Appendix P

Sewer Area Study

Kimley»Horn

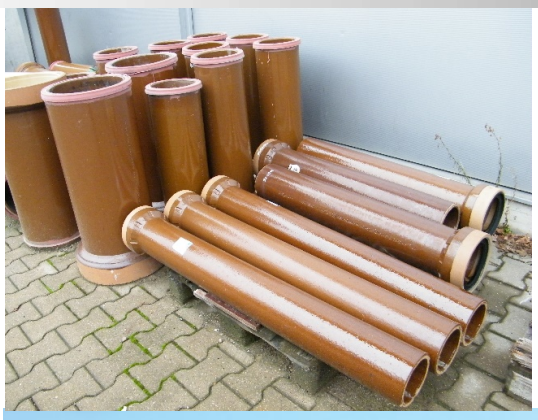
D & D ENGINEERING, INC.

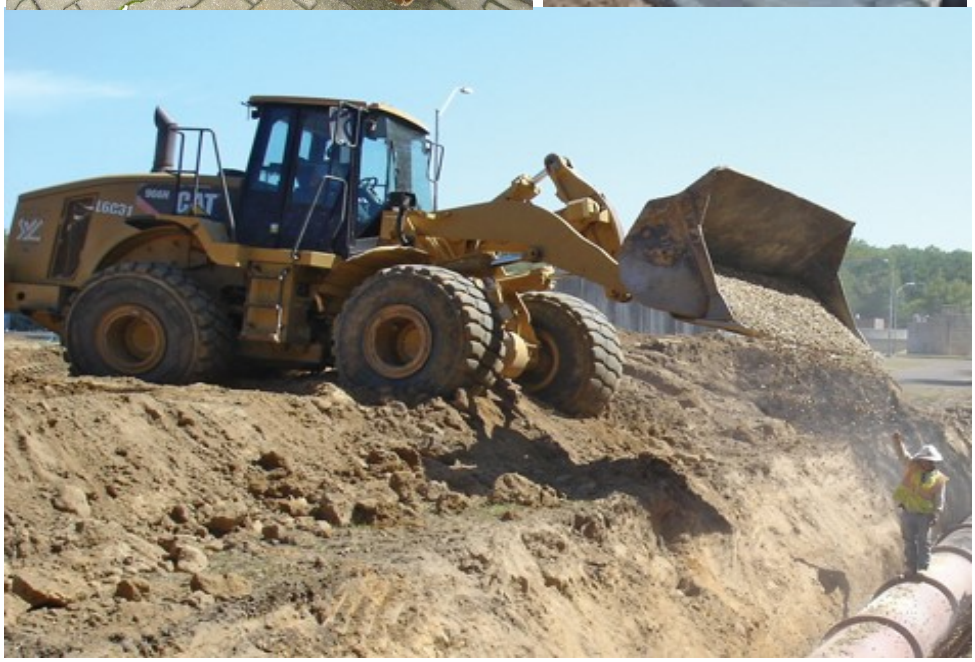
Morningside High School Development
Sewer Area Study
November 1, 2023

D&D Engineering, Inc

119 W. Hyde Park Boulevard
Inglewood, CA 90302
424-351-6800

5708 Cahuenga Boulevard
North Hollywood, CA 91601
424-351-6800





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I. INTRODUCTION

This report will calculate the expected peak daily wastewater demands for the Morningside HS Development project based on the latest land use designations and building intensities per Los Angeles County Sanitation District as shown in Appendix A.

II. SITE DESCRIPTION

The project site consists of 23.3 acres of land on the campus of Morningside High School and is located southwest of the intersection of 104th Street and 10th Avenue in the City of Inglewood. It is bounded by 104th Street to the North, 10th Avenue and Monroe Middle School to the East, existing single-family homes to the South, and the remainder of Morningside High School to the West. The proposed project consists of townhomes and the site is currently an open field with some school buildings.

III. EXISTING SEWER SYSTEMS DESCRIPTION

An existing 12" Inglewood-Orange Avenue Trunk Sewer line runs along 108th Street to the south of the project site. The proposed project will connect to this trunk sewer at the intersection of Lemoli Avenue and 108th Street.

IV. PROPOSED DEVELOPMENT

Per the LA County Sanitation District's "Loadings for Each Class of Land Use" table (see Appendix A), the average sewer flow from a single family residential unit is 260 gallons per day. Using a 2.5x peak sewer factor, the peak sewer flow from the project site is given by the calculation below:

(Qpeak) = 2.5 x (260 gpd per unit) x (573 units) = 372,450 GPD or 0.576 CFS

As shown in Appendix B, a 10" sewer pipe with a minimum slope of 0.32% has a half-full capacity of 0.58 CFS, which is higher than the tributary flow from the project site. Therefore, a 10" sewer pipe at minimum slope has enough capacity to handle the peak sewer flow from the project site.

V. CONCLUSION

Based on the information provided above, the proposed onsite 10" sewer pipe has adequate capacity to convey the sewer flow from the project site.

Figures

104TH STREET

10TH AVENUE

LEMOLI AVENUE

PROPOSED 10" SS TO CONNECT TO EX. 12" INGLEWOOD – ORANGE AVE. TRUNK SEWER EXTENSION NO. 2

LEGEND

EXISTING SEWER PIPE

PROPOSED SEWER PIPE

FLOW DIRECTION

60 0 60 120

scale 1"= 60' feet

D & D ENGINEERING, INC.

INGLEWOOD, CA 90302
Phone: 424-351-6800

MORNINGSIDE HIGH SCHOOL

FIGURE 1: SEWER SITE PLAN

SCALE: 1" = 60'

DATE: 10/17/2023

SHT NO.: 01 OF 01

119 W. HYDE PARK BLVD.

Appendix A

TABLE 1

LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
R E S I D E N T I A L				
Single Family Home	Parcel	260	1.22	0.59
Duplex	Parcel	312	1.46	0.70
Triplex	Parcel	468	2.19	1.05
Fourplex	Parcel	624	2.92	1.40
Condominiums	Parcel	195	0.92	0.44
Single Family Home (reduced rate)	Parcel	156	0.73	0.35
Five Units or More	No. of Dwlg. Units	156	0.73	0.35
Mobile Home Parks	No. of Spaces	156	0.73	0.35
C O M M E R C I A L				
Hotel/Motel/Rooming House	Room	125	0.54	0.28
Store	1000 ft^2	100	0.43	0.23
Supermarket	1000 ft^2	150	2.00	1.00
Shopping Center	1000 ft^2	325	3.00	1.17
Regional Mall	1000 ft^2	150	2.10	0.77
Office Building	1000 ft^2	200	0.86	0.45
Professional Building	1000 ft^2	300	1.29	0.68
Restaurant	1000 ft^2	1,000	16.68	5.00
Indoor Theatre	1000 ft^2	125	0.54	0.28
Car Wash				
Tunnel - No Recycling	1000 ft^2	3,700	15.86	8.33
Tunnel - Recycling	1000 ft^2	2,700	11.74	6.16
Wand	1000 ft^2	700	3.00	1.58
Financial Institution	1000 ft^2	100	0.43	0.23
Service Shop	1000 ft^2	100	0.43	0.23
Animal Kennels	1000 ft^2	100	0.43	0.23
Service Station	1000 ft^2	100	0.43	0.23
Auto Sales/Repair	1000 ft^2	100	0.43	0.23
Wholesale Outlet	1000 ft^2	100	0.43	0.23
Nursery/Greenhouse	1000 ft^2	25	0.11	0.06
Manufacturing	1000 ft^2	200	1.86	0.70
Dry Manufacturing	1000 ft^2	25	0.23	0.09
Lumber Yard	1000 ft^2	25	0.23	0.09
Warehousing	1000 ft^2	25	0.23	0.09
Open Storage	1000 ft^2	25	0.23	0.09
Drive-in Theatre	1000 ft^2	20	0.09	0.05

TABLE 1
(continued)
LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
C O M M E R C I A L				
Night Club	1000 ft^2	350	1.50	0.79
Bowling/Skating	1000 ft^2	150	1.76	0.55
Club	1000 ft^2	125	0.54	0.27
Auditorium, Amusement	1000 ft^2	350	1.50	0.79
Golf Course, Camp, and Park (Structures and Improvements	1000 ft^2	100	0.43	0.23
Recreational Vehicle Park	No. of Spaces	55	0.34	0.14
Convalescent Home	Bed	125	0.54	0.28
Laundry	1000 ft^2	3,825	16.40	8.61
Mortuary/Cemetery	1000 ft^2	100	1.33	0.67
Health Spa, Gymnasium				
With Showers	1000 ft^2	600	2.58	1.35
Without Showers	1000 ft^2	300	1.29	0.68
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	Average Daily Attendance	10	0.04	0.02
I N S T I T U T I O N A L				
College/University	Student	20	0.09	0.05
Private School	1000 ft^2	200	0.86	0.45
Church	1000 ft^2	50	0.21	0.11

Appendix B

Worksheet for 10" SS Pipe at 0.32%

Project Description	
Friction Method	Kutter Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.0032 ft/ft
Normal Depth	5.0 in
Diameter	10.0 in

Results	
Discharge	0.58 cfs
Flow Area	0.3 ft²
Wetted Perimeter	1.31 ft
Hydraulic Radius	2.5 in
Top Width	0.83 ft
Critical Depth	4.0 in
Percent Full	50.0 %
Critical Slope	0.0072 ft/ft
Velocity	2.12 ft/s
Velocity Head	0.07 ft
Specific Energy	0.49 ft
Froude Number	0.654
Maximum Discharge	1.26 cfs
Discharge Full	1.16 cfs
Slope Full	0.0008 ft/ft
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.0 in
Length	0.00 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	50.0 %
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	5.0 in
Critical Depth	4.0 in
Channel Slope	0.0032 ft/ft
Critical Slope	0.0072 ft/ft

Appendix C

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

October 18, 2023

Ref. DOC 7043080

VIA EMAIL HNazarian@DandDEngineeringInc.com

Mr. Henrik Nazarian
D&D Engineering, Inc.
119 West Hyde Park Boulevard
Inglewood, CA 90302

Dear Mr. Nazarian:

Will Serve Letter for Morningside High School Residential Development

The Los Angeles County Sanitation Districts (Districts) received your will serve letter request for the subject project located in the City of Inglewood on October 3, 2023. The proposed project is located within the jurisdictional boundary of District No. 5. 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' South Inglewood-Orange Avenue Trunk Sewer, located in Doty Avenue at 104th Street, or South Inglewood-Orange Avenue Trunk Sewer, located in Yukon Avenue at Imperial Highway. The Districts' 18-inch diameter South Inglewood-Orange Trunk Sewer in Doty Avenue has a capacity of 3 million gallons per day (mgd) and conveyed a peak flow of 0.5 mgd when last measured in 2017. The Districts' 21-inch diameter South Inglewood-Orange Avenue Trunk Sewer in Yukon Avenue has a capacity of 4.7 mgd and conveyed a peak flow of 3.1 mgd when last measured in 2017.

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 243.1 mgd.

3. The expected average wastewater flow from the project, described in the application as 573 attached townhouses and a 10,000 square-foot child development center, is 113,735 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, under Services, then Wastewater Program and Permits and select Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

4. The Districts are empowered by the California Health and Safety Code to charge a fee to connect facilities (directly or indirectly) to the Districts' Sewerage System or to increase the strength or quantity of wastewater discharged from connected facilities. This connection fee is used by the Districts for its capital facilities. Payment of a connection fee may be required before this project is permitted to discharge to the Districts' Sewerage System. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, under Services, then Wastewater (Sewage) and select Rates & Fees. In determining the impact to the Sewerage System and applicable connection fees, the Districts will determine the user category (e.g. Condominium, Single Family Home, etc.) that best represents the actual or anticipated use of the parcel(s) or facilities on the parcel(s) in the development. For more specific information regarding the

connection fee application procedure and fees, please contact the Districts' Wastewater Fee Public 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 the applicant that the Districts intend to provide this service up to the levels that are legally permitted and to inform the applicant 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 2708 or at dcurry@lacsd.org.

Very truly yours,

Donna J. Curry

Donna J. Curry
Customer Service Specialist
Facilities Planning Department

DC:sw

cc: A. Schmidt
A. Howard