PACIFIC CONSULTING GROUP

SEWER CAPACITY ANALYSIS

For:

Gateway Terminal Chino

5885 Schaefer Ave. Chino, CA 91710

APNS: 1021-052-04-0-000, 1021-052-06-0-000, 1021-052-09-0-000, 1021-052-11-0-000

Project File No.: PL24-0097 (SCUP) & PL24-0098 (SA)
& PL24-0120

Prepared for:
Gateway Terminal
13925 City Center Dr
Chino, California 91709

REVIEWED FOR CODE COMPLIANCE

These plans and documents have been reviewed and found to be in compliance with the applicable code requirements of the jurisdiction Issuance of a permit is recommended subject to approval by other departments and any noted conditions. The stamping of these plans shall not be held to permit or be an approval of any violation of applicable codes and standards no relieve the owner, design professional of record or contractor of compliance with the applicable codes and standards. Plan review of documents does not authorize construction to proceed in violation of any federal, state, nor local regulation.

BUREAU VERITAS NORTH AMERICA, INC.

SIGNATURE:_WILLIAM ADDINGTON

DATE: 04/23/2025

Prepared by:
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CITY OF CHINO ENGINEERING
Reviewed

By: Daniel Aguirre 04/23/2025 11:28:21 AM
Project No: PL24-0098 (SA)

B.V. Plan Review By: *William Addington*
For
City of Chino Engineering Department
04/23/25

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Section 1. Discussion

Gateway Terminal Chino is a mixed-use development including 2 buildings planned to be constructed at the southwest corner of Schaefer Avenue and Oaks Avenue in the City of Chino. The proposed project consists of 2 buildings one of restaurant use and the other of industrial usage. Commercial usage is assumed to be restaurant use for the purposes of this report. The property is currently occupied by a church and two residential buildings associated with the church.

The Project is currently in the entitlement phase, and the purpose of this report is to identify any impacts the proposed project may have on the City of Chino's existing sewer infrastructure. The report will use hydraulic calculations and results of the City of Chino Sewer Master Plan to present the results and justifications found later in this report.

The Draft City Sewer Master Plan dated May, 2022 indicates that the design generation rate for Commercial developments is 1500 gpd/ac, 1100 gpd/ac for Light Industrial. This Project Site is a net 7.35 acres. The sewage generation rates noted in Table 3.2 of the City of Chino Sewer Master Plan can be found in Appendix A.

Section 2. Methodology

This study investigates the capacity of the existing sewer infrastructure considering current sewage loading with the addition of the Gateway Terminal Chino Project. The method employed to analyze the system will be to simply add the proposed project utilizing the City of Chino Sewer Master Plan generation rate and determine if there is any impact to the existing sewer capacity to accept the proposed project flow. The analysis will take the flow monitoring results from the 2022 Sewer Master Plan flow monitoring and add in the proposed sewage generation from the Gateway Terminal Chino project to analyze the change in capacity of the existing sewer network. Hydraulic calculations will be performed using Flow Master by Heastad Methods. Pipe characteristics of the existing infrastructure come from as-built records provided by records request processed by the City of Chino and hydraulic calculations. The As-built record plans are included in Appendix C and hydraulic calculations are presented in Appendix D.

Section 3. Existing Condition

The project is located at the Southwest corner of the intersection at Schaefer Ave and Oaks Ave. The existing property consists of a church and two associated residential buildings. There are two sewer mains that front the project: (1) 8" VCP sewer main in Schaefer Ave and (1) 10" sewer main located in Oaks Ave. One existing associated residential dwelling unit is assumed to connect top the 8" sewer main in Schaefer while

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the church and second associated residential building are assumed to connect to the 10" main in Oaks Ave.

The existing sewage generation has been estimated below using the unit sewage flow factors from Table 3.2 of the City of Chino Sewer Master Plan. (Table 3.2 can be found in Appendix A for reference).

Table 1: Existing Sewer Generation

Description	Land Use Type	Size	Unit Flow Factor	Peaking Factor (Fig 5.3 Sewer Master Plan)	Total
Existing Residential Building	Residential (RD 1)	1 DU	280 (gpd/DU)	1.45	406 gpd (to Schaefer Ave)
Existing Residential Building	Residential (RD 1)	1 DU	280 (gpd/DU)	1.45	406 gpd
Existing Church	School/ Church	7.35 Ac	1,000 (gpd/acre)	1.45	10,658 gpd
				Total (gpd) to Sewer main in Oaks Ave	11,064 gpd
				Total (gpm) to Sewer main in Oaks Ave	7.68 gpm

The use of Flow Master by Heastad Methods will provide the hydraulic information for the existing and proposed sewer analysis.

Existing Conditions of the 10" sewer in Oaks Ave. are as follows:

1) Existing pipe is 10" VCP

2) Existing pipe slope is 1.091%

3) existing pipe manning's n roughness coefficient is 0.13

4) The maximum flow capacity of the 10" sewer main is 514 gpm

The existing sewer network (noted as FM 5 in the Sewer Master Plan) will be analyzed for capacity. The flow monitoring results for FM 5 are summarized below.

1) Interior pipe diameter = 17.75"

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2) Pipe Material = VCP (Manning's n =0.13)
3) Average flow depth = 4.94"
4) Average flow rate = 1.480 Mgd or 1,028 gpm

Section 4. Proposed Condition

As noted above, the Gateway Terminal Chino project is a mixed-use project consisting of two buildings. The project will also create two separate parcels. Parcel 1 will be 6.55 Ac and will consist of 1 ~~mixed-use~~ industrial building comprising of 150,048 square feet of industrial use and 8,500 square feet of office space. Parcel 2 will be 0.80 Ac and will consist of a 3,520 square feet restaurant. Parcel 1 is proposed to be serviced by one sewer lateral connected to the 10" sewer main in Oaks Ave. Parcel 2 is proposed to be serviced by the same sewer lateral servicing parcel 1.

The proposed sewage generation for the project has been estimated below using the unit sewage flow factors from Table 3.2 of the City of Chino Sewer Master Plan. (Table 3.2 can be found in Appendix A for reference).

Table 2: Proposed Water Demand

Description	Land Use Type	Size	Unit Flow Factor	Peaking Factor (Fig 5.3 Sewer Master Plan)	Total
Industrial/ Restaurant	Light Industrial	6.55 Ac	1,000 (gpd/Ac)	1.45	9,498 gpd
Commercial/ Restaurant	Commercial	0.80 Ac	1,500 (gpd/Ac)	1.45	1,740 gpd
				Total (gpd)	11,238 gpd
				Total (gpm)	7.80 gpm

A comparison of the results from the existing and proposed sewage generation is shown below. As shown in the table below a decrease in sewage generation is anticipated for the proposed development. Based on the results from the comparison it is reasonable to conclude that there will be no impact on the existing infrastructure as a net decrease is anticipated.

Table 3: Sewage Generation Comparison

Description	Total Sewage Generation (gpd)	Total Sewage Generation (gpm)

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Existing Sewage Generation	11,064	7.68
Proposed Sewage Generation	11,238	7.80
Total	+ 174 gpd (increase)	+ 0.12 gpm (increase)

Section 5. Conclusion

The project has been evaluated to determine if the proposed project will have any future impacts on the existing infrastructure. To determine this, the existing and proposed sewage generation has been calculated. Based on these calculations, the proposed sewage generation increases by 0.12 gpm than that of the existing condition. The increase is very miniscule and it will not affect the existing sewer. Based on the findings in this report, it is reasonable to justify that the proposed sewage generation from the Gateway Terminal Chino project will not have any impact on the existing sewer infrastructure.

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Appendix A
References

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- 24 are commercial projects,
- 14 are industrial projects,
- one (1) is a mixed-use development, and
- one (1) is the California Institute of Women (CIW)'s sewage diversion, described in greater detail below.

The mixed use developed is a 7.53-acre portion of the College Park Specific Plan Development located northeast of the intersection of Eucalyptus Ave and Oaks Ave. **Appendix A** provides detail on each of the 82 developments considered in the near-term flow analysis. **Figure 3.1** shows the location of just the 67 undeveloped or under construction near-term developments that were ultimately included in the flow analysis.

In order to estimate sewer loads from these planned developments, sewage flow factors were developed for each land use type, based on information from flow monitoring data, neighboring agencies and industry standards. **Table 3.2** presents the unit sewage flow factors applied to the 67 near-term developments. The projected sewage load of each near-term development was calculated and added to the hydraulic model to create the hydraulic model's near-term scenario.

Table 3.2: Unit Sewage Flow Factors

Land Use	Unit Flow Factor	
	gpd/DU	gpd/acre
Residential		
Estate Residential or Residential 1 (RD 1; 1 DU/acre)	280	280
Residential 2 (RD 2; 2 DU/acre)	280	560
Residential 3-7 (RD 3-7; 3-7 DU/acre)	220	990
Residential 8-11 (RD 8-11; 8-11 DU/acre)	220	1,760
Residential 12-13 (RD 12-13; 12-13 DU/acre)	180	2,160
Residential 14-19 (RD 14-19; 14-19 DU/acre)	180	2,520
Residential 20-29 (RD 20-29; 20-29 DU/acre)	180	3,600
Residential 30 (RD 30; 30 DU/acre)	180	5,400
Non-Residential		
Commercial	-	1,500
Hotel	110 gpd/room	N/A
Light Industrial	-	1,000
Industrial	-	1,500
Hospital	-	1,500
School/Church	-	1,000
Airport	-	1,000
Public/Institutional	-	1,500

Site Commentary

Site Information

Chino_FM05	
Pipe Dimensions	17.75 "
Silt Level	0.00"

Overview

Site Chino_FM05 functioned under normal conditions during the period Friday, February 5, 2021 to Thursday, March 18, 2021. No surcharge conditions were experienced at this location. Review of the scattergraph shows that flows remained free flowing throughout the period.

Flow depth and velocity measurements recorded by the flow monitor are consistent with field confirmations conducted to date and support the relative accuracy of the flow monitor at this location.

Observations

Average flow depth, velocity, and quantity data observed during Friday, February 5, 2021 to Thursday, March 18, 2021 , along with observed minimum and maximum data, are provided in the following table. The values presented are based on 5-minute data.

Observed Flow Conditions			
Item	Depth (in)	Velocity (ft/s)	Quantity (MGD)
Average	4.94	5.66	1.480
Minimum	2.96	3.66	0.517
Maximum	6.55	6.53	2.320
Time of Minimum	2/6/2021 5:05 AM	3/13/2021 5:10 AM	3/13/2021 5:00 AM
Time of Maximum	3/6/2021 12:15 PM	2/7/2021 11:40 AM	2/21/2021 1:10 PM

Data Quality

Data uptime observed during the Friday, February 5, 2021 to the Thursday, March 18, 2021 monitoring period is provided in the table below. Based upon the quality and consistency of the observed flow depth and velocity data, the Continuity equation was used to calculate flow rate and quantities during the monitoring period.

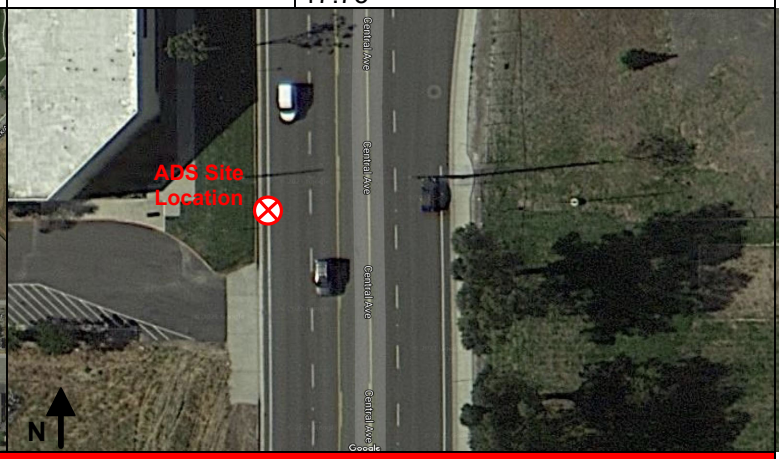
Percent Uptime	
Depth (in)	100
Velocity (ft/s)	100
Quantity (MGD)	100

ADS Site Report

Quality Form

Project Name:	Chino Dudek TFM 2021	**City:**	Chino	**Agency:** Chino	**FM Initials:** SK
Site Name:	FM05	**Install Date:**	2/4/21		
Address/Location:	14450 Central Ave				
Access:	Drive	**Type of System:**	Sanitary [X] Storm [ ] Combined [ ]		

Monitor Type	Peak Doppler
Monitor Model	Triton +
Data Acquisition	Manual/Wireless Collect
Manhole ID	N-7-18
Pipe Height:	17.75 "
Pipe Width:	17.75 "



Investigation Information:

Date/Time of Investigation:	2/4/21 @ 9:00am
Site Hydraulics:	Good straight through flow
Upstream Input: (L/S, P/S)	--
Upstream Manhole:	Not Investigated
Downstream Manhole:	Not investigated
Depth of Flow:	3.00 " +/- 0.25"
Range (Air DOF):	+/-
Peak Velocity:	4.80 fps
Silt:	0 Inches

Manhole Information:

Manhole Depth:	8'
Manhole Material / Condition	Precast/Good
Pipe Material / Condition:	VCP/Good

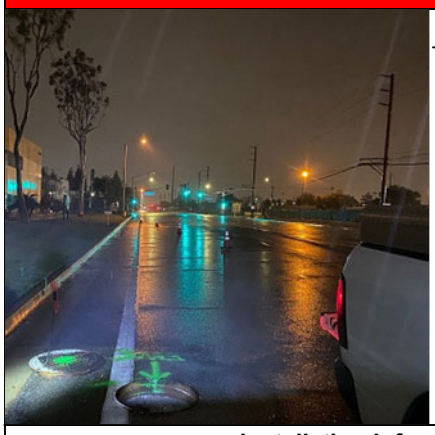
Land Use:	Residential [ ]	Commercial [ ]	Industrial [X]	Trunk [ ]

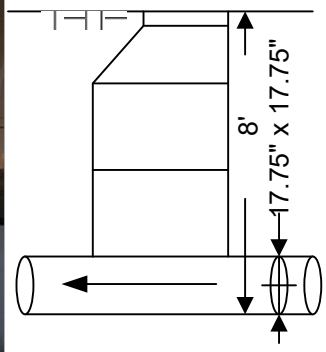
Oxygen: 20.9	**H2S:** 0	**LEL:** 0	**CO:** 0

Safety Notes:

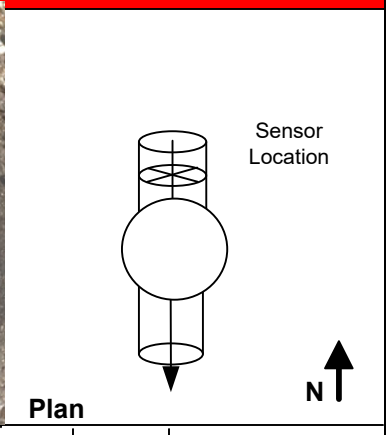
2 man crew required and one blower is to be operated at all times.

Other Information:





Cross Section



Plan

Installation Information		Backup	Yes	No	?	Distance
Installation Type:	Standard	Trunk	[ ]	[x]	[ ]	
Sensors Devices:	Ultrasonic/Velocity/Pressure	Lift / Pump Station	[ ]	[X]	[ ]	
Surcharge Height:	0	WWTP	[ ]	[X]	[ ]	
Rain Gauge Zone:		Other	[ ]	[X]	[ ]	

Additional Site Information / Comments:

Standard Traffic Control with No Safety Concerns

SCATTERGRAPH REPORT

Chino_FM05

Flow Monitor

Chino_FM05

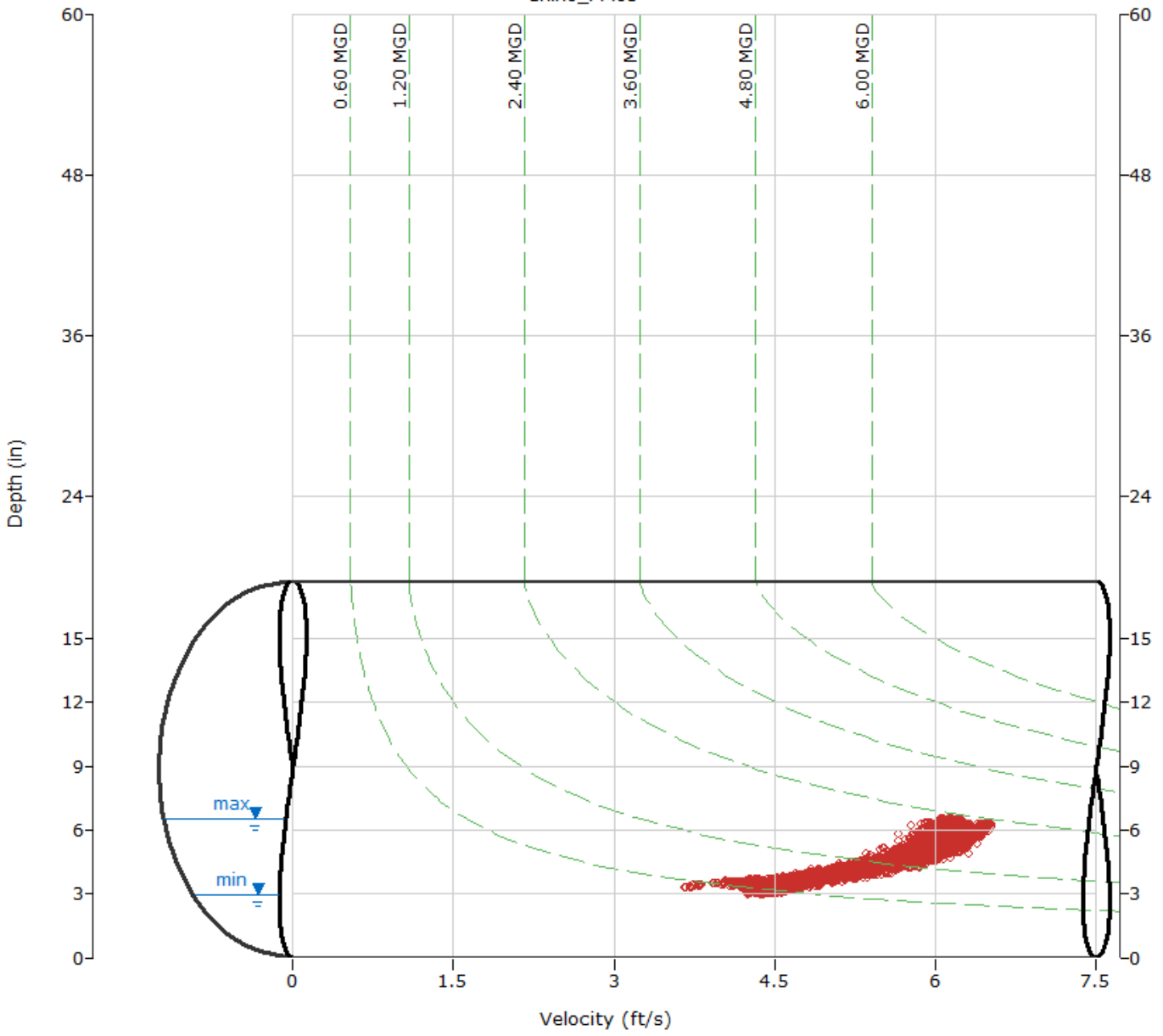
Pipe Height
17.75 in

Report Period

2/5/2021
To
3/18/2021

Legend

- Depth - Velocity
- Iso-Q™
- Silt
- Min-Max Depth



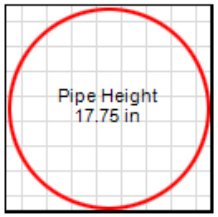
ADS ENVIRONMENTAL SERVICES

HYDROGRAPH REPORT

Chino_FM05

Flow Monitor

Chino_FM05

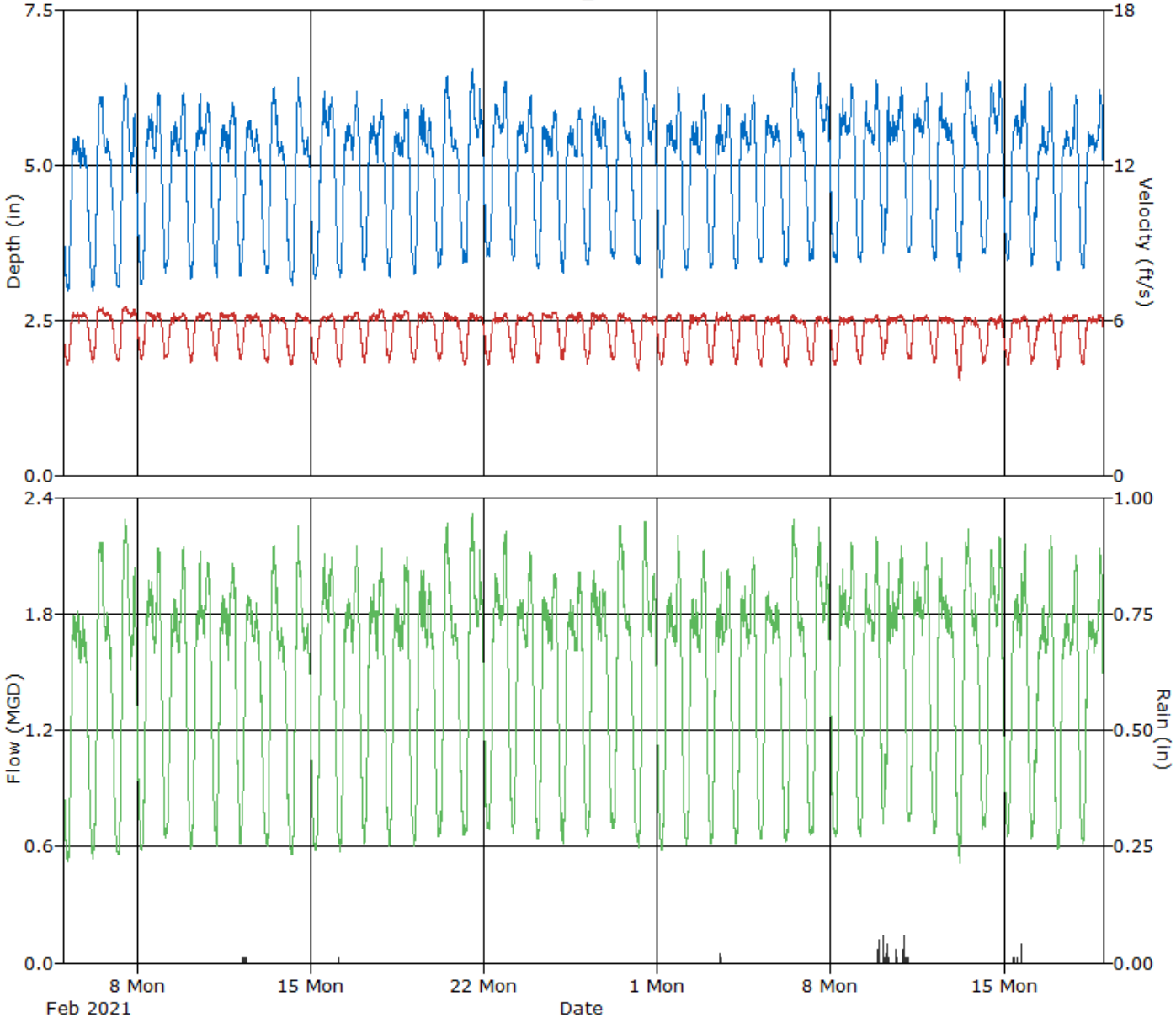


Report Period

2/5/2021
To
3/18/2021

Legend

- Depth
- Velocity
- Quantity
- Rain



ADS ENVIRONMENTAL SERVICES

Daily Tabular Report For The Period 02/05/2021 00:00 - 03/18/2021 23:59

Chino_FM05, Pipe Height: 17.75 in, Silt: 0.00 in

Daily Tabular Report

Date	Depth (in)				Velocity (ft/s)				Quantity (MGD - Total MG)						Rain (in)
	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Time	Min	Time	Max	Avg	Total	Total
02/05/2021	05:05	2.97	13:55	5.46	4.60	05:05	4.25	09:40	6.30	5.72	05:05	0.520	13:55	1.810	1.354	1.354	
02/06/2021	05:05	2.96	12:05	6.10	4.72	05:15	4.37	10:45	6.50	5.79	05:05	0.534	14:10	2.168	1.429	1.429	
02/07/2021	06:15	3.03	11:50	6.31	4.78	05:30	4.39	11:40	6.53	5.79	05:30	0.555	11:50	2.288	1.463	1.463	
02/08/2021	04:20	3.07	21:15	6.16	4.89	03:55	4.48	08:15	6.32	5.76	03:55	0.577	19:45	2.140	1.488	1.488	
02/09/2021	03:00	3.26	20:35	6.17	4.92	02:45	4.49	20:20	6.27	5.71	03:00	0.643	20:35	2.144	1.478	1.478	
02/10/2021	04:15	3.16	12:45	6.14	4.93	03:55	4.34	19:50	6.28	5.74	04:15	0.585	12:45	2.124	1.494	1.494	
02/11/2021	05:20	3.19	20:30	6.00	4.91	05:15	4.41	09:10	6.27	5.79	05:20	0.605	20:35	2.058	1.493	1.493	
02/12/2021	03:40	3.21	13:15	5.71	4.83	04:05	4.48	19:25	6.22	5.73	03:40	0.616	11:20	1.894	1.442	1.442	0.04
02/13/2021	05:50	3.25	12:20	6.24	4.84	05:45	4.33	10:20	6.22	5.63	05:45	0.605	12:20	2.154	1.430	1.430	
02/14/2021	06:30	3.06	11:50	6.42	4.78	05:15	4.26	10:10	6.27	5.60	06:30	0.560	11:50	2.252	1.406	1.406	
02/15/2021	04:05	3.17	13:40	6.17	4.90	05:10	4.28	20:35	6.22	5.60	03:50	0.583	13:35	2.109	1.459	1.459	
02/16/2021	04:20	3.18	20:35	6.18	4.90	04:25	4.22	19:15	6.30	5.69	04:25	0.570	20:35	2.153	1.472	1.472	0.01
02/17/2021	04:20	3.29	20:50	6.05	4.92	04:15	4.35	19:05	6.42	5.75	04:15	0.619	20:50	2.137	1.490	1.490	
02/18/2021	04:40	3.20	21:15	5.97	4.87	04:00	4.38	21:10	6.38	5.78	04:05	0.599	21:10	2.092	1.479	1.479	
02/19/2021	04:10	3.23	11:15	5.95	4.86	04:10	4.35	13:30	6.29	5.72	04:10	0.600	13:35	2.025	1.457	1.457	
02/20/2021	03:55	3.35	12:55	6.43	4.93	04:20	4.42	09:25	6.30	5.66	04:25	0.650	12:55	2.266	1.476	1.476	
02/21/2021	04:05	3.42	13:10	6.55	5.03	05:25	4.23	13:15	6.25	5.60	04:10	0.662	13:10	2.320	1.509	1.509	
02/22/2021	05:25	3.52	20:55	6.35	5.11	04:15	4.26	10:25	6.29	5.63	05:25	0.691	20:55	2.223	1.541	1.541	
02/23/2021	04:15	3.46	21:20	6.12	5.02	04:15	4.36	20:45	6.27	5.71	04:15	0.665	21:10	2.116	1.515	1.515	
02/24/2021	04:25	3.33	20:25	5.88	4.89	04:00	4.37	19:35	6.31	5.75	04:25	0.634	20:35	2.005	1.476	1.476	
02/25/2021	04:45	3.25	21:20	5.91	4.87	04:45	4.45	19:40	6.31	5.74	04:45	0.619	21:20	2.014	1.466	1.466	
02/26/2021	05:00	3.39	11:10	5.94	4.96	04:00	4.32	09:15	6.28	5.72	04:00	0.652	11:15	2.023	1.497	1.497	
02/27/2021	05:15	3.48	12:45	6.42	5.03	06:05	4.47	11:10	6.25	5.65	05:15	0.695	12:45	2.251	1.512	1.512	
02/28/2021	06:00	3.40	11:45	6.51	4.99	05:50	4.00	13:05	6.24	5.56	05:50	0.596	12:20	2.275	1.485	1.485	
03/01/2021	05:10	3.18	20:25	6.26	4.90	04:05	4.25	20:15	6.32	5.66	04:20	0.580	20:25	2.203	1.468	1.468	
03/02/2021	04:30	3.30	21:10	6.15	4.92	04:20	4.26	21:00	6.26	5.66	04:15	0.612	21:10	2.128	1.469	1.469	
03/03/2021	03:45	3.34	13:40	5.97	4.90	03:55	4.22	19:35	6.29	5.64	03:55	0.613	20:15	2.026	1.455	1.455	0.09
03/04/2021	03:50	3.32	20:40	6.11	4.94	05:00	4.25	20:25	6.20	5.67	03:50	0.613	20:40	2.092	1.482	1.482	
03/05/2021	05:20	3.43	12:20	5.80	4.93	04:35	4.18	20:45	6.21	5.60	04:20	0.639	12:20	1.913	1.454	1.454	
03/06/2021	03:55	3.37	12:15	6.55	5.03	05:15	4.19	12:00	6.17	5.56	04:50	0.624	12:05	2.292	1.492	1.492	
03/07/2021	03:50	3.45	13:10	6.47	5.08	05:55	4.24	20:15	6.16	5.56	04:20	0.660	13:05	2.244	1.513	1.513	
03/08/2021	05:25	3.43	20:20	6.28	5.07	04:00	4.25	20:20	6.16	5.58	05:05	0.652	20:20	2.167	1.513	1.513	
03/09/2021	05:20	3.45	20:45	6.36	5.08	04:45	4.29	20:35	6.18	5.61	04:40	0.654	20:45	2.196	1.518	1.518	0.15
03/10/2021	03:00	3.56	20:50	6.24	5.18	02:30	4.48	20:40	6.20	5.74	03:05	0.714	20:50	2.150	1.583	1.583	0.98
03/11/2021	04:35	3.59	20:45	6.32	5.16	05:10	4.50	08:35	6.22	5.69	04:35	0.731	20:45	2.168	1.569	1.569	0.08
03/12/2021	04:55	3.46	11:25	6.17	5.02	04:05	4.34	09:25	6.15	5.64	05:00	0.666	11:25	2.087	1.499	1.499	
03/13/2021	05:00	3.28	13:10	6.50	5.05	05:10	3.66	10:50	6.11	5.46	05:00	0.517	13:10	2.239	1.483	1.483	
03/14/2021	05:35	3.57	19:50	6.37	5.10	03:35	4.30	20:05	6.17	5.53	03:20	0.689	19:50	2.197	1.511	1.511	
03/15/2021	03:45	3.45	20:45	6.29	5.04	03:50	4.22	19:00	6.17	5.58	03:45	0.651	20:45	2.158	1.496	1.496	0.18
03/16/2021	02:55	3.37	21:40	6.32	4.91	02:40	4.27	20:50	6.22	5.61	02:55	0.637	21:40	2.202	1.446	1.446	
03/17/2021	04:55	3.29	22:05	6.12	4.88	04:20	4.08	22:05	6.20	5.62	04:20	0.585	22:05	2.103	1.439	1.439	
03/18/2021	04:00	3.33	21:10	6.21	4.92	04:05	4.25	21:25	6.19	5.62	04:00	0.614	21:10	2.140	1.455	1.454	

Report Summary For The Period 02/05/2021 00:00 - 03/18/2021 23:59

	Depth (in)	Velocity (ft/s)	Quantity (MGD - Total MG)	Rain (in)
Total			62.154	1.53
Avg	4.94	5.66	1.480	

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Appendix B
Maps & Exhibits

2239 State Ave, #B
Costa Mesa, California 92627
(818) 800 6991
Kyle@pacificconsultinginc.com

Figure ES.2: Sewer Collection System

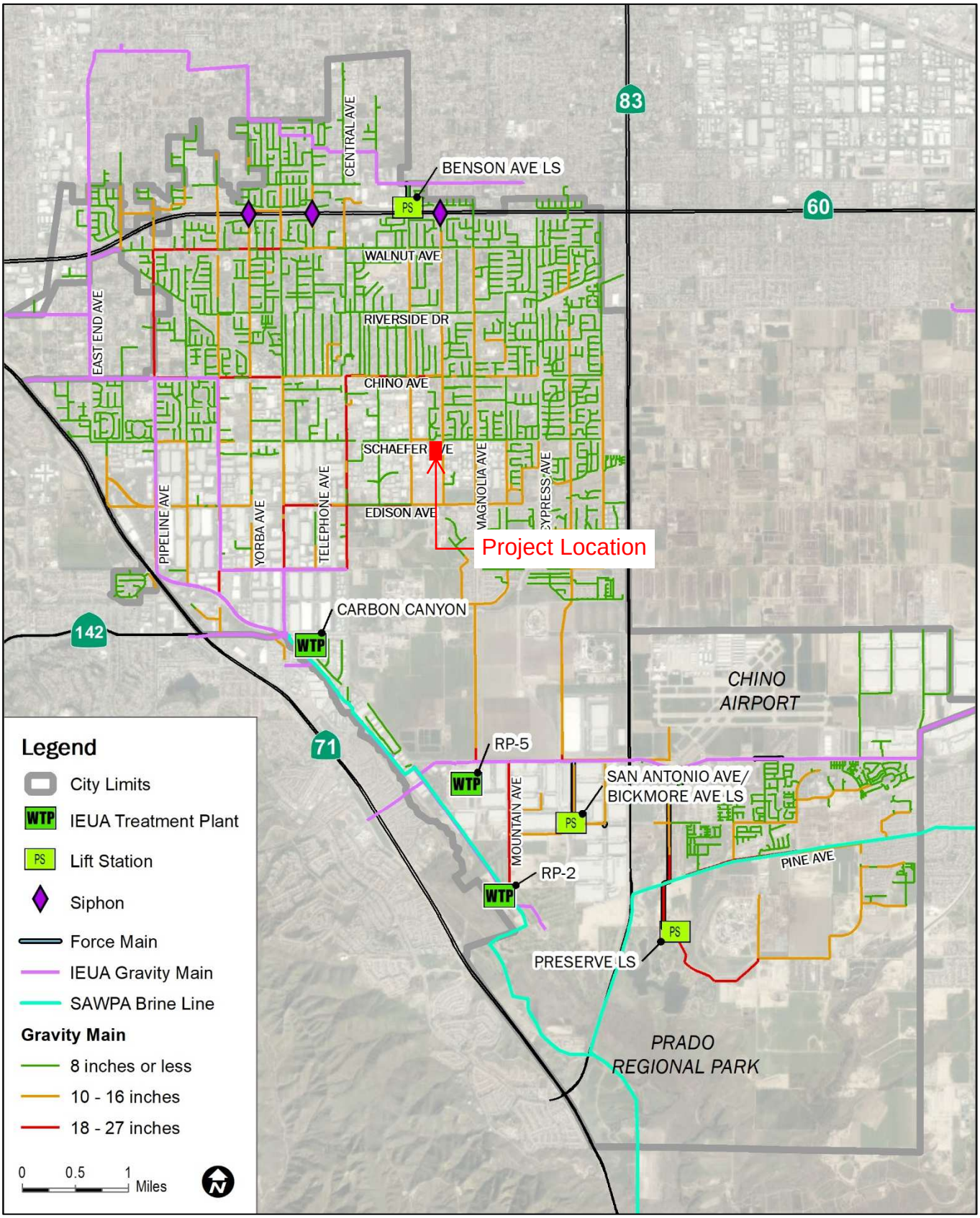


Figure 5.1: 2021 Sewer Drainage Basins and Flow Meter Locations

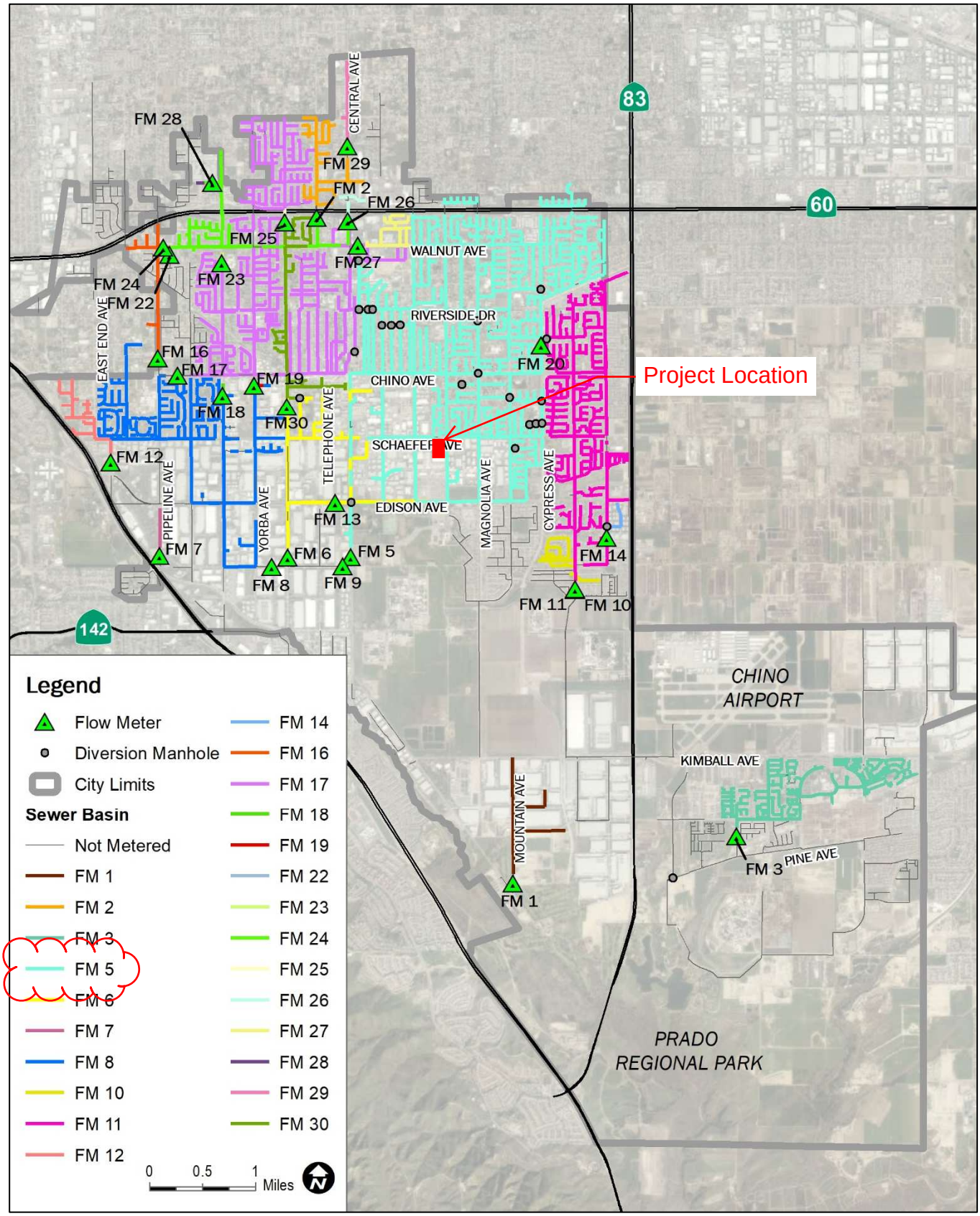
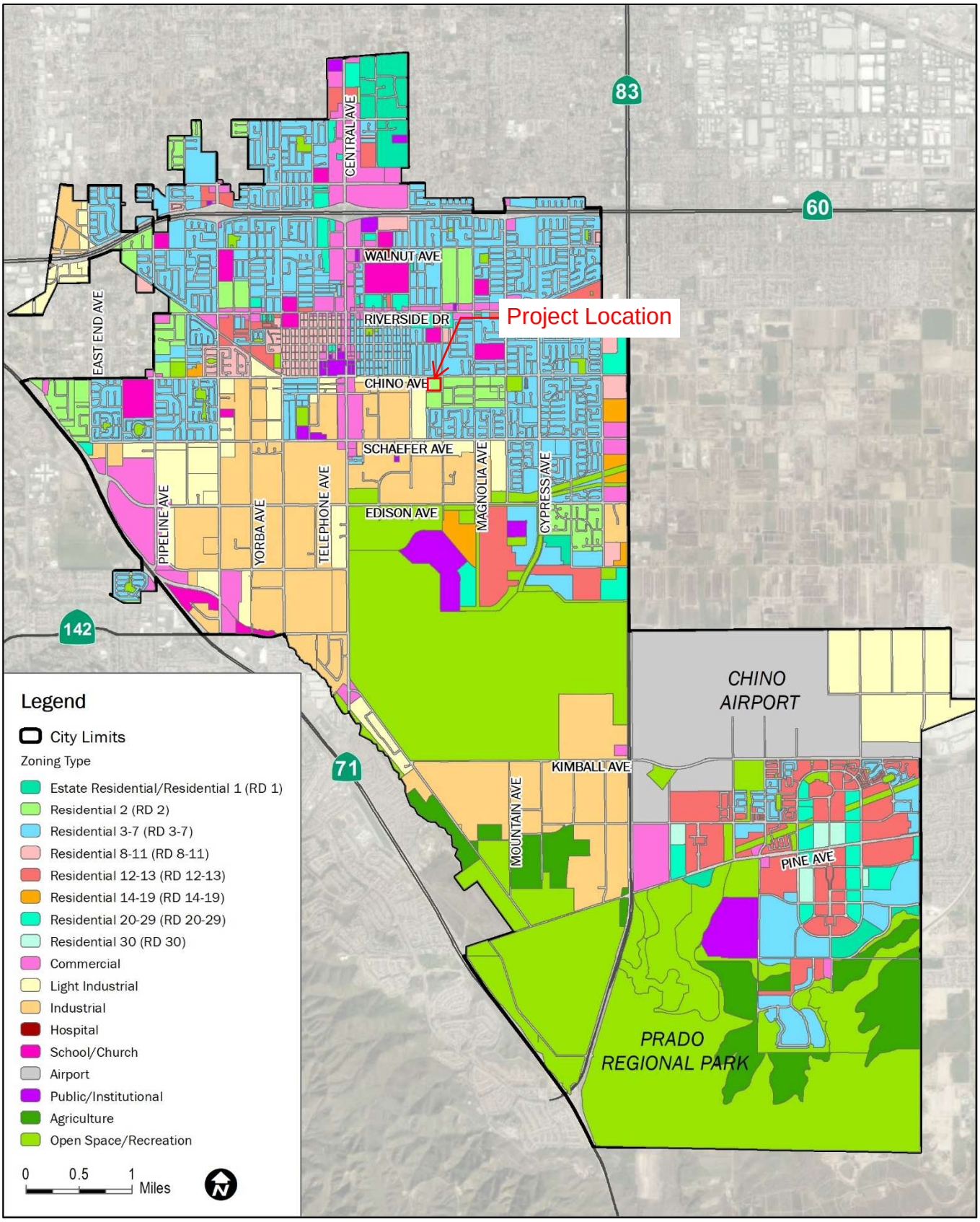


Figure 2.9: 2015 Zoning Map



LEGEND

- LANDSCAPE AREA BY OTHERS
- PEDESTRIAN PERMEABLE PAVERS BY OTHERS
- VEHICULAR CONCRETE PAVING
- PEDESTRIAN CONCRETE PAVING
- RETAINING WALL
- PROPERTY LINE
- GB — GRADE BREAK
- R — RIDGE LINE
- FLOW LINE
- FW — FIRE WATER PIPE
- IRR — IRRIGATION WATER PIPE
- SS — SANITARY SEWER PIPE
- SD — STORM DRAIN PIPE (SEE SHEET 14)
- W — WATER PIPE
- CATCH BASIN
- AREA DRAIN
- POINT OF CONNECTION
- POINT OF CONNECTION TO BUILDING
- BACKFLOW ASSEMBLY
- WATER METER VAULT

ENGINEER'S NOTICE TO CONTRACTOR

THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIBAILITY, REALL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

UNDERGROUND UTILITIES & STRUCTURES

THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PLANS OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS AND MAY NOT REFLECT ALL EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE DUE PRECAUTIONS OF THE RECORDED UTILITIES AS WELL AS ANY NOT SHOWN AND SHALL CONFIRM ALL ALIGNMENTS AND GRADES BY FIELD INVESTIGATIONS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN, AND IS RESPONSIBLE FOR THE PROTECTION OF, AND ANY DAMAGE TO THESE LINES OR STRUCTURES.

CAUTION: THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

CONSTRUCTION NOTES

SANITARY SEWER

- (SS1) CONTRACTOR TO LOCATE AND CONNECT TO EXISTING SEWER MAIN.
- (SS2) INSTALL 6" PVC LATERAL PER CITY OF CHINO PWD STD DWG 109, 500A & 500B. SIZE TO BE CONFIRMED.
- (SS3) INSTALL PVC SEWER PIPE. (MIN SLOPE = 2%)
- (SS4) INSTALL SEWER CLEANOUT/ SAMPLING WYE PER CITY OF CHINO PWD STD DWG 527.
- (SS5) POINT OF CONNECTION TO BUILDING PLUMBING. SEE PLUMBING PLANS FOR CONTINUATION, DETAIL AND SPECIFICATION.
- (SS6) FUTURE GREASE INTERCEPTOR. SIZE TO BE CONFIRMED.
- (SS7) INSTALL MONITORING MANHOLE OR MONITORING VAULT PER CITY OF CHINO PWD STD DWG 530 OR 531. DEPTH OF SEWER TO BE CONFIRMED.

DOMESTIC WATER

- (W1) CONTRACTOR TO ORDER AND COORDINATE NEW DOMESTIC WATER SERVICE CONNECTION. SEE CITY OF CHINO PWD STD DWG 415A.
- (W2) 3" DOMESTIC WATER METER. SIZE TO BE CONFIRMED.
- (W3) INSTALL PVC WATER PIPE.
- (W4) INSTALL APPROVED REDUCED PRESSURE BACKFLOW PREVENTOR PER CITY OF CHINO PWD STD DWG 471 & 472. SIZE TO BE CONFIRMED.
- (W5) POINT OF CONNECTION TO BUILDING PLUMBING. SEE PLUMBING PLANS FOR CONTINUATION, DETAIL AND SPECIFICATION.
- (W6) CONTRACTOR TO REMOVE WATER METER AND SERVICE IN IT'S ENTIRETY. SEE CITY OF CHINO PWD STD DWG 425

FIRE WATER

- (F1) CONTRACTOR TO ORDER AND COORDINATE NEW 10" FIRE WATER SERVICE CONNECTION. SEE CITY OF CHINO PWD STD DWG 415A. SIZE TO BE CONFIRMED.
- (F2) INSTALL APPROVED DOUBLE DETECTOR CHECK VALVE ASSEMBLY PER CITY OF CHINO PWD STD DWG 473. SIZE TO BE CONFIRMED.
- (F3) INSTALL C900 PVC WATER PIPE. SIZE TO BE CONFIRMED.
- (F4) POINT OF CONNECTION. SEE PLUMBING PLANS FOR CONTINUATION, DETAIL AND SPECIFICATION.
- (F5) INSTALL FIRE HYDRANT PER CITY OF CHINO PWD STD DWG 445A.
- (F6) INSTALL GATE VALVE, RISER & COVER PER CITY OF CHINO PWD STD DWG 450.
- (F7) FIRE SERVICE WATER METER. SIZE TO BE CONFIRMED.

IRRIGATION WATER

- (IR1) CONTRACTOR TO COORDINATE WATER SERVICE CONNECTION. SEE CITY OF CHINO PWD STD DWG 410A.
- (IR2) 1.5" IRRIGATION WATER METER. SIZE TO BE CONFIRMED.
- (IR3) INSTALL PVC WATER PIPE. SIZE TO BE CONFIRMED.
- (IR4) INSTALL APPROVED REDUCED PRESSURE BACKFLOW PREVENTOR PER CITY OF CHINO PWD STD DWG 470. SIZE TO BE CONFIRMED.
- (IR5) POINT OF CONNECTION TO IRRIGATION SYSTEM. SEE IRRIGATION PLANS FOR CONTINUATION, DETAIL AND SPECIFICATION.

ELECTRICAL

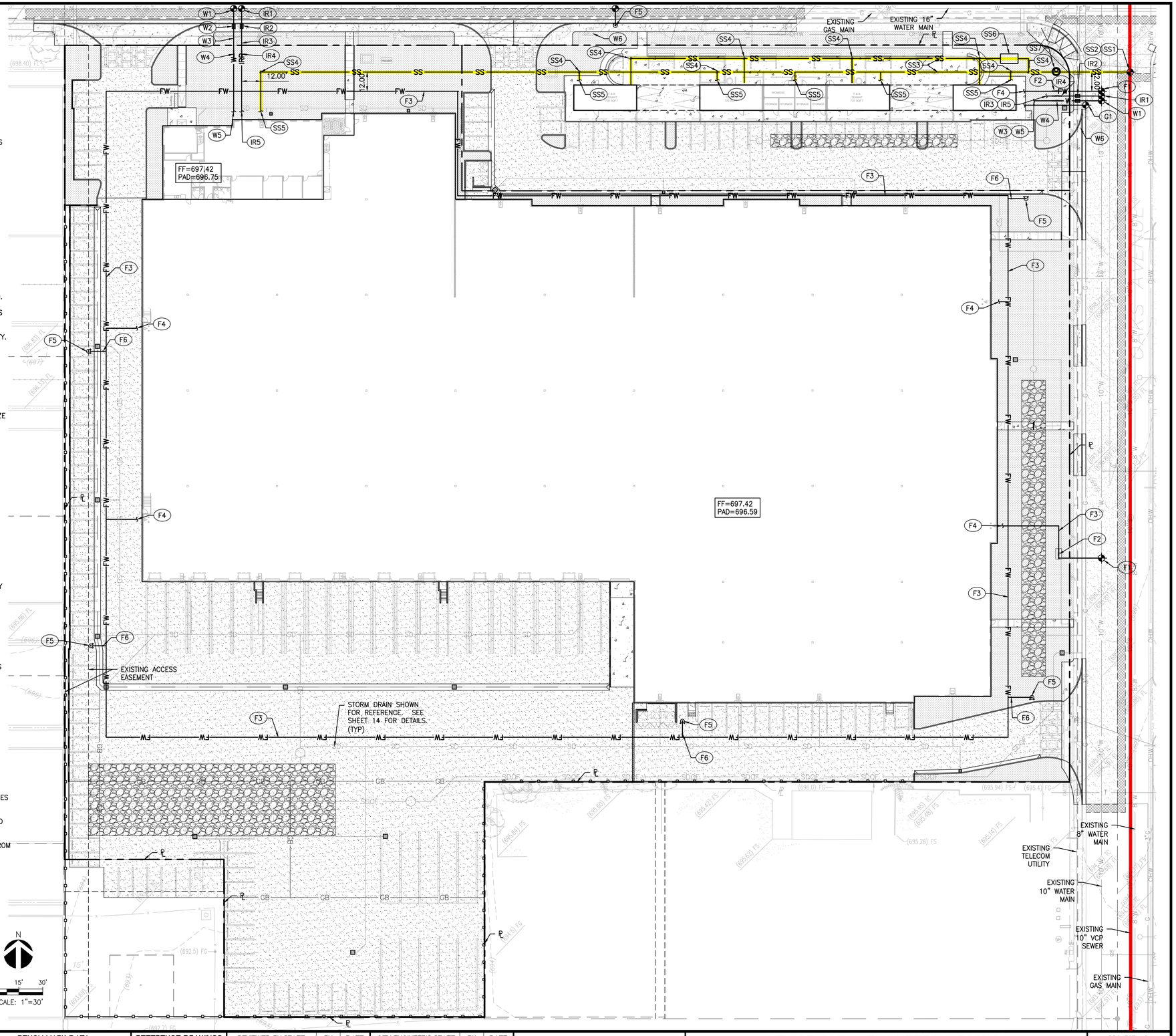
- (E1) PROPOSED TRANSFORMER. SEE ELECTRICAL PLANS.

GAS

- (G1) CONTRACTOR TO ORDER AND COORDINATE NEW GAS SERVICE.

NOTES:

1. BACKFLOWPRVENTORS SHOWN HEREON, ARE FOR COORDINATION PURPOSES ONLY.
2. THRUST BLOCKS SHALL BE INSTALLED AS REQUIRED PER CITY OF CHINO PWD STD DWG 460.
3. ALL WATER PIPING SHALL MAINTAIN A MINIMUM 10 FOOT SEPARATION FROM ANY SANITARY SEWER APPURTENANCE OR PIPING.



SEAL

REGISTERED PROFESSIONAL ENGINEER — LEE JARDINE PRUITT — C 95048 EXP. 09/30/25 — CIVIL — STATE OF CALIFORNIA

SIGN DATE 03/25/2025

PREPARED BY	REVISIONS	MADE BY	MADE DATE	APPROVED BY	APPROVED DATE
FIRM: PACIFIC CONSULTING GROUP, INC.	1 PLANNING SUBMITTAL		8/13/24		
ADDRESS: 2239 STATE AVE., #B COSTA MESA, CA 92627	2 1ST RE-SUBMITTAL		10/17/24		
TELEPHONE: (818) 800-6991 FAX: ( )	3 2ND RE-SUBMITTAL		12/18/24		
SIGNATURE RCE DATE	4 3RD RE-SUBMITTAL		3/25/25		
	5				

BENCH MARK DATA
NO. 137/57 ELEV. 697.5040 FT
LOCATION:
FOUND 2 1/2" BRASS DISC LOCATED IN THE TOP OF CURB, 5' EAST OF THE ECR OF THE NORTHWEST CURB AND BEING 58.5' WEST AND 36.5' NORTH OF THE CENTERLINE INTERSECTION OF BENSON AVENUE AND SCHAEFER AVENUE.

REFERENCE DRAWINGS

REVIEWED BY STAFF	BY	DATE
WATER:		
SEWER:		
FIRE:		
PLANNING:		
TRAFFIC:		
SERVICES:		

CITY ENGINEER'S STAFF	BY	DATE
DRAWN:		
DESIGNED:		
CHECKED:		
RECOMMENDED:		

APPROVED BY:
PUBLIC WORKS DIRECTOR DATE:
CITY ENGINEER DATE:

CITY OF CHINO ENGINEERING DIVISION

GATEWAY CHINO
5885 SCHAEFER AVE

UTILITY PLAN

PROJECT NO.

SHEET 16 OF 18
DRAWING NO.

PACIFIC CONSULTING GROUP

Appendix C
Supporting Documents

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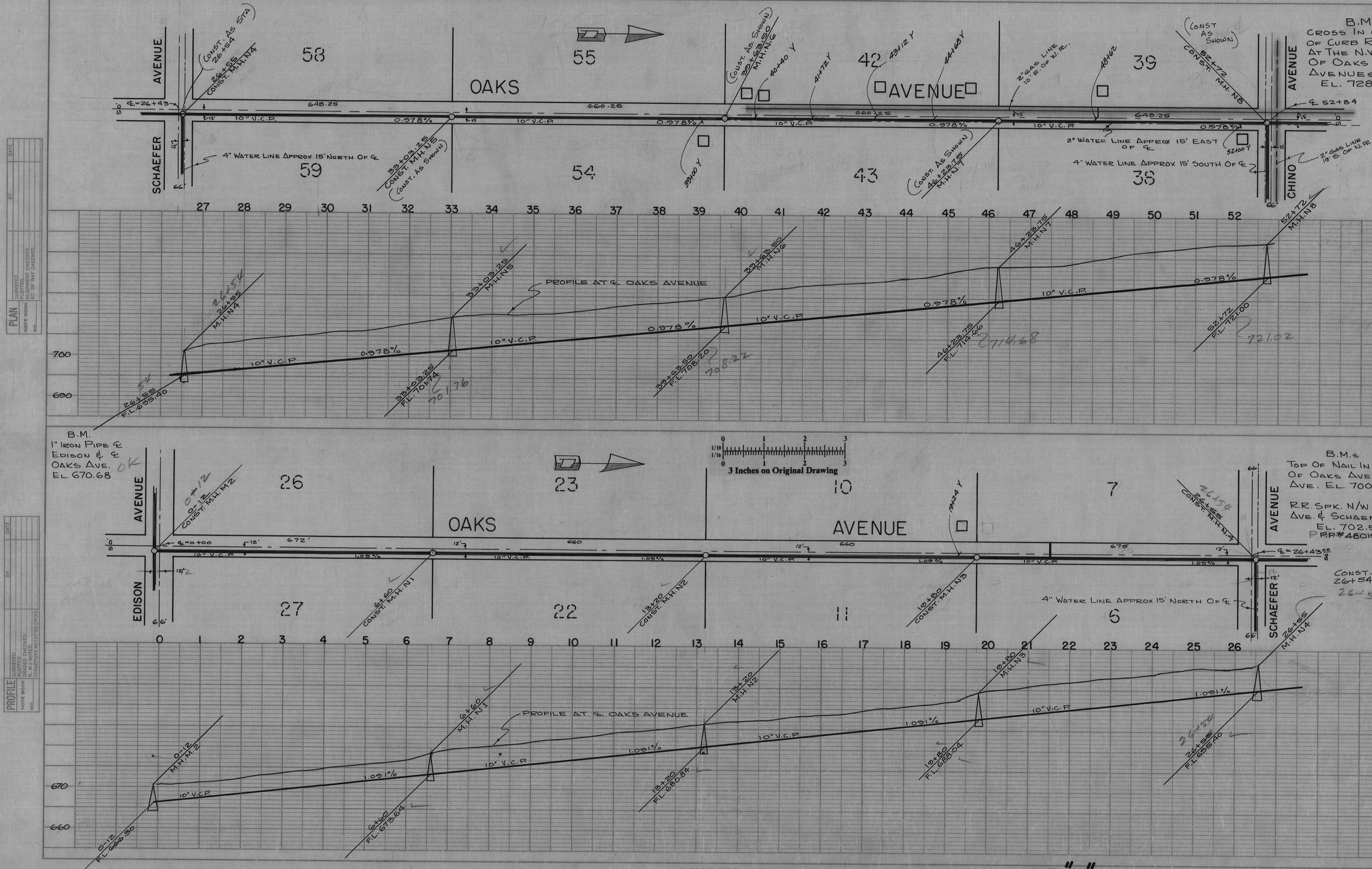


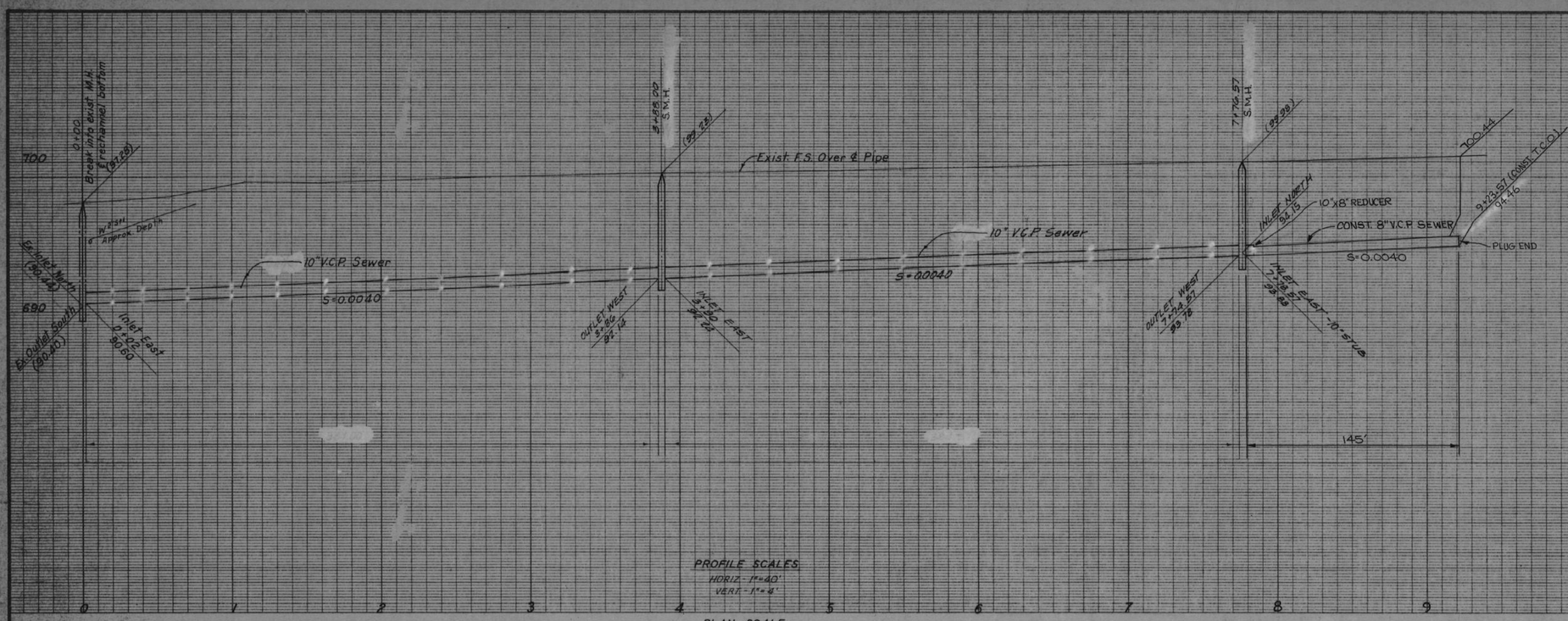
PLATE 2 - PLAN - PROFILE. O. P. C. & R. E. STANDARD
KEUFFEL & ESSER CO., NEW YORK.
K & E Co. No. 348-2C

LINE "N"

SHEET 13

BA-36

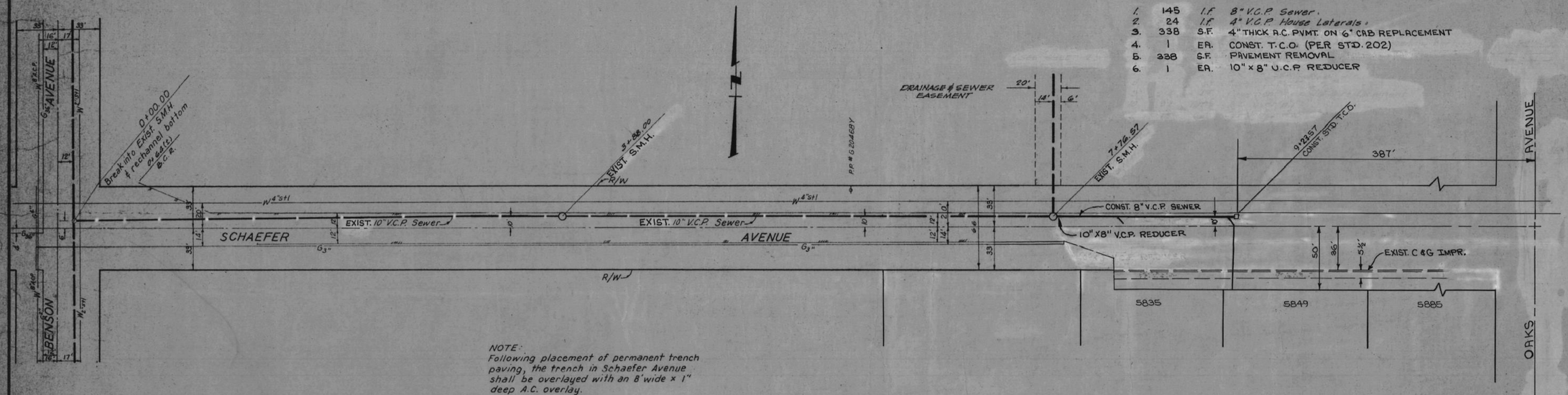
BA-36



GENERAL NOTES

1. All work shall be done in accordance with City of Chino Standard Drawings, Standard Special Provisions and Standard Specifications for Public Works Construction, 1976 Edition, with supplements.
2. All pipe shall be Vitrified Clay or approved equal as approved by City Engineer.
3. House Laterals are to be constructed with top of pipe 3' below top of curb grade unless otherwise noted.
4. Wyes must be constructed within one pipe length of station shown on plans and all laterals laid 90° to main except in cul-de-sac where laterals shall be laid either at 90° or 45° to the main line.
5. The contractor shall furnish the City Engineer with "As Built" location for all House Laterals.
6. The contractor shall secure approval from the Inspector before backfilling over pipe.
7. Trench compaction shall be in accordance with City of Chino Special Provisions Re Trench Compaction (Special Section 114).
8. All manhole frame and covers are to be temporarily set 4 inches below the finished grade elevation shown on plans unless otherwise noted.
9. An "L" shall be stamped on the curb at sewer lateral location.
10. No sewer laterals shall pass under a drive approach or driveway.
11. Drive approach centerlines shall be staked when sewer lines are staked.

PLAN SCALE
1" = 40'



NOTE:
Following placement of permanent trench paving, the trench in Schaefer Avenue shall be overlayed with an 8' wide x 1" deep A.C. overlay.

ESTIMATE OF QUANTITIES

1.	145	l.f.	8" V.C.P. Sewer.
2.	24	l.f.	4" V.C.P. House Laterals.
3.	338	S.F.	4" THICK A.C. PVMT. ON 6" CAB REPLACEMENT
4.	1	EA.	CONST. T.C.O. (PER STD. 202)
5.	338	S.F.	PAVEMENT REMOVAL
6.	1	EA.	10" x 8" V.C.P. REDUCER

0 1/16 1/8 3/16 1/4 3/8 1/2 3/4 1 2 3
3 Inches on Original Drawing

WYE LOCATIONS

DESIGN LOCATIONS		"AS-BUILT" LOCATION	REMARKS
ADDRESS	STATION		
5835	8+37 R		WYE
5849	9+13 R		LATERAL

DATE	BY	REVISION	APP'D
REFERENCE			

BENCH MARK NO. 53 ELEV. 727.65
LOCATION: BENSON AVE. & CHINO AVE. Lead & tack in curb, East side of Benson 1'± North of BCR, North of Chino.

APPROVED BY	DATE
TRAFFIC	
WATER	
SEWER	

CITY ENGINEER'S STAFF	DATE
DRAWN BY D.K.	1/23/78
DESIGNED BY D.K.C.	1/23/78
CHECKED BY D.K.C.	1/25/78
RECOMMENDED BY [illegible]	1/27/78

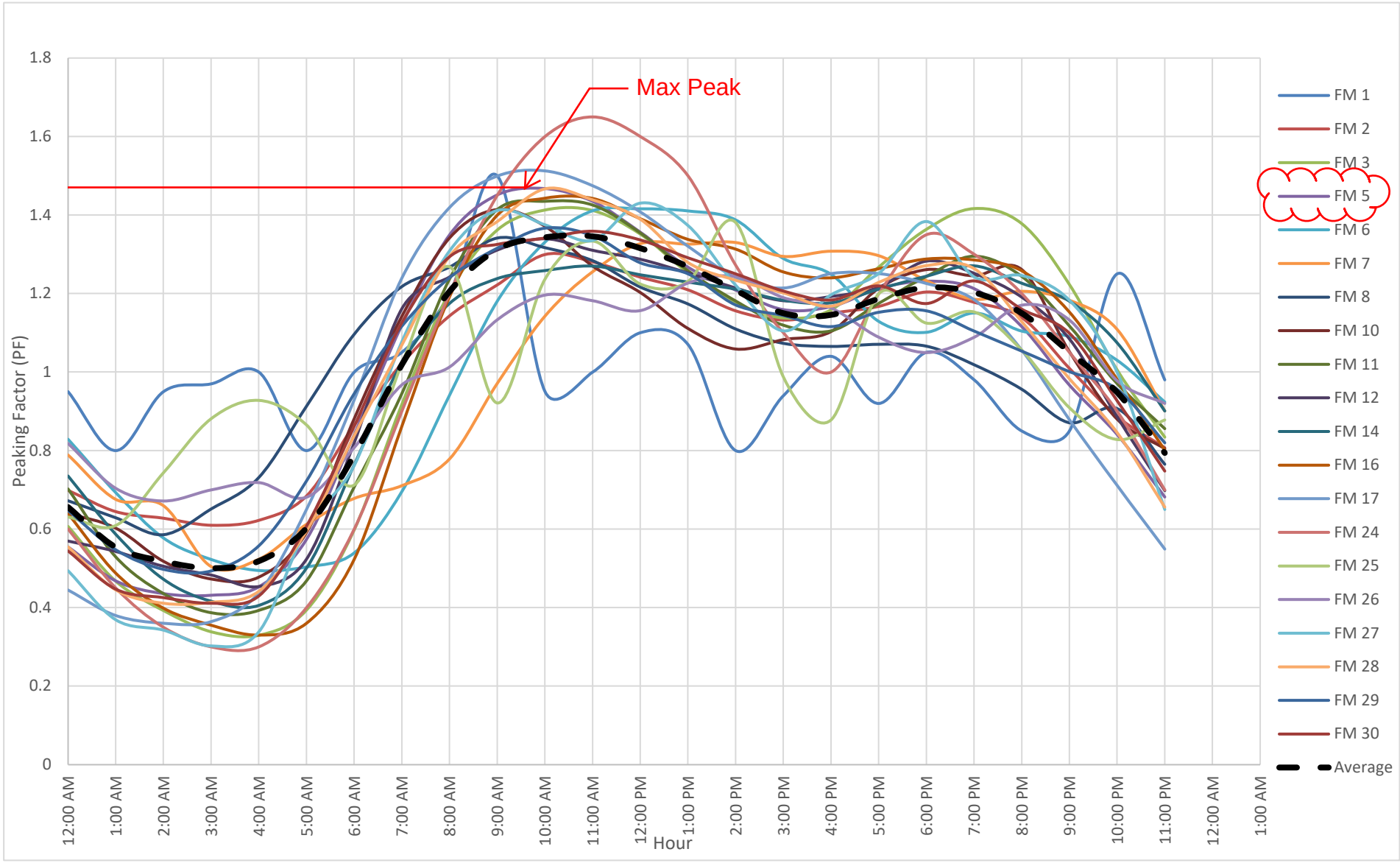
APPROVED BY
L. Ray Bender
CITY ENGINEER R.C.E. 22880
DATE 2/3/78

City of Chino Engineering Department

PLAN AND PROFILE OF SEWERS
SCHAEFER AVENUE
390' TO 535' W/O ORKS AVE.

JOB NO.
Sht. 1 of 1
DWG. NO. BB-90

Figure 5.3: Weekend Dry Weather 24-Hour Peaking Curves



Appendix D
Hydraulic Calculations

Costa Mesa, California 92627
(818) 800 6991
Kyle@pacificconsultinginc.com

Existing Max Flow Capacity

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data		
Roughness Coefficient	0.013	
Channel Slope	0.011	ft/ft
Normal Depth	5.0	in
Diameter	10.0	in

Results		
Discharge	513.55	gal/min
Flow Area	0.3	ft²
Wetted Perimeter	1.3	ft
Hydraulic Radius	2.5	in
Top Width	0.83	ft
Critical Depth	5.7	in
Percent Full	50.0	%
Critical Slope	0.007	ft/ft
Velocity	4.20	ft/s
Velocity Head	0.27	ft
Specific Energy	0.69	ft
Froude Number	1.293	
Maximum Discharge	1,104.86	gal/min
Discharge Full	1,027.10	gal/min
Slope Full	0.003	ft/ft
Flow Type	Supercritical	

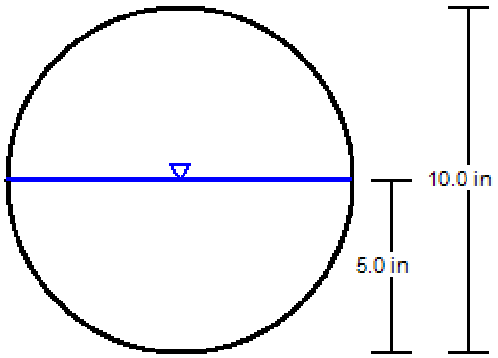
GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

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	5.7	in
Channel Slope	0.011	ft/ft
Critical Slope	0.007	ft/ft

Cross Section for Existing Max Flow Capacity

Project Description	
Friction Method	Manning Formula
Solve For	Discharge

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.011 ft/ft
Normal Depth	5.0 in
Diameter	10.0 in
Discharge	513.55 gal/min



V: 1
H: 1

Proposed Average Flow Capacity FM 5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data		
Roughness Coefficient	0.013	
Channel Slope	0.008	ft/ft
Diameter	17.8	in
Discharge	1,028.12	gal/min

Results		
Normal Depth	6.0	in
Flow Area	0.5	ft^2
Wetted Perimeter	1.8	ft
Hydraulic Radius	3.4	in
Top Width	1.40	ft
Critical Depth	6.9	in
Percent Full	33.9	%
Critical Slope	0.005	ft/ft
Velocity	4.46	ft/s
Velocity Head	0.31	ft
Specific Energy	0.81	ft
Froude Number	1.298	
Maximum Discharge	4,460.04	gal/min
Discharge Full	4,146.15	gal/min
Slope Full	0.001	ft/ft
Flow Type	Supercritical	

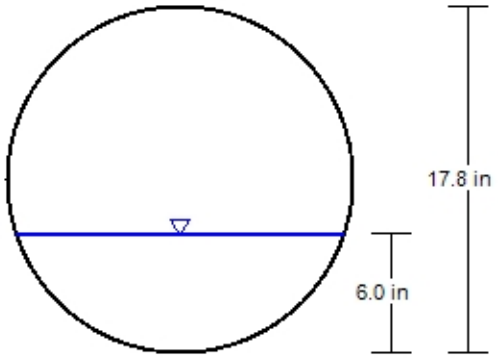
GVF Input Data		
Downstream Depth	0.0	in
Length	0.0	ft
Number Of Steps	0	

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	33.9	%
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.0	in
Critical Depth	6.9	in
Channel Slope	0.008	ft/ft
Critical Slope	0.005	ft/ft

Cross Section for Proposed Average Flow Capacity FM 5

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.013
Channel Slope	0.008 ft/ft
Normal Depth	6.0 in
Diameter	17.8 in
Discharge	1,028.12 gal/min



V: 1
H: 1