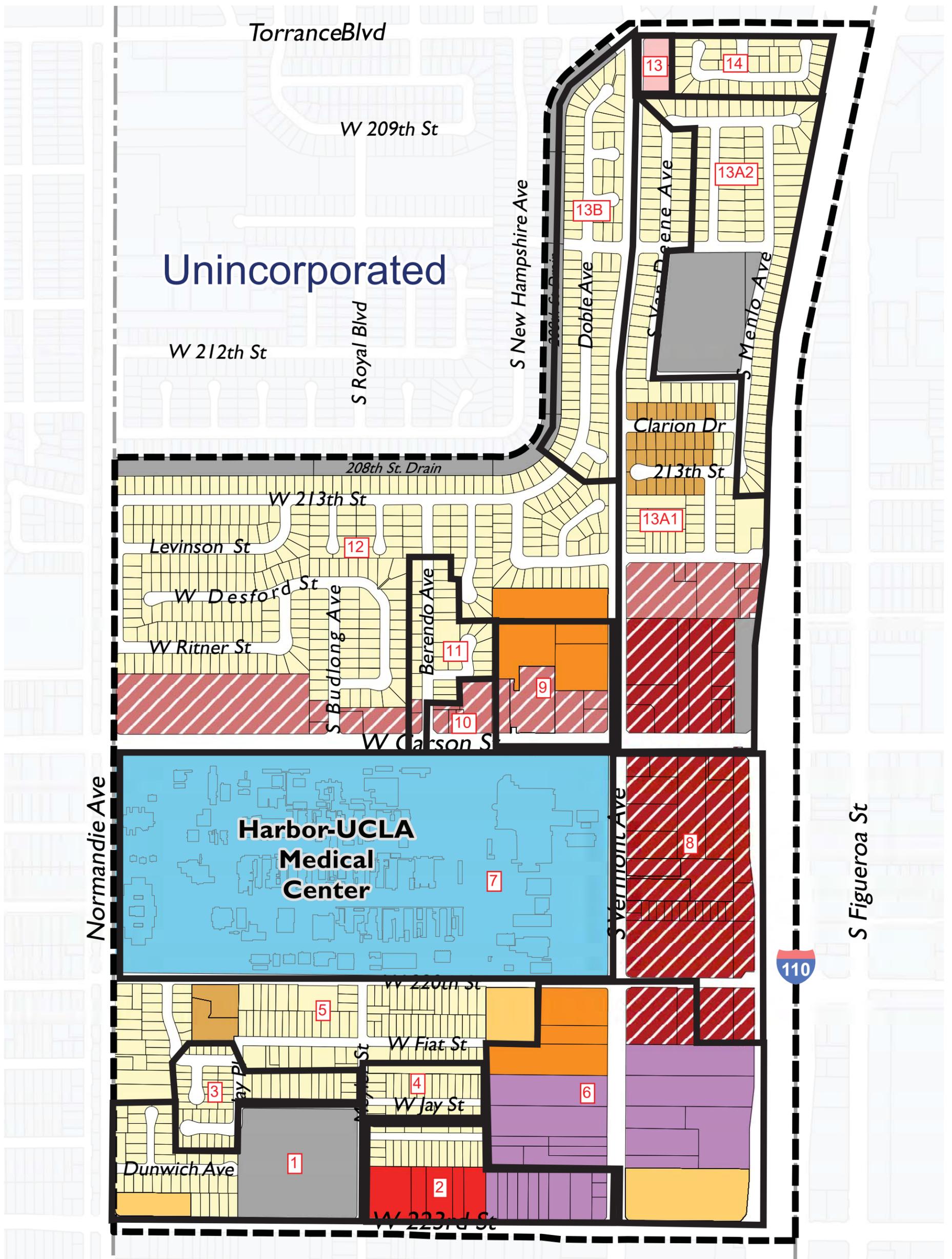
\*Multiply the average daily flow by 2.5 to obtain the peak flow

#### Zoning Coefficients

| Zone                     | Coefficient<br>(cfs/Acre) |
|--------------------------|---------------------------|
| Agriculture -----        | 0.001                     |
| <b>Residential*:</b>     |                           |
| R-1 -----                | 0.004                     |
| R-2 -----                | 0.008                     |
| R-3 -----                | 0.012                     |
| R-4 -----                | 0.016*                    |
| <b>Commercial:</b>       |                           |
| C-1 through C-4 -----    | 0.015*                    |
| <b>Heavy Industrial:</b> |                           |
| M1 through M-4 -----     | 0.021*                    |

\*Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown

+ Use 0.001 (cfs/unit) for condominiums only



**Proposed Zoning**

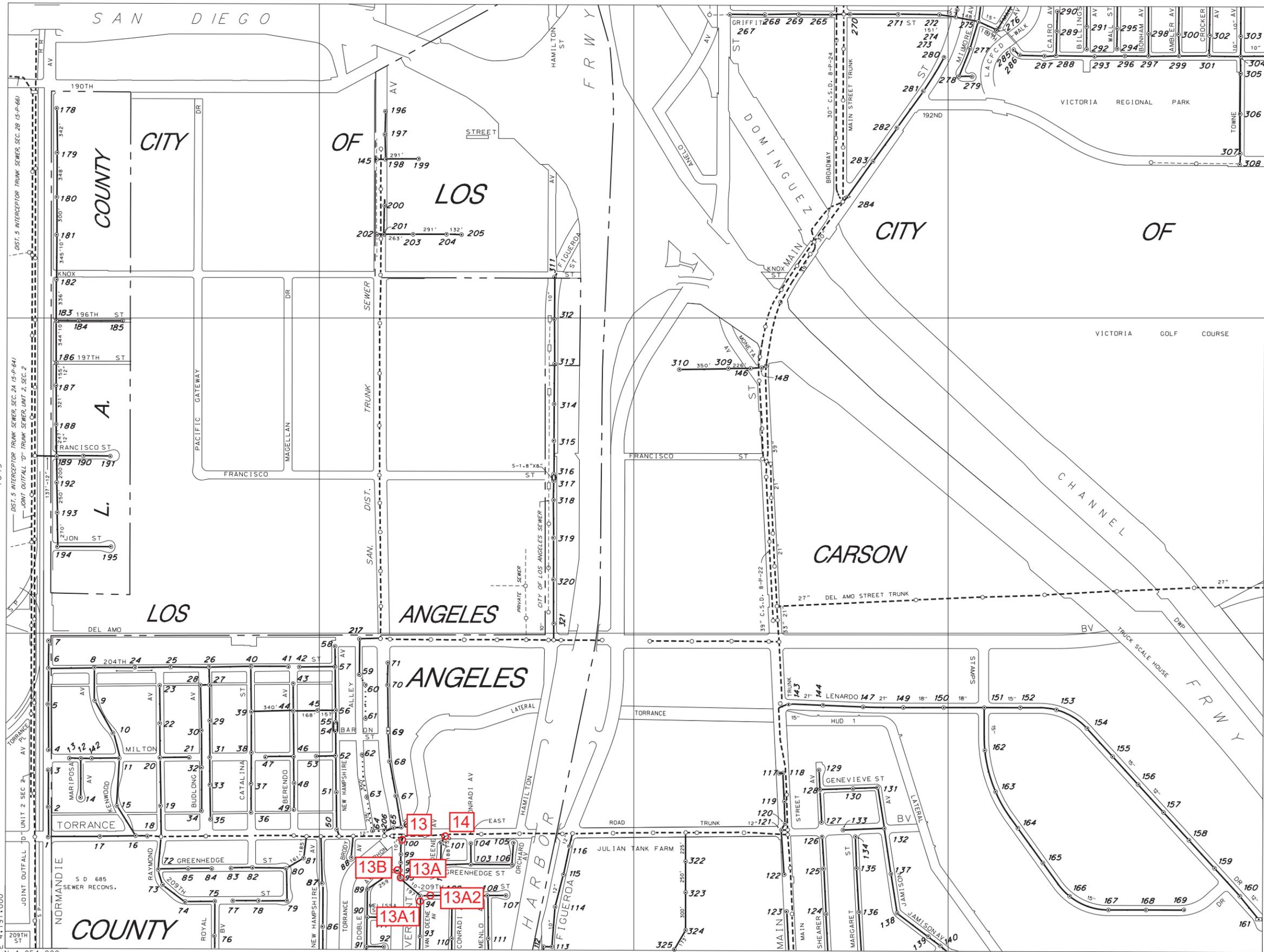
- |  |  |
|--|--|
|  West Carson Residential 1       |  Industrial Flex          |
|  West Carson Residential 3       |  Harbor UCLA Medical Zone |
|  West Carson Residential 4       |  Mixed Use Development 1  |
|  Residential Planned Development |  Mixed Use Development 2  |
|  Neighborhood Commercial         |  Public                   |
|  Unlimited Commercial            |  |

-  Specific Plan Boundary
-  City Boundary



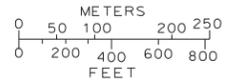
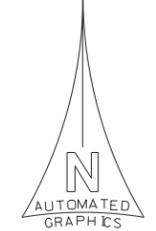
C-37  
C-38  
C-43

SEE SHT. NO. S-1703



THIS MAP IS INTENDED FOR USE ONLY AS OPERATIONS MAP BY LOS ANGELES COUNTY SEWER MAINTENANCE DISTRICTS. LOS ANGELES COUNTY EXPRESSLY DISCLAIMS ANY LIABILITY FOR ANY INACCURACIES WHICH MAY BE PRESENT IN THIS MAP.

SEE SHT. NO. S-1759



LEGEND

- CLAY SEWERS MAINTAINED BY SMD, 8" UNLESS OTHERWISE NOTED
- ..... PLASTIC SEWERS
- CONCRETE SEWERS
- CLAY SEWERS, LINED
- ..... CEMENT SEWERS, LINED
- FORCE MAINS
- - - - SEWERS NOT MAINTAINED BY SMD
- TRUNK SEWERS
- - - - CITY BOUNDARY
- STANDARD MANHOLE
- △ DROP MANHOLE
- ◇ SHALLOW MANHOLE
- ◇ TRAP MANHOLE
- ⊕ WEIR MANHOLE
- C.D. ● CLEANOUT
- L.H. ● LAMP HOLE
- PUMP STATION

TOTAL MH'S THIS MAP: 259

SEE SHT. NO. S-1705

MAP REV  
02-14-05  
DATA BASE REV  
01-30-86



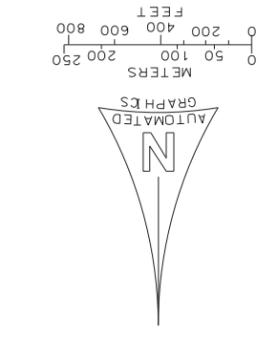
SEE SHIT. NO. S-1704

SEE SHIT. NO. S-1706

SEE SHIT. NO. S-1760

C-33  
C-34  
C-36  
C-37

THIS MAP IS INTENDED FOR  
USE ONLY AS OPERATIONS  
MAP BY LOS ANGELES  
COUNTY SEWER  
MAINTENANCE DISTRICTS.  
LOS ANGELES COUNTY  
EXPRESSLY DISCLAIMS ANY  
LIABILITY FOR ANY  
INACCURACIES WHICH MAY  
BE PRESENT IN THIS MAP.



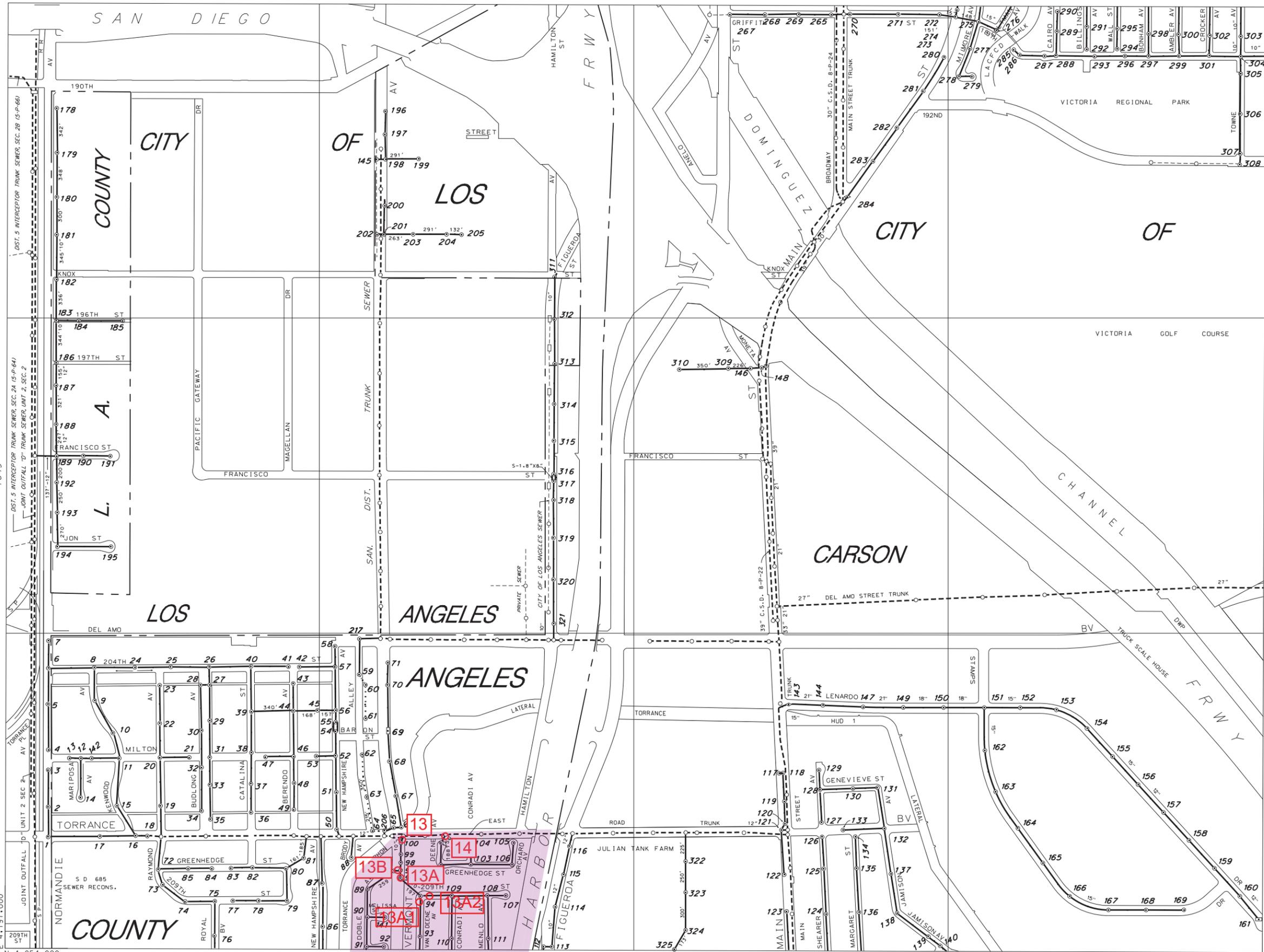
LEGEND

- CLAY SEWERS MAINTAINED BY S.M.D. & UNLESS OTHERWISE NOTED
- CLAY SEWERS MAINTAINED
- PLASTIC SEWERS
- CONCRETE SEWERS
- CEMENT SEWERS, LINED
- FORCE MAINS
- SEWERS NOT MAINTAINED
- BY S.M.D.
- TRUNK SEWERS
- CITY BOUNDARY
- STANDARD MANHOLE
- SHALLOW MANHOLE
- TRAP MANHOLE
- WEIR MANHOLE
- C.O.D.
- CLEANOUT
- LAMP HOLE
- PUMP STATION

TOTAL MH'S THIS MAP: 1133

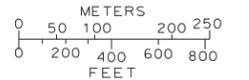
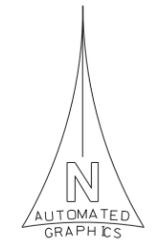
C-37  
C-38  
C-43

SEE SHT. NO. S-1703



THIS MAP IS INTENDED FOR USE ONLY AS OPERATIONS MAP BY LOS ANGELES COUNTY SEWER MAINTENANCE DISTRICTS. LOS ANGELES COUNTY EXPRESSLY DISCLAIMS ANY LIABILITY FOR ANY INACCURACIES WHICH MAY BE PRESENT IN THIS MAP.

SEE SHT. NO. S-1759



LEGEND

- CLAY SEWERS MAINTAINED BY SMD, 8" UNLESS OTHERWISE NOTED
- PLASTIC SEWERS
- CONCRETE SEWERS
- CLAY SEWERS, LINED
- CEMENT SEWERS, LINED
- FORCE MAINS
- - - SEWERS NOT MAINTAINED BY SMD
- TRUNK SEWERS
- - - CITY BOUNDARY
- STANDARD MANHOLE
- △ DROP MANHOLE
- ◇ SHALLOW MANHOLE
- ◇ TRAP MANHOLE
- ⊕ WEIR MANHOLE
- C.D. ● CLEANOUT
- L.H. ● LAMP HOLE
- PUMP STATION

TOTAL MH'S THIS MAP: 259

SEE SHT. NO. S-1705

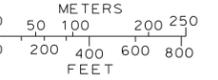
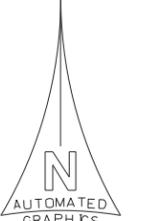
MAP REV  
02-14-05  
DATA BASE REV  
01-30-86

C-33  
C-34  
C-36  
C-37

SEE SH. NO. S-1704

THIS MAP IS INTENDED FOR USE ONLY AS OPERATIONS MAP BY LOS ANGELES COUNTY SEWER MAINTENANCE DISTRICTS. LOS ANGELES COUNTY EXPRESSLY DISCLAIMS ANY LIABILITY FOR ANY INACCURACIES WHICH MAY BE PRESENT IN THIS MAP.

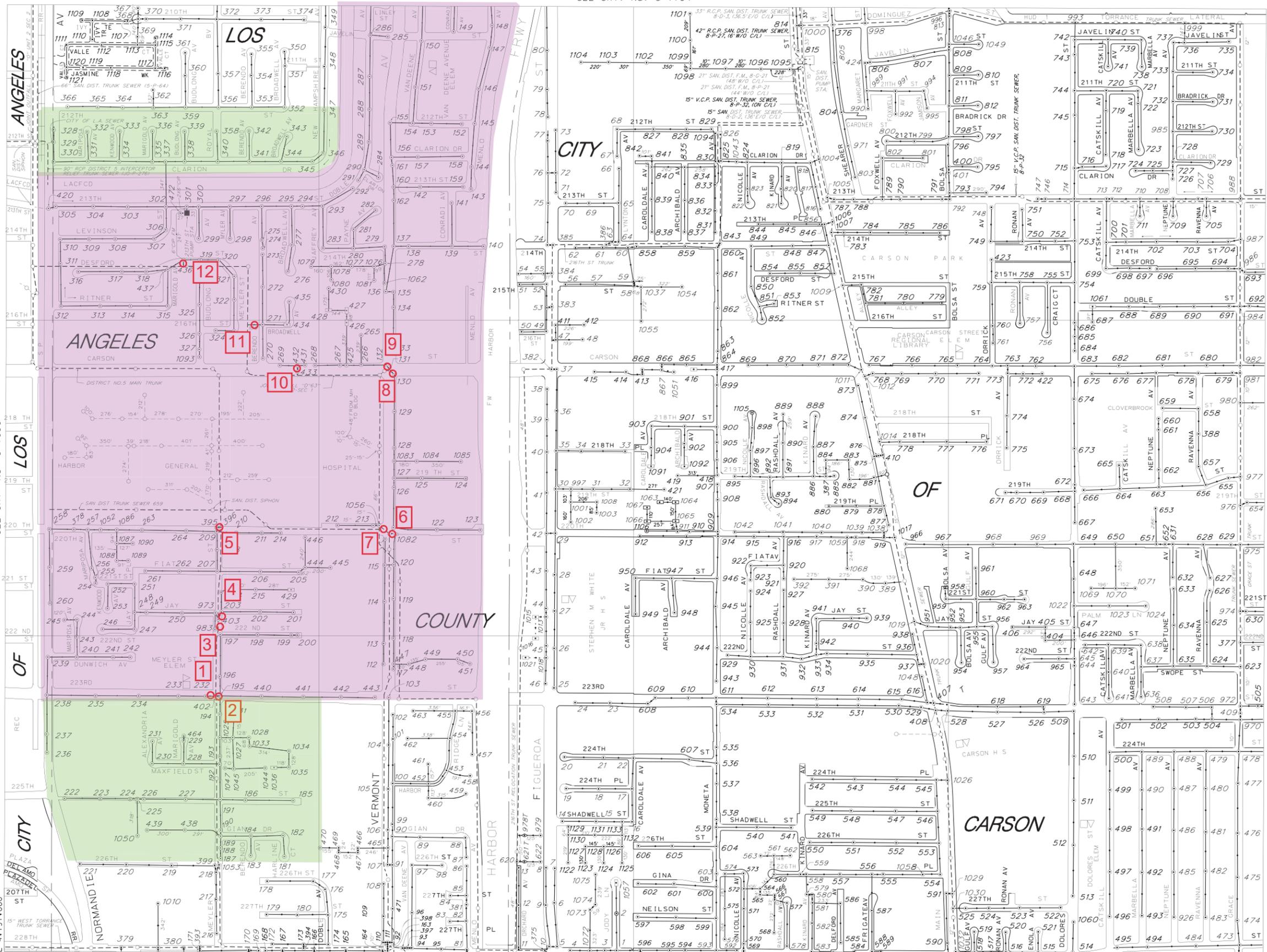
SEE SH. NO. S-1760



LEGEND

- CLAY SEWERS MAINTAINED BY SMD, 8" UNLESS OTHERWISE NOTED
- PLASTIC SEWERS
- CONCRETE SEWERS
- CLAY SEWERS, LINED
- CEMENT SEWERS, LINED
- FORCE MAINS
- SEWERS NOT MAINTAINED BY SMD
- TRUNK SEWERS
- CITY BOUNDARY
- STANDARD MANHOLE
- DROP MANHOLE
- SHALLOW MANHOLE
- TRAP MANHOLE
- WEIR MANHOLE
- C.O. CLEANOUT
- L.H. LAMP HOLE
- PUMP STATION

TOTAL MH'S THIS MAP: 1133



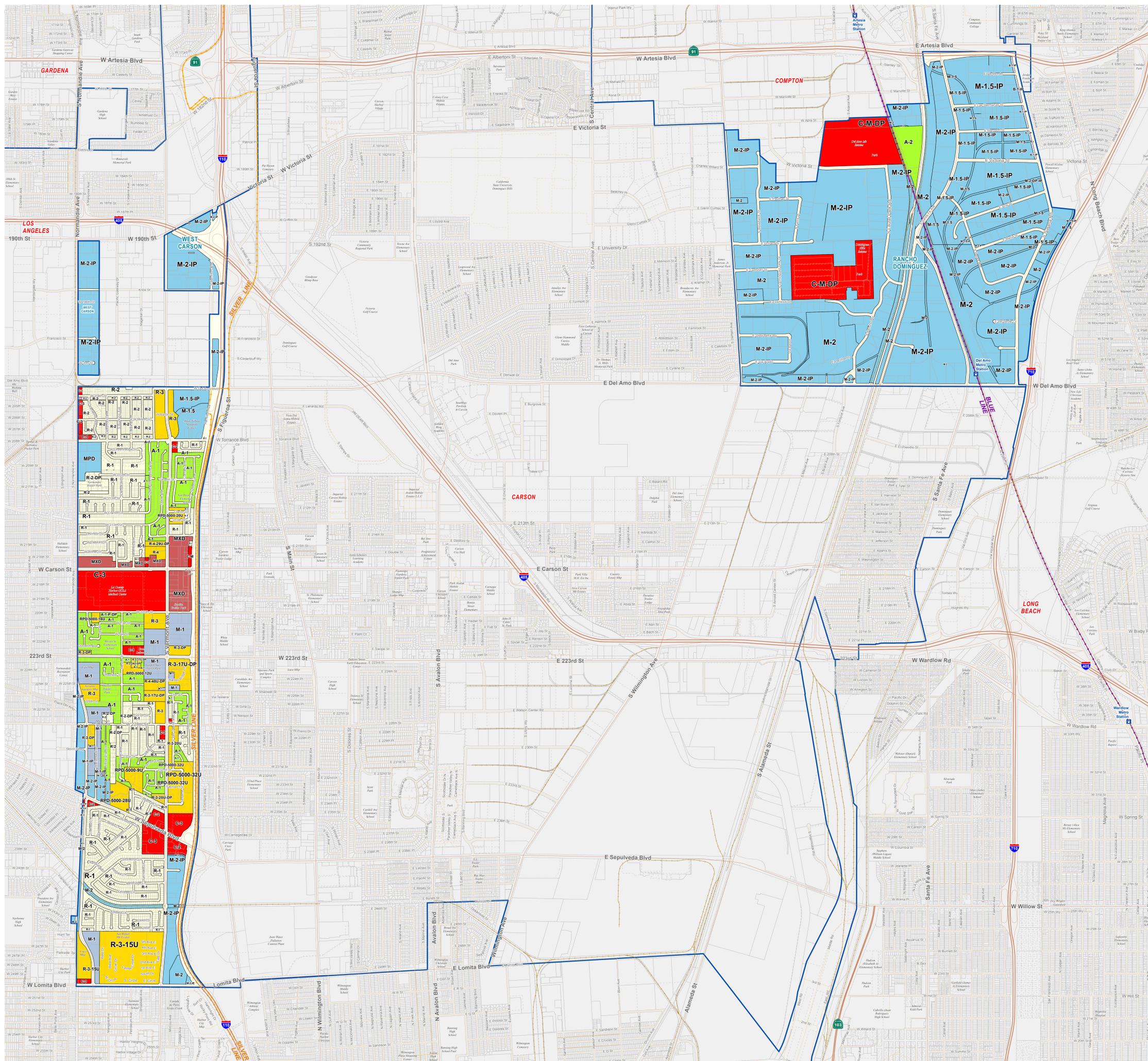
SEE SH. NO. S-1706

MAP REV  
10-09-07  
DATA BASE REV  
06-10-86

# Los Angeles County

## Zoning

### West Carson & Rancho Dominguez



**LEGEND:**

|   |  |
|---|--|
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-1 - Single-Family Residence                     | <span style="background-color: #add8e6; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> M-1 - Light Manufacturing                  |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-2 - Two-Family Residence                        | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> M-1.5 - Restricted Heavy Manufacturing     |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-3 (U) - Limited Density Multiple Residence      | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> M-2 - Heavy Manufacturing                  |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-3 (J) - Limited Multiple Residence (SMMCZ only) | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> M-2.5 - Aircraft and Heavy Manufacturing   |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-4 (U) - Medium Density Multiple Residence       | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> M-3 - Unclassified                         |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-5 (U) - High Density Multiple Residence         | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MPD - Manufacturing-Industrial Planned     |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-A - Residential Agricultural                    | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> B-1 - Buffer Strip                         |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-C - Rural Coastal                               | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> B-2 - Corner Buffer                        |
| <span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> RPD - Residential Planned Development             | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> D-2 - Desert-Mountain                      |
| <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> A-1 - Light Agricultural                          | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> IT - Institutional                         |
| <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> A-2 - Heavy Agricultural                          | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> R-R - Resort And Recreation                |
| <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> A-2-H - Heavy Agricultural Including Hog Ranches  | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> P-R - Parking Restricted                   |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-1 - Restricted Business                         | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> SP - Specific Plan                         |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-2 - Neighborhood Business                       | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> SR-D - Scientific Research and Development |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-3 - General Commercial                          | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> O-S - Open Space                           |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-H - Commercial Highway                          | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> O-S-P - Open Space - Parks                 |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-M - Commercial Manufacturing                    | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> O-S-DR - Open Space - Deed Restricted      |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-MJ - Major Commercial                           | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MXD - Mixed Use Development                |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-R - Commercial Recreation                       | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> MXD-RU - Rural Mixed Use Development       |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> C-RU - Rural Commercial                           | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> W - Watershed                              |
| <span style="background-color: #ff0000; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> CPD - Commercial Planned Development              |  |

**Base Layers**

|   |   |
|---|---|
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Parcels                                      | <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> City / Unincorporated Community Boundary |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Metrolink Stations                           | <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Incorporated City                        |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Metro Rail Stations                          | <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Unincorporated Areas                     |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Metrolink                                    | <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> National Forest                          |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Transitways                                  |   |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Light Rail - Existing                        |   |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Light Rail - Proposed                        |   |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Light Rail - Under Construction              |   |
| <span style="border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Lot, Cut/Deed, Subdivision and Easement Line |   |

Latest Zone Change Ordinance:  
2015-0432 (10/6/2015)

**NOTE:**  
Zoning reflects the most current designation as of the date listed "Current as of" below. The most recent zone change ordinances have been incorporated by the GIS section as of their effective date, with the latest Zone Change Ordinance showing in the yellow box above.

The location of zoning boundaries is as accurate as can be portrayed at this scale. For more precise boundary locations, please use our interactive mapping application GIS-NET3, located at the following URL: [http://gis.planning.lacounty.gov/GIS-NET3\\_PublicViewer.html](http://gis.planning.lacounty.gov/GIS-NET3_PublicViewer.html). Or, contact the Land Development coordinating Center (LDCC) at (213) 974-6411.

For more detailed information about the uses / densities allowed in these zoning categories, please see the Title 22 section of the Department of Regional Planning's webpage: <http://planning.lacounty.gov/luz>



Current as of: 4/12/2016

LOS ANGELES COUNTY  
Department of Regional Planning  
320 W. Temple St.  
Los Angeles, CA 90012  
<http://planning.lacounty.gov/gis>

Scale in Feet



## Sewer Pipes Report

|                        |                   |
|------------------------|-------------------|
| Pipe ID                | 5991503859915039A |
| Basin                  | Z06               |
| Upstream Invert        | 19.68             |
| Downstream Invert      | 18.36             |
| Length                 | 309.0             |
| Slope                  | 0.0040            |
| Size                   | 8.0               |
| Width                  | 0                 |
| Material               | VCP               |
| Shape                  | CR                |
| Street                 | 212TH ST          |
| Block                  | 1300              |
| Liner                  |                   |
| Upstream Stationing    | 4 + 74.03         |
| Downstream Stationing  | 1 + 65.00         |
| Month / Year Installed | 07 / 1961         |
| Number of Laterals     | 2                 |
| Gravity or Force Main  | GR                |
| Comments               |                   |
| Number of Wyes         | 2                 |
| Plan Number            | <u>D-16181</u>    |
| Supp Plan Number       | Undefined         |
| Profile Number         | <u>D-16181</u>    |
| Pipe Status            | Active            |
| Pipe Ownership         | Undefined         |
| Wye Card Number        | 51193NE           |
| Calculated Capacity    | 0.70968           |
| Engineering District   | Harbor            |
| Rehabilitated          | NO                |

Please read our [Disclaimer](#).

## Sewer Pipes Report

|                        |                   |
|------------------------|-------------------|
| Pipe ID                | 5991503959915040A |
| Basin                  | Z06               |
| Upstream Invert        | 18.36             |
| Downstream Invert      | 17.12             |
| Length                 | 165.1             |
| Slope                  | 0.0040            |
| Size                   | 8.0               |
| Width                  | 0                 |
| Material               | VCP               |
| Shape                  | CR                |
| Street                 | 212TH ST          |
| Block                  | 1300              |
| Liner                  |                   |
| Upstream Stationing    | 1 + 65.00         |
| Downstream Stationing  | 0 + -0.09         |
| Month / Year Installed | 02 / 1961         |
| Number of Laterals     | 0                 |
| Gravity or Force Main  | GR                |
| Comments               |                   |
| Number of Wyes         | 0                 |
| Plan Number            | <u>D-16181</u>    |
| Supp Plan Number       | Undefined         |
| Profile Number         | <u>D-16181</u>    |
| Pipe Status            | Active            |
| Pipe Ownership         | Undefined         |
| Wye Card Number        | 51197SW           |
| Calculated Capacity    | 0.70968           |
| Engineering District   | Harbor            |
| Rehabilitated          | NO                |

Please read our [Disclaimer](#).

## Kevin White

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**From:** Albert Lew <albert.lew@lacity.org>  
**Sent:** Monday, April 16, 2018 1:50 PM  
**To:** Kevin White  
**Subject:** Re: Sewer Flow

Yes. Same as other pipe.

*Albert C. Lew, P.E.*

Wastewater Engineering Services Division (WESD)  
Bureau of Sanitation  
Department of Public Works  
City of Los Angeles  
Phone: 323.342.6207  
Fax: 323.342.6210



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On Mon, Apr 16, 2018 at 10:37 AM, Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)> wrote:

Thanks Albert,

Did that pipe have 25% capacity as well?

-Kevin

**From:** Albert Lew [mailto:[albert.lew@lacity.org](mailto:albert.lew@lacity.org)]  
**Sent:** Monday, April 16, 2018 1:30 PM

**To:** Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)>  
**Subject:** Re: Sewer Flow

Here is some information on the latter pipe.

*Albert C. Lew, P.E.*

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On Fri, Apr 13, 2018 at 10:21 AM, Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)> wrote:

Albert,

This looks great, thanks! Just following up on my phone call, do we have anything for the pipe between manhole ending in 039 and manhole ending 040?

Thanks,

-Kevin

**From:** Albert Lew [mailto:[albert.lew@lacity.org](mailto:albert.lew@lacity.org)]  
**Sent:** Wednesday, April 11, 2018 8:07 PM

**To:** Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)>  
**Subject:** Re: Sewer Flow

Hi Kevin,

Thanks for the follow-up call. Please find attached information for the pipe. Hope it helps.

Thanks,

Albert

*Albert C. Lew, P.E.*

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On Thu, Apr 5, 2018 at 5:57 AM, Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)> wrote:

Hi Albert,

The County is asking for the document showing this peak flow. Is there a printout or something you can send me about the flow found on this pipe?

From your previous email, the pipe ID is 5991503859915039A.

Thanks,

Kevin White

**From:** Albert Lew [mailto:[albert.lew@lacity.org](mailto:albert.lew@lacity.org)]  
**Sent:** Thursday, January 18, 2018 9:52 PM  
**To:** Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)>  
**Subject:** Re: Sewer Flow

Hi Kevin,

I checked the sewer flowing east at the location you boxed red. The latest information of capacity is dated 2007, showing the flow at approximately 25% of the pipe.

Hope this helps.

Thanks,

Albert

*Albert C. Lew, P.E.*

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Bureau of Sanitation  
Department of Public Works  
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Phone: 323.342.6207  
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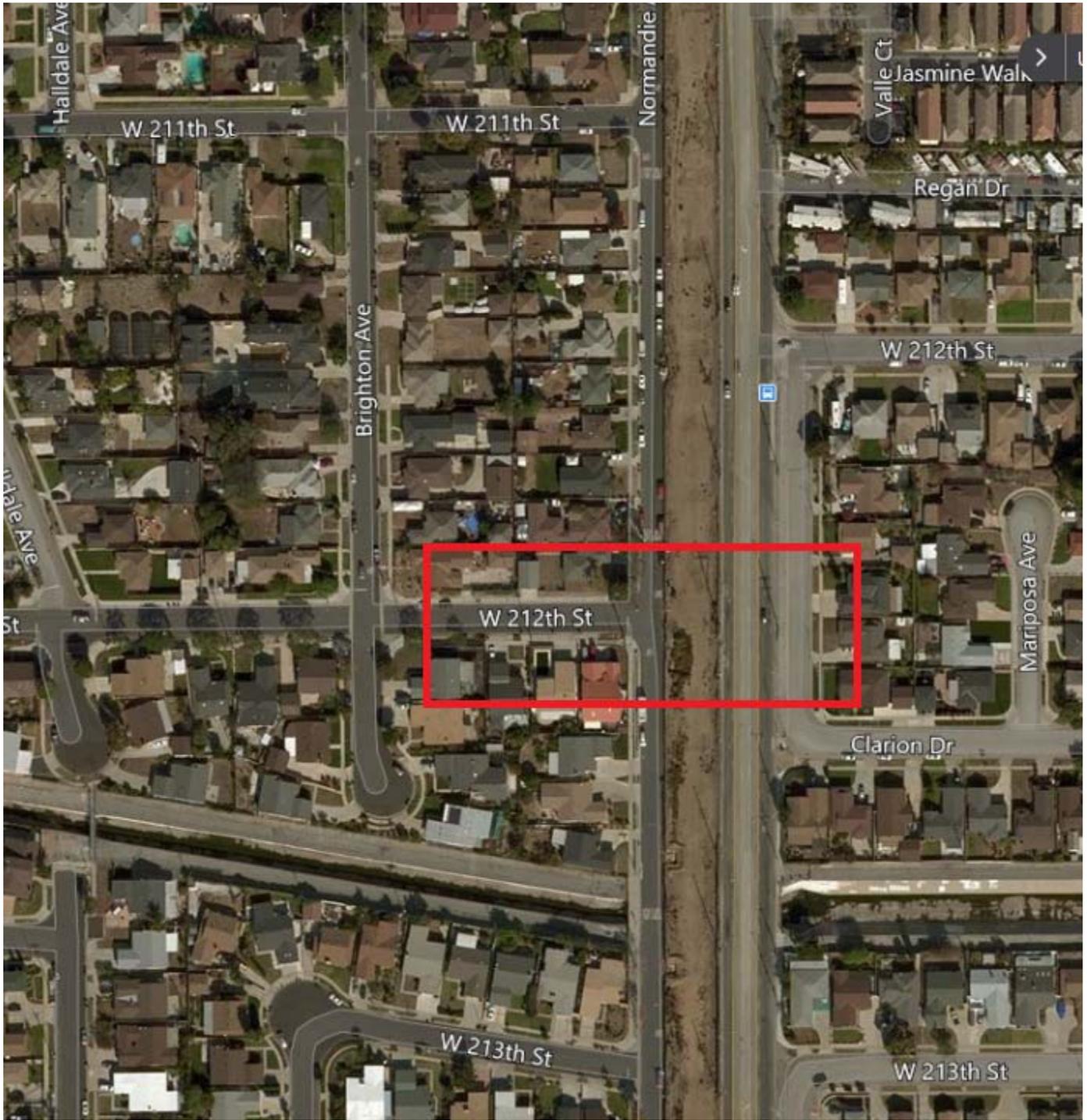
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On Wed, Jan 17, 2018 at 10:20 AM, Kevin White <[kevin.white@ibigroup.com](mailto:kevin.white@ibigroup.com)> wrote:

Hi Albert,

Thanks for taking my call today. I am looking for information for a capacity analysis I am performing for LA County in the West Carson Area. There is a sewer from the city which connects to the area I am looking at and I am in need of the historic peak flow for that sewer. I do not have the sewer name, but the area is shown here, highlighted in the red box.

The sewer in question runs West to East along W 212<sup>th</sup> street, travels under Normandie avenue, and connects to the LA County sewer system at Clarion Drive, just south of 212<sup>th</sup> street.



Thank you for your help,

Kevin White

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