Sewer Capacity Study
For
Whittier Blvd. Mixed Use Development
(Site B)
4200-4224 Whittier Blvd.
Los Angeles, CA 90023
P.C. 12345AS
March 2017

Prepared for:
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Los Angeles, CA 90014
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Contact: Matt Plourde
1. Introduction

This Study analyzes the Capacity of LA County owned sanitary sewer lines in the east Los Angeles area. The analysis will start at the beginning of the sewer line nearest the project and will end at the connection to the trunk sewer line owned by LA County Sanitation District. This study will consider all tributary areas which connect with the sewer line we anticipate connecting to. The goal of this study is to show that the proposed project will not have a negative impact on the existing sewer infrastructure and no sewers will flow above their designed depth.

2. Site Description

The project site is located on the southeast corner of the intersection of Downey Rd. and Whittier Blvd. The site consists of 2 parcels and an alley which together are 1.46 acres. The first parcel consists of several commercial buildings and concrete paved lots. The second parcel is vacant with concrete paved surface. All existing items onsite will be demolished as part of this project.

3. Project Description

The proposed development will be a 4-story mixed-use building with 34 – 1 bedroom, 19 – 2 bedroom, and 18 – 3 bedroom apartments with a small retail piece on the ground floor. See appendix D for floor plans.

Per Los Angeles County Public Works’ Estimated Average Daily Sewage Flows, each 1 bedroom apartment will add 200 GPD, each 2-bedroom apartment will add 250 GPD, each 3-bedroom apartment will add 300 GPD, and the retail spaces will add 100 GPD per 1000 SF.

4. Capacity Analysis Criteria

For the purposes of this study we were asked to model the flow in the sewer line we wish to connect to from the beginning of the line to where the line connects with the county trunk sewer. The model will consider all tributary areas that the sewer serves. Existing flows in the sewer will be determined by Los Angeles County Public Works estimates for land use types. See Appendix F for the estimated average daily sewage flows for various occupancies.

Per the as-builds all mains are made of cement pipe (n=0.013). Each time a new tributary area connects with the sewer main the new flow will be compared against the downstream line with the mildest slope. All flows will be evaluated using Kutter’s Formula and Chart S-C4 from the LA County Design Manual. See Appendix B for the as-builds of the sewer lines leading from the sites to the trunk sewer.
5. Existing Sewer System Description

The upstream manhole for the sewer shed begins on Sunbol Dr. just South of Whittier Blvd. (MH 28). The sewer flows south and connects with a main on the alley. This line flows east to a main on Brannick St. which then flows south to a main on Verona St. The Verona Main then flows west to a main along Downey Rd. which flows south to the trunk sewer connection. All sewer sizes are 8” diameter and slopes vary from 3.12% to 0.28%.

Refer to Appendix A for the LA County Sewer Map of existing sewer lines. Refer to Appendix D for the Tributary Area and Appendix E for the Zoning Map indicating acreage and zoning.

6. Proposed Sewer System Description

The Site will discharge to the 8” main on Sunbol Dr. between MH 28 and MH 27.

7. Tributary Areas

Tributary areas for this study were determined based on the As-Built plans and the LA County Land Assessor maps. For the purposes of this study only the sewer lines which will directly receive flow from the proposed projects are considered. Other lines which drain to mains downstream of the projects are shown for reference only, flows from these lines will be added as part of the analysis of the capacity study. Existing flows based on this procedure are shown in Table 1 below.

See Appendix C for the LA County Land Assessor Maps and Appendix D for the overall tributary area breakdown.
8. Capacity Analysis

Size and slope of all lines from the property to the trunk sewer were obtained from Los Angeles County Public Works as-built plans. Capacity in these lines will be analyzed using Kutter’s Formula and the zoning factors from LA County:

\[ Q = ZA \]

Where:  
\( Q = \) Sewer Discharge (CFS)  
\( Z = \) Zoning Coefficient (CFS/Acre)  
\( A = \) Area (Acres)

<table>
<thead>
<tr>
<th>Existing Flow at Trunk Sewer Connection</th>
<th>Proposed Flow at Trunk Sewer Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumulative Flow</td>
<td>0.15936 CFS</td>
</tr>
<tr>
<td>Cumulative Depth</td>
<td>2.78 in</td>
</tr>
<tr>
<td>Percent Full</td>
<td>69.50%</td>
</tr>
<tr>
<td>Cumulative Flow</td>
<td>0.20778 CFS</td>
</tr>
<tr>
<td>Cumulative Depth</td>
<td>3.22 in</td>
</tr>
<tr>
<td>Percent Full</td>
<td>80.50%</td>
</tr>
</tbody>
</table>

See appendix G for full pipe calculations.

The flows from the proposed project site are estimated using LA County Loading Classes for the building uses and a peaking factor of 2.5. The table below shows the total peak flow from the project site. This peak flow is added to the existing flow in the sewers to determine if the project will have any negative impacts on the sewer mains.

<table>
<thead>
<tr>
<th>Site B</th>
<th>Units</th>
<th>Count</th>
<th>Flow (CFS)</th>
<th>Peak Flow (CFS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 BDR</td>
<td>34</td>
<td>0.010523</td>
<td>0.0263</td>
</tr>
<tr>
<td></td>
<td>2 BDR</td>
<td>19</td>
<td>0.007351</td>
<td>0.0184</td>
</tr>
<tr>
<td></td>
<td>3 BDR</td>
<td>18</td>
<td>0.008357</td>
<td>0.0209</td>
</tr>
<tr>
<td></td>
<td>Retail</td>
<td>3500 SF</td>
<td>0.000542</td>
<td>0.0014</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>0.0669</td>
<td></td>
</tr>
</tbody>
</table>

9. Conclusion

Based on our analysis all pipe flows are less than 100% full downstream from the proposed project sites. Once the proposed peak flow from the sites are added in the sewers remain well below the 100% full threshold. Based on this analysis it is assumed the existing sewer infrastructure has capacity for the project. See Appendix G for the calculated results.
Appendix A – LA County Sewer Map
SITE B
SITE B
NOTE: AS-BUILTS CANNOT BE FOUND FOR MANHOLES 41 TO 45 THERFORE THE WORST CASE SCENARIO IS ASSUMED. 8" PIPE AT 0.24%
Appendix C – Land Assessor Maps
Appendix D – Proposed Floor Plans
NOTE:
FOR SPECIFIC ROOM/DOOR LABELS WITHIN THE RESIDENTIAL UNITS, PLEASE SEE UNIT PLAN SHEETS A3.01-A3.04
Appendix E – Zoning Map
Appendix F – Loading Classes
### Estimated Average Daily Sewage Flows for Various Occupancies

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

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

### Zoning Coefficients

<table>
<thead>
<tr>
<th>Zone</th>
<th>Coefficient (cfs/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>0.001</td>
</tr>
<tr>
<td>Residential*</td>
<td></td>
</tr>
<tr>
<td>R-1</td>
<td>0.004</td>
</tr>
<tr>
<td>R-2</td>
<td>0.008</td>
</tr>
<tr>
<td>R-3</td>
<td>0.012</td>
</tr>
<tr>
<td>R-4</td>
<td>0.016*</td>
</tr>
<tr>
<td>Commercial:</td>
<td></td>
</tr>
<tr>
<td>C-1 through C-4</td>
<td>0.015*</td>
</tr>
<tr>
<td>Heavy Industrial:</td>
<td></td>
</tr>
<tr>
<td>M1 through M-4</td>
<td>0.021*</td>
</tr>
</tbody>
</table>

*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
### Sewer Area Study Table(1)

#### Existing Conditions

<table>
<thead>
<tr>
<th>Street Name</th>
<th>Segment</th>
<th>Pipe</th>
<th>Size (in)</th>
<th><strong>Capacity</strong> Area (Acres)</th>
<th><strong>Cumulative Flow (cfs)</strong></th>
<th><strong>Cumulative Depth (in)</strong></th>
<th>PC or CI Construction Plan #</th>
<th>Comment</th>
<th>% Full</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunbol Dr.</td>
<td>28 27</td>
<td>8</td>
<td>3.12%</td>
<td>N/A</td>
<td>0.0069</td>
<td>0.93</td>
<td>C-1861</td>
<td>Under Capacity</td>
<td>23.20%</td>
</tr>
<tr>
<td>Alley</td>
<td>27 30</td>
<td>8</td>
<td>1.12%</td>
<td>N/A</td>
<td>0.080</td>
<td>0.1067</td>
<td>C-1861</td>
<td>Under Capacity</td>
<td>40.00%</td>
</tr>
<tr>
<td>Brannick Ave.</td>
<td>30 32</td>
<td>8</td>
<td>1.60%</td>
<td>N/A</td>
<td>0.48</td>
<td>0.99</td>
<td>C-1861</td>
<td>Under Capacity</td>
<td>39.00%</td>
</tr>
<tr>
<td>Brannick Ave.</td>
<td>32 33</td>
<td>8</td>
<td>0.40%</td>
<td>N/A</td>
<td>0.38</td>
<td>0.99</td>
<td>C-1861</td>
<td>Under Capacity</td>
<td>52.50%</td>
</tr>
<tr>
<td>Verona St.</td>
<td>33 35</td>
<td>8</td>
<td>0.28%</td>
<td>N/A</td>
<td>0.080</td>
<td>0.1188</td>
<td>C-1861</td>
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<td>62.50%</td>
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<td>Verona St.</td>
<td>35 38</td>
<td>8</td>
<td>0.28%</td>
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<td>0.98</td>
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<td>39 40</td>
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<td>0.28%</td>
<td>N/A</td>
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** 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

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* 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

---

Max flow from new development
MANHOLE 28 TO MANHOLE 27

NOTE:
Based on Kutter's Formula with n = 0.13
Quantities per A = 21.004cfs, C = 0.05cfs, H = 0.021cfs.

PIECE DIAMETER

FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

COUNTY ENGINEER
STANDARD
DATE: 3/80
DESIGN: RCE
MANHOLE 27 TO MANHOLE 30

NOTE: Based on Kutter's formulae with $n = 0.013$

Quantities per $Ae = 41.004$ ft, $C = 0.056 ft$, $H = 0.021 sf$.

FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

0.48 CFS
Based on Kerker's formulae with n = 0.13
Quantities per Ac-0.04, C = 0.15, H.I. = 0.21 cfs.
PIE DAME TERTER

FLOW DIAGRAM FOR THE DESIGN
OF CIRCULAR SANITARY SEWERS

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

COUNTY ENGINEER
STANDARD S-C4

NOTE: USE 15” ½ FULL FOR COMPUTING DESIGN CAPACITY OF A NEW SEWER SYSTEM.
USE 15” ¾ FULL FOR CHECKING CAPACITY OF EXIST. SEWER SYSTEM.

0.65 CFS
MAHOLE 32 TO MANHOLE 33

FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

COUNTY ENGINEER STANDARD S-C4

DATE: 3/80 DESIGN: RCE

DISCHARGE A.R.

NOTE: USE 15" 1/2 FULL FOR COMPUTING DESIGN CAPACITY OF A NEW SEWER SYSTEM. USE 15" 3/4 FULL FOR CHECKING CAPACITY OF EXIST. SEWER SYSTEM.

PIPE DIAMETER

0.38 CFS
NOTE:
Based on Kutter's formulae with $n = 0.013$
Quantities per A.C. = 0.004 C.F.S., C = 0.05 C.F.S., H.I. = 0.02 C.F.S.

FLOW DIAGRAM FOR THE DESIGN OF CIRCULAR SANITARY SEWERS

MAHOLE 33 TO MANHOLE 41

0.32 CFS
MAHOLE 41 TO Trunk Sewer

0.30 CFS
MANHOLE 28 TO 27
EXISTING FLOW

Q_{FULL} = 0.98 \text{ CFS} \times 2 = 1.96 \text{ CFS}

Q/Q_{FULL} = \frac{0.01848}{1.96} = 0.009

\frac{d}{D} = 0.043

d = 0.043(8) = 0.344 \text{ in}
MANHOLE 27 TO 30
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.48 \text{ CFS} \times 2 = 0.96 \text{ CFS} \]

\[ Q/Q_{\text{FULL}} = \frac{0.03372}{0.96} = 0.035 \]

\[ d/D = 0.120 \]

\[ d = 0.120(8) = 0.96 \text{ in} \]
MANHOLE 30 TO 32
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.65 \text{ CFS} \times 2 = 1.30 \text{ CFS} \]
\[ Q/Q_{\text{FULL}} = 0.05835/1.30 = 0.045 \]

\[ d/D = 0.142 \]
\[ d = 0.142(8) = 1.14 \text{ in} \]
MANHOLE 32 TO 33
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.38 \text{ CFS} \times 2 = 0.76 \text{ CFS} \]

\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.07023}{0.76} = 0.092 \]

\[ \frac{d}{D} = 0.209 \]

\[ d = 0.209(8) = 1.67 \text{ in} \]
MANHOLE 33 TO 35
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]
\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.09063}{0.64} = 0.142 \]

\[ d/D = 0.254 \]
\[ d = 0.254(8) = 2.03 \text{ in} \]
MANHOLE 35 TO 38
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]
\[ Q/Q_{\text{FULL}} = \frac{0.10431}{0.64} = 0.163 \]

\[ d/D = 0.270 \]
\[ d = 0.270(8) = 2.16 \text{ in} \]
MANHOLE 38 TO 39
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]

\[ Q/Q_{\text{FULL}} = \frac{0.13419}{0.64} = 0.210 \]

\( d/D = 0.308 \)

\( d = 0.308(8) = 2.46 \text{ in} \)
MANHOLE 39 TO 40
EXISTING FLOW

$Q_{\text{FULL}} = 0.32 \, \text{CFS} \times 2 = 0.64 \, \text{CFS}$

$Q/Q_{\text{FULL}} = \frac{0.14343}{0.64} = 0.224$

d/D = 0.318

d = 0.318(8) = 2.54 \, \text{in}
MANHOLE 40 TO 41
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]
\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.14631}{0.64} = 0.229 \]

\[ d/D = 0.322 \]
\[ d = 0.322(8) = 2.58 \text{ in} \]
MANHOLE 41 TO 42
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS} \]

\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.14901}{0.60} = 0.248 \]

\[ d/D = 0.336 \]

\[ d = 0.336(8) = 2.69 \text{ in} \]
MANHOLE 42 TO 43
EXISTING FLOW

\[ Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS} \]

\[ Q/Q_{\text{FULL}} = 0.15501/0.60 = 0.258 \]

\[ d/D = 0.344 \]

\[ d = 0.344(8) = 2.75 \text{ in} \]
MANHOLE 43 TO 45
EXISTING FLOW
\( Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS} \)
\( Q/Q_{\text{FULL}} = 0.15756/0.60 = 0.263 \)

\[ d/D = 0.346 \]
\[ d = 0.346(8) = 2.77 \text{ in} \]
MANHOLE 45 TO Trunk Sewer
EXISTING FLOW

Q_{FULL} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS}

Q/Q_{FULL} = 0.15936/0.60 = 0.266

\begin{align*}
\text{d/D} &= 0.348 \\
\text{d} &= 0.348(8) = 2.78 \text{ in}
\end{align*}
MANHOLE 28 TO 27
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.98 \text{ CFS} \times 2 = 1.96 \text{ CFS} \]

\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.0669}{1.96} = 0.034 \]

\[ d/D = 0.116 \]

\[ d = 0.116(8) = 0.928 \text{ in} \]
MANHOLE 27 TO 30
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.48 \text{ CFS} \times 2 = 0.96 \text{ CFS} \]
\[ Q/Q_{\text{FULL}} = \frac{0.03372}{0.96} = 0.035 \]

\[ d/D = 0.120 \]
\[ d = 0.120(8) = 0.96 \text{ in} \]
MANHOLE 30 TO 32
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.65 \text{ CFS} \times 2 = 1.30 \text{ CFS} \]

\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.10677}{1.30} = 0.082 \]

\[ d/D = 0.195 \]

\[ d = 0.195(8) = 1.56 \text{ in} \]
MANHOLE 32 TO 33
PROPOSED FLOW

$Q_{\text{FULL}} = 0.38 \text{ CFS} \times 2 = 0.76 \text{ CFS}$

$\frac{Q}{Q_{\text{FULL}}} = \frac{0.11865}{0.76} = 0.156$

\[ d/D = 0.263 \]

\[ d = 0.263(8) = 2.10 \text{ in} \]
MANHOLE 33 TO 35
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.32 \, \text{CFS} \times 2 = 0.64 \, \text{CFS} \]

\[ Q/Q_{\text{FULL}} = \frac{0.13905}{0.64} = 0.217 \]

\[ d/D = 0.312 \]

\[ d = 0.312(8) = 2.50 \, \text{in} \]
MANHOLE 35 TO 38
PROPOSED FLOW

\[ Q_{FULL} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]

\[ \frac{Q}{Q_{FULL}} = \frac{0.15273}{0.64} = 0.239 \]

\[ \frac{d}{D} = 0.329 \]

\[ d = 0.329(8) = 2.63 \text{ in} \]
MANHOLE 38 TO 39
PROPOSED FLOW

$Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS}$

$Q/Q_{\text{FULL}} = 0.18261/0.64 = 0.285$

$d/D = 0.362$

$d = 0.362(8) = 2.90 \text{ in}$
MANHOLE 39 TO 40
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]

\[ \frac{Q}{Q_{\text{FULL}}} = \frac{0.19185}{0.64} = 0.300 \]

\[ d/D = 0.372 \]

\[ d = 0.372(8) = 2.98 \text{ in} \]
MANHOLE 40 TO 41
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.32 \text{ CFS} \times 2 = 0.64 \text{ CFS} \]
\[ Q/Q_{\text{FULL}} = \frac{0.19473}{0.64} = 0.304 \]

\[ d/D = 0.374 \]
\[ d = 0.374(8) = 2.99 \text{ in} \]
MANHOLE 41 TO 42
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS} \]

\[ Q/Q_{\text{FULL}} = \frac{0.19743}{0.60} = 0.329 \]

\[ d/D = 0.392 \]

\[ d = 0.392(8) = 3.14 \text{ in} \]
MANHOLE 42 TO 43
PROPOSED FLOW

$Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS}$

$\frac{Q}{Q_{\text{FULL}}} = \frac{0.20343}{0.60} = 0.339$

$\frac{d}{D} = 0.398$

$d = 0.398(8) = 3.18 \text{ in}$
MANHOLE 43 TO 45
PROPOSED FLOW

\[ Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS} \]
\[ Q/Q_{\text{FULL}} = \frac{0.20598}{0.60} = 0.343 \]

\[ d/D = 0.400 \]
\[ d = 0.400(8) = 3.20 \text{ in} \]
MANHOLE 45 TO Trunk Sewer
PROPOSED FLOW

$Q_{\text{FULL}} = 0.30 \text{ CFS} \times 2 = 0.60 \text{ CFS}$

$Q/Q_{\text{FULL}} = 0.20778/0.60 = 0.346$

$\frac{d}{D} = 0.403$

$d = 0.403 \times 8 = 3.22 \text{ in}$
Appendix H – LA County Sanitations District Letter
February 2, 2016

Ref. Doc. No.: 3856170

Mr. Matt Plourde
Civil Engineer
DK Engineer Corp.
724 South Spring Street, #304
Los Angeles, CA 90014

Dear Mr. Plourde:

Will Serve Letter for the Whittier-Downey Mixed Use Apartment Complex located on 4169 Whittier Boulevard and 4200 Whittier Boulevard in Los Angeles

The Sanitation Districts of Los Angeles County (Districts) received your will serve letter request update for the subject project on January 23, 2017. The proposed project is located within the jurisdictional boundary of District No. 2. We offer the following comments:

1. Previous comments submitted by the Districts in correspondence dated August 30, 2016 (copy enclosed) still apply to the subject project with the following updated information.

2. The Joint Water Pollution Control Plant currently processes an average flow of 254.1 million gallons per day.

3. All other information concerning Districts’ facilities and sewerage service is current.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

Enclosure

cc: M. Sullivan
M. Tatalovich
Mr. Matt Plourde  
Civil Engineer  
DK Engineer Corp.  
724 South Spring Street, #304  
Los Angeles, CA  90014  

Dear Mr. Plourde:

**Will Serve Letter for the Whittier-Downey Mixed Use Apartment Complex**

The Sanitation Districts of Los Angeles County (Districts) received your will serve letter request for the subject project on August 22, 2016. The proposed project is located within the jurisdictional boundaries of District No. 2. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to local sewer lines, which are not maintained by the Districts, for conveyance to either or both the Districts’ Belvedere Trunk Sewer, located in Bonnie Beach Place at Whittier Boulevard, or the Douglas Avenue Trunk Sewer, located in Sydney Drive at Olympic Boulevard. The Districts’ 15-inch diameter Belvedere Trunk Sewer has a capacity of 3.3 million gallons per day (mgd) and conveyed a peak flow of 0.7 mgd when last measured in 2011. The Districts’ 12-inch diameter Douglas Avenue Trunk Sewer has a capacity of 1.1 mgd and conveyed a peak flow of 0.3 mgd when last measured in 2016.

2. The wastewater generated by the proposed project will be treated at the Joint Water Pollution Control Plant located in the City of Carson, which has a capacity of 400 mgd and currently processes an average flow of 256.8 mgd.

3. The expected average wastewater flow from the proposed project, described in the application as a 112-unit apartment complex, is 17,472 gallons per day. For a copy of the Districts’ average wastewater generation factors, go to [www.lacsd.org](http://www.lacsd.org), Wastewater & Sewer Systems, click on Will Serve Program, and click on the **Table I, Loadings for Each Class of Land Use** link.

4. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts’ Sewerage System or for increasing the strength or quantity of wastewater discharged from connected facilities. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before a permit to connect to the sewer is issued. For more information and a copy of the Connection Fee Information Sheet, go to [www.lacsd.org](http://www.lacsd.org), Wastewater & Sewer Systems, click
on Will Serve Program, and search for the appropriate link. In determining the impact to the Sewerage System and applicable connection fees, the Districts’ Chief Engineer will determine the user category (e.g. Condominium, Single Family home, etc.) that best represents the actual or anticipated use of the parcel or facilities on the parcel. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at (562) 908-4288, extension 2727.

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the capacities of the Districts’ wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CAA. All expansions of Districts’ facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts’ treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts’ facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

[Signature]

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:ar

cc: M. Sullivan
    M. Tatalovich