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## Preliminary Sewer Area Study

### Glenelder Detached Condominiums Development Tentative Tract 082159

16234 Folger Street,  
Hacienda Heights CA 91745

PC 12438AS  
ESTU2019000034



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## I. Introduction

Hunsaker & Associates Irvine, Inc. (H&A) is pleased to submit the Preliminary Sewer System Hydraulic Analysis & Area Study for Tentative Tract 082159 (APN listed on the Tract 082159 Vesting Tentative Map, located in the Appendix.) This analysis has been prepared to determine if the existing sewer network can accept the proposed flows generated from converting the existing Glenelder Elementary school site into a single family residential development. The existing sewer mains that would be affected run through Hacienda Heights and the City of Industry before joining the Sanitary District's existing 36" trunk main. All public sewer systems in the aforementioned areas are serviced and maintained by the City of Industry and Los Angeles County Sewer Maintenance District.

Hydraulic models were prepared using Bentley Systems modeling software to model the peak flows that the existing sewer system would experience due to the proposed development.

This evaluation is based on existing and known conditions and should be re-evaluated if these conditions change or new information becomes available. Any interpretation of the information presented in this report should be referred to H&A to ensure the integrity of the results.

## II. Site Description

The proposed project is located at 16234 Folger Street, Hacienda Heights CA 91745. The approximately 11.5 acre site is the former location of Glenelder Elementary School, which closed in 2016.

## III. Project Description

Tentative Tract 082159 is a proposed single family residential development on approximately 11.5 acre. The proposed development consists of 86 residential dwellings and two private driveways. The area has an existing LA County zone designation of R1 and the proposed density of 8.5 dwelling units/ acre. A copy of the Preliminary Vesting Tentative Tract Map 082159 is located in the Appendix

## IV. Existing Sewer System Description

The existing sewer system consists of 8-inch gravity sewer lines within Glenelder Avenue and a portion of Hinnen Avenue. The sewer mains increase in size to 15-inch in Folger Street, a segment of Hinnen between Folger Street and Gale Avenue, and Gale Avenue. The existing sewer main is 18-inch in diameter in Gale Avenue and Stimson Avenue from Gale Avenue to the connection in the Sanitation District's 36" trunk main number 672. The exhibit entitled "Existing Sewer System" (Figure 2) depicts the existing sewer lines that



are impacted by the proposed project. Please refer to the Consolidated Sewer Maintenance District Sewer Index Maps and sanitary sewer as-built plans provided in the Appendix of this report for a complete representation of the existing sewer system. Figure 2: Existing Sewer System shows the critical path of the existing sewer system and the minimum slope on each stretch of the critical path. Figure 2A has the same information as shown in Figure 2 but uses the Los Angeles County Consolidated Sewer Maintenance District Index Maps as the background and has been added to the report at the request of the City of Industry.

A large portion of the community of Hacienda Heights, west of Stimson Avenue, is served by the 18-inch sewer main in Stimson Avenue. This tributary area has been identified on Figure 1: Sewer System Model. Figure 1 also identifies the LA County designated planning zones. The LA County Land Use Policy Map and the City of Industry Zoning Map were used in identifying land use and planning zones within the tributary area. Copies of these maps can be found in the Appendix.

The designated zoning of the tributary areas indicates the zoning coefficient that is used in calculating sewer generation flows. The tributary areas are designated with the following zones: R1-9000, RA-10000, RA, R1-6000, R1, and Industrial. In areas with the minimum lot size indicated in the zone designation (i.e. R1-9000 indicates lot size of 9000 square feet), the number of lots per acre was used in the calculation of the zone coefficient. The RA zone was assumed to have a minimum lot size of 6000 square feet.

## V. Proposed Sewer System Description

The proposed on-site sewer collection system for Tract 082159 consists of 8-inch gravity sewer mains. These sewer mains will connect into the existing system within Folger Street. It was assumed that the sewer flow/ zone coefficient for the proposed single family residential units was 0.001 cfs/unit.

## VI. Sewer Capacity Analysis

The estimated sanitary sewer flows for the existing and proposed sewer system were based upon the Los Angeles County Department of Public Works Zoning Coefficients. The peaked daily flow calculations were performed using the tributary areas and zoning coefficients. The equation used to calculate the sewer discharge is as follows:

$$Q=ZA$$

Q = Sewer discharge (cfs)

Z = Zoning Coefficient (cfs/acre)

A = Area (acres)



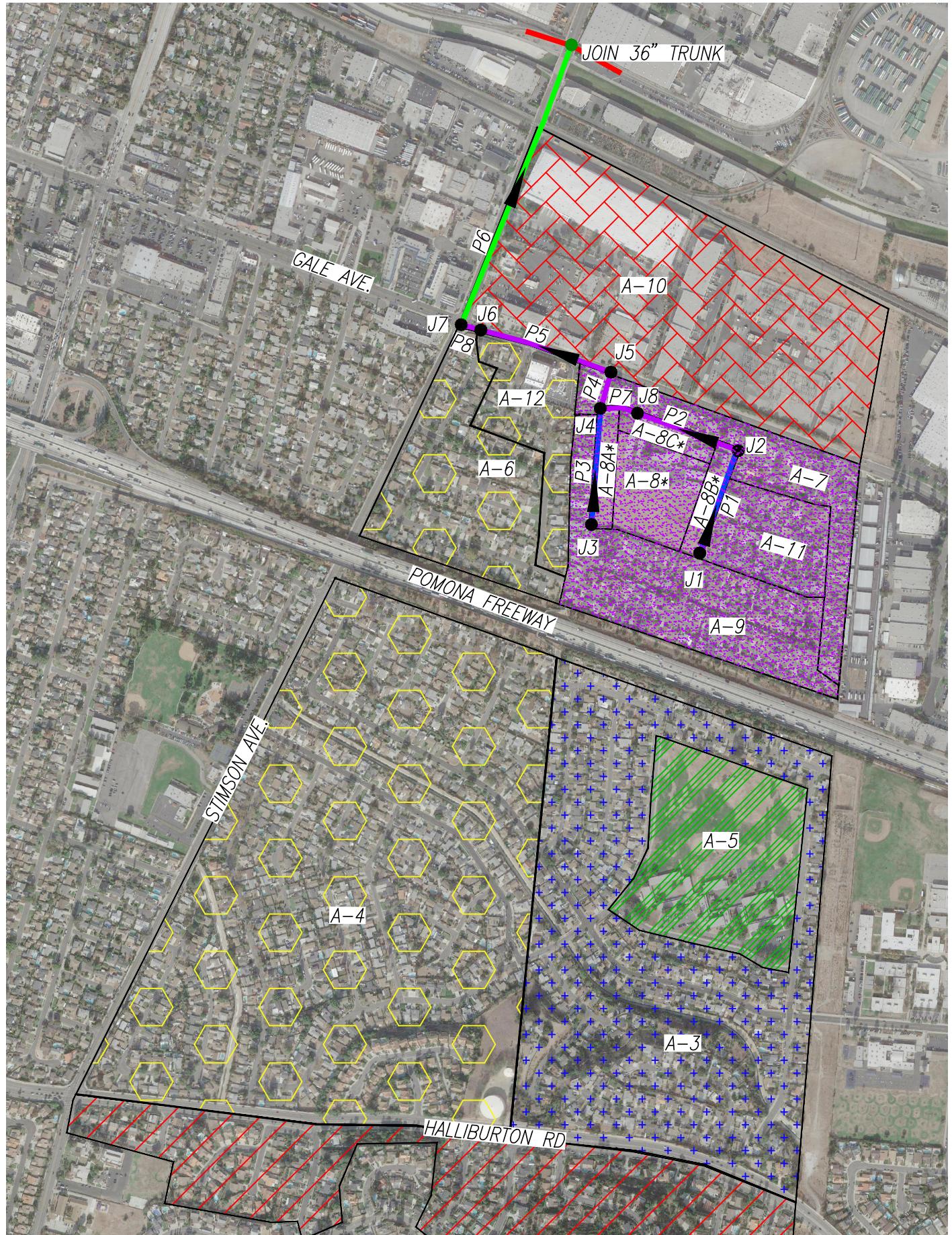
Refer to the appendix of this report for Table 2: Flow Generation for sewer flow calculations, Table 3: Pipe Summary of existing sewer mains, and for the Los Angeles County Department of Public Works table of zoning coefficients.

In order to calculate the pipe sizes and capacity of the proposed and existing sewer systems, a hydraulic model has been prepared using Bentley FlowMaster V8i. The summary of outputs from the model runs is included in the Appendix of this report.

This analysis looks at the feasibility of the proposed sewer flows from the proposed development on the Glenelder school site to the existing system. The sewer system schematic is shown on Figure 1: Sewer System Model. This exhibit identifies the points of sewer reaches, existing sewer mains, zoning areas, and tributary boundaries. Figure 1A: Tributary Area Map has the same information as shown in Figure 1 but uses the Los Angeles County Consolidated Sewer Maintenance District Index Maps as the background and has been added to the report at the request of the City of Industry.

## VII. Conclusion

In order to determine if the existing Hacienda Heights sewer system could accept flows from proposed Tentative Tract 082159, the existing system was analyzed with the proposed flows generated from the 86 single family residential dwelling units. The calculations, using the required flow coefficients and Kutter Formula, show that the existing system has the capacity to accept the flows from Tentative Tract 82159. Table 1: Sewer Area Study Table summarizes the capacity of the existing and proposed sewer mains and can be found in the Appendix. LA County allows for the capacity of existing sewer mains to flow up to 150% of the half full capacity and the addition of the proposed project does not over tax the existing sewer system. Please note that the sewer system was not analyzed at every manhole but the worst case scenario of the system between critical manholes (i.e. the minimum slope shown on the as-built plans) was analyzed for capacity.



## LEGEND

PX	EXISTING 18" PUBLIC SEWER AND PIPE NUMBER
PX	EXISTING 15" PUBLIC SEWER AND PIPE NUMBER
PX	EXISTING 8" PUBLIC SEWER AND PIPE NUMBER
—	EXISTING TRUNK SEWER (LA COUNTY SANITATION DISTRICT)
—	EXISTING SEWER TRIBUTARY BOUNDARY
JX	REACH DIVIDING POINT AND JUNCTION NUMBER
●	POINT OF CONNECTION TO EXISTING SEWER
A-X	AREA IDENTIFICATION
*	PROJECT SITE: AREAS A-8*, A-8A*, A-8B*, A-8C*
	ZONE: INDUSTRIAL
	ZONE: R1-10000
	ZONE: R1
	ZONE: R1-9000
	ZONE: R1-6000
	ZONE: SCHOOL
	ZONE: RA

N.T.S.



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## GLENELDER SEWER SYSTEM MODEL

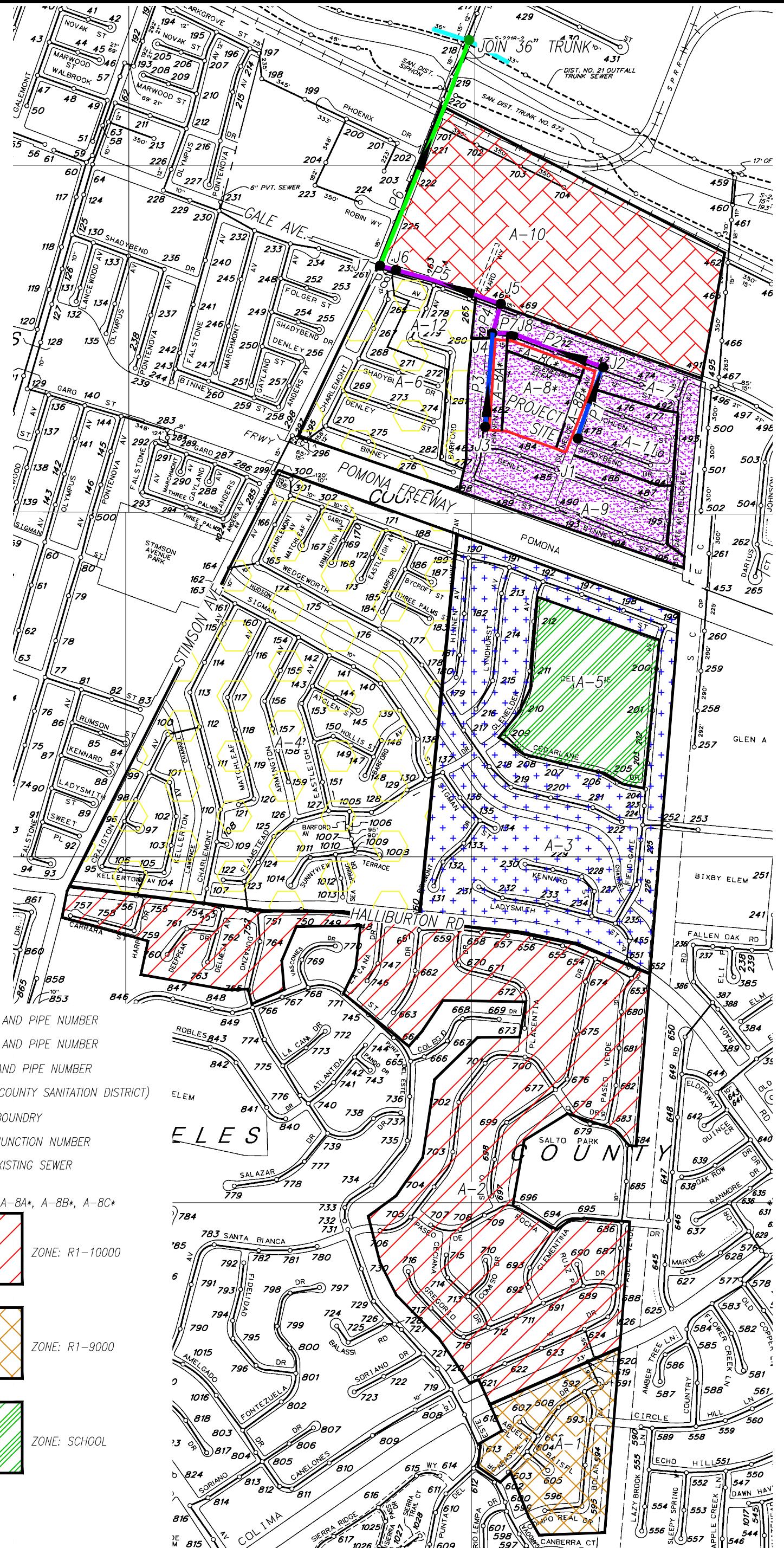
FIGURE  
1

W.O. 3916-28X DATE: 01 DEC 2018

PLOTTED BY: KatieO DATE: Sep. 03, 2019 TIME: 10:25 AM

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JUNCTION NUMBER	Critical Manhole Number
J1	478
J2	473
J3	482
J4	470
J5	468
J6	262
J7	261
J8	471



## LEGEND

- PX EXISTING 18" PUBLIC SEWER AND PIPE NUMBER
- PX EXISTING 15" PUBLIC SEWER AND PIPE NUMBER
- PX EXISTING 8" PUBLIC SEWER AND PIPE NUMBER
- PX EXISTING TRUNK SEWER (LA COUNTY SANITATION DISTRICT)
- EXISTING SEWER TRIBUTARY BOUNDARY
- JX REACH DIVIDING POINT AND JUNCTION NUMBER
- POINT OF CONNECTION TO EXISTING SEWER
- A-X AREA IDENTIFICATION
- \* PROJECT SITE: AREAS A-8\*, A-8A\*, A-8B\*, A-8C\*
- ZONE: INDUSTRIAL
- ZONE: R1-10000
- ZONE: R1
- ZONE: R1-9000
- ZONE: R1-6000
- ZONE: SCHOOL
- ZONE: RA
- PROJECT SITE: ZONE R1



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N.T.S.

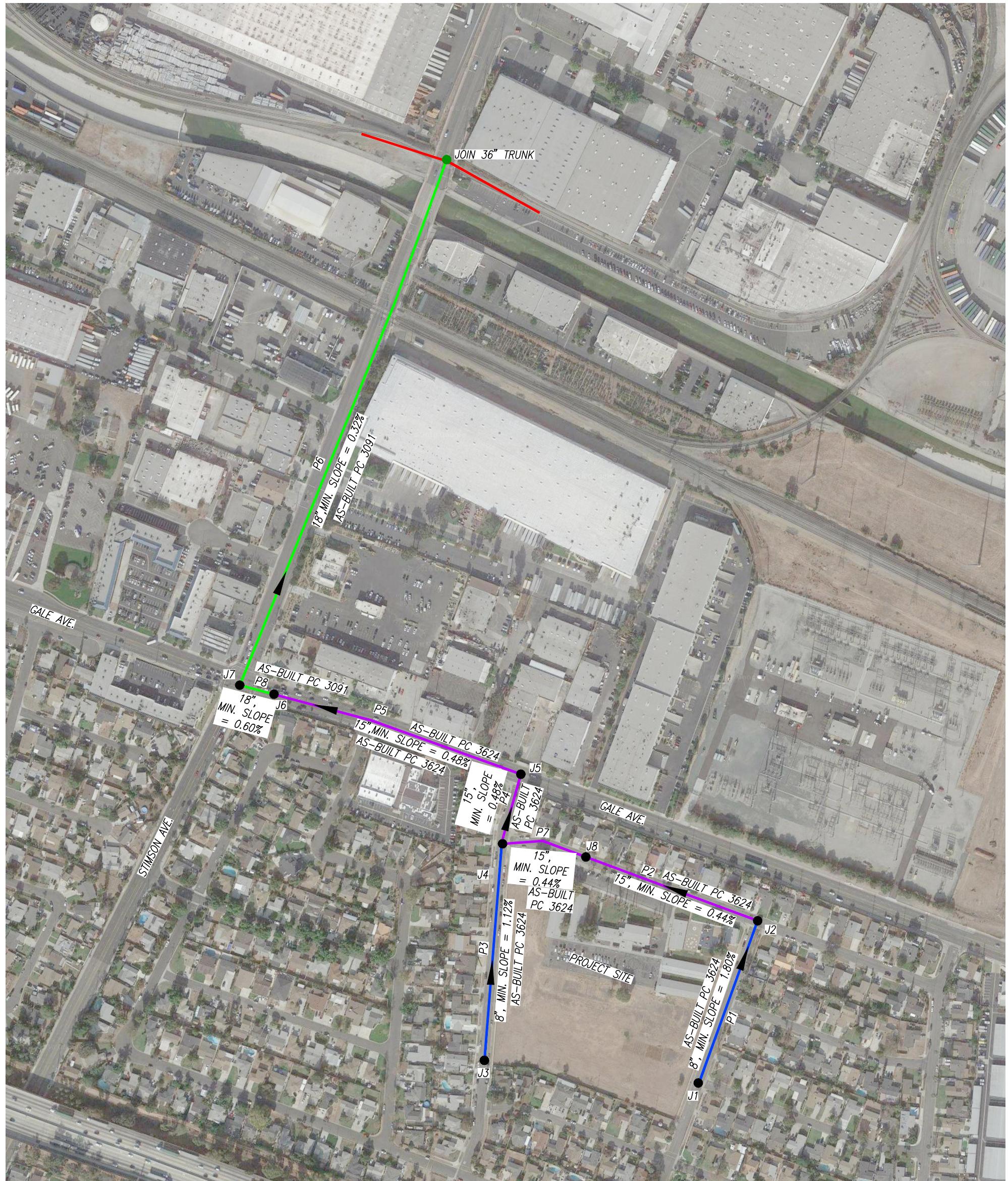
GLENELDER  
TRIBUTARY AREA MAP

FIGURE  
1A

W.O. 3916-28X DATE: 02 SEPT 2019

PLOTTED BY: KatieO DATE: Sep. 03, 2019 TIME: 11:18 AM

F:\1037\Engineering\SY\_WS STUDIES\SS\_DRAINAGE AREA EXHIBIT\_COI FIG 1A.dwg



## LEGEND

- |  |  |
|--|--|
|  PX | EXISTING 18" PUBLIC SEWER AND PIPE NUMBER            |
|  PX | EXISTING 15" PUBLIC SEWER AND PIPE NUMBER            |
|  PX | EXISTING 8" PUBLIC SEWER AND PIPE NUMBER             |
|     | EXISTING TRUNK SEWER (LA COUNTY SANITATION DISTRICT) |
|  JX | REACH DIVIDING POINT AND JUNCTION NUMBER             |
|     | POINT OF CONNECTION TO EXISTING SEWER                |

N.T.S.



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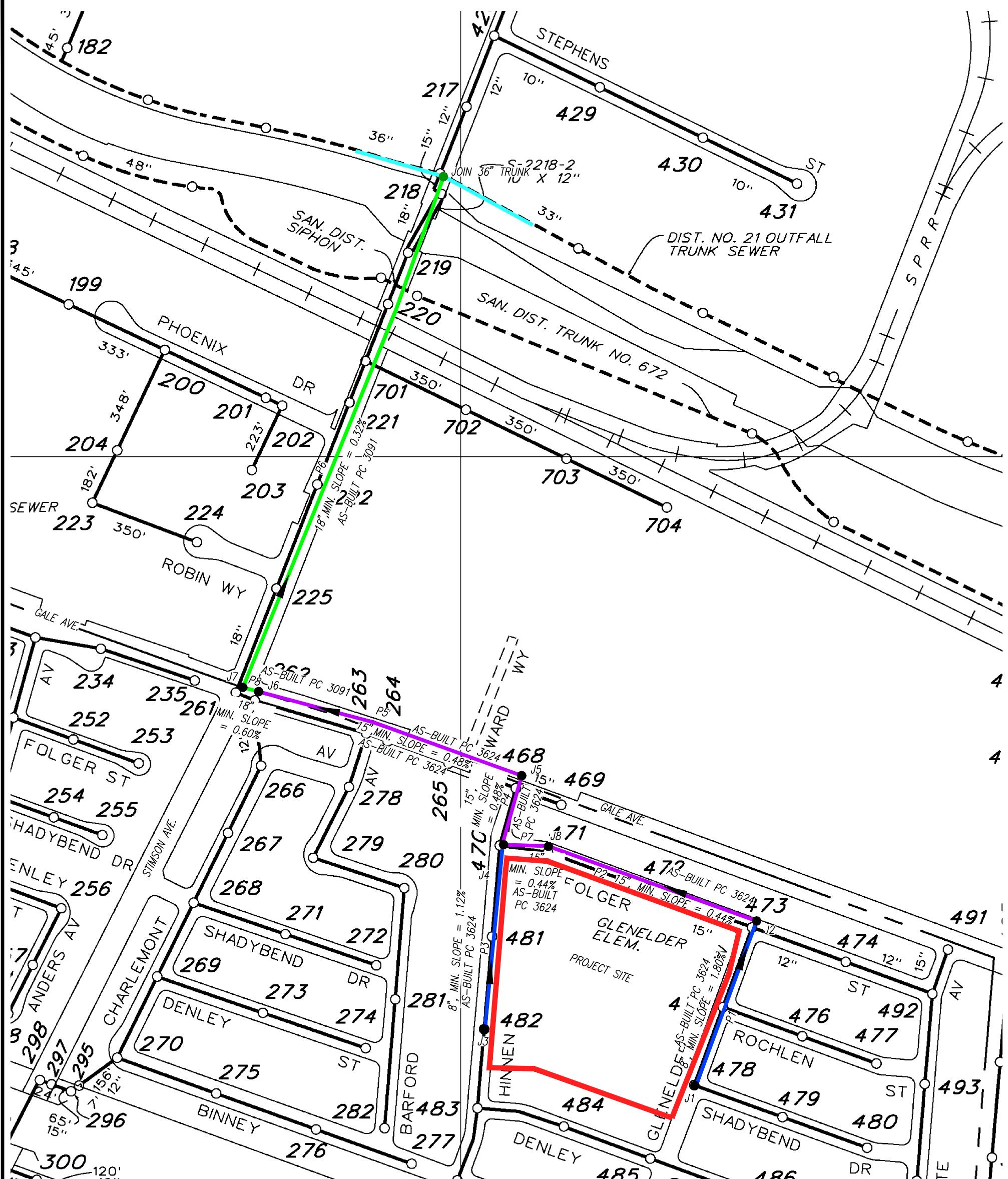
# GLENELDER

## EXISTING SEWER SYSTEM

# FIGURE 2

W.O. 3916-28X

DATE: 20 MARCH 2019



### LEGEND

- PX — EXISTING 18" PUBLIC SEWER AND PIPE NUMBER
- PX — EXISTING 15" PUBLIC SEWER AND PIPE NUMBER
- PX — EXISTING 8" PUBLIC SEWER AND PIPE NUMBER
- EXISTING TRUNK SEWER (LA COUNTY SANITATION DISTRICT)
- JX ● REACH DIVIDING POINT AND JUNCTION NUMBER
- POINT OF CONNECTION TO EXISTING SEWER
- PROJECT SITE

JUNCTION NUMBER	CRITICAL MANHOLE NUMBER
J1	478
J2	473
J3	482
J4	470
J5	468
J6	262
J7	261
J8	471

N.T.S.  
NORTH  
TRUE  
SOUTH

### GLENELDER EXISTING SEWER SYSTEM

FIGURE  
2A



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## Appendix A

Table 1: Sewer Area Study Table

PIPE # (JUNCTION SEGMENT)	Street Name	Segment		Pipe		*Capacity		Dwelling Units	Flow Coeff.	Area Label (per exhibit)	Area (Acres)	Zoning Coeff.	Calculated Flow (cfs)	**Cumulative Calculated Flow (cfs)	PC or CI Construction Plan #	Comment	% Full	Jurisdiction		
		M.H. #	M.H. #	Size (in.)	**** MIN. Slope (%)	1/2 Full(<15")	3/4 Full(≥15")										Cumulative Flow / Capacity			
P1 (J1-J2)	GLENELDER	478	475	8	1.8	0.81		10	0.001	A-8B			0.0100		PC 3624	Existing sewer mains. Proposed condition calcs.		5.19%	LACDPW	
										A-11	8	0.004	0.0320	0.0420						
P2 (J2-J8)	FOLGER	472	471	15	0.44	2.14				A-7	12.4	0.004	0.0496		PC 3624	Existing sewer mains. Proposed condition calcs.			LACDPW	
								10	0.001	A-8C			0.0100							
										A-8B, A-11			0.0420	0.1016			Cumulative flow from P1	4.75%		
P7 (J8-J4)	FOLGER	471	470	15	0.44	2.14		52	0.001	A-8			0.0520		PC 3624	Existing sewer mains. Proposed condition calcs.			LACDPW	
										A-7, A-8B, A-8C, A-11			0.1016	0.1536			Cumulative flow from P2	7.18%		
P3 (J3-J4)	HINNEN	482	481	8	1.12	0.64		14	0.001	A-8A			0.0140		PC 3624	Existing sewer mains. Proposed condition calcs.			LACDPW	
										A-9	20.3	0.004	0.0812	0.0952				14.88%		
P4 (J4-J5)	HINNEN	470	468	15	0.48	2.24				A-7, A-8, A-8A, A-8B, A-8C, A-9, A-11				0.2488	PC 3624	Existing sewer mains. Proposed condition calcs.	Cumulative flow from P7 & P3	11.11%	LACDPW	
P5 (J5-J6)	GALE	263	262	15	0.48	2.24				A-12	9.9	0.0073	0.0723		PC 3091 & PC 3024	Existing sewer mains. Proposed condition calcs.			LACDPW	
										A-7, A-8, A-8A, A-8B, A-8C, A-9, A-11			0.2488	0.3211			Cumulative flow from P7 & P3	14.33%		
P8 (J6-J7)	GALE	262	261	18	0.6		7.42			A-1	20.5	0.0048	0.0984		PC 3091	Existing sewer mains. Proposed condition calcs.			LACDPW	
										A-2	123.9	0.0044	0.5452							
										A-3	77.7	0.0073	0.5672							
										A-4	134.2	0.0073	0.9797							
										A-5	554 STUDENTS	(10 gpd/ STUDENT)*2.5	0.0214				Cedarland Academy			
										A-6	20.2	0.0073	0.1475							
										A-7, A-8, A-8A, A-8B, A-8C, A-9, A-11, A-12			0.3211	2.6804			Cumulative flow from P5	36.12%		
P6 (J7-TRUNK)	STIMSON	221	220	18	0.32		5.42			A-10	57.7	0.021	1.2117		PC 3091	Existing sewer mains. Proposed condition calcs.			CITY OF INDUSTRY	
										A-1, A-2, A-3, A-4, A-5, A-6, A-7, A-8, A-8A, A-8B, A-8C, A-9, A-11, A-12			2.6804	3.8921			Cumulative flow from P5	71.81%		
	PRIVATE DRIVEWAY	NEW MH IN PROJECT	471	8	1.00	0.6		52	0.001	A-8			0.0520	#REF!		Proposed sewer main.		#REF!	LACDPW	

\* 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 &gt; 15" % Full should be calculated by taking the flow depth divided by 0.75 times the pipe diameter

\*\*\*\* Minimum slope within P# junction segment nodes

Table 2: FLOW GENERATION TABLE

AREA LABEL	AREA (ACRES)	DU	SCHOOL	# OF STUDENTS	ZONE	MIN LOT SIZE	ZONE FLOW COEFFICIENT	FLOW PER AREA (CFS)
A 1	20.5				R1-9000	9000	0.0048	0.10
A 2	123.9				R-A-10000	10000	0.0044	0.54
A 3	77.7				RA	6000	0.0073	0.56
A 4	134.2				R1-6000	6000	0.0073	0.97
A 5	23.4		CEDARLANE ACADEMY	554	SCHOOL			0.02
A 6	20.2				R1-6000	6000	0.0073	0.15
A 7	12.4				R1		0.0040	0.05
A 8		52	GLENELDER SITE		R1		0.0010	0.05
A 8A		14	GLENELDER SITE		R1		0.0010	0.01
A 8B		10	GLENELDER SITE		R1		0.0010	0.01
A 8C		10	GLENELDER SITE		R1		0.0010	0.01
A 9	20.3				R1		0.0040	0.08
A 10	57.7				INDUSTRIAL		0.0210	1.21
A 11	8				R1		0.0040	0.03
A 12	9.9				R1-6000	6000	0.0073	0.07

\*\* 10 gallons per day per student, multiply by 2.5 for peak flow

Table 3: PIPE SUMMARY TABLE

PIPE	BEGIN NODE	END NODE	PIPE SIZE (INCHES)	****MIN SLOPE (FT/FT)	UPSTREAM MH	DOWNSTREAM MH	AREAS CONTRIBUTING FLOW	FLOW (cfs)	CUMULATIVE FLOW/ CAPACITY	MANHOLES ALONG STRETCH OF PIPE
P1	J 1	J 2	8	0.018	478	473	A8B, A11	0.04	5.19%	478, 475, 473
P2	J 2	J 8	15	0.0044	473	471	A7, A8B, A8C, A11	0.10	4.75%	473, 472, 471
P7	J 8	J 4	15	0.0044	471	470	A7, A8, A8B, A8C, A11	0.15	7.18%	471, 470
P3	J 3	J 4	8	0.0112	483	470	A9, A8A	0.10	14.88%	482, 481, 470
P4	J 4	J 5	15	0.0048	470	468	A7, A8A, A8B, A8C, A8, A9, A11	0.25	11.11%	470, 468
P5	J 5	J 6	15	0.0048	468	262	A7, A8A, A8B, A8C, A8, A9, A11, A12	0.32	14.33%	468, 265, 264, 263, 262
P8	J 6	J 7	18	0.006	262	261	A1, A2, A3, A4, A5, A6, A7, A8A, A8B, A8C, A8, A9, A11, A12	2.68	36.12%	262, 261
P6	J 7	TRUNK	18	0.0032	261	TRUNK	A1, A2, A3, A4, A5, A6, A7, A8A, A8B, A8C, A8, A9, A10, A11, A12	3.89	71.81%	261, 225, 222, 221, 701, 220

\*\*\*\* Minimum slope within P# junction segment nodes

## Appendix B

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: Pipe - 1  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Project Description**

Worksheet: Pipe - 2  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0180 ft/ft
Diameter	8 in
Discharge	0.0400 ft <sup>3</sup> /s

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0044 ft/ft
Diameter	15 in
Discharge	0.1000 ft <sup>3</sup> /s

#### **Results**

Normal Depth	0.87 in
Flow Area	0.02 ft <sup>2</sup>
Wetted Perimeter	0.45 ft
Top Width	0.41 ft
Critical Depth	0.09 ft
Percent Full	10.80 %
Critical Slope	0.00705 ft/ft
Velocity	1.96 ft/s
Velocity Head	0.06 ft
Specific Energy	0.13 ft
Froude Number	1.55
Maximum Discharge	1.74 ft <sup>3</sup> /s
Discharge Full	1.62 ft <sup>3</sup> /s
Slope Full	0.00001 ft/ft
Flow Type	SuperCritical

#### **Results**

Normal Depth	1.58 in
Flow Area	0.07 ft <sup>2</sup>
Wetted Perimeter	0.83 ft
Top Width	0.77 ft
Critical Depth	0.12 ft
Percent Full	10.50 %
Critical Slope	0.00623 ft/ft
Velocity	1.45 ft/s
Velocity Head	0.03 ft
Specific Energy	0.16 ft
Froude Number	0.85
Maximum Discharge	4.61 ft <sup>3</sup> /s
Discharge Full	4.28 ft <sup>3</sup> /s
Slope Full	0.00000 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: Pipe - 3  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Project Description**

Worksheet: Pipe - 4  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0112 ft/ft
Diameter	8 in
Discharge	0.1000 ft <sup>3</sup> /s

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0048 ft/ft
Diameter	15 in
Discharge	0.2500 ft <sup>3</sup> /s

#### **Results**

Normal Depth	1.51 in
Flow Area	0.05 ft <sup>2</sup>
Wetted Perimeter	0.60 ft
Top Width	0.52 ft
Critical Depth	0.14 ft
Percent Full	18.90 %
Critical Slope	0.00657 ft/ft
Velocity	2.18 ft/s
Velocity Head	0.07 ft
Specific Energy	0.20 ft
Froude Number	1.30
Maximum Discharge	1.38 ft <sup>3</sup> /s
Discharge Full	1.28 ft <sup>3</sup> /s
Slope Full	0.00007 ft/ft
Flow Type	SuperCritical

#### **Results**

Normal Depth	2.41 in
Flow Area	0.13 ft <sup>2</sup>
Wetted Perimeter	1.03 ft
Top Width	0.92 ft
Critical Depth	0.19 ft
Percent Full	16.00 %
Critical Slope	0.00561 ft/ft
Velocity	1.96 ft/s
Velocity Head	0.06 ft
Specific Energy	0.26 ft
Froude Number	0.93
Maximum Discharge	4.81 ft <sup>3</sup> /s
Discharge Full	4.48 ft <sup>3</sup> /s
Slope Full	0.00001 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: Pipe - 5  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0048 ft/ft
Diameter	15 in
Discharge	0.3200 ft <sup>3</sup> /s

#### **Results**

Normal Depth	2.72 in
Flow Area	0.15 ft <sup>2</sup>
Wetted Perimeter	1.10 ft
Top Width	0.96 ft
Critical Depth	0.22 ft
Percent Full	18.10 %
Critical Slope	0.00545 ft/ft
Velocity	2.11 ft/s
Velocity Head	0.07 ft
Specific Energy	0.30 ft
Froude Number	0.94
Maximum Discharge	4.81 ft <sup>3</sup> /s
Discharge Full	4.48 ft <sup>3</sup> /s
Slope Full	0.00002 ft/ft
Flow Type	SubCritical

#### **Project Description**

Worksheet: Pipe - 6  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0032 ft/ft
Diameter	18 in
Discharge	3.8900 ft <sup>3</sup> /s

#### **Results**

Normal Depth	10.62 in
Flow Area	1.09 ft <sup>2</sup>
Wetted Perimeter	2.63 ft
Top Width	1.48 ft
Critical Depth	0.75 ft
Percent Full	59.00 %
Critical Slope	0.00538 ft/ft
Velocity	3.58 ft/s
Velocity Head	0.20 ft
Specific Energy	1.08 ft
Froude Number	0.74
Maximum Discharge	6.39 ft <sup>3</sup> /s
Discharge Full	5.94 ft <sup>3</sup> /s
Slope Full	0.00137 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: Pipe - 7  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Project Description**

Worksheet: Pipe - 8  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Normal Depth

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0044 ft/ft
Diameter	15 in
Discharge	0.1500 ft <sup>3</sup> /s

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0060 ft/ft
Diameter	18 in
Discharge	2.6800 ft <sup>3</sup> /s

#### **Results**

Normal Depth	1.92 in
Flow Area	0.09 ft <sup>2</sup>
Wetted Perimeter	0.91 ft
Top Width	0.84 ft
Critical Depth	0.15 ft
Percent Full	12.80 %
Critical Slope	0.00592 ft/ft
Velocity	1.61 ft/s
Velocity Head	0.04 ft
Specific Energy	0.19 ft
Froude Number	0.87
Maximum Discharge	4.61 ft <sup>3</sup> /s
Discharge Full	4.28 ft <sup>3</sup> /s
Slope Full	0.00001 ft/ft
Flow Type	SubCritical

#### **Results**

Normal Depth	7.11 in
Flow Area	0.65 ft <sup>2</sup>
Wetted Perimeter	2.04 ft
Top Width	1.47 ft
Critical Depth	0.62 ft
Percent Full	39.50 %
Critical Slope	0.00506 ft/ft
Velocity	4.13 ft/s
Velocity Head	0.26 ft
Specific Energy	0.86 ft
Froude Number	1.09
Maximum Discharge	8.75 ft <sup>3</sup> /s
Discharge Full	8.14 ft <sup>3</sup> /s
Slope Full	0.00065 ft/ft
Flow Type	SuperCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: GLENELDER-P1  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0180 ft/ft
Diameter	8 in
Discharge	0.8100 ft <sup>3</sup> /s

#### **Results**

Normal Depth	4.00 in
Flow Area	0.17 ft <sup>2</sup>
Wetted Perimeter	1.05 ft
Top Width	0.67 ft
Critical Depth	0.43 ft
Percent Full	50.00 %
Critical Slope	0.00825 ft/ft
Velocity	4.64 ft/s
Velocity Head	0.34 ft
Specific Energy	0.67 ft
Froude Number	1.60
Maximum Discharge	1.74 ft <sup>3</sup> /s
Discharge Full	1.62 ft <sup>3</sup> /s
Slope Full	0.00450 ft/ft
Flow Type	SuperCritical

#### **Project Description**

Worksheet: FOLGER-P2 & P7  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0044 ft/ft
Diameter	15 in
Discharge	2.1400 ft <sup>3</sup> /s

#### **Results**

Normal Depth	7.50 in
Flow Area	0.61 ft <sup>2</sup>
Wetted Perimeter	1.96 ft
Top Width	1.25 ft
Critical Depth	0.58 ft
Percent Full	50.00 %
Critical Slope	0.00556 ft/ft
Velocity	3.49 ft/s
Velocity Head	0.19 ft
Specific Energy	0.81 ft
Froude Number	0.88
Maximum Discharge	4.61 ft <sup>3</sup> /s
Discharge Full	4.28 ft <sup>3</sup> /s
Slope Full	0.00110 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: HINNEN-P3  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0112 ft/ft
Diameter	8 in
Discharge	0.6400 ft <sup>3</sup> /s

#### **Results**

Normal Depth	4.00 in
Flow Area	0.17 ft <sup>2</sup>
Wetted Perimeter	1.05 ft
Top Width	0.67 ft
Critical Depth	0.38 ft
Percent Full	50.00 %
Critical Slope	0.00749 ft/ft
Velocity	3.66 ft/s
Velocity Head	0.21 ft
Specific Energy	0.54 ft
Froude Number	1.26
Maximum Discharge	1.38 ft <sup>3</sup> /s
Discharge Full	1.28 ft <sup>3</sup> /s
Slope Full	0.00280 ft/ft
Flow Type	SuperCritical

#### **Project Description**

Worksheet: HINNEN-P4,  
 GALE -P5  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0048 ft/ft
Diameter	15 in
Discharge	2.2400 ft <sup>3</sup> /s

#### **Results**

Normal Depth	7.50 in
Flow Area	0.61 ft <sup>2</sup>
Wetted Perimeter	1.96 ft
Top Width	1.25 ft
Critical Depth	0.60 ft
Percent Full	50.00 %
Critical Slope	0.00560 ft/ft
Velocity	3.65 ft/s
Velocity Head	0.21 ft
Specific Energy	0.83 ft
Froude Number	0.92
Maximum Discharge	4.81 ft <sup>3</sup> /s
Discharge Full	4.48 ft <sup>3</sup> /s
Slope Full	0.00120 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### Project Description

Worksheet: GALE – P8  
Flow Element: Circular Pipe  
Friction Method: Manning Formula  
Solve For: Discharge

#### Input Data

Roughness Coefficient	0.013
Channel Slope	0.0060 ft/ft
Diameter	18 in
Discharge	7.4200 ft <sup>3</sup> /s

#### Results

Normal Depth	13.50 in
Flow Area	1.42 ft <sup>2</sup>
Wetted Perimeter	3.14 ft
Top Width	1.30 ft
Critical Depth	1.06 ft
Percent Full	75.00 %
Critical Slope	0.00703 ft/ft
Velocity	5.22 ft/s
Velocity Head	0.42 ft
Specific Energy	1.55 ft
Froude Number	0.88
Maximum Discharge	8.75 ft <sup>3</sup> /s
Discharge Full	8.14 ft <sup>3</sup> /s
Slope Full	0.00499 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### Project Description

Worksheet: GALE -P8  
Flow Element: Circular Pipe  
Friction Method: Manning Formula  
Solve For: Discharge

#### Input Data

Roughness Coefficient	0.013
Channel Slope	0.0060 ft/ft
Diameter	18 in
Discharge	7.4200 ft <sup>3</sup> /s

#### Results

Normal Depth	13.50 in
Flow Area	1.42 ft <sup>2</sup>
Wetted Perimeter	3.14 ft
Top Width	1.30 ft
Critical Depth	1.06 ft
Percent Full	75.00 %
Critical Slope	0.00703 ft/ft
Velocity	5.22 ft/s
Velocity Head	0.42 ft
Specific Energy	1.55 ft
Froude Number	0.88
Maximum Discharge	8.75 ft <sup>3</sup> /s
Discharge Full	8.14 ft <sup>3</sup> /s
Slope Full	0.00499 ft/ft
Flow Type	SubCritical

# GLENELDER Tract 082159

## Sewer System

### FlowMaster Calculations

#### **Project Description**

Worksheet: STIMSON -P6  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0032 ft/ft
Diameter	18 in
Discharge	5.4200 ft <sup>3</sup> /s

#### **Results**

Normal Depth	13.50 in
Flow Area	1.42 ft <sup>2</sup>
Wetted Perimeter	3.14 ft
Top Width	1.30 ft
Critical Depth	0.90 ft
Percent Full	75.00 %
Critical Slope	0.00595 ft/ft
Velocity	3.81 ft/s
Velocity Head	0.23 ft
Specific Energy	1.35 ft
Froude Number	0.64
Maximum Discharge	6.39 ft <sup>3</sup> /s
Discharge Full	5.94 ft <sup>3</sup> /s
Slope Full	0.00266 ft/ft
Flow Type	SubCritical

#### **Project Description**

Worksheet: Proposed SS Main  
 Flow Element: Circular Pipe  
 Friction Method: Manning Formula  
 Solve For: Discharge

#### **Input Data**

Roughness Coefficient	0.013
Channel Slope	0.0100 ft/ft
Diameter	8 in
Discharge	0.6000 ft <sup>3</sup> /s

#### **Results**

Normal Depth	4.00 in
Flow Area	0.17 ft <sup>2</sup>
Wetted Perimeter	1.05 ft
Top Width	0.67 ft
Critical Depth	0.37 ft
Percent Full	50.00 %
Critical Slope	0.00736 ft/ft
Velocity	3.46 ft/s
Velocity Head	0.19 ft
Specific Energy	0.52 ft
Froude Number	1.19
Maximum Discharge	1.30 ft <sup>3</sup> /s
Discharge Full	1.21 ft <sup>3</sup> /s
Slope Full	0.00250 ft/ft
Flow Type	SuperCritical

## Appendix C



## COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400  
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998  
Telephone: (562) 699-7411, FAX: (562) 699-5422  
[www.lacsd.org](http://www.lacsd.org)

GRACE ROBINSON HYDE  
Chief Engineer and General Manager

November 28, 2018

Ref. Doc. No.: 4832295

Mr. Andrew Han  
CFA, Director of Forward Planning  
Lennar Homes, Inc.  
15131 Alton Parkway, Suite 365  
Irvine, CA 92618

Dear Mr. Han:

### **Will Serve Letter for Vesting Tentative Tract Map No. 082159**

The Sanitation Districts of Los Angeles County (Districts) received your will serve letter request for the subject project on November 8, 2018. The proposed project is located within the jurisdictional boundaries of District No. 21. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Joint Outfall H Trunk Sewer, located in Stimson Avenue south of Stephens Street. The Districts' 36-inch diameter trunk sewer has a capacity of 23.8 million gallons per day (mgd) and conveyed a peak flow of 7.6 mgd when last measured in 2015.
2. The wastewater generated by the proposed project will be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average flow of 63.8 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson.
3. The expected average wastewater flow from the project, described in the application as 86 single family residential detached condominiums, is 22,360 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 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 for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System 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.

Mr. Andrew Han

-2-

November 28, 2018

In determining the impact to the Sewerage System and applicable connection fees, the Districts' Chief Engineer and General Manager 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 CCA. 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,



Adriana Raza  
Customer Service Specialist  
Facilities Planning Department

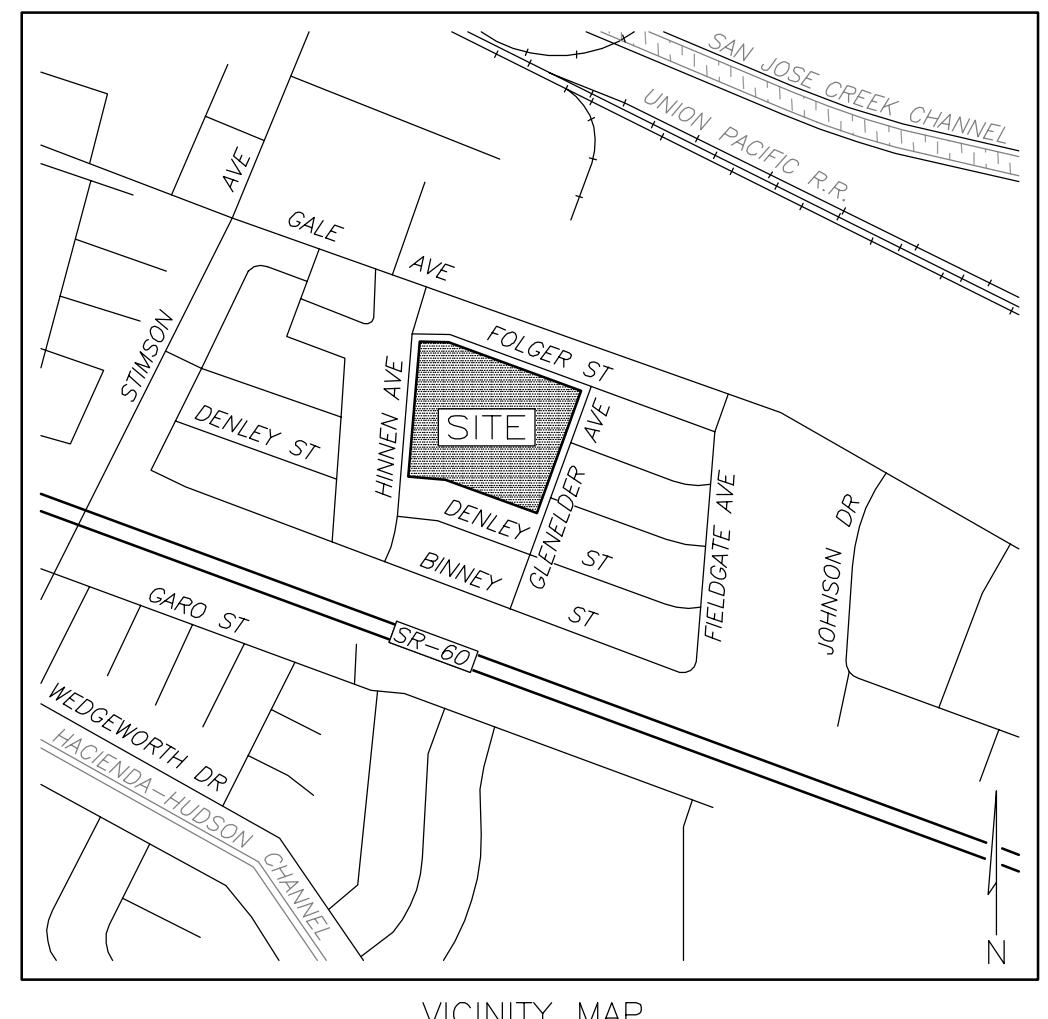
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cc: A. Schmidt  
A. Howard

**MAJOR LAND DIVISION  
PRELIMINARY VESTING TENTATIVE TRACT MAP 082159  
FOR 86 DETACHED CONDOMINIUMS**

**LOCATED IN THE CITY OF HACIENDA HEIGHTS  
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA**

BEING A SUBDIVISION OF LOT 102 OF TRACT NO. 21865, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 587, PAGES 89 AND 90 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.



#### **BASIS OF BEARINGS:**

**BASIS OF BEARINGS:** THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE BEARING OF FOLGER STREET BEING N69°42'37"W AS SHOWN ON THE TRACT MAP FILED IN BOOK 587 AT PAGE 9 OF MAP RECORDS, LOS ANGELES COUNTY, CALIFORNIA.

ALTA SURVEY PROVIDED BY C&V CONSULTING, INC. ON JUNE 15, 2016

## BENCHMARK STATEMENT:

CITY OF INDUSTRY BENCH MARK NUMBER G-1 DESCRIBED AS; "BRASS CAP ON S. CB GALE AVE  $\pm$ 15 FT. E. OF E.C.R. OF S.E. CB RETURN  $\pm$ 40 FT E. & SIMSON AVE." ELEVATION = 344.003 (NAVD29)

**FLOOD NOTE:**

THE SUBJECT PROPERTY FALLS WITHIN "ZONE X" ON A PORTION OF FLOOD INSURANCE RATE MAP NUMBER 06037C1700F OF PANEL 1700 OF 2350, EFFECTIVE SEPTEMBER 26, 2008. AREA DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANGE FLOODPLAIN.

### UTILITY INFORMATION:

WATER – SUBURBAN WATER SYSTEMS  
SEWER – COUNTY OF LOS ANGELES SANITATION DISTRICT  
GAS – SOUTHERN CALIFORNIA GAS CO.  
ELECTRICITY – SOUTHERN CALIFORNIA EDISON CO.  
TELEPHONE – AT&T  
CABLE TV – CHARTER CO.  
FIRE – COUNTY OF LOS ANGELES FIRE DEPARTMENT  
SHERIFF – COUNTY OF LOS ANGELES SHERIFF'S DEPARTMENT  
SCHOOL – HACIENDA LA PUENTE UNIFIED SCHOOL DISTRICT

## **GENERAL NOTES:**

- SERIAL NOTES.**

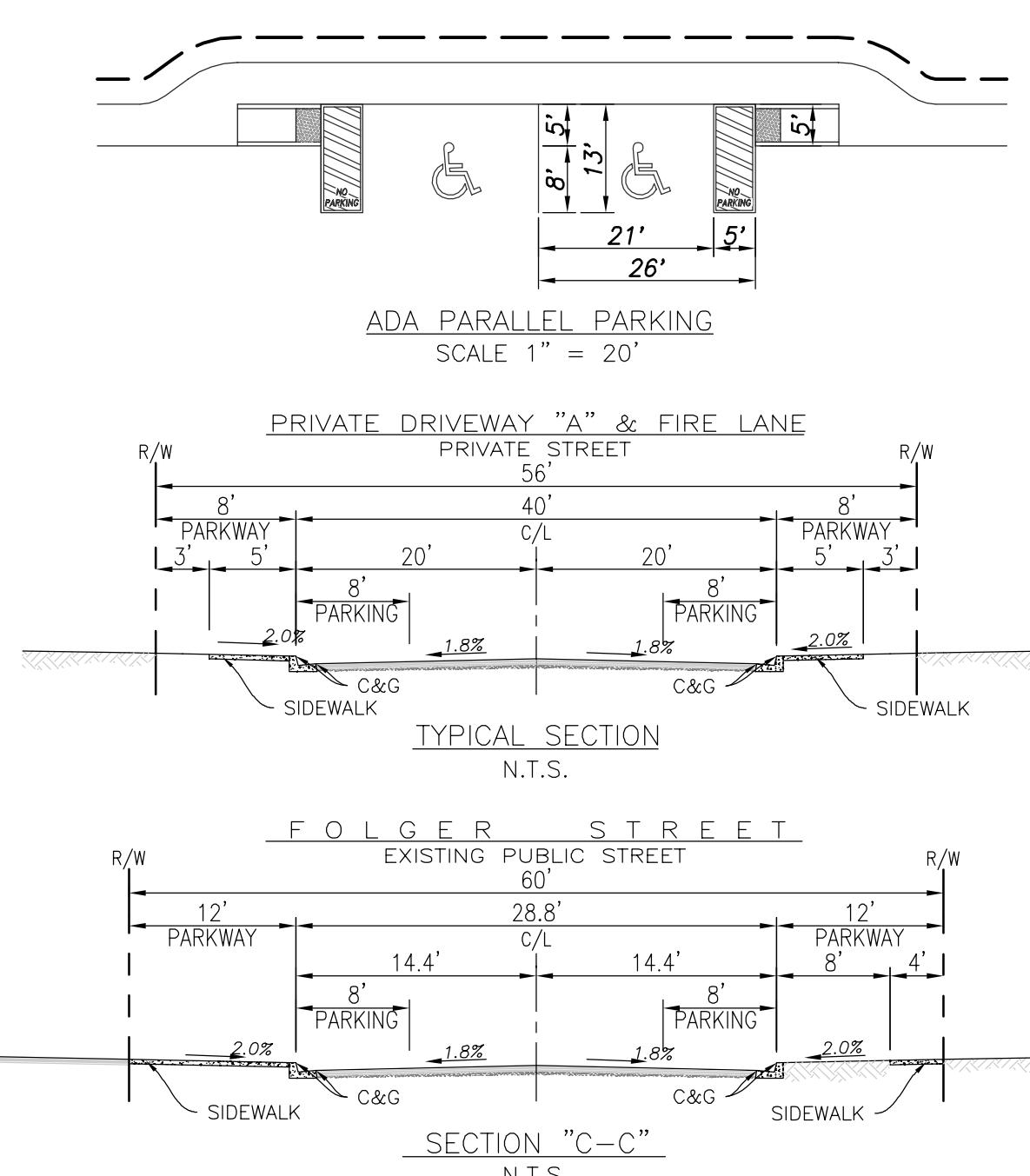
  1. APN: 8242-004-900
  2. CURRENT ADDRESS: 16234 FOLGER STREET, HACIENDA HEIGHTS, CA 91745
  3. EXISTING LAND USE: VACATED EDUCATION/INSTITUTIONAL SCHOOL SITE
  4. PROPOSED LAND USE: DETACHED SINGLE FAMILY RESIDENTIAL
  5. VESTING TENTATIVE TRACT MAP FOR CONDOMINIUM PURPOSES.
  6. NO. OF EXISTING LOTS: 1
  7. EXISTING GENERAL PLAN HHIA COMMUNITY: H9-RESIDENTIAL (0-9 DU/NET ACRE)
  8. PROPOSED GENERAL PLAN HHIA COMMUNITY: SAME AS EXISTING, NO CHANGE.
  9. COMMUNITY PLAN: HACIENDA HEIGHTS
  10. EXISTING LA COUNTY ZONE: R1 RESIDENTIAL.
  11. NO. OF PROPOSED LOTS: 1
  12. NO OF PROPOSED RESIDENTIAL DWELLINGS: 86
  13. PROPOSED DENSITY: 8.5 DU'S/NET ACRE
  14. PROPOSED DEMOLITION: ALL EXISTING ON-SITE BUILDINGS, PARKING, PAVED AREAS, TREES AND GROUNDS.
  15. NO OAK TREES ON SITE.
  16. PROPOSED GRADES MAY CHANGE DURING FINAL ENGINEERING PLAN CHECK PROCESS.
  17. LOT LINE ADJUSTMENTS IF NECESSARY MAY OCCUR PRIOR TO FINAL ENGINEERING.
  18. PROJECT SITE MAY BE DEVELOPED IN MAP OR CONSTRUCTION PHASES. PHASED MAP DEVELOPMENT ALLOWED.
  19. DRY UTILITIES MAY BE LOCATED IN COMMON UTILITY TRENCH WHERE POSSIBLE.
  20. ALL UTILITIES TO BE UNDERGROUND TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
  21. PIPE SIZING FOR STORM DRAIN IMPROVEMENTS SHALL BE DETERMINED DURING FINAL HYDROLOGY REPORT.
  22. SEWER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SEWER STUDY AND SEWER DIVISION IN LOS ANGELES COUNTY PUBLIC WORKS.
  23. WATER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH WATER STUDY AND WATER DIVISION IN LOS ANGELES COUNTY PUBLIC WORKS AND SUBURBAN WATER SYSTEMS.
  24. LANDSCAPE AND IRRIGATION PLAN PROVIDED BY LANDSCAPE ARCHITECT SHALL BE PROVIDED IN ACCORDANCE WITH ADOPTED WATER EFFICIENT LANDSCAPE GUIDELINES.
  25. REFER TO LOW IMPACT DEVELOPMENT (LID) PLAN PROVIDES GUIDANCE FOR WATER QUALITY TREATMENT AND MAINTENANCE OF SUCH FACILITIES.
  26. FILTERRA DEVICES OR SIMILAR ALONG HINNEN AVENUE, FOLGER STREET, AND GLENELDER AVENUE ADJACENT TO PROJECT SITE TO BE LOCATED BACK OF STREET RIGHT OF WAY TO BE MAINTAINED BY HOA. FILTERRA'S OR SIMILAR PRODUCT TO ADDRESS CO-MINGLED WATER.
  27. CROSS LOT DRAINAGE PERMITTED IN FRONT YARDS IN UNDERGROUND PIPE OR CURB CUT OUTLET FROM RESIDENTIAL LOTS. MAY BE PART OF BMP/LID PLANS.
  28. ON-SITE WATER, SEWER, STORM DRAIN AND APPURTENANT WET UTILITY DEVICES ARE PRIVATELY MAINTAINED BY HOA.
  29. OFF-SITE WATER, SEWER, STORM DRAIN AND APPURTENANT WET UTILITY DEVICES ARE PUBLICLY MAINTAINED (HINNEN AVENUE, FOLGER STREET, GLENELDER AVENUE RIGHT OF WAY AND RELATED EASEMENTS)
  30. POST BOX RECEPTACLES TO BE LOCATED BEHIND THE SIDEWALK AND IN GROUPS TO SERVE TWO OR MORE DWELLINGS.
  31. RESIDENTIAL CONDOMINIUM PLAN TO BE SUBMITTED TO CA. DRE.
  32. PARALLEL PARKING MINIMUM 8' 0"

## BUILDING SETBACK INFORMATION: PERIMETER UNITS

<b>PERIMETER UNITS</b>	
FRONT YARD – 10 FEET	FRONT YARD – 12 FEET
INTERIOR SIDE YARD – 5 FEET	SIDE YARD – 5 FEET
STREET SIDE YARD – 10 FEET	REAR YARD – 11 FEET
REAR YARD – 13 FEET	

## **EASEMENT NOTES**

EASEMENTS FOR ACCESS (INGRESS/EGRESS), MAINTENANCE OF DESIGNATED WATER, SEWER, STORM DRAIN, WATER QUALITY NEEDS, OR APPURTEnant FACILITIES ARE TO BE PROVIDED OVER PRIVATE DRIVE WAY AND FIRE LANES FOR EMERGENCY SERVICES, LOS ANGELES COUNTY PUBLIC WORKS, LOS ANGELES COUNTY FLOOD CONTROL DISTRICT, AND DRY UTILITY SERVICES AS DEEMED APPROPRIATE.



VESTING TENTATIVE TRACT MAP NO. 082159  
EOB 86 DETACHED CONDOMINIUMS

SUBMITTAL

# SHEE OF

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**EXHIBIT MAP  
FOR PRELIMINARY VESTING TENTATIVE TRACT MAP 082159  
FOR 86 DETACHED CONDOMINIUMS**

LOCATED IN THE CITY OF HACIENDA HEIGHTS  
COUNTY OF LOS ANGELES, STATE OF CALIFORNIA

BEING A SUBDIVISION OF LOT 102 OF TRACT NO. 21865, IN THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 587, PAGES 89 AND 90 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

**EARTHWORK**

CUT  
RAW VOLUME 9,400 CYS  
CUT  
SHORT 1,400 CYS  
10,800 CYS

**PLOTTING MIX**

PLAN	MIX
1	24 (28.0%)
2	28 (33.0%)
3	34 (39.0%)
<b>TOTAL</b>	<b>86 100%</b>

**LOT SUMMARY**

LOT SUMMARY	AREA
GROSS AREA	499,636 SF (11.47 AC)
NET AREA (EXCLUDES RIGHT OF WAY)	435,599 SF (10.00 AC)
NET AVERAGE DWELLING AREA	>5,065 SF
STREET	87,757 (2.00 AC)

**PARKING SUMMARY**

PARKING SUMMARY	PARKING SPACE REQUIRED	PARKING SPACE PROVIDED
PARKING (2 PER DWELLING)	172	172
GUEST PARKING (1 PER 4 DWELLINGS)	22	27
ADA PARKING PROVIDED (AS PART OF ON STREET PARKING)	2	1+1 VAN ACCESSIBLE SPACE
<b>TOTAL</b>	<b>194</b>	<b>199</b>

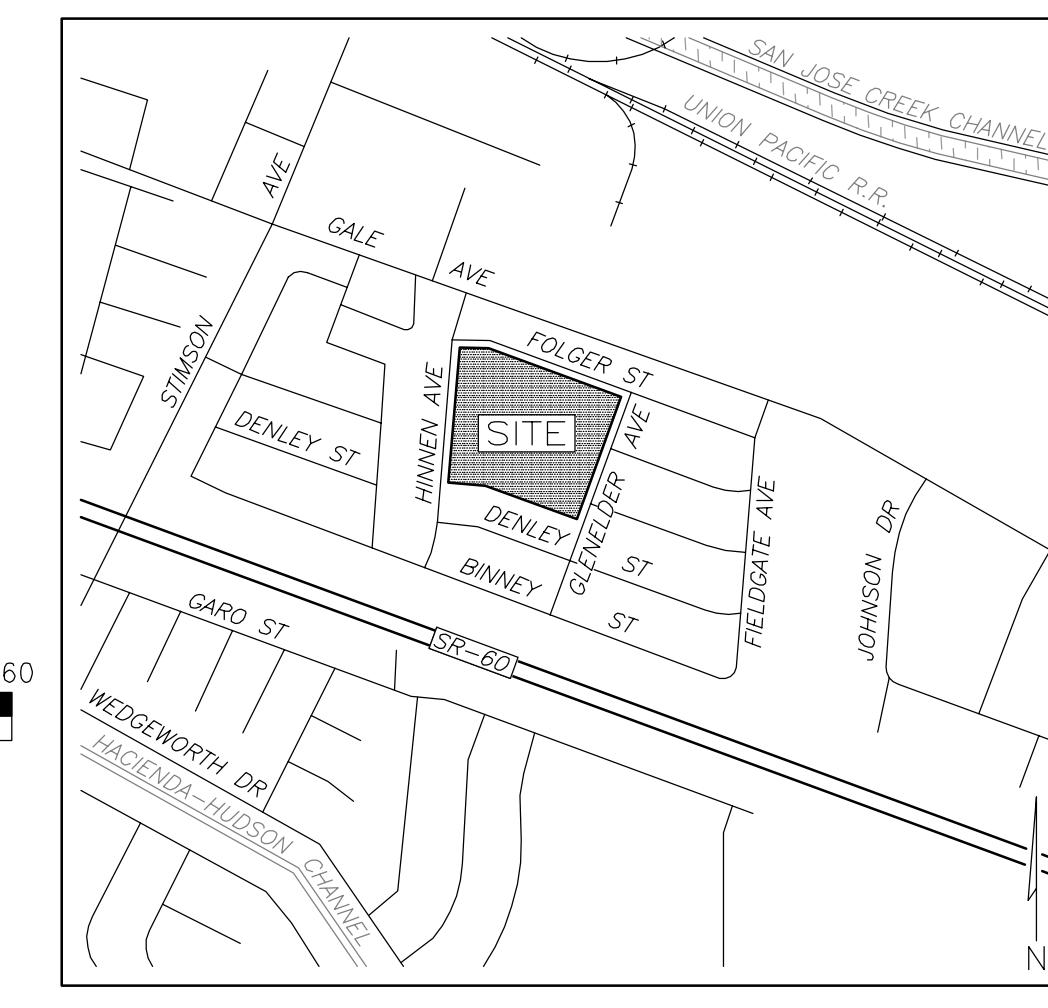
NOTE: DOES NOT INCLUDE DRIVEWAY SPACE.

**LEGEND**

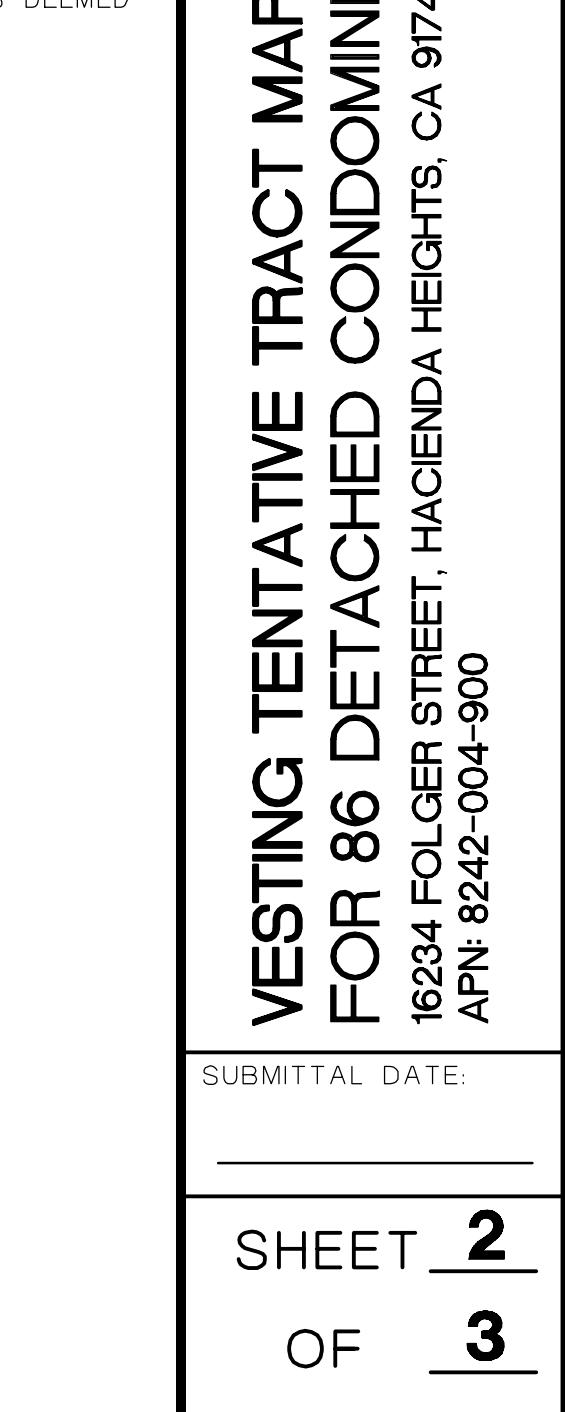
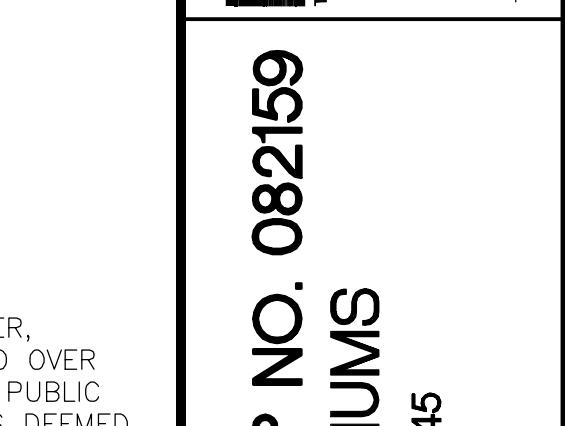
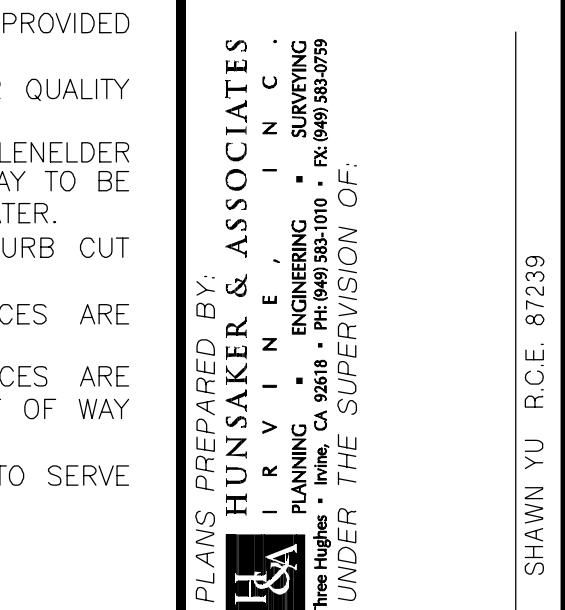
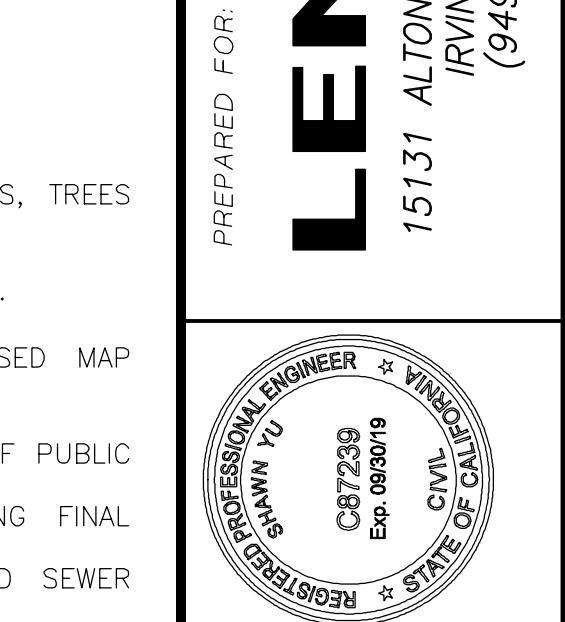
AP	ANGLE POINT
ASPH	ASPHALT PAVING
BFP	BACKFLOW PREVENTOR
BC	BEGIN
BLDG	BUILDING
BW	BLOCK WALL
CAT	CABLE T.V. BOX
CB	CATCH BASIN
CF	CHAIN LINK FENCE
CONC	CONCRETE
DI	DROP INLET
DRWY	DRIVEWAY
EMH	ELECTRICAL MANHOLE
EPB	ELECTRICAL PULL BOX
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
FC	FIKE CONNECTION
FH	FIRE HYDRANT
FR	FLAME RISER
EVLT	ELECTRICAL VAULT
GA	GUY ANCHOR
GM	GUY MET
GP	GUTTER POST
GUT	HIGH POINT
ICB	IRRIGATION CONTROL BOX
ICV	IRRIGATION CONTROL VALVE
MB	MAN BOX
MH	MANHOLE
O-H	BLDG OVERHANG
PIV	POST INDICATOR VALVE
PKL	PARKING LOT LIGHT
P/L	PROPERTY LINE
PLT	PLANTER
PM	POWER METER
PP	POWER POLE
SCO	SEWER CLEANOUT
SDMH	STORM DRAIN MANHOLE
SL	STREET LIGHT
SLPB	STREET LIGHT PULL BOX
SMH	SEWER MANHOLE
SWLK	SIDEWALK
R/W	RETAINING WALL HEIGHT
R/W	RIGHT-OF-WAY
TFB	TELEPHONE PULL BOX
TFP	ELECT. TRANSFORMER PAD
TP	TELEPHONE MANHOLE
TS	TMF SIGNAL
TSCB	TRAFFIC SIGNAL CONTROL BOX
T/E	TRASH ENCLOSURE
UB	UTILITY BOX
WD	WOOD
W	WROUGHT IRON FENCE
WM	WATER METER
WV	WATER VAULT
WVLT	WATER VAULT
N	NORTH
S	SOUTH
E	EAST
W	WEST
VG	V-GUTTER

**SYMBOLS**

CONC	CONCRETE
ASPH	ASPHALT
ASP	TREE
BUSH	BUSH
PALM	PALM TREE
MAIL	MAIL BOX
LIGHT	LIGHT STANDARD
TRAFFIC	TRAFFIC SIGNAL
STREET	STREET LIGHT
SIGN (10')	SIGN (10')
SIGN (5')	SIGN (5')
STORM	STORM DRAIN MANHOLE
DRY	SIGN
F/H	FIRE HYDRANT
POWER	POWER POLE
TRANSFORMER	TRANSFORMER BOX
GUYWIRE	GUYWIRE/ANCHOR
METER	METER
POST	POST (NO LABEL)
6XX.X	PAD ELEVATION
CB	CATCH BASIN
DI	DROP INLET
LP	LIGHT POLE
SEWER	SEWER MANHOLE
HANDICAP	HANDICAP



**LENNAR**  
151-31 ALTON PARKWAY, SUITE 365  
RYNE, CA 93618  
(949) 349-8000

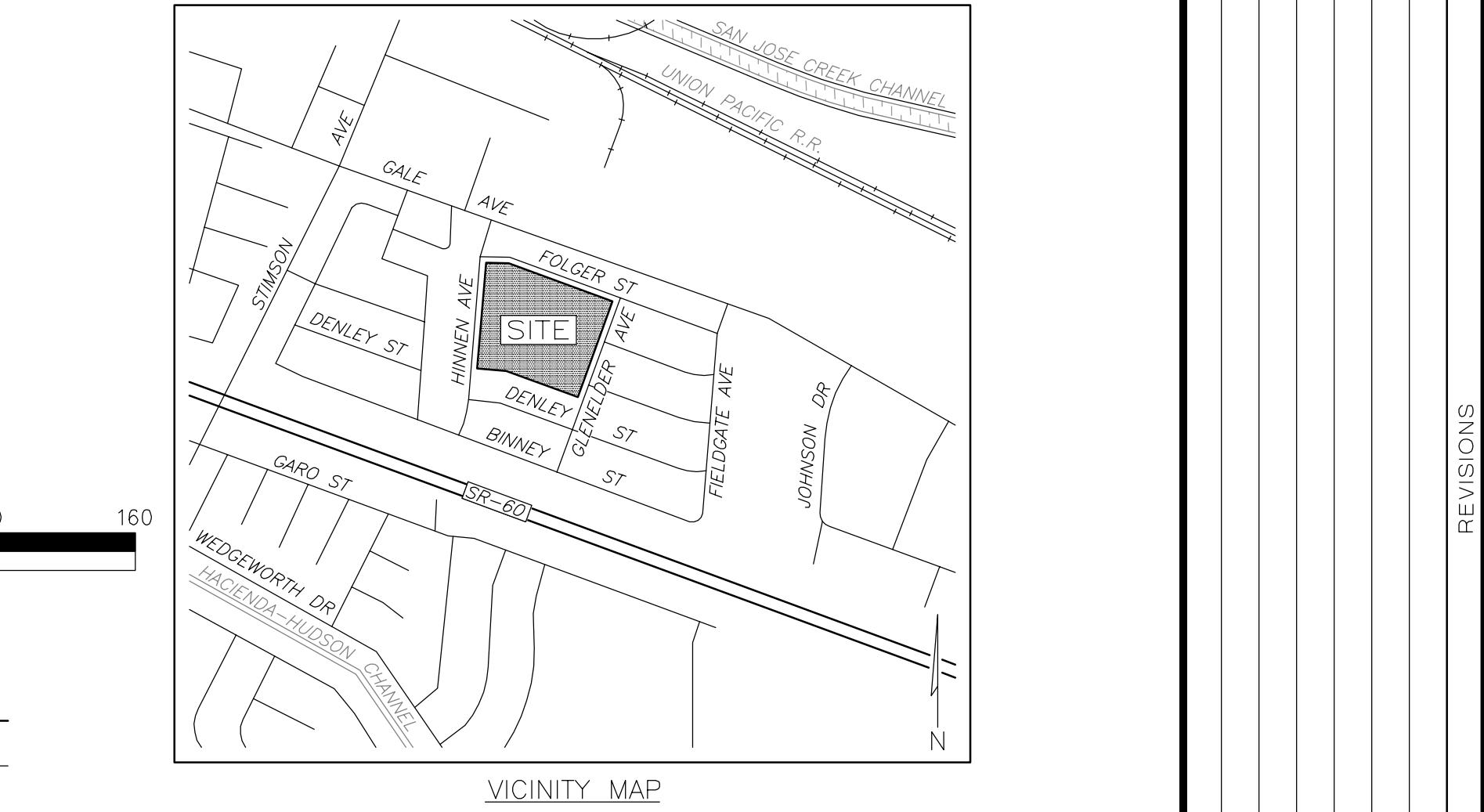


VESTING TENTATIVE TRACT MAP NO. 082159  
FOR 86 DETACHED CONDOMINIUMS  
16234 FOLGER STREET, HACIENDA HEIGHTS, CA 91745  
APN: 8242-004-000

SUBMITTAL DATE: NOVEMBER 20, 2018  
SHEET 2 OF 3

WO. 3916-222 GLENELDER PRELIMINARY TENTATIVE TRACT MAP

PLOTTED BY: Alex Martinez DATE: Nov. 26, 2018 01:14:36 PM FILE: F:\1037\Planning\SA\_TTM\_082159\Exh\_TTM\Sht-2\_TTM\_082159.dwg



**BASIS OF BEARINGS:**  
THE BEARINGS SHOWN HEREON ARE BASED ON THE CENTERLINE BEARING OF FOLGER STREET BEING N69°42'37" W AS SHOWN ON THE TRACT MAP FILED IN BOOK 587 AT PAGE 9 OF MAP RECORDS, LOS ANGELES COUNTY, CALIFORNIA.

ALTA SURVEY PROVIDED BY C&V CONSULTING, INC. ON JUNE 15, 2016

**BENCHMARK STATEMENT:**

CITY OF INDUSTRY BENCH MARK NUMBER G-1 DESCRIBED AS: "BRASS CAP ON S. CB GALE AVE ±15 FT. E. OF E.C.R. OF S.E. CB RETURN ±40 FT E. SIMSON AVE." ELEVATION = 344.003 (NAVD29)

**FLOOD NOTE:**

THE SUBJECT PROPERTY FALLS WITHIN "ZONE X" ON A PORTION OF FLOOD INSURANCE RATE MAP NUMBER 060637C1700F OF PANEL 1700 OF 2350, EFFECTIVE SEPTEMBER 26, 2008. AREA DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANGE FLOODPLAIN.

**UTILITY INFORMATION:**

WATER - SOUTHERN CALIFORNIA WATER SYSTEMS  
SEWER - COUNTY OF LOS ANGELES SANITATION DISTRICT  
GAS - SOUTHERN CALIFORNIA GAS CO.  
ELECTRICITY - SOUTHERN CALIFORNIA EDISON CO.  
TELEPHONE - AT&T  
CABLE TV - CHARTER CO.  
FIRE - COUNTY OF LOS ANGELES FIRE DEPARTMENT  
SHERIFF - COUNTY OF LOS ANGELES SHERIFF'S DEPARTMENT  
SCHOOL - HACIENDA LA PUENTE UNIFIED SCHOOL DISTRICT

**GENERAL NOTES:**

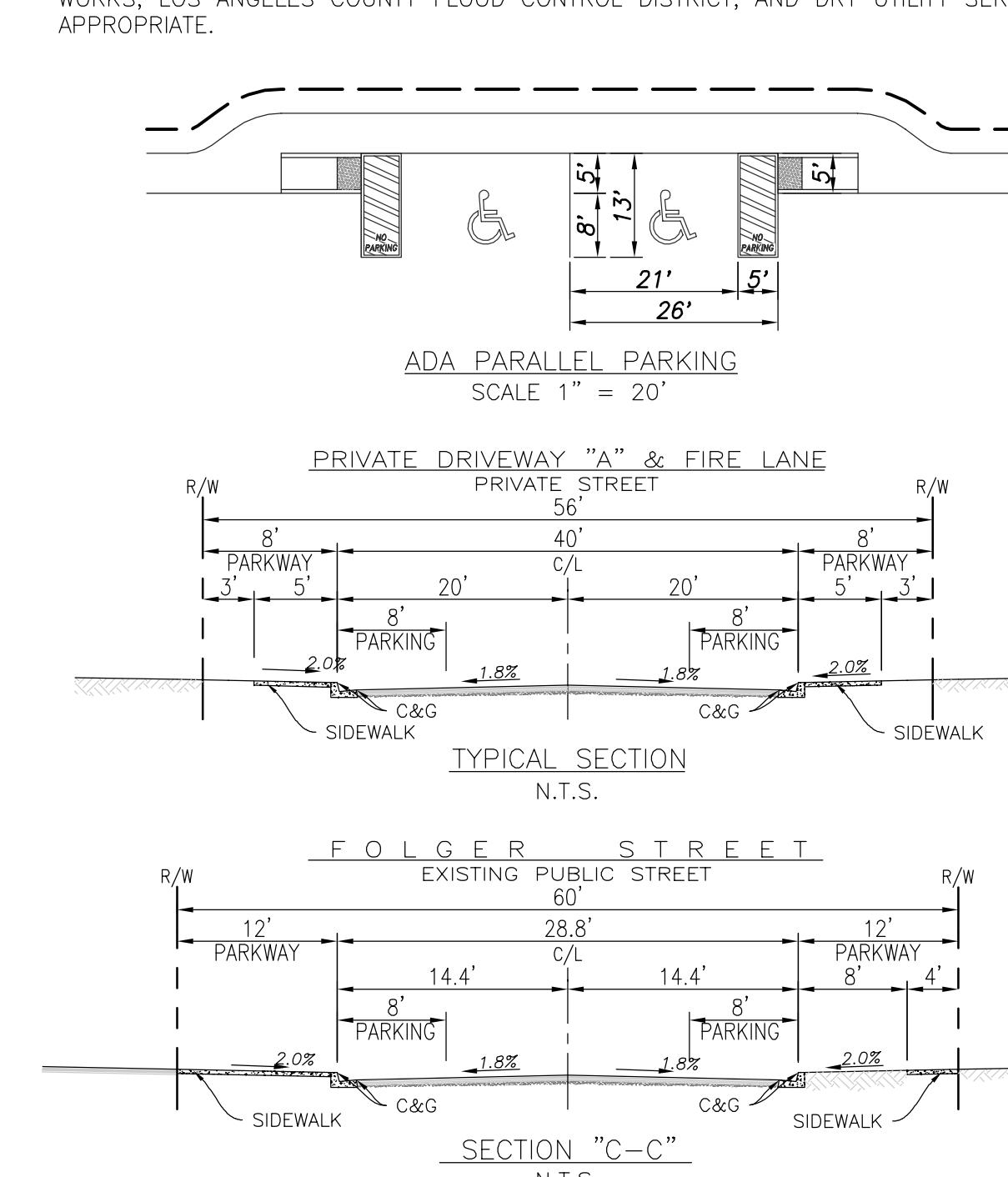
1. APN: 8242-004-900
2. CURRENT ADDRESS: 16234 FOLGER STREET, HACIENDA HEIGHTS, CA 91745
3. EXISTING LAND USE: VACATED EDUCATION/INSTITUTIONAL SCHOOL SITE
4. PROPOSED LAND USE: DETACHED SINGLE FAMILY RESIDENTIAL
5. VESTING TENTATIVE TRACT MAP FOR CONDOMINIUM PURPOSES.
6. NO. OF EXISTING LOTS: 1
7. EXISTING GENERAL PLAN: HHA COMMUNITY: H9-RESIDENTIAL (0-9 DU/NET ACRE)
8. PROPOSED GENERAL PLAN: HHA COMMUNITY: SAME AS EXISTING, NO CHANGE.
9. COMMUNITY PLAN: HACIENDA HEIGHTS
10. EXISTING LA COUNTY ZONE: R1 RESIDENTIAL
11. NO. OF PROPOSED LOTS: 1
12. NO. OF PROPOSED RESIDENTIAL DWELLINGS: 86
13. PROPOSED DENSITY: 8.5 DU/S.NET ACRE
14. PROPOSED DEMOLITION: ALL EXISTING ON-SITE BUILDINGS, PARKING, PAVED AREAS, TREES AND GROUNDS.
15. NO OAK TREES ON SITE
16. PROPOSED GRADING MAY CHANGE DURING FINAL ENGINEERING PLAN CHECK PROCESS.
17. LOT LINE ADJUSTMENTS IF NECESSARY MAY OCCUR PRIOR TO FINAL ENGINEERING.
18. PROJECT SITE MAY BE DEVELOPED IN MAP OR CONSTRUCTION PHASES. PHASED MAP DEVELOPMENT ALLOWED.
19. DRY UTILITIES MAY BE LOCATED IN COMMON UTILITY TRENCH WHERE POSSIBLE.
20. UTILITIES TO BE UNDERGROUND TO THE SATISFACTION OF THE DEPARTMENT OF PUBLIC WORKS.
21. PIPE SIZING FOR STORM DRAIN IMPROVEMENTS SHALL BE DETERMINED DURING FINAL HYDROLOGY REPORT.
22. SEWER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH SEWER STUDY AND SEWER DIVISION OF LOS ANGELES COUNTY PUBLIC WORKS
23. SEWER SYSTEM SHALL BE DESIGNED IN ACCORDANCE WITH WATER STUDY AND WATER DIVISION OF LOS ANGELES COUNTY PUBLIC WORKS AND SUBURBAN WATER SYSTEMS
24. LANDSCAPE AND IRRIGATION PLAN PROVIDED BY LANDSCAPE ARCHITECT SHALL BE PROVIDED IN ACCORDANCE WITH ADOPTED WATER EFFICIENT LANDSCAPE GUIDELINES.
25. REFER TO LOW IMPACT DEVELOPMENT (LID) PLAN PROVIDED FOR WATER QUALITY
26. FILTER DEVICES SIMILAR TO HINNEN AVENUE, FOLGER STREET, AND GLENELDER AVENUE ADJACENT TO PROJECT SITE TO BE LOCATED BACK OF STREET RIGHT OF WAY TO BE MAINTAINED BY HOA. FILTERA #9 OR SIMILAR PRODUCT TO ADDRESS CO-MINGLED WATER.
27. CROSS LOT DRAINAGE PERMITTED IN FRONT YARDS IN UNDERGROUND PIPE OR CURB CUT OUTLET FROM RESIDENTIAL LOTS MAY BE PART OF BMP PLANS.
28. ON-SITE WATER, SEWER, STORM DRAIN AND APPURTENANT WET UTILITY DEVICES ARE IMMEDIATELY MAINTAINED BY HOA.
29. OFF-SITE WATER, SEWER, STORM DRAIN AND APPURTENANT WET UTILITY DEVICES ARE PUBLICLY MAINTAINED (HINNEN AVENUE, FOLGER STREET, GLENELDER AVENUE RIGHT OF WAY AND RELATED EASEMENTS).
30. POST BOX RECEPTACLES TO BE LOCATED BEHIND THE SIDEWALK AND IN GROUPS OF TWO OR MORE DWELLINGS.
31. RESIDENTIAL CONDOMINIUM PLAN TO BE SUBMITTED TO CA. DRE.

**BUILDING SETBACK INFORMATION: PERIMETER UNITS**

FRONT YARD - 10 FEET  
INTERIOR SIDE YARD - 5 FEET  
STREET SIDE YARD - 10 FEET  
REAR YARD - 13 FEET

**EASEMENTS NOTES**

EASEMENTS FOR ACCESS (INGRESS/EGRESS), MAINTENANCE OF DESIGNATED WATER, SEWER, STORM DRAIN, WATER QUALITY NEEDS, OR APPURTENANT FACILITIES ARE TO BE PROVIDED OVER PRIVATE DRIVE WAY AND FIRE LANES FOR EMERGENCY SERVICES, LOS ANGELES COUNTY PUBLIC WORKS, LOS ANGELES COUNTY FLOOD CONTROL DISTRICT, AND DRY UTILITY SERVICES AS DEEMED APPROPRIATE.

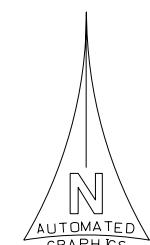


U-112  
U-119  
U-120  
U-123  
U-124

SEE SHT. NO. E-2217

*CITY OF INDUSTRY*

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.



METERS

0 50 100 200

0 200 400 600

FEET

○—○— 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  
 .—● CLEANOUT  
 .—● LAMP HOLE  
 ■ PUMP STATION

SEE SHT. NO. E-2172

A map showing the area around Fern Creek Drive. It includes Rorimer Street running north-south, Wegman Street running east-west, and several other streets like Turf Drive, Elmwood Avenue, and Cedar Avenue. The Fern Creek Drive area is highlighted.

10

NO

1

1

1

CITY OF INDUSTRY

SEE SHT. NO. E-2219

E-2218

MAP REV  
11-30-10  
  
DATA BASE REV  
02-24-93

# CONSOLIDATED S.M.D.

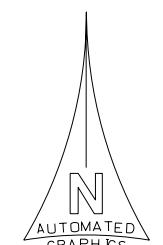
E-2218

E-2219

U-117  
U-118  
U-119  
U-124  
U-125  
U-126



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.



0 METERS  
0 50 100 200 250  
0 200 400 600 800  
FEET

## 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

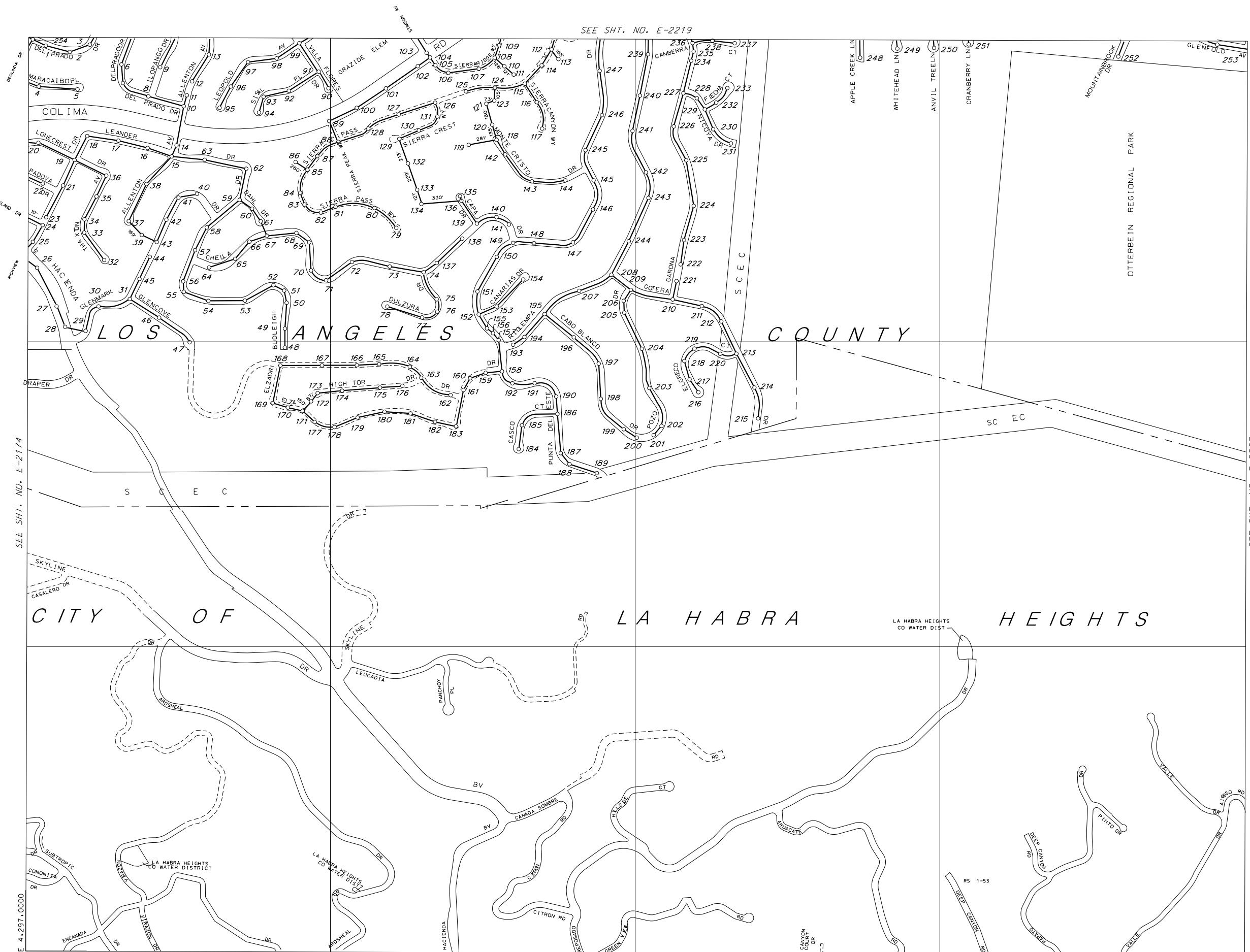
TOTAL MH'S THIS MAP: 1037

E-2219

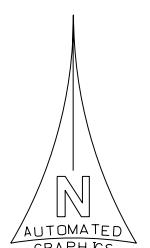
CONSOLIDATED S.M.D.

E-2219

E-2220

U-117  
U-126

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.



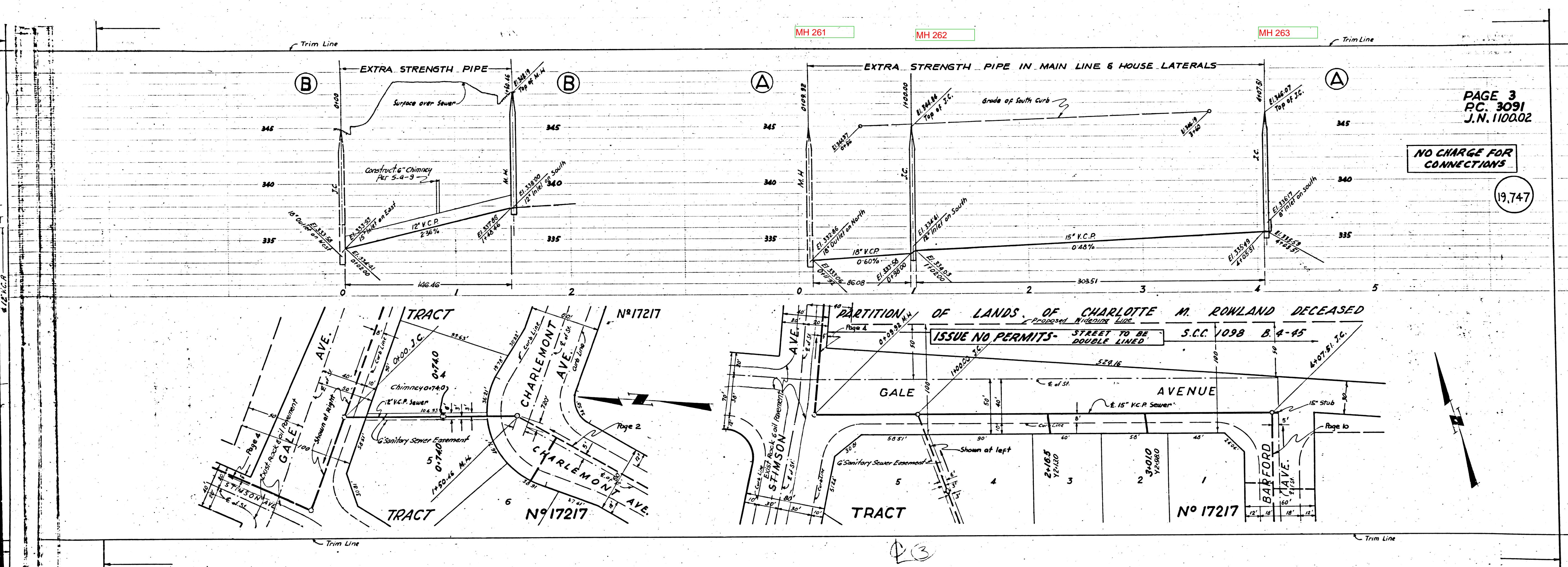
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FEET  
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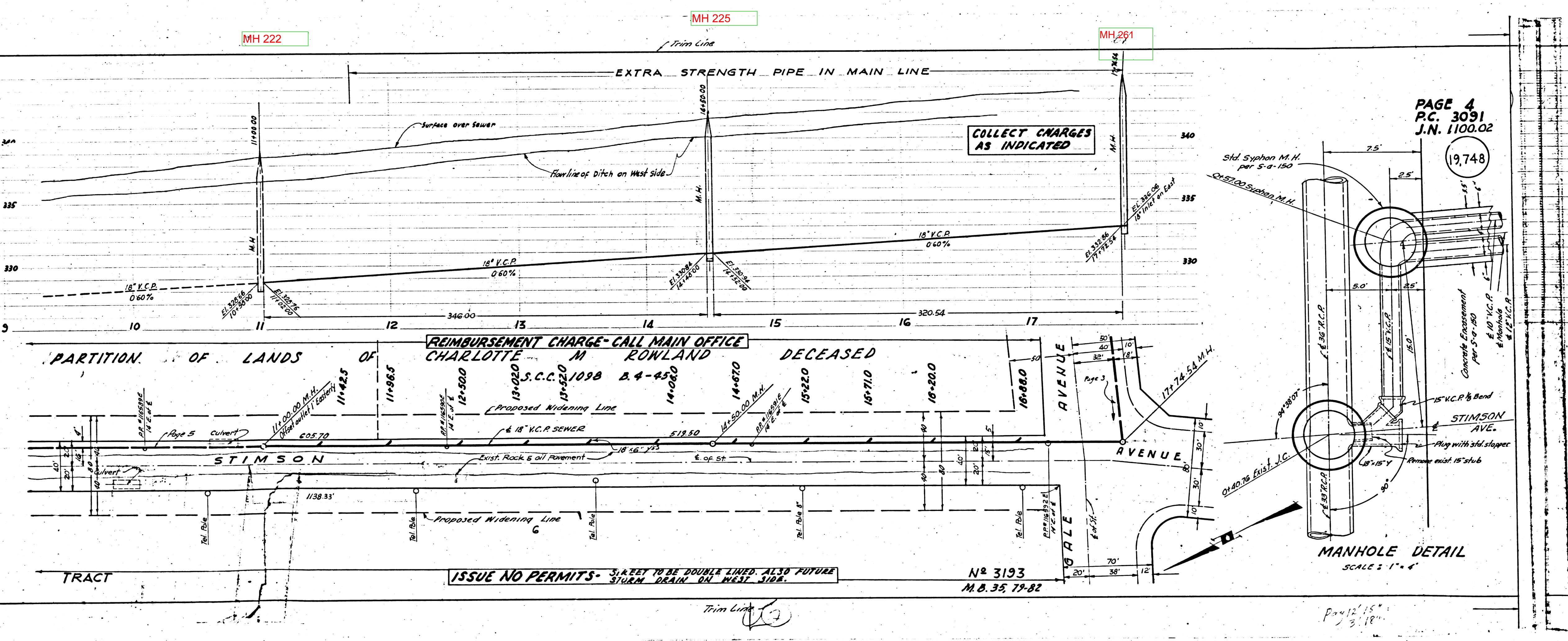
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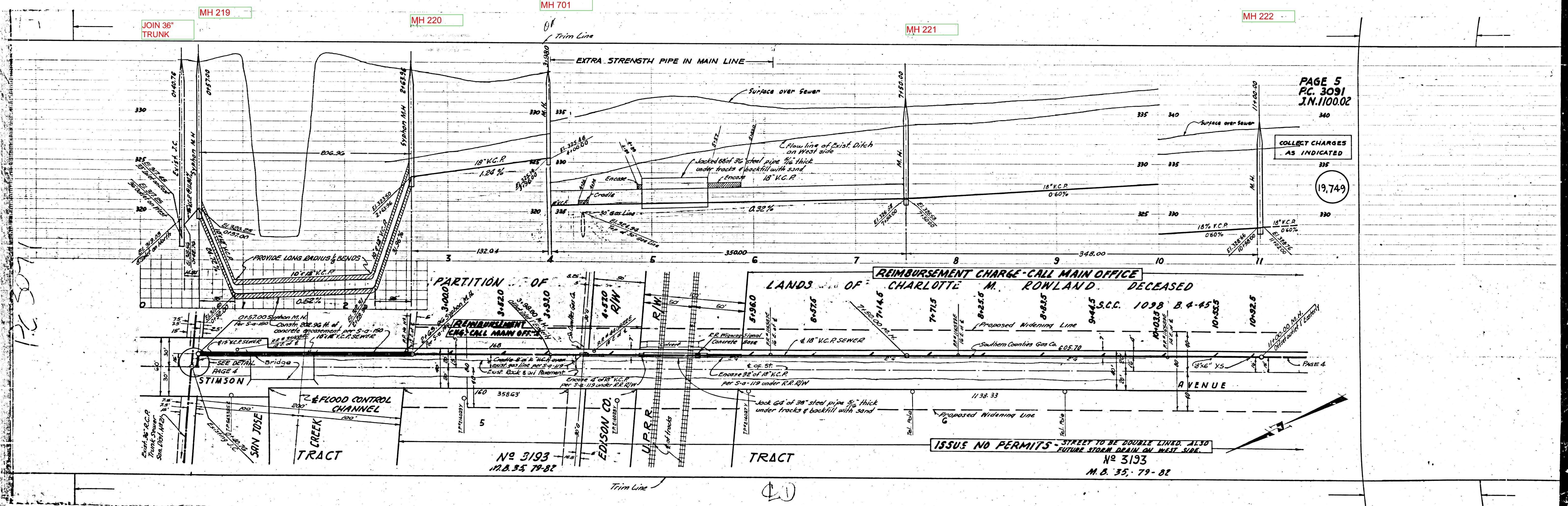
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CONSOLIDATED S.M.D.

T:678:D7







P.C. 3624  
PAGE 1

NO CHARGE FOR  
CONNECTIONS

22,694

MH 263 MH 264

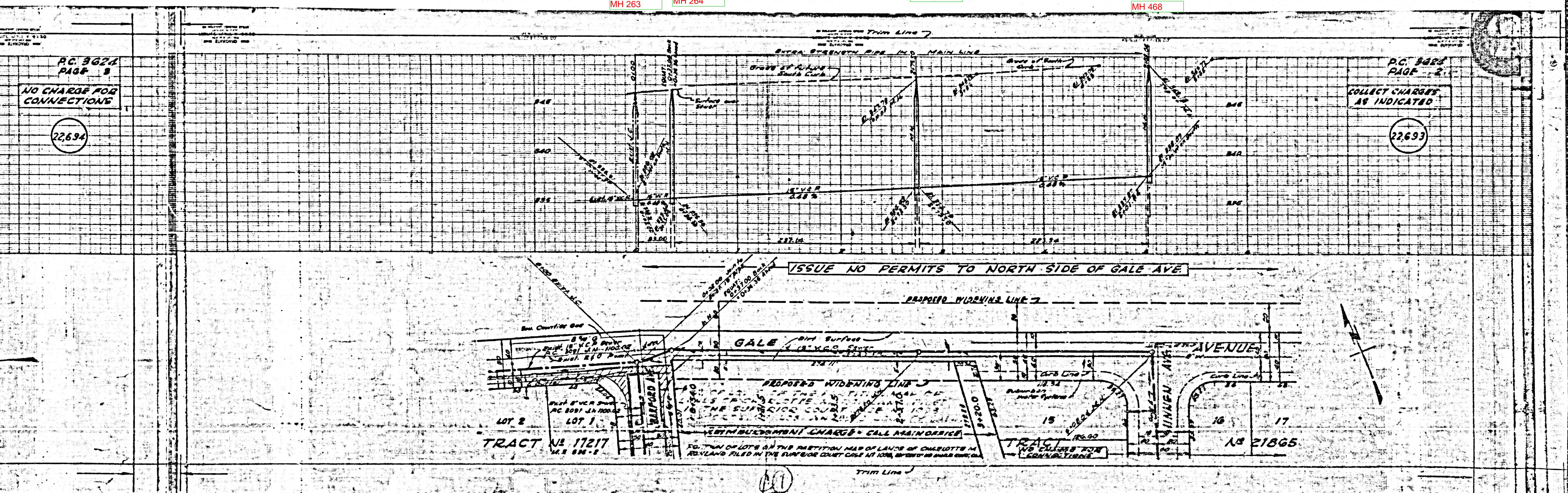
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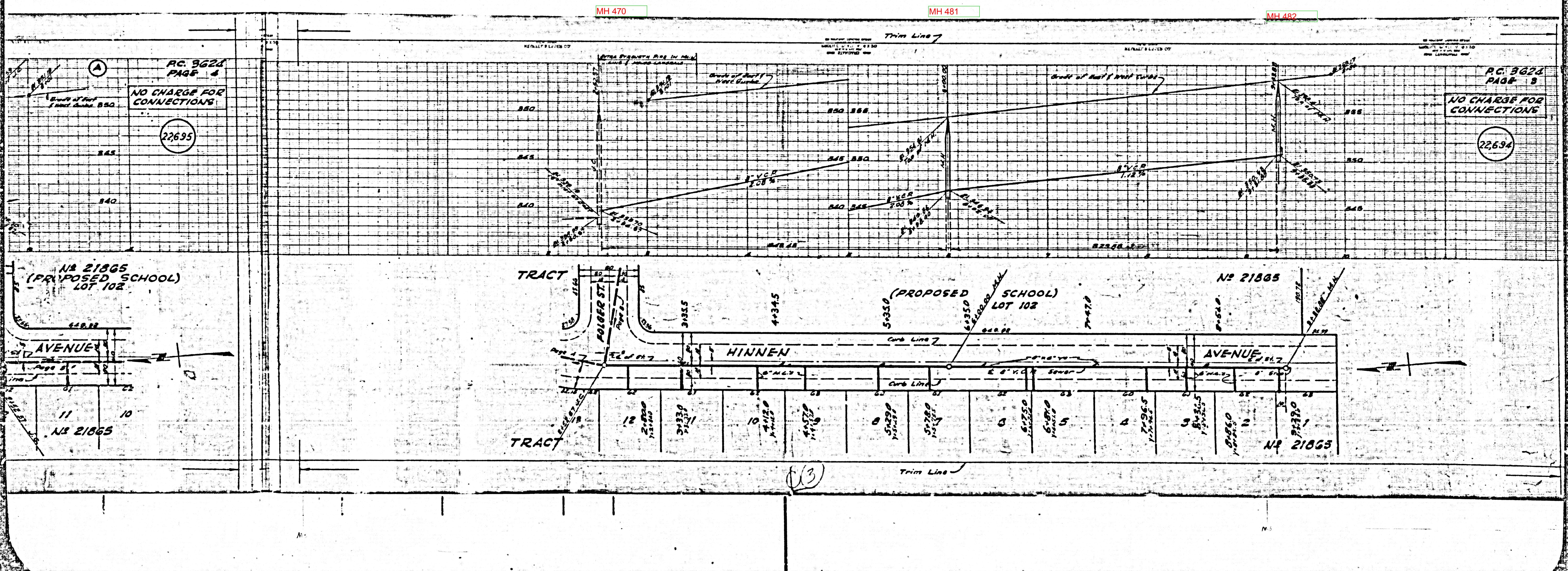
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P.C. 3625  
PAGE 2

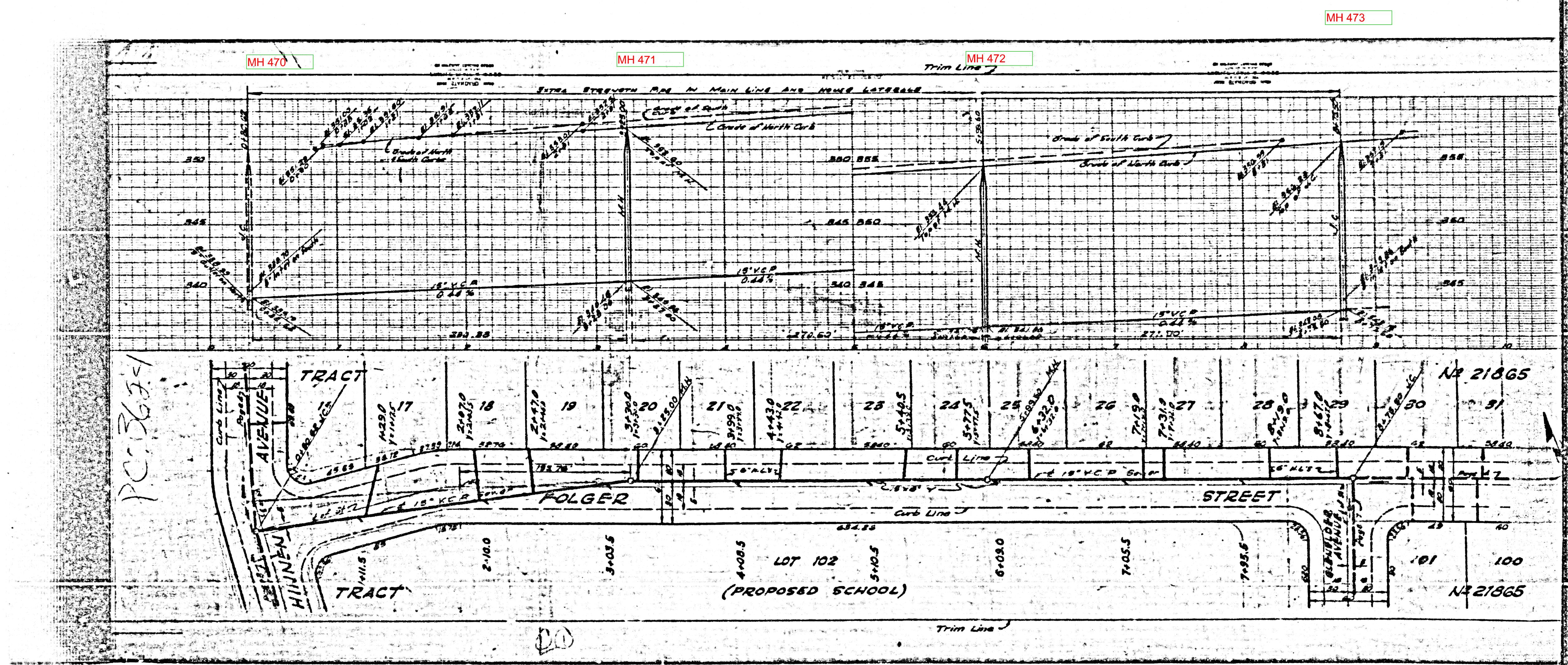
COLLECT CHARGES  
AS INDICATED

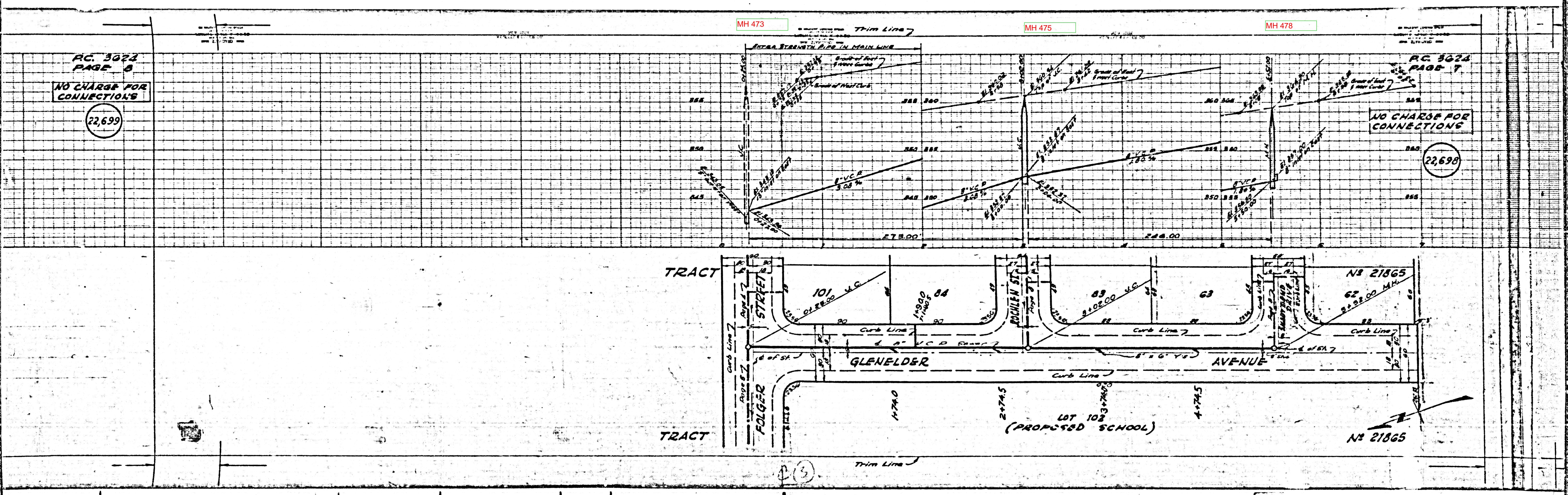
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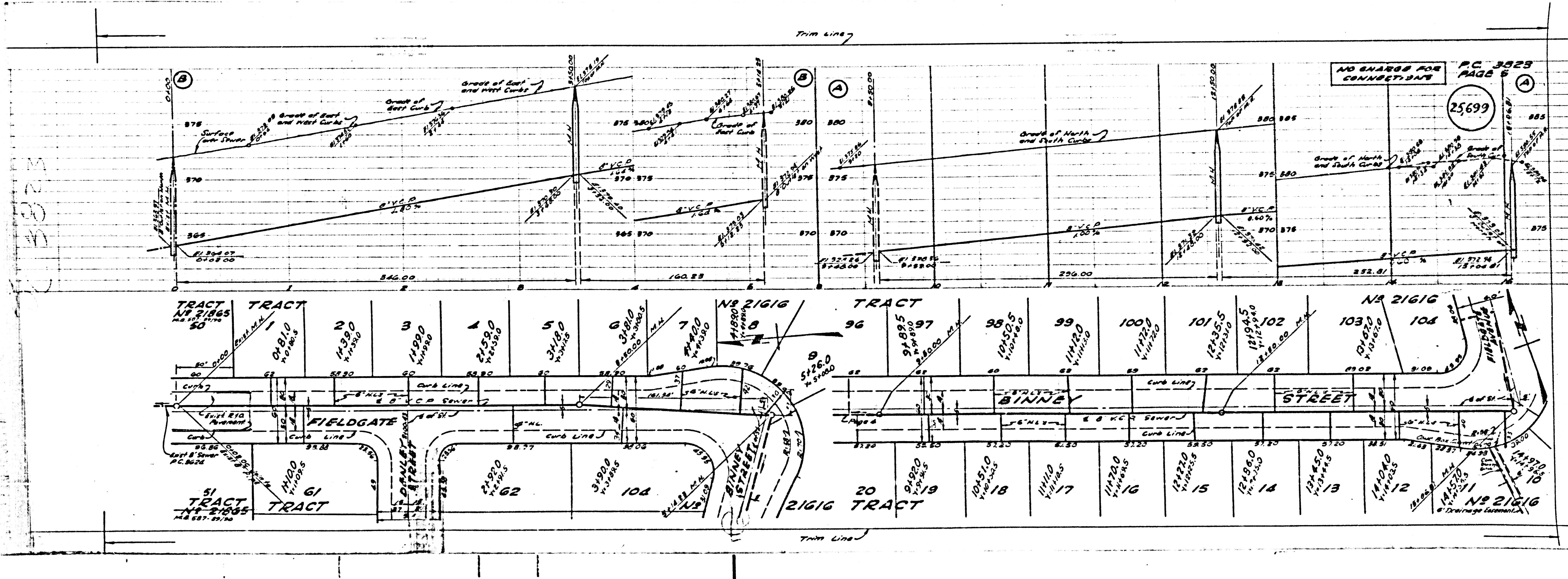


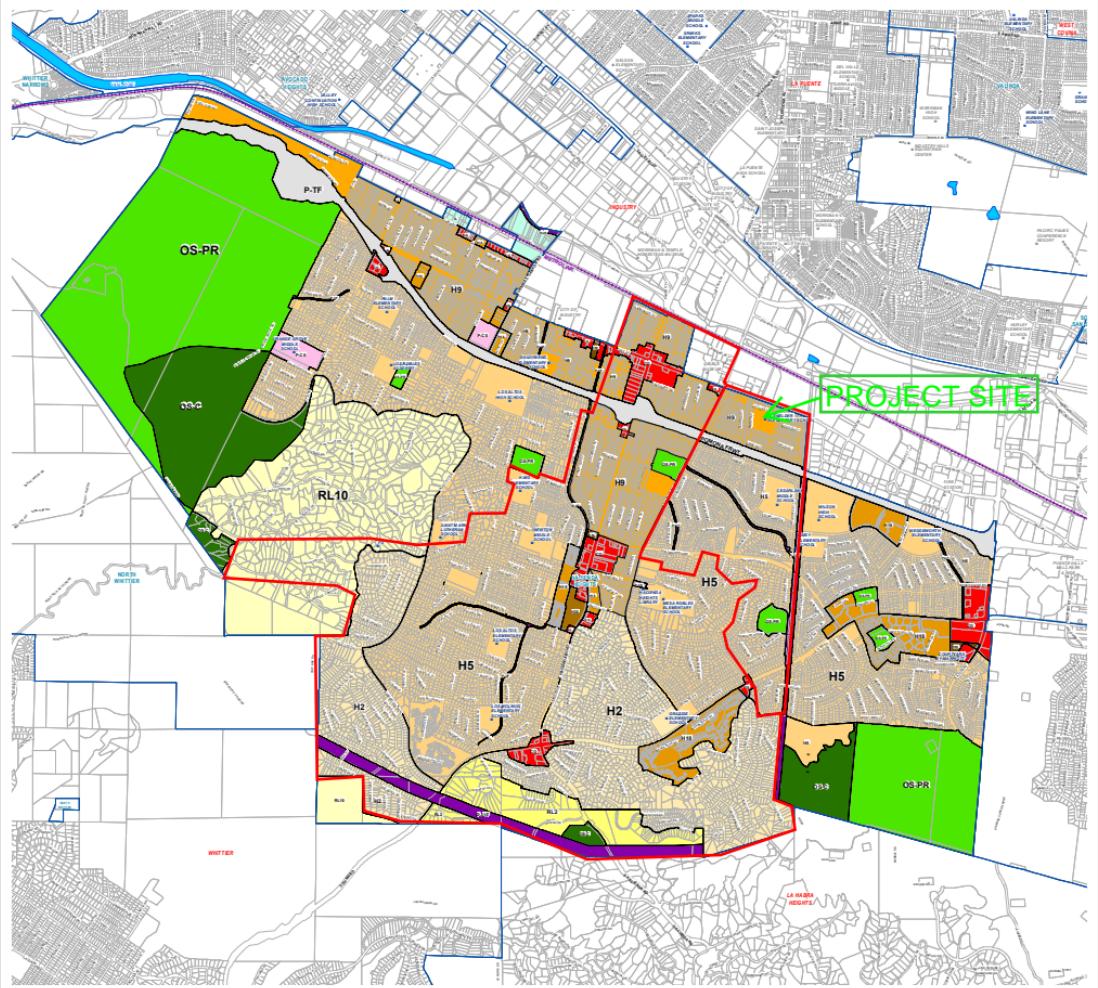












## ***Los Angeles County***

## **HACIENDA HEIGHTS Community Plan**

*Land Use Policy*

LEGEND

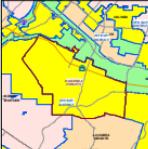
## Transit Line

- [Main Links](#)
  - [Light Rail - Existing](#)
  - [Light Rail - Proposed](#)
  - [Light Rail - Under Construction](#)

**DATA SOURCES**

LADOT Data  
Los Angeles County Department of Regional Planning  
Los Angeles County Department of Regional Planning, 2008  
TransLink, May 2001  
• Data as of April 2008. Heights Subdivision, Rail ID # 81163, subject to boundary modification upon final issuance.

VICINITY MAP




### **KEY MAP:**

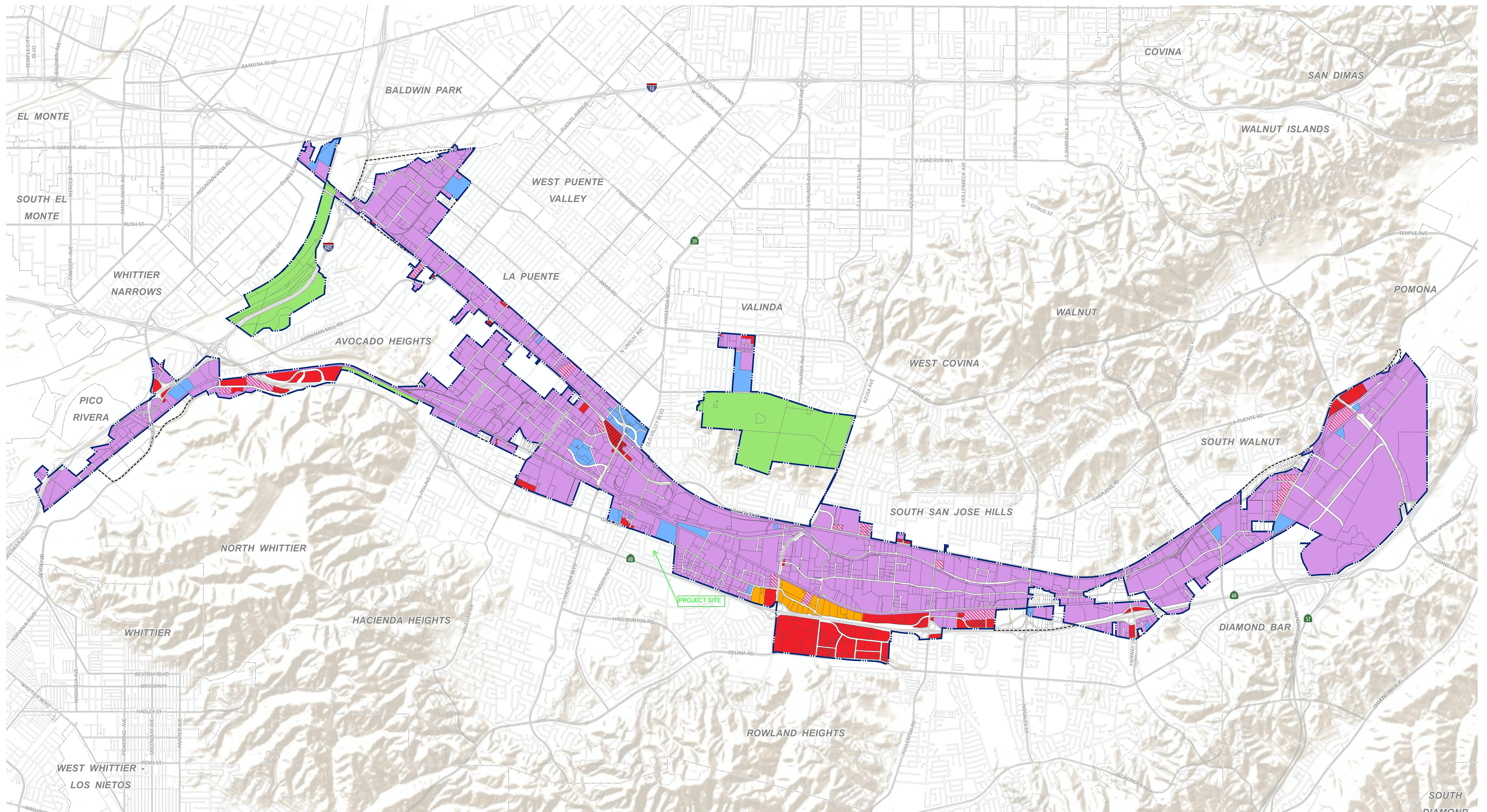


# Los Angeles County

## Zoning

### Hacienda Heights





Date: 6/19/15

PLACEWORKS

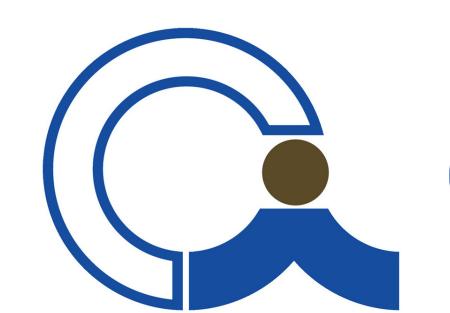
0 2,500 5,000 10,000  
Feet  
0 0.5 1 2 Miles

Sphere of Influence Boundary

Zoning

Industrial (I)	Commercial - Adult Business Overlay (AB)
Industrial - Commercial Overlay (IC Overlay)	Institutional (INST)
Commercial (C)	Automobile Zone (AZ)
	Recreation and Open Space Zone (ROS)

CITY OF INDUSTRY



ZONING  
CITY OF INDUSTRY



California > Hacienda Heights > Schools > School Profile

## Cedarlane Academy

Claimed

[16333 Cedarlane Drive, Hacienda Heights, CA 91745](#)

[Hacienda La Puente Unified School District](#)

(626) 933-8002

[School website](#)

[Contact info](#)

Grades K-8

Students 554

Type Public

[See contact info and more](#)

New!

6<sub>10</sub> GREATSCHOOLS  
RATING

Reviews

49

Students

554

Type

Public

[16333 Cedarlane Drive, Hacienda Heights, CA 91745](#)

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6<sub>10</sub>

Cedarlane Academy



[See the 3 nearest  
high-performing schools](#)