

## **APPENDIX E**

### **Hydrology and Hydraulic Study**





# Hydrology and Hydraulics Study

for

## **FIGUEROA ST. BUSINESS PARK**

20601 S. Main Street  
Carson, CA  
PM 5616

SEPTEMBER 16, 2022 | PRELIMINARY

Prepared for:

*XEBEC Building Company  
3010 Old Ranch Parkway, Suite 480  
Seal Beach, CA 90740*

Prepared By:

**Kimley»Horn**

KHA Project # 094904002  
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## INTRODUCTION

### PROJECT DESCRIPTION AND PURPOSE

The Figueroa Business Center (hereinafter referenced as the proposed Project) is located on a former landfill bound by Figueroa Street, S Mainstreet, and an existing LA County Flood Control Channel in Carson California. The Site was originally a landfill that has since been backfilled for future development. The Project consists of 3 Industrial buildings and 1 Commercial buildings with a cumulative building area of 256,161 SF plus or minus and a total site area of 14.42 acres. The rest of the Project site is made up of parking stalls, loading docks, and landscape. The project site is zoned as light manufacturing.

Per this study, a detention system consisting of 4 rows of 200 linear feet of 48" RCP pipe designed to attenuate post development runoff to not exceed the approved county-issued allowable discharge rate 1.52 cfs/acre. The purpose of this report is to demonstrate that the proposed development is in substantial conformance with the LA County Hydrology Manual and provide additional project specific analysis.

Figure 1: Project Site Location



## PROJECT SITE CONDITIONS

### EXISTING SITE (PRE-DEVELOPMENT) CONDITIONS

In the existing condition, the site was originally used as a land fill. Subsequently, the land fill has been backfilled to enable redevelopment of the site. The site generally slopes from the South to North and West to East. The existing site runoff is generally contained within the site while the edge conditions drain offsite. There is an existing LA County Flood Control Channel located just north of the site that drains east and then south where it eventually discharges into the Pacific Ocean. There are 3 existing drain connections

from existing site to the County Channel at stations 4+00, 8+20, and 10+50. (See LA County Channel Asbuilts in Appendix G for station locations relative to the site) Since the existing drains extend into private property, a county connection permit is not anticipated.

## PROPOSED SITE (POST-DEVELOPMENT) CONDITIONS

In the proposed condition, drainage will flow away from the proposed buildings and into one of several low points across the site, as depicted on the proposed hydrology map. Runoff will be collected into an on-site private underground storm drain system. Roof drainage is also collected in the underground storm drain system. The project runoff will then collect in a detention tank located on the north side of the project before being released into the LA County Flood Control channel via the existing 15" Channel connections at stations 4+00 & 8+20 on the county channel as-builts provided in Appendix G. The detention system is designed to limit the discharge to a maximum allowable Q flow 1.52 cfs/acre provided by the LA County Public Works Design Division. Refer to Appendix F for pond pack detention calculations.

## LOW IMPACT DEVELOPMENT (LID)

A separate LID report was prepared by Kimley-Horn and Associates. Per the report, *the proposed (LID) system stormwater quality control measures and structural source measures are adequately designed and sized to accomplish the following:*

- *Capture and mitigate the SQWDv volume from the 85<sup>th</sup> percentile, 24-hour storm;*
- *On-site retention of captured volume by*
- *Prevent pollutants from contacting stormwater run-off and/or prevent discharge of contaminated stormwater run-off to stormdrain system*

Preliminary Grading and Utility plans prepared By Kimley-Horn and Associates includes the implementation of source control BMPs and water treatment devices. Modular wetland units are placed next to each catch basin to treat runoff before entering the private storm drain system and eventually the existing LA County Channel.

## PRECIPITATION

Precipitation values for the hydrologic analysis were determined from site specific precipitation frequency estimates per the LACDPW Torrance 1-H1.21, 50-yr, 24 -hr isohyet. For this site, the 50 year, 24-hr storm precipitation depth of 6.07 inches was used. See **Appendix A**.

## WATERSHED DESCRIPTION

The project is relatively flat and the regional topography slopes to the southwest. Run-off from the project site drains to an existing LA County Flood control Channel North of the site, that discharges into Los Angeles Flood Control District Dominguez Channel, to the LA River, and ultimately out into the Pacific Ocean.

## SOIL TYPES

The type of soil and its conditions are major factors affecting infiltration and resultant storm water runoff. The Natural Resources Conservation Service (NRCS) has classified soils into four general hydrologic groups for comparing infiltration and runoff rates. This Project Site has an impervious clay cap over the

existing landfill and had a hydrologic soil group classification of D. Group D Soils having a very low infiltration rate. These consist chiefly of clays that have a high shrink-well potential, soils that have a high water table, soils that have a clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very high runoff potential. Soil Type 13 underlies the Site based on the County 50-Year 24-Hour Isohyet map.

## LAND USE

The project site is located on what was previously a landfill and is zoned for industrial use. A specific plan is proposed for project approval.

## GROUNDWATER

The existing landfill under the site includes a clay cap so the existing site generates significant runoff and minimal infiltration occurs.

## FEMA MAPPING

The project site is covered by FEMA Flood Insurance Rate Map (FIRM) Number 06037C1935F. The project area does not fall within a FEMA-mapped special flood hazard area. The site is classified as Zone X, which is an area with a reduced risk of flooding due to a Levee. The effective FIRMETTE is dated September 26, 2008 and is provided in **Appendix C**.

## HYDROLOGIC ANALYSIS

### METHODOLOGY

The design criteria for the hydrologic calculations for this project have been conducted per requirements as outlined in the Los Angeles County Department of Public Works Hydrology Manual (January 2006).

A 50-year storm event was used to model the peak flow rates since the overall detention and storm drain systems are modeled using the 50-year storm as the design criteria. The proposed Project was modeled using a C value based on the calculated impervious/pervious areas of the site. The County's HydroCalc software was utilized to determine the peak flow rates and time of concentration for the project. The site has been modeled with larger subareas to obtain preliminary levels results and will be further broken down into multiple smaller subareas for sizing inlets and pipes upon Final hydrologic Analysis. The HydroCalc calculations are included in this report as **Appendix E**.

A new on-site storm drain system, designed for the 50-yr 24-hr storm, will be installed to collect surface runoff at designated storm inlet locations across the site and convey flows downstream. Each inlet has been sized to limit ponding depths to less than the 6-inch curb height.

Hydraulic calculations were performed for the main storm drains, utilizing Flowmaster, a software program developed by Bentley. The software utilizes Manning's equation to determine flow based on friction slopes for design. A friction slope of 0.3% was used to determine the full flow capacity each storm drain assuming they are run at a minimum slope. See **Table 2** below. The onsite storm drains were sized based on the calculated 50-yr flows being conveyed compared to the pipe capacity.

Inlet sizing calculations were preformed using weir/orifice equations to determine the maximum capacity for the various sizes of inlets. See **Table 3** below for a summary of the max allowable CFS of each type of

inlet. The drop inlets were modeled to have a maximum ponding depth of 6 inches. The inlet calculations are located in **Appendix F**. Each inlet on the project will be sized based on the maximum capacity of the inlet and the calculated 50-yr flows upon final hydrologic analysis. Refer to Hydrology Exhibit in **Appendix D** to see flow per inlet.

## RESULTS AND CONCLUSIONS

**Table 1. Pipe Sizing Table**

Pipe Size	Material	Capacity at 0.3% Friction Slope
12"	HDPE ( $n=0.011$ )	2.31 CFS
18"	HDPE ( $n=0.011$ )	6.80 CFS
20"	HDPE ( $n=0.011$ )	9.00 CFS
24"	HDPE ( $n=0.011$ )	14.64 CFS
30"	HDPE ( $n=0.011$ )	26.55 CFS

**Table 2. Inlet Sizing Table:**

Type	Max CFS
18x18 Grate Inlet	3.20 CFS
24x24 Grate Inlet	5.70 CFS
30x30 Grate Inlet	8.90 CFS
36x36 Grate Inlet	12.82 CFS
Curb Inlet 3.5' Sag	4.29 CFS
Curb Inlet 7' Sag	5.65 CFS

**Table 3. Detention Information Table:**

Site Area	Allowable Flow Rate	Allowable Site Flow rate	Undetained 50 Year Peak Flow	Prop. Detention volume	Detained 50 Year Peak Flow
14.42	1.52 cfs/AC	21.92 cfs	26.24 cfs	5.965 ac-ft	21.60 cfs

In addition to the proposed storm drain system. The site has been graded to allow overland release in a larger storm event or if an inlet or storm drain becomes clogged. The drainage area overland release points have been set below the finished floor elevation of the building and will discharge prior to ponding high enough to impact the building. The site would ultimately discharge to the Northeast corner into Main Street.

The detention system is designed to serve the entire development and will detain stormwater runoff to the required allowable Q provided by LA County. The overall development will also provide LID measures for the project through storm water treatment devices. See Appendix F for the detention calculations validate the size of the detention system.

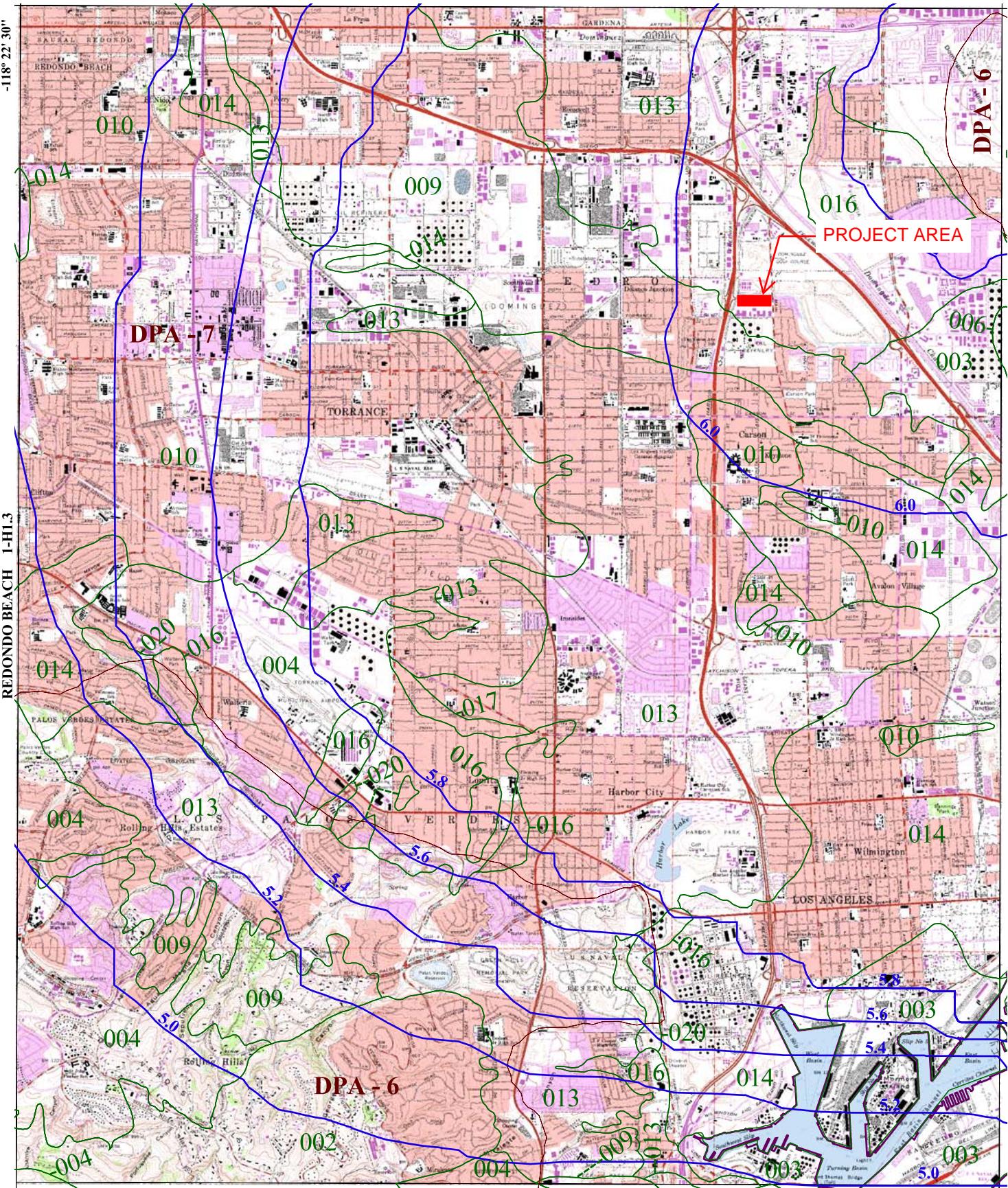
## APPENDIX A

### ISOHYET MAP

33° 52' 30"

INGLEWOOD 1-H1.8

-118° 22' 30"



SAN PEDRO 1-H1.2

33° 45' 00"

-118° 15' 00"



016

SOIL  
CLASSIFICATION  
AREA

7.2

INCHES OF  
RAINFALL

DPA - 6

DEBRIS  
POTENTIAL  
AREA

25-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.878  
10-YEAR 24-HOUR ISOHYET REDUCTION FACTOR: 0.714

**T OR R A N C E**  
**50-YEAR 24-HOUR ISOHYET**

1-H1.4



## APPENDIX B

### SOIL TYPE

## Soil Map—Los Angeles County, California, Southeastern Part



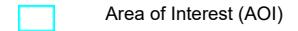
Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

6/22/2021  
Page 1 of 3

## MAP LEGEND

### Area of Interest (AOI)



Area of Interest (AOI)

### Soils



Soil Map Unit Polygons



Soil Map Unit Lines



Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot

Spoil Area

Stony Spot

Very Stony Spot

Wet Spot

Other

Special Line Features

### Water Features

Streams and Canals

### Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

### Background

Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Los Angeles County, California, Southeastern Part

Survey Area Data: Version 7, May 27, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 13, 2018—Feb 8, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1005	Urban land-Biscailuz-Hueneme, drained complex, 0 to 2 percent slopes	5.6	41.1%
1013	Urban land-Centinela-Typic Xerorthents, fine substratum complex, 0 to 2 percent slopes	8.1	58.9%
<b>Totals for Area of Interest</b>		<b>13.7</b>	<b>100.0%</b>

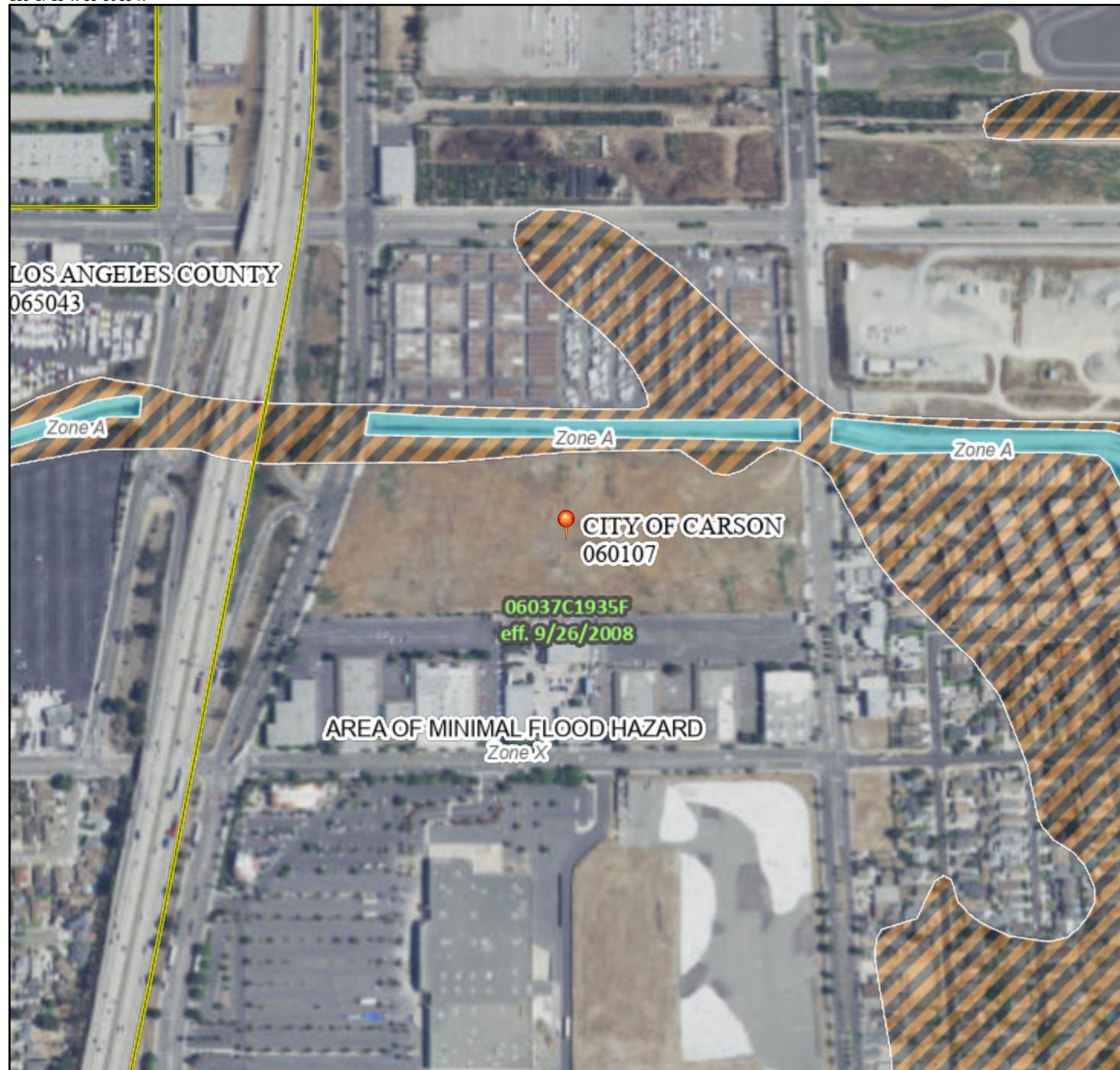
## APPENDIX C

**FIRMette**

# National Flood Hazard Layer FIRMette



118°17'15"W 33°50'53"N



## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

### SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)  
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee. See Notes. Zone X
- Area with Flood Risk due to Levee Zone D

### OTHER AREAS OF FLOOD HAZARD

- NO SCREEN Area of Minimal Flood Hazard Zone X
- Effective LOMRs

### OTHER AREAS

- Area of Undetermined Flood Hazard Zone D

### GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- ~~~~513~~~~ Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

- Digital Data Available
- No Digital Data Available
- Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/22/2021 at 7:57 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

## APPENDIX D

### HYDROLOGY MAPS

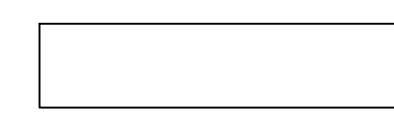
## LEGEND

- PROPERTY LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED EASEMENT
- PROPOSED STORM DRAIN LINE
- SD

(D)

DA-X

X.XX



GEO

PROPOSED MANHOLE

DRAINAGE AREA ID

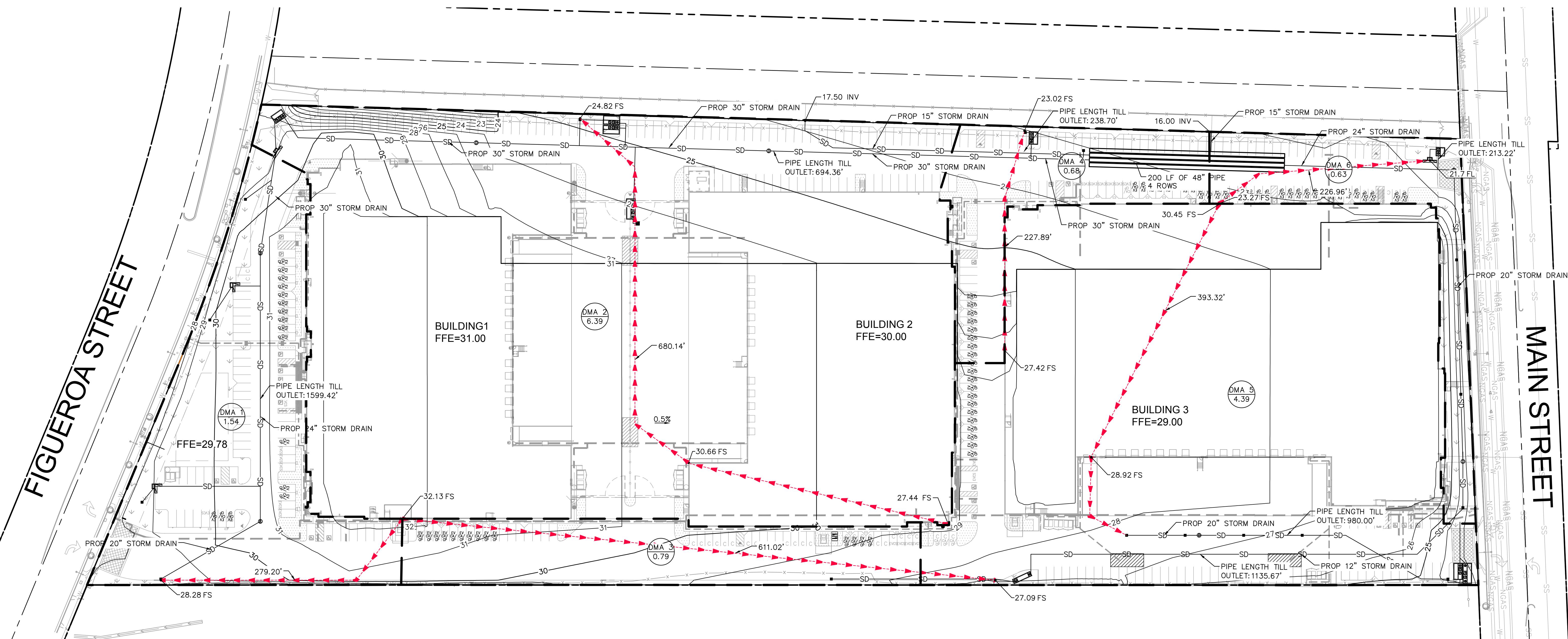
ACREAGE

PROPOSED DETENTION BASIN

PROPOSED MODULAR WETLAND UNIT

HYDROLOGY SUMMARY TABLE

SUBAREA	AREA (AC)	%IMP	TC	PEAK Q(CFS)
1	1.54	0.90	17	2.80
2	6.39	0.90	13	13.24
3	0.79	0.90	16	1.48
4	0.68	0.90	6	2.03
5	4.39	0.90	13	9.10
6	0.63	0.90	6	1.88
WHOLE SITE	14.42	0.90	17	26.24

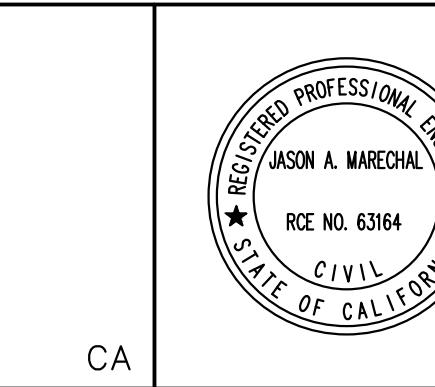
Know what's below.  
Call 811 before you dig.

No.	REVISIONS	DATE	BY

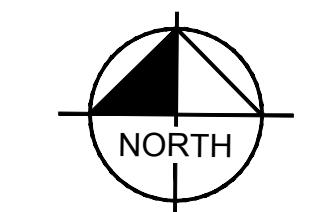
**Kimley»Horn**  
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765 THE CITY DRIVE, SUITE 200, ORANGE, CA 92868  
PHONE: 714-939-1030 FAX: 714-938-9488  
WWW.KIMLEY-HORN.COM

KHA PROJECT  
094904002  
DATE  
9/7/2022  
SCALE AS SHOWN  
DESIGNED BY ML  
DRAWN BY CA  
CHECKED BY JM  
CARSON

FIGUEROA ST. BUSINESS PARK  
PREPARED FOR  
XEBEC BUILDING COMPANY, INC.



PROPOSED DRAINAGE MAP

GRAPHIC SCALE IN FEET  
0 25 50 100

SHEET NUMBER

## APPENDIX E

### HYDROCALC CALCULATIONS

# Peak Flow Hydrologic Analysis

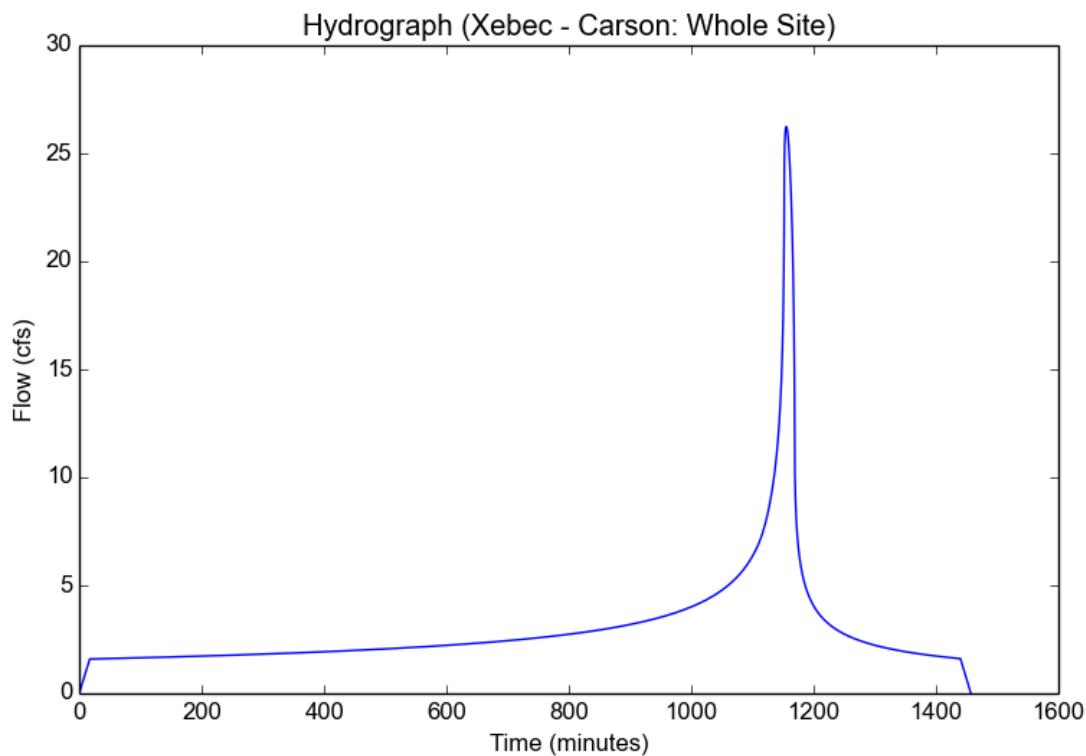
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Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Xebec - Carson
Subarea ID	Whole Site
Area (ac)	14.42
Flow Path Length (ft)	1878.62
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	2.0375
Undeveloped Runoff Coefficient (Cu)	0.8302
Developed Runoff Coefficient (Cd)	0.893
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	26.2375
Burned Peak Flow Rate (cfs)	26.2375
24-Hr Clear Runoff Volume (ac-ft)	5.9936
24-Hr Clear Runoff Volume (cu-ft)	261079.5846



# Peak Flow Hydrologic Analysis

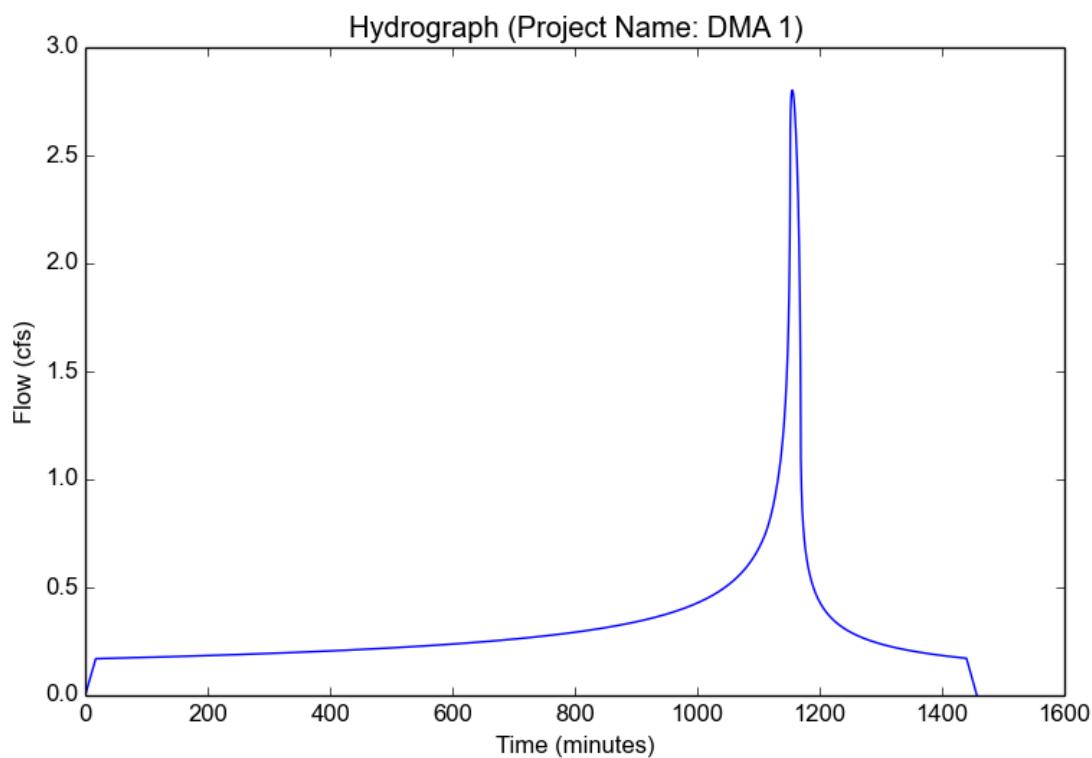
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Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Project Name
Subarea ID	DMA 1
Area (ac)	1.54
Flow Path Length (ft)	1878.62
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	2.0375
Undeveloped Runoff Coefficient (Cu)	0.8302
Developed Runoff Coefficient (Cd)	0.893
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	2.8021
Burned Peak Flow Rate (cfs)	2.8021
24-Hr Clear Runoff Volume (ac-ft)	0.6401
24-Hr Clear Runoff Volume (cu-ft)	27882.2857



# Peak Flow Hydrologic Analysis

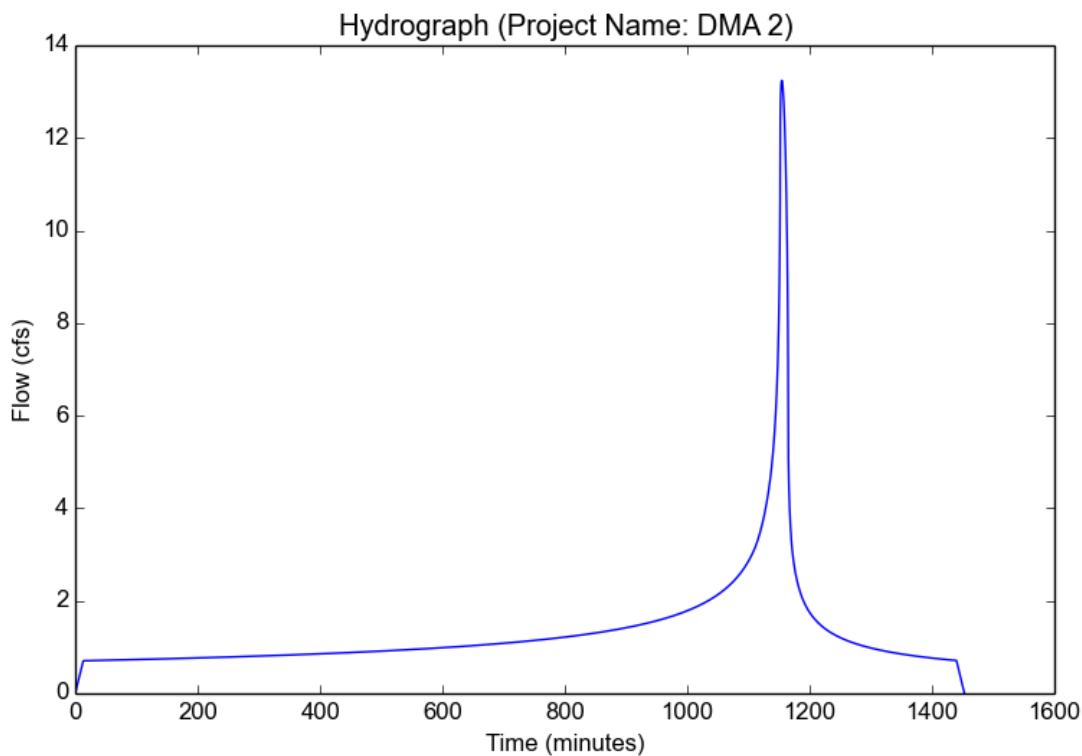
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## Input Parameters

Project Name	Project Name
Subarea ID	DMA 2
Area (ac)	6.39
Flow Path Length (ft)	1374.5
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	2.3113
Undeveloped Runoff Coefficient (Cu)	0.8661
Developed Runoff Coefficient (Cd)	0.8966
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	13.2422
Burned Peak Flow Rate (cfs)	13.2422
24-Hr Clear Runoff Volume (ac-ft)	2.6562
24-Hr Clear Runoff Volume (cu-ft)	115702.4051



# Peak Flow Hydrologic Analysis

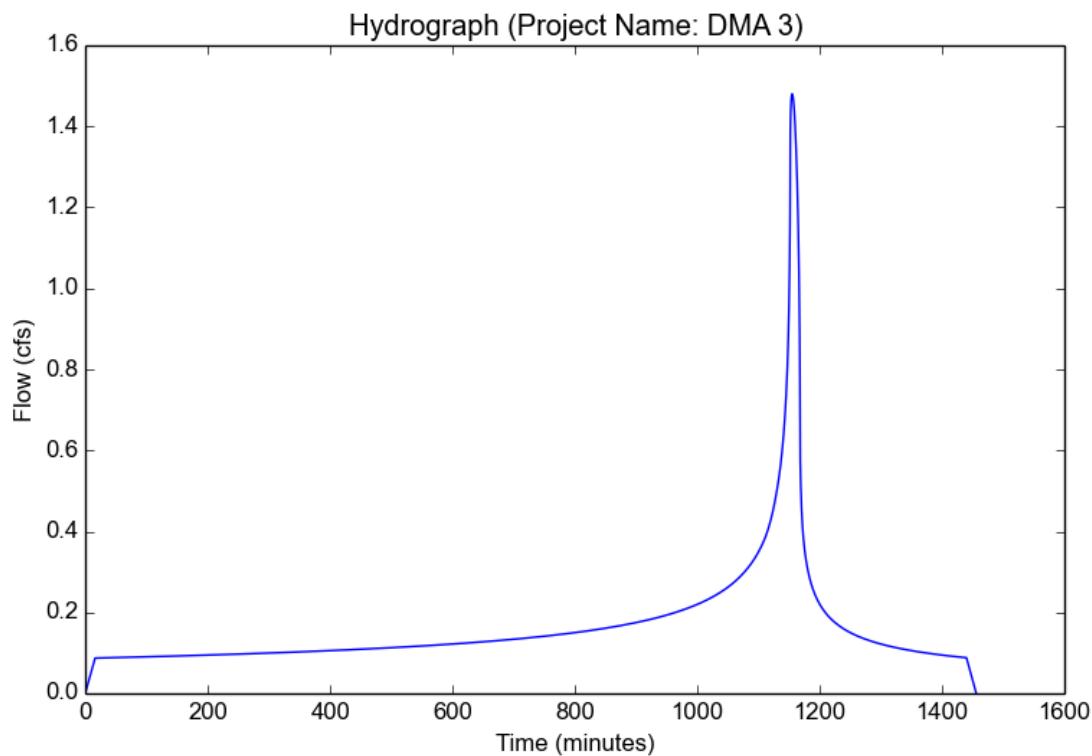
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## Input Parameters

Project Name	Project Name
Subarea ID	DMA 3
Area (ac)	0.79
Flow Path Length (ft)	1746.69
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	2.0964
Undeveloped Runoff Coefficient (Cu)	0.8379
Developed Runoff Coefficient (Cd)	0.8938
Time of Concentration (min)	16.0
Clear Peak Flow Rate (cfs)	1.4802
Burned Peak Flow Rate (cfs)	1.4802
24-Hr Clear Runoff Volume (ac-ft)	0.3284
24-Hr Clear Runoff Volume (cu-ft)	14303.615



# Peak Flow Hydrologic Analysis

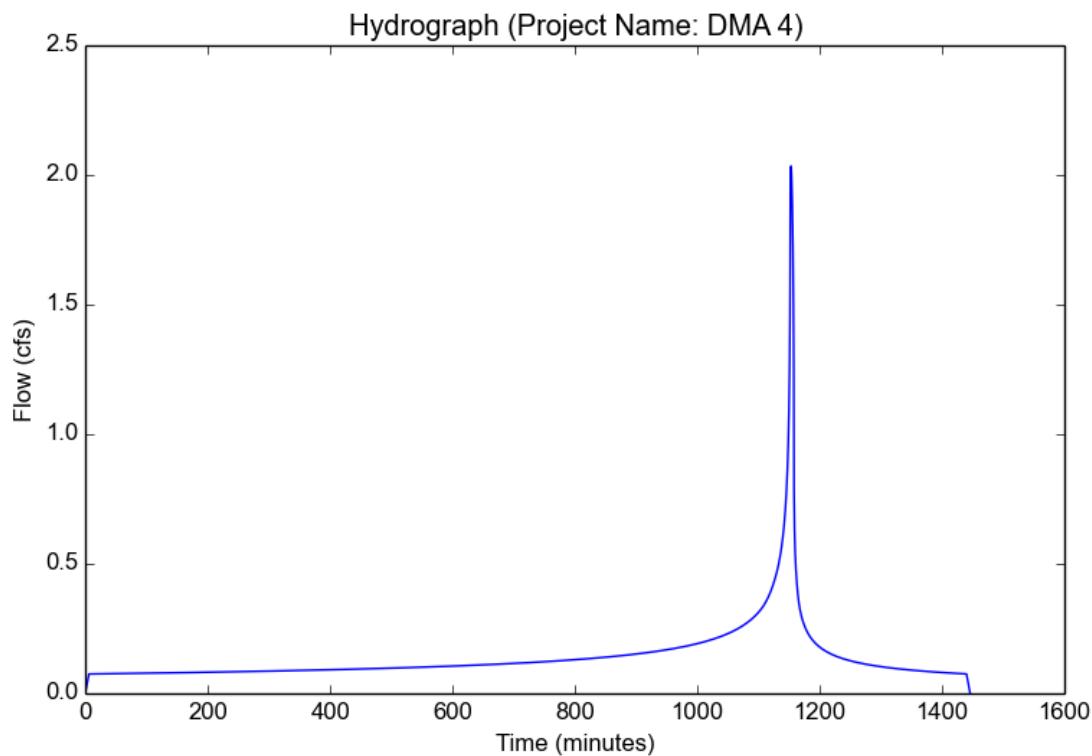
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## Input Parameters

Project Name	Project Name
Subarea ID	DMA 4
Area (ac)	0.68
Flow Path Length (ft)	466.59
Flow Path Slope (vft/hft)	0.025
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	3.3241
Undeveloped Runoff Coefficient (Cu)	0.9
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	2.0344
Burned Peak Flow Rate (cfs)	2.0344
24-Hr Clear Runoff Volume (ac-ft)	0.2826
24-Hr Clear Runoff Volume (cu-ft)	12310.6905



# Peak Flow Hydrologic Analysis

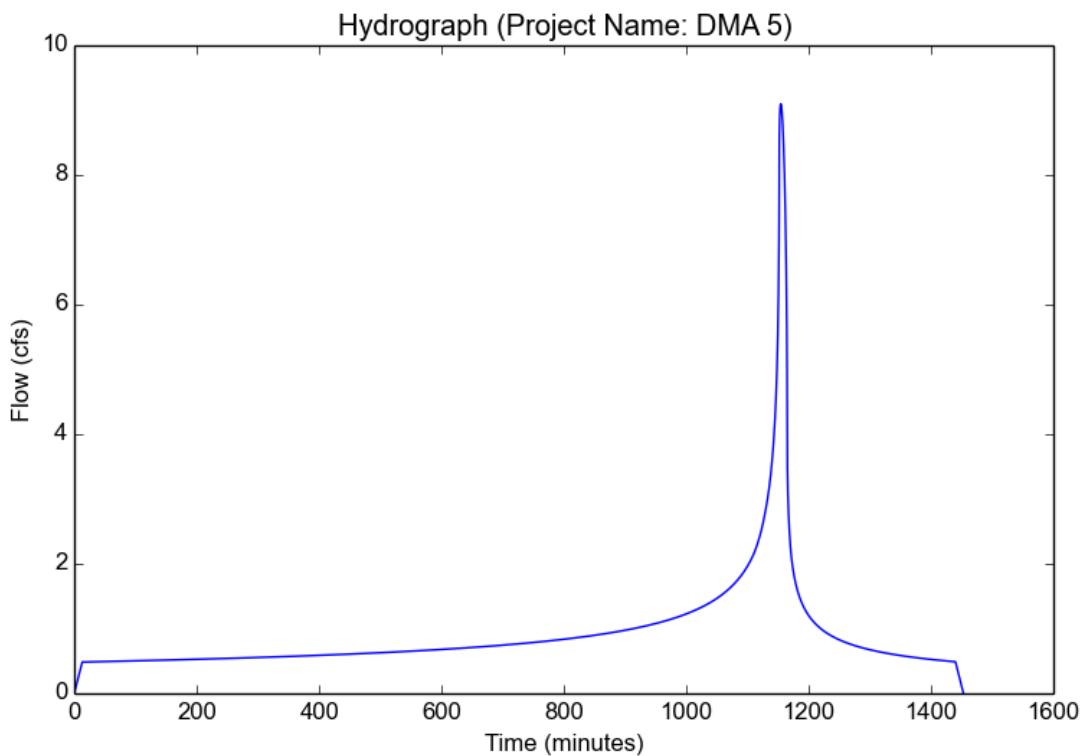
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Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Project Name
Subarea ID	DMA 5
Area (ac)	4.39
Flow Path Length (ft)	1373.32
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	2.3113
Undeveloped Runoff Coefficient (Cu)	0.8661
Developed Runoff Coefficient (Cd)	0.8966
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	9.0975
Burned Peak Flow Rate (cfs)	9.0975
24-Hr Clear Runoff Volume (ac-ft)	1.8248
24-Hr Clear Runoff Volume (cu-ft)	79488.8198



# Peak Flow Hydrologic Analysis

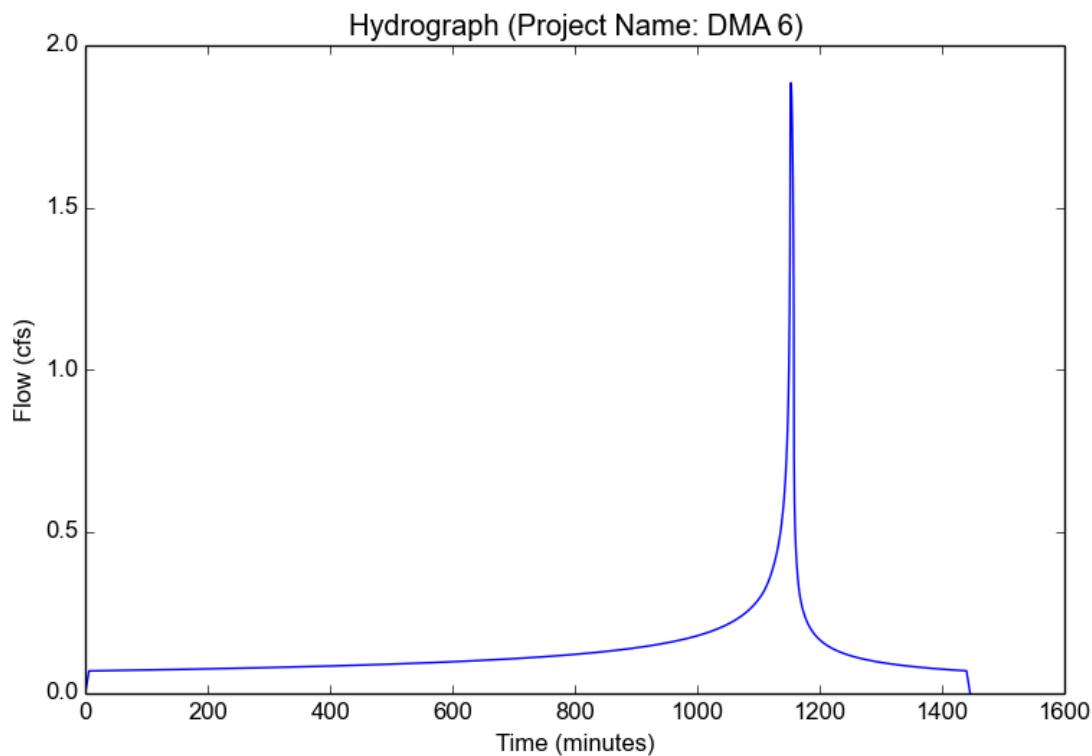
File location: K:/ORA\_LDEV/094904002 - XEBEC Carson/Reports/SUSMP/Calculations/Hydro Calc/50-yr/output/Xebec - 50yr - individual.pdf  
Version: HydroCalc 1.0.3

## Input Parameters

Project Name	Project Name
Subarea ID	DMA 6
Area (ac)	0.63
Flow Path Length (ft)	440.18
Flow Path Slope (vft/hft)	0.019
50-yr Rainfall Depth (in)	6.07
Percent Impervious	0.9
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	6.07
Peak Intensity (in/hr)	3.3241
Undeveloped Runoff Coefficient (Cu)	0.9
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	1.8848
Burned Peak Flow Rate (cfs)	1.8848
24-Hr Clear Runoff Volume (ac-ft)	0.2618
24-Hr Clear Runoff Volume (cu-ft)	11405.4927



## APPENDIX F

### HYDRAULIC CALCULATIONS

## **Figueroa Business Center Detention Calculations**

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### Project Summary

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Title                    Figueroa Business  
                          Center Detention  
                          Calculations

Engineer

Company              kimley-Horn

Date                    8/3/2021

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### Notes

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## **Figueroa Business Center Detention Calculations**

Subsection: User Notifications

User Notifications?

No user  
notifications  
generated.

## **Figueroa Business Center Detention Calculations**

Subsection: Master Network Summary

### **Catchments Summary**

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)
CM-1	Base	0	5.994	1,155.400	26.24

### **Node Summary**

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)
O-3	Base	0	5.965	1,164.000	21.60

### **Pond Summary**

Label	Scenario	Return Event (years)	Hydrograph Volume (ac-ft)	Time to Peak (min)	Peak Flow (ft³/s)	Maximum Water Surface Elevation (ft)	Maximum Pond Storage (ac-ft)
PO-3 (IN)	Base	0	5.977	1,155.000	26.23	(N/A)	(N/A)
PO-3 (OUT)	Base	0	5.965	1,164.000	21.60	103.97	0.230

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

Peak Discharge	26.24 ft <sup>3</sup> /s
Time to Peak	1,155.400 min
Hydrograph Volume	5.994 ac-ft

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
0.000	0.00	0.02	0.04	0.06	0.07
1.000	0.09	0.11	0.13	0.15	0.17
2.000	0.19	0.21	0.22	0.24	0.26
3.000	0.28	0.30	0.32	0.34	0.36
4.000	0.37	0.39	0.41	0.43	0.45
5.000	0.47	0.49	0.51	0.52	0.54
6.000	0.56	0.58	0.60	0.62	0.64
7.000	0.65	0.67	0.69	0.71	0.73
8.000	0.75	0.77	0.79	0.80	0.82
9.000	0.84	0.86	0.88	0.90	0.92
10.000	0.94	0.95	0.97	0.99	1.01
11.000	1.03	1.05	1.07	1.09	1.10
12.000	1.12	1.14	1.16	1.18	1.20
13.000	1.22	1.24	1.25	1.27	1.29
14.000	1.31	1.33	1.35	1.37	1.38
15.000	1.40	1.42	1.44	1.46	1.48
16.000	1.50	1.52	1.53	1.55	1.57
17.000	1.59	1.59	1.59	1.59	1.59
18.000	1.59	1.59	1.59	1.59	1.59
19.000	1.59	1.59	1.59	1.59	1.59
20.000	1.59	1.59	1.59	1.59	1.59
21.000	1.59	1.59	1.59	1.59	1.59
22.000	1.59	1.59	1.59	1.59	1.59
23.000	1.59	1.59	1.59	1.59	1.60
24.000	1.60	1.60	1.60	1.60	1.60
25.000	1.60	1.60	1.60	1.60	1.60
26.000	1.60	1.60	1.60	1.60	1.60
27.000	1.60	1.60	1.60	1.60	1.60
28.000	1.60	1.60	1.60	1.60	1.60
29.000	1.60	1.60	1.60	1.60	1.60
30.000	1.60	1.60	1.60	1.60	1.60
31.000	1.60	1.60	1.60	1.60	1.60
32.000	1.60	1.60	1.60	1.60	1.60
33.000	1.60	1.60	1.60	1.60	1.60
34.000	1.60	1.60	1.60	1.60	1.60
35.000	1.60	1.60	1.60	1.60	1.60
36.000	1.60	1.60	1.60	1.60	1.60

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
37.000	1.60	1.60	1.60	1.60	1.60
38.000	1.60	1.60	1.60	1.60	1.61
39.000	1.61	1.61	1.61	1.61	1.61
40.000	1.61	1.61	1.61	1.61	1.61
41.000	1.61	1.61	1.61	1.61	1.61
42.000	1.61	1.61	1.61	1.61	1.61
43.000	1.61	1.61	1.61	1.61	1.61
44.000	1.61	1.61	1.61	1.61	1.61
45.000	1.61	1.61	1.61	1.61	1.61
46.000	1.61	1.61	1.61	1.61	1.61
47.000	1.61	1.61	1.61	1.61	1.61
48.000	1.61	1.61	1.61	1.61	1.61
49.000	1.61	1.61	1.61	1.61	1.61
50.000	1.61	1.61	1.61	1.61	1.61
51.000	1.61	1.61	1.61	1.61	1.61
52.000	1.61	1.61	1.61	1.61	1.61
53.000	1.61	1.61	1.61	1.62	1.62
54.000	1.62	1.62	1.62	1.62	1.62
55.000	1.62	1.62	1.62	1.62	1.62
56.000	1.62	1.62	1.62	1.62	1.62
57.000	1.62	1.62	1.62	1.62	1.62
58.000	1.62	1.62	1.62	1.62	1.62
59.000	1.62	1.62	1.62	1.62	1.62
60.000	1.62	1.62	1.62	1.62	1.62
61.000	1.62	1.62	1.62	1.62	1.62
62.000	1.62	1.62	1.62	1.62	1.62
63.000	1.62	1.62	1.62	1.62	1.62
64.000	1.62	1.62	1.62	1.62	1.62
65.000	1.62	1.62	1.62	1.62	1.62
66.000	1.62	1.62	1.62	1.62	1.62
67.000	1.62	1.62	1.62	1.62	1.62
68.000	1.63	1.63	1.63	1.63	1.63
69.000	1.63	1.63	1.63	1.63	1.63
70.000	1.63	1.63	1.63	1.63	1.63
71.000	1.63	1.63	1.63	1.63	1.63
72.000	1.63	1.63	1.63	1.63	1.63
73.000	1.63	1.63	1.63	1.63	1.63
74.000	1.63	1.63	1.63	1.63	1.63
75.000	1.63	1.63	1.63	1.63	1.63
76.000	1.63	1.63	1.63	1.63	1.63
77.000	1.63	1.63	1.63	1.63	1.63
78.000	1.63	1.63	1.63	1.63	1.63

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
79.000	1.63	1.63	1.63	1.63	1.63
80.000	1.63	1.63	1.63	1.63	1.63
81.000	1.63	1.63	1.63	1.63	1.63
82.000	1.63	1.64	1.64	1.64	1.64
83.000	1.64	1.64	1.64	1.64	1.64
84.000	1.64	1.64	1.64	1.64	1.64
85.000	1.64	1.64	1.64	1.64	1.64
86.000	1.64	1.64	1.64	1.64	1.64
87.000	1.64	1.64	1.64	1.64	1.64
88.000	1.64	1.64	1.64	1.64	1.64
89.000	1.64	1.64	1.64	1.64	1.64
90.000	1.64	1.64	1.64	1.64	1.64
91.000	1.64	1.64	1.64	1.64	1.64
92.000	1.64	1.64	1.64	1.64	1.64
93.000	1.64	1.64	1.64	1.64	1.64
94.000	1.64	1.64	1.64	1.64	1.64
95.000	1.64	1.64	1.64	1.64	1.64
96.000	1.64	1.65	1.65	1.65	1.65
97.000	1.65	1.65	1.65	1.65	1.65
98.000	1.65	1.65	1.65	1.65	1.65
99.000	1.65	1.65	1.65	1.65	1.65
100.000	1.65	1.65	1.65	1.65	1.65
101.000	1.65	1.65	1.65	1.65	1.65
102.000	1.65	1.65	1.65	1.65	1.65
103.000	1.65	1.65	1.65	1.65	1.65
104.000	1.65	1.65	1.65	1.65	1.65
105.000	1.65	1.65	1.65	1.65	1.65
106.000	1.65	1.65	1.65	1.65	1.65
107.000	1.65	1.65	1.65	1.65	1.65
108.000	1.65	1.65	1.65	1.65	1.65
109.000	1.65	1.65	1.65	1.65	1.66
110.000	1.66	1.66	1.66	1.66	1.66
111.000	1.66	1.66	1.66	1.66	1.66
112.000	1.66	1.66	1.66	1.66	1.66
113.000	1.66	1.66	1.66	1.66	1.66
114.000	1.66	1.66	1.66	1.66	1.66
115.000	1.66	1.66	1.66	1.66	1.66
116.000	1.66	1.66	1.66	1.66	1.66
117.000	1.66	1.66	1.66	1.66	1.66
118.000	1.66	1.66	1.66	1.66	1.66
119.000	1.66	1.66	1.66	1.66	1.66
120.000	1.66	1.66	1.66	1.66	1.66

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
121.000	1.66	1.66	1.66	1.66	1.66
122.000	1.66	1.66	1.66	1.66	1.66
123.000	1.66	1.67	1.67	1.67	1.67
124.000	1.67	1.67	1.67	1.67	1.67
125.000	1.67	1.67	1.67	1.67	1.67
126.000	1.67	1.67	1.67	1.67	1.67
127.000	1.67	1.67	1.67	1.67	1.67
128.000	1.67	1.67	1.67	1.67	1.67
129.000	1.67	1.67	1.67	1.67	1.67
130.000	1.67	1.67	1.67	1.67	1.67
131.000	1.67	1.67	1.67	1.67	1.67
132.000	1.67	1.67	1.67	1.67	1.67
133.000	1.67	1.67	1.67	1.67	1.67
134.000	1.67	1.67	1.67	1.67	1.67
135.000	1.67	1.67	1.67	1.67	1.67
136.000	1.67	1.68	1.68	1.68	1.68
137.000	1.68	1.68	1.68	1.68	1.68
138.000	1.68	1.68	1.68	1.68	1.68
139.000	1.68	1.68	1.68	1.68	1.68
140.000	1.68	1.68	1.68	1.68	1.68
141.000	1.68	1.68	1.68	1.68	1.68
142.000	1.68	1.68	1.68	1.68	1.68
143.000	1.68	1.68	1.68	1.68	1.68
144.000	1.68	1.68	1.68	1.68	1.68
145.000	1.68	1.68	1.68	1.68	1.68
146.000	1.68	1.68	1.68	1.68	1.68
147.000	1.68	1.68	1.68	1.68	1.68
148.000	1.68	1.68	1.68	1.68	1.68
149.000	1.68	1.69	1.69	1.69	1.69
150.000	1.69	1.69	1.69	1.69	1.69
151.000	1.69	1.69	1.69	1.69	1.69
152.000	1.69	1.69	1.69	1.69	1.69
153.000	1.69	1.69	1.69	1.69	1.69
154.000	1.69	1.69	1.69	1.69	1.69
155.000	1.69	1.69	1.69	1.69	1.69
156.000	1.69	1.69	1.69	1.69	1.69
157.000	1.69	1.69	1.69	1.69	1.69
158.000	1.69	1.69	1.69	1.69	1.69
159.000	1.69	1.69	1.69	1.69	1.69
160.000	1.69	1.69	1.69	1.69	1.69
161.000	1.69	1.69	1.69	1.69	1.70
162.000	1.70	1.70	1.70	1.70	1.70

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
163.000	1.70	1.70	1.70	1.70	1.70
164.000	1.70	1.70	1.70	1.70	1.70
165.000	1.70	1.70	1.70	1.70	1.70
166.000	1.70	1.70	1.70	1.70	1.70
167.000	1.70	1.70	1.70	1.70	1.70
168.000	1.70	1.70	1.70	1.70	1.70
169.000	1.70	1.70	1.70	1.70	1.70
170.000	1.70	1.70	1.70	1.70	1.70
171.000	1.70	1.70	1.70	1.70	1.70
172.000	1.70	1.70	1.70	1.70	1.70
173.000	1.70	1.70	1.70	1.70	1.70
174.000	1.70	1.71	1.71	1.71	1.71
175.000	1.71	1.71	1.71	1.71	1.71
176.000	1.71	1.71	1.71	1.71	1.71
177.000	1.71	1.71	1.71	1.71	1.71
178.000	1.71	1.71	1.71	1.71	1.71
179.000	1.71	1.71	1.71	1.71	1.71
180.000	1.71	1.71	1.71	1.71	1.71
181.000	1.71	1.71	1.71	1.71	1.71
182.000	1.71	1.71	1.71	1.71	1.71
183.000	1.71	1.71	1.71	1.71	1.71
184.000	1.71	1.71	1.71	1.71	1.71
185.000	1.71	1.71	1.71	1.71	1.71
186.000	1.71	1.71	1.72	1.72	1.72
187.000	1.72	1.72	1.72	1.72	1.72
188.000	1.72	1.72	1.72	1.72	1.72
189.000	1.72	1.72	1.72	1.72	1.72
190.000	1.72	1.72	1.72	1.72	1.72
191.000	1.72	1.72	1.72	1.72	1.72
192.000	1.72	1.72	1.72	1.72	1.72
193.000	1.72	1.72	1.72	1.72	1.72
194.000	1.72	1.72	1.72	1.72	1.72
195.000	1.72	1.72	1.72	1.72	1.72
196.000	1.72	1.72	1.72	1.72	1.72
197.000	1.72	1.72	1.72	1.72	1.72
198.000	1.72	1.72	1.73	1.73	1.73
199.000	1.73	1.73	1.73	1.73	1.73
200.000	1.73	1.73	1.73	1.73	1.73
201.000	1.73	1.73	1.73	1.73	1.73
202.000	1.73	1.73	1.73	1.73	1.73
203.000	1.73	1.73	1.73	1.73	1.73
204.000	1.73	1.73	1.73	1.73	1.73

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
205.000	1.73	1.73	1.73	1.73	1.73
206.000	1.73	1.73	1.73	1.73	1.73
207.000	1.73	1.73	1.73	1.73	1.73
208.000	1.73	1.73	1.73	1.73	1.73
209.000	1.73	1.73	1.73	1.73	1.73
210.000	1.73	1.74	1.74	1.74	1.74
211.000	1.74	1.74	1.74	1.74	1.74
212.000	1.74	1.74	1.74	1.74	1.74
213.000	1.74	1.74	1.74	1.74	1.74
214.000	1.74	1.74	1.74	1.74	1.74
215.000	1.74	1.74	1.74	1.74	1.74
216.000	1.74	1.74	1.74	1.74	1.74
217.000	1.74	1.74	1.74	1.74	1.74
218.000	1.74	1.74	1.74	1.74	1.74
219.000	1.74	1.74	1.74	1.74	1.74
220.000	1.74	1.74	1.74	1.74	1.74
221.000	1.74	1.74	1.74	1.74	1.75
222.000	1.75	1.75	1.75	1.75	1.75
223.000	1.75	1.75	1.75	1.75	1.75
224.000	1.75	1.75	1.75	1.75	1.75
225.000	1.75	1.75	1.75	1.75	1.75
226.000	1.75	1.75	1.75	1.75	1.75
227.000	1.75	1.75	1.75	1.75	1.75
228.000	1.75	1.75	1.75	1.75	1.75
229.000	1.75	1.75	1.75	1.75	1.75
230.000	1.75	1.75	1.75	1.75	1.75
231.000	1.75	1.75	1.75	1.75	1.75
232.000	1.75	1.75	1.75	1.75	1.75
233.000	1.76	1.76	1.76	1.76	1.76
234.000	1.76	1.76	1.76	1.76	1.76
235.000	1.76	1.76	1.76	1.76	1.76
236.000	1.76	1.76	1.76	1.76	1.76
237.000	1.76	1.76	1.76	1.76	1.76
238.000	1.76	1.76	1.76	1.76	1.76
239.000	1.76	1.76	1.76	1.76	1.76
240.000	1.76	1.76	1.76	1.76	1.76
241.000	1.76	1.76	1.76	1.76	1.76
242.000	1.76	1.76	1.76	1.76	1.76
243.000	1.76	1.76	1.76	1.76	1.76
244.000	1.76	1.77	1.77	1.77	1.77
245.000	1.77	1.77	1.77	1.77	1.77
246.000	1.77	1.77	1.77	1.77	1.77

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
247.000	1.77	1.77	1.77	1.77	1.77
248.000	1.77	1.77	1.77	1.77	1.77
249.000	1.77	1.77	1.77	1.77	1.77
250.000	1.77	1.77	1.77	1.77	1.77
251.000	1.77	1.77	1.77	1.77	1.77
252.000	1.77	1.77	1.77	1.77	1.77
253.000	1.77	1.77	1.77	1.77	1.77
254.000	1.77	1.77	1.77	1.77	1.77
255.000	1.77	1.78	1.78	1.78	1.78
256.000	1.78	1.78	1.78	1.78	1.78
257.000	1.78	1.78	1.78	1.78	1.78
258.000	1.78	1.78	1.78	1.78	1.78
259.000	1.78	1.78	1.78	1.78	1.78
260.000	1.78	1.78	1.78	1.78	1.78
261.000	1.78	1.78	1.78	1.78	1.78
262.000	1.78	1.78	1.78	1.78	1.78
263.000	1.78	1.78	1.78	1.78	1.78
264.000	1.78	1.78	1.78	1.78	1.78
265.000	1.78	1.78	1.78	1.78	1.78
266.000	1.79	1.79	1.79	1.79	1.79
267.000	1.79	1.79	1.79	1.79	1.79
268.000	1.79	1.79	1.79	1.79	1.79
269.000	1.79	1.79	1.79	1.79	1.79
270.000	1.79	1.79	1.79	1.79	1.79
271.000	1.79	1.79	1.79	1.79	1.79
272.000	1.79	1.79	1.79	1.79	1.79
273.000	1.79	1.79	1.79	1.79	1.79
274.000	1.79	1.79	1.79	1.79	1.79
275.000	1.79	1.79	1.79	1.79	1.79
276.000	1.79	1.79	1.79	1.80	1.80
277.000	1.80	1.80	1.80	1.80	1.80
278.000	1.80	1.80	1.80	1.80	1.80
279.000	1.80	1.80	1.80	1.80	1.80
280.000	1.80	1.80	1.80	1.80	1.80
281.000	1.80	1.80	1.80	1.80	1.80
282.000	1.80	1.80	1.80	1.80	1.80
283.000	1.80	1.80	1.80	1.80	1.80
284.000	1.80	1.80	1.80	1.80	1.80
285.000	1.80	1.80	1.80	1.80	1.80
286.000	1.80	1.80	1.80	1.80	1.81
287.000	1.81	1.81	1.81	1.81	1.81
288.000	1.81	1.81	1.81	1.81	1.81

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
289.000	1.81	1.81	1.81	1.81	1.81
290.000	1.81	1.81	1.81	1.81	1.81
291.000	1.81	1.81	1.81	1.81	1.81
292.000	1.81	1.81	1.81	1.81	1.81
293.000	1.81	1.81	1.81	1.81	1.81
294.000	1.81	1.81	1.81	1.81	1.81
295.000	1.81	1.81	1.81	1.81	1.81
296.000	1.81	1.81	1.81	1.81	1.81
297.000	1.82	1.82	1.82	1.82	1.82
298.000	1.82	1.82	1.82	1.82	1.82
299.000	1.82	1.82	1.82	1.82	1.82
300.000	1.82	1.82	1.82	1.82	1.82
301.000	1.82	1.82	1.82	1.82	1.82
302.000	1.82	1.82	1.82	1.82	1.82
303.000	1.82	1.82	1.82	1.82	1.82
304.000	1.82	1.82	1.82	1.82	1.82
305.000	1.82	1.82	1.82	1.82	1.82
306.000	1.82	1.82	1.82	1.82	1.82
307.000	1.82	1.83	1.83	1.83	1.83
308.000	1.83	1.83	1.83	1.83	1.83
309.000	1.83	1.83	1.83	1.83	1.83
310.000	1.83	1.83	1.83	1.83	1.83
311.000	1.83	1.83	1.83	1.83	1.83
312.000	1.83	1.83	1.83	1.83	1.83
313.000	1.83	1.83	1.83	1.83	1.83
314.000	1.83	1.83	1.83	1.83	1.83
315.000	1.83	1.83	1.83	1.83	1.83
316.000	1.83	1.83	1.83	1.83	1.83
317.000	1.84	1.84	1.84	1.84	1.84
318.000	1.84	1.84	1.84	1.84	1.84
319.000	1.84	1.84	1.84	1.84	1.84
320.000	1.84	1.84	1.84	1.84	1.84
321.000	1.84	1.84	1.84	1.84	1.84
322.000	1.84	1.84	1.84	1.84	1.84
323.000	1.84	1.84	1.84	1.84	1.84
324.000	1.84	1.84	1.84	1.84	1.84
325.000	1.84	1.84	1.84	1.84	1.84
326.000	1.84	1.84	1.84	1.85	1.85
327.000	1.85	1.85	1.85	1.85	1.85
328.000	1.85	1.85	1.85	1.85	1.85
329.000	1.85	1.85	1.85	1.85	1.85
330.000	1.85	1.85	1.85	1.85	1.85

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
331.000	1.85	1.85	1.85	1.85	1.85
332.000	1.85	1.85	1.85	1.85	1.85
333.000	1.85	1.85	1.85	1.85	1.85
334.000	1.85	1.85	1.85	1.85	1.85
335.000	1.85	1.85	1.85	1.85	1.85
336.000	1.85	1.86	1.86	1.86	1.86
337.000	1.86	1.86	1.86	1.86	1.86
338.000	1.86	1.86	1.86	1.86	1.86
339.000	1.86	1.86	1.86	1.86	1.86
340.000	1.86	1.86	1.86	1.86	1.86
341.000	1.86	1.86	1.86	1.86	1.86
342.000	1.86	1.86	1.86	1.86	1.86
343.000	1.86	1.86	1.86	1.86	1.86
344.000	1.86	1.86	1.86	1.86	1.86
345.000	1.86	1.86	1.86	1.87	1.87
346.000	1.87	1.87	1.87	1.87	1.87
347.000	1.87	1.87	1.87	1.87	1.87
348.000	1.87	1.87	1.87	1.87	1.87
349.000	1.87	1.87	1.87	1.87	1.87
350.000	1.87	1.87	1.87	1.87	1.87
351.000	1.87	1.87	1.87	1.87	1.87
352.000	1.87	1.87	1.87	1.87	1.87
353.000	1.87	1.87	1.87	1.87	1.87
354.000	1.87	1.87	1.87	1.87	1.88
355.000	1.88	1.88	1.88	1.88	1.88
356.000	1.88	1.88	1.88	1.88	1.88
357.000	1.88	1.88	1.88	1.88	1.88
358.000	1.88	1.88	1.88	1.88	1.88
359.000	1.88	1.88	1.88	1.88	1.88
360.000	1.88	1.88	1.88	1.88	1.88
361.000	1.88	1.88	1.88	1.88	1.88
362.000	1.88	1.88	1.88	1.88	1.88
363.000	1.88	1.88	1.88	1.88	1.89
364.000	1.89	1.89	1.89	1.89	1.89
365.000	1.89	1.89	1.89	1.89	1.89
366.000	1.89	1.89	1.89	1.89	1.89
367.000	1.89	1.89	1.89	1.89	1.89
368.000	1.89	1.89	1.89	1.89	1.89
369.000	1.89	1.89	1.89	1.89	1.89
370.000	1.89	1.89	1.89	1.89	1.89
371.000	1.89	1.89	1.89	1.89	1.89
372.000	1.89	1.89	1.89	1.89	1.90

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
373.000	1.90	1.90	1.90	1.90	1.90
374.000	1.90	1.90	1.90	1.90	1.90
375.000	1.90	1.90	1.90	1.90	1.90
376.000	1.90	1.90	1.90	1.90	1.90
377.000	1.90	1.90	1.90	1.90	1.90
378.000	1.90	1.90	1.90	1.90	1.90
379.000	1.90	1.90	1.90	1.90	1.90
380.000	1.90	1.90	1.90	1.90	1.90
381.000	1.90	1.90	1.90	1.91	1.91
382.000	1.91	1.91	1.91	1.91	1.91
383.000	1.91	1.91	1.91	1.91	1.91
384.000	1.91	1.91	1.91	1.91	1.91
385.000	1.91	1.91	1.91	1.91	1.91
386.000	1.91	1.91	1.91	1.91	1.91
387.000	1.91	1.91	1.91	1.91	1.91
388.000	1.91	1.91	1.91	1.91	1.91
389.000	1.91	1.91	1.91	1.91	1.91
390.000	1.91	1.92	1.92	1.92	1.92
391.000	1.92	1.92	1.92	1.92	1.92
392.000	1.92	1.92	1.92	1.92	1.92
393.000	1.92	1.92	1.92	1.92	1.92
394.000	1.92	1.92	1.92	1.92	1.92
395.000	1.92	1.92	1.92	1.92	1.92
396.000	1.92	1.92	1.92	1.92	1.92
397.000	1.92	1.92	1.92	1.92	1.92
398.000	1.92	1.92	1.92	1.92	1.93
399.000	1.93	1.93	1.93	1.93	1.93
400.000	1.93	1.93	1.93	1.93	1.93
401.000	1.93	1.93	1.93	1.93	1.93
402.000	1.93	1.93	1.93	1.93	1.93
403.000	1.93	1.93	1.93	1.93	1.93
404.000	1.93	1.93	1.93	1.93	1.93
405.000	1.93	1.93	1.93	1.93	1.93
406.000	1.93	1.93	1.93	1.93	1.93
407.000	1.94	1.94	1.94	1.94	1.94
408.000	1.94	1.94	1.94	1.94	1.94
409.000	1.94	1.94	1.94	1.94	1.94
410.000	1.94	1.94	1.94	1.94	1.94
411.000	1.94	1.94	1.94	1.94	1.94
412.000	1.94	1.94	1.94	1.94	1.94
413.000	1.94	1.94	1.94	1.94	1.94
414.000	1.94	1.94	1.94	1.94	1.94

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
415.000	1.94	1.95	1.95	1.95	1.95
416.000	1.95	1.95	1.95	1.95	1.95
417.000	1.95	1.95	1.95	1.95	1.95
418.000	1.95	1.95	1.95	1.95	1.95
419.000	1.95	1.95	1.95	1.95	1.95
420.000	1.95	1.95	1.95	1.95	1.95
421.000	1.95	1.95	1.95	1.95	1.95
422.000	1.95	1.95	1.95	1.95	1.95
423.000	1.95	1.95	1.96	1.96	1.96
424.000	1.96	1.96	1.96	1.96	1.96
425.000	1.96	1.96	1.96	1.96	1.96
426.000	1.96	1.96	1.96	1.96	1.96
427.000	1.96	1.96	1.96	1.96	1.96
428.000	1.96	1.96	1.96	1.96	1.96
429.000	1.96	1.96	1.96	1.96	1.96
430.000	1.96	1.96	1.96	1.96	1.96
431.000	1.96	1.96	1.97	1.97	1.97
432.000	1.97	1.97	1.97	1.97	1.97
433.000	1.97	1.97	1.97	1.97	1.97
434.000	1.97	1.97	1.97	1.97	1.97
435.000	1.97	1.97	1.97	1.97	1.97
436.000	1.97	1.97	1.97	1.97	1.97
437.000	1.97	1.97	1.97	1.97	1.97
438.000	1.97	1.97	1.97	1.97	1.97
439.000	1.97	1.98	1.98	1.98	1.98
440.000	1.98	1.98	1.98	1.98	1.98
441.000	1.98	1.98	1.98	1.98	1.98
442.000	1.98	1.98	1.98	1.98	1.98
443.000	1.98	1.98	1.98	1.98	1.98
444.000	1.98	1.98	1.98	1.98	1.98
445.000	1.98	1.98	1.98	1.98	1.98
446.000	1.98	1.98	1.98	1.98	1.99
447.000	1.99	1.99	1.99	1.99	1.99
448.000	1.99	1.99	1.99	1.99	1.99
449.000	1.99	1.99	1.99	1.99	1.99
450.000	1.99	1.99	1.99	1.99	1.99
451.000	1.99	1.99	1.99	1.99	1.99
452.000	1.99	1.99	1.99	1.99	1.99
453.000	1.99	1.99	1.99	1.99	1.99
454.000	1.99	1.99	2.00	2.00	2.00
455.000	2.00	2.00	2.00	2.00	2.00
456.000	2.00	2.00	2.00	2.00	2.00

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
457.000	2.00	2.00	2.00	2.00	2.00
458.000	2.00	2.00	2.00	2.00	2.00
459.000	2.00	2.00	2.00	2.00	2.00
460.000	2.00	2.00	2.00	2.00	2.00
461.000	2.00	2.00	2.00	2.00	2.00
462.000	2.01	2.01	2.01	2.01	2.01
463.000	2.01	2.01	2.01	2.01	2.01
464.000	2.01	2.01	2.01	2.01	2.01
465.000	2.01	2.01	2.01	2.01	2.01
466.000	2.01	2.01	2.01	2.01	2.01
467.000	2.01	2.01	2.01	2.01	2.01
468.000	2.01	2.01	2.01	2.01	2.01
469.000	2.01	2.02	2.02	2.02	2.02
470.000	2.02	2.02	2.02	2.02	2.02
471.000	2.02	2.02	2.02	2.02	2.02
472.000	2.02	2.02	2.02	2.02	2.02
473.000	2.02	2.02	2.02	2.02	2.02
474.000	2.02	2.02	2.02	2.02	2.02
475.000	2.02	2.02	2.02	2.02	2.02
476.000	2.02	2.02	2.02	2.03	2.03
477.000	2.03	2.03	2.03	2.03	2.03
478.000	2.03	2.03	2.03	2.03	2.03
479.000	2.03	2.03	2.03	2.03	2.03
480.000	2.03	2.03	2.03	2.03	2.03
481.000	2.03	2.03	2.03	2.03	2.03
482.000	2.03	2.03	2.03	2.03	2.03
483.000	2.03	2.03	2.03	2.04	2.04
484.000	2.04	2.04	2.04	2.04	2.04
485.000	2.04	2.04	2.04	2.04	2.04
486.000	2.04	2.04	2.04	2.04	2.04
487.000	2.04	2.04	2.04	2.04	2.04
488.000	2.04	2.04	2.04	2.04	2.04
489.000	2.04	2.04	2.04	2.04	2.04
490.000	2.04	2.04	2.04	2.05	2.05
491.000	2.05	2.05	2.05	2.05	2.05
492.000	2.05	2.05	2.05	2.05	2.05
493.000	2.05	2.05	2.05	2.05	2.05
494.000	2.05	2.05	2.05	2.05	2.05
495.000	2.05	2.05	2.05	2.05	2.05
496.000	2.05	2.05	2.05	2.05	2.05
497.000	2.05	2.05	2.05	2.06	2.06
498.000	2.06	2.06	2.06	2.06	2.06

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
499.000	2.06	2.06	2.06	2.06	2.06
500.000	2.06	2.06	2.06	2.06	2.06
501.000	2.06	2.06	2.06	2.06	2.06
502.000	2.06	2.06	2.06	2.06	2.06
503.000	2.06	2.06	2.06	2.06	2.06
504.000	2.06	2.06	2.07	2.07	2.07
505.000	2.07	2.07	2.07	2.07	2.07
506.000	2.07	2.07	2.07	2.07	2.07
507.000	2.07	2.07	2.07	2.07	2.07
508.000	2.07	2.07	2.07	2.07	2.07
509.000	2.07	2.07	2.07	2.07	2.07
510.000	2.07	2.07	2.07	2.07	2.07
511.000	2.07	2.08	2.08	2.08	2.08
512.000	2.08	2.08	2.08	2.08	2.08
513.000	2.08	2.08	2.08	2.08	2.08
514.000	2.08	2.08	2.08	2.08	2.08
515.000	2.08	2.08	2.08	2.08	2.08
516.000	2.08	2.08	2.08	2.08	2.08
517.000	2.08	2.08	2.08	2.08	2.09
518.000	2.09	2.09	2.09	2.09	2.09
519.000	2.09	2.09	2.09	2.09	2.09
520.000	2.09	2.09	2.09	2.09	2.09
521.000	2.09	2.09	2.09	2.09	2.09
522.000	2.09	2.09	2.09	2.09	2.09
523.000	2.09	2.09	2.09	2.09	2.09
524.000	2.09	2.10	2.10	2.10	2.10
525.000	2.10	2.10	2.10	2.10	2.10
526.000	2.10	2.10	2.10	2.10	2.10
527.000	2.10	2.10	2.10	2.10	2.10
528.000	2.10	2.10	2.10	2.10	2.10
529.000	2.10	2.10	2.10	2.10	2.10
530.000	2.10	2.10	2.10	2.11	2.11
531.000	2.11	2.11	2.11	2.11	2.11
532.000	2.11	2.11	2.11	2.11	2.11
533.000	2.11	2.11	2.11	2.11	2.11
534.000	2.11	2.11	2.11	2.11	2.11
535.000	2.11	2.11	2.11	2.11	2.11
536.000	2.11	2.11	2.11	2.11	2.11
537.000	2.12	2.12	2.12	2.12	2.12
538.000	2.12	2.12	2.12	2.12	2.12
539.000	2.12	2.12	2.12	2.12	2.12
540.000	2.12	2.12	2.12	2.12	2.12

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
541.000	2.12	2.12	2.12	2.12	2.12
542.000	2.12	2.12	2.12	2.12	2.12
543.000	2.12	2.13	2.13	2.13	2.13
544.000	2.13	2.13	2.13	2.13	2.13
545.000	2.13	2.13	2.13	2.13	2.13
546.000	2.13	2.13	2.13	2.13	2.13
547.000	2.13	2.13	2.13	2.13	2.13
548.000	2.13	2.13	2.13	2.13	2.13
549.000	2.13	2.13	2.14	2.14	2.14
550.000	2.14	2.14	2.14	2.14	2.14
551.000	2.14	2.14	2.14	2.14	2.14
552.000	2.14	2.14	2.14	2.14	2.14
553.000	2.14	2.14	2.14	2.14	2.14
554.000	2.14	2.14	2.14	2.14	2.14
555.000	2.14	2.14	2.15	2.15	2.15
556.000	2.15	2.15	2.15	2.15	2.15
557.000	2.15	2.15	2.15	2.15	2.15
558.000	2.15	2.15	2.15	2.15	2.15
559.000	2.15	2.15	2.15	2.15	2.15
560.000	2.15	2.15	2.15	2.15	2.15
561.000	2.15	2.15	2.16	2.16	2.16
562.000	2.16	2.16	2.16	2.16	2.16
563.000	2.16	2.16	2.16	2.16	2.16
564.000	2.16	2.16	2.16	2.16	2.16
565.000	2.16	2.16	2.16	2.16	2.16
566.000	2.16	2.16	2.16	2.16	2.16
567.000	2.16	2.17	2.17	2.17	2.17
568.000	2.17	2.17	2.17	2.17	2.17
569.000	2.17	2.17	2.17	2.17	2.17
570.000	2.17	2.17	2.17	2.17	2.17
571.000	2.17	2.17	2.17	2.17	2.17
572.000	2.17	2.17	2.17	2.17	2.17
573.000	2.18	2.18	2.18	2.18	2.18
574.000	2.18	2.18	2.18	2.18	2.18
575.000	2.18	2.18	2.18	2.18	2.18
576.000	2.18	2.18	2.18	2.18	2.18
577.000	2.18	2.18	2.18	2.18	2.18
578.000	2.18	2.18	2.18	2.18	2.19
579.000	2.19	2.19	2.19	2.19	2.19
580.000	2.19	2.19	2.19	2.19	2.19
581.000	2.19	2.19	2.19	2.19	2.19
582.000	2.19	2.19	2.19	2.19	2.19

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
583.000	2.19	2.19	2.19	2.19	2.19
584.000	2.19	2.19	2.20	2.20	2.20
585.000	2.20	2.20	2.20	2.20	2.20
586.000	2.20	2.20	2.20	2.20	2.20
587.000	2.20	2.20	2.20	2.20	2.20
588.000	2.20	2.20	2.20	2.20	2.20
589.000	2.20	2.20	2.20	2.20	2.21
590.000	2.21	2.21	2.21	2.21	2.21
591.000	2.21	2.21	2.21	2.21	2.21
592.000	2.21	2.21	2.21	2.21	2.21
593.000	2.21	2.21	2.21	2.21	2.21
594.000	2.21	2.21	2.21	2.21	2.21
595.000	2.21	2.21	2.22	2.22	2.22
596.000	2.22	2.22	2.22	2.22	2.22
597.000	2.22	2.22	2.22	2.22	2.22
598.000	2.22	2.22	2.22	2.22	2.22
599.000	2.22	2.22	2.22	2.22	2.22
600.000	2.22	2.22	2.22	2.22	2.23
601.000	2.23	2.23	2.23	2.23	2.23
602.000	2.23	2.23	2.23	2.23	2.23
603.000	2.23	2.23	2.23	2.23	2.23
604.000	2.23	2.23	2.23	2.23	2.23
605.000	2.23	2.23	2.23	2.23	2.23
606.000	2.24	2.24	2.24	2.24	2.24
607.000	2.24	2.24	2.24	2.24	2.24
608.000	2.24	2.24	2.24	2.24	2.24
609.000	2.24	2.24	2.24	2.24	2.24
610.000	2.24	2.24	2.24	2.24	2.24
611.000	2.24	2.25	2.25	2.25	2.25
612.000	2.25	2.25	2.25	2.25	2.25
613.000	2.25	2.25	2.25	2.25	2.25
614.000	2.25	2.25	2.25	2.25	2.25
615.000	2.25	2.25	2.25	2.25	2.25
616.000	2.25	2.25	2.26	2.26	2.26
617.000	2.26	2.26	2.26	2.26	2.26
618.000	2.26	2.26	2.26	2.26	2.26
619.000	2.26	2.26	2.26	2.26	2.26
620.000	2.26	2.26	2.26	2.26	2.26
621.000	2.26	2.26	2.26	2.27	2.27
622.000	2.27	2.27	2.27	2.27	2.27
623.000	2.27	2.27	2.27	2.27	2.27
624.000	2.27	2.27	2.27	2.27	2.27

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
625.000	2.27	2.27	2.27	2.27	2.27
626.000	2.27	2.27	2.27	2.28	2.28
627.000	2.28	2.28	2.28	2.28	2.28
628.000	2.28	2.28	2.28	2.28	2.28
629.000	2.28	2.28	2.28	2.28	2.28
630.000	2.28	2.28	2.28	2.28	2.28
631.000	2.28	2.28	2.28	2.29	2.29
632.000	2.29	2.29	2.29	2.29	2.29
633.000	2.29	2.29	2.29	2.29	2.29
634.000	2.29	2.29	2.29	2.29	2.29
635.000	2.29	2.29	2.29	2.29	2.29
636.000	2.29	2.29	2.30	2.30	2.30
637.000	2.30	2.30	2.30	2.30	2.30
638.000	2.30	2.30	2.30	2.30	2.30
639.000	2.30	2.30	2.30	2.30	2.30
640.000	2.30	2.30	2.30	2.30	2.30
641.000	2.30	2.31	2.31	2.31	2.31
642.000	2.31	2.31	2.31	2.31	2.31
643.000	2.31	2.31	2.31	2.31	2.31
644.000	2.31	2.31	2.31	2.31	2.31
645.000	2.31	2.31	2.31	2.31	2.31
646.000	2.32	2.32	2.32	2.32	2.32
647.000	2.32	2.32	2.32	2.32	2.32
648.000	2.32	2.32	2.32	2.32	2.32
649.000	2.32	2.32	2.32	2.32	2.32
650.000	2.32	2.32	2.32	2.32	2.33
651.000	2.33	2.33	2.33	2.33	2.33
652.000	2.33	2.33	2.33	2.33	2.33
653.000	2.33	2.33	2.33	2.33	2.33
654.000	2.33	2.33	2.33	2.33	2.33
655.000	2.33	2.33	2.34	2.34	2.34
656.000	2.34	2.34	2.34	2.34	2.34
657.000	2.34	2.34	2.34	2.34	2.34
658.000	2.34	2.34	2.34	2.34	2.34
659.000	2.34	2.34	2.34	2.34	2.34
660.000	2.35	2.35	2.35	2.35	2.35
661.000	2.35	2.35	2.35	2.35	2.35
662.000	2.35	2.35	2.35	2.35	2.35
663.000	2.35	2.35	2.35	2.35	2.35
664.000	2.35	2.35	2.36	2.36	2.36
665.000	2.36	2.36	2.36	2.36	2.36
666.000	2.36	2.36	2.36	2.36	2.36

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
667.000	2.36	2.36	2.36	2.36	2.36
668.000	2.36	2.36	2.36	2.36	2.36
669.000	2.37	2.37	2.37	2.37	2.37
670.000	2.37	2.37	2.37	2.37	2.37
671.000	2.37	2.37	2.37	2.37	2.37
672.000	2.37	2.37	2.37	2.37	2.37
673.000	2.37	2.38	2.38	2.38	2.38
674.000	2.38	2.38	2.38	2.38	2.38
675.000	2.38	2.38	2.38	2.38	2.38
676.000	2.38	2.38	2.38	2.38	2.38
677.000	2.38	2.38	2.38	2.39	2.39
678.000	2.39	2.39	2.39	2.39	2.39
679.000	2.39	2.39	2.39	2.39	2.39
680.000	2.39	2.39	2.39	2.39	2.39
681.000	2.39	2.39	2.39	2.39	2.39
682.000	2.40	2.40	2.40	2.40	2.40
683.000	2.40	2.40	2.40	2.40	2.40
684.000	2.40	2.40	2.40	2.40	2.40
685.000	2.40	2.40	2.40	2.40	2.40
686.000	2.40	2.41	2.41	2.41	2.41
687.000	2.41	2.41	2.41	2.41	2.41
688.000	2.41	2.41	2.41	2.41	2.41
689.000	2.41	2.41	2.41	2.41	2.41
690.000	2.41	2.41	2.42	2.42	2.42
691.000	2.42	2.42	2.42	2.42	2.42
692.000	2.42	2.42	2.42	2.42	2.42
693.000	2.42	2.42	2.42	2.42	2.42
694.000	2.42	2.42	2.43	2.43	2.43
695.000	2.43	2.43	2.43	2.43	2.43
696.000	2.43	2.43	2.43	2.43	2.43
697.000	2.43	2.43	2.43	2.43	2.43
698.000	2.43	2.43	2.44	2.44	2.44
699.000	2.44	2.44	2.44	2.44	2.44
700.000	2.44	2.44	2.44	2.44	2.44
701.000	2.44	2.44	2.44	2.44	2.44
702.000	2.44	2.44	2.45	2.45	2.45
703.000	2.45	2.45	2.45	2.45	2.45
704.000	2.45	2.45	2.45	2.45	2.45
705.000	2.45	2.45	2.45	2.45	2.45
706.000	2.45	2.45	2.46	2.46	2.46
707.000	2.46	2.46	2.46	2.46	2.46
708.000	2.46	2.46	2.46	2.46	2.46

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
709.000	2.46	2.46	2.46	2.46	2.46
710.000	2.46	2.46	2.47	2.47	2.47
711.000	2.47	2.47	2.47	2.47	2.47
712.000	2.47	2.47	2.47	2.47	2.47
713.000	2.47	2.47	2.47	2.47	2.47
714.000	2.47	2.48	2.48	2.48	2.48
715.000	2.48	2.48	2.48	2.48	2.48
716.000	2.48	2.48	2.48	2.48	2.48
717.000	2.48	2.48	2.48	2.48	2.48
718.000	2.49	2.49	2.49	2.49	2.49
719.000	2.49	2.49	2.49	2.49	2.49
720.000	2.49	2.49	2.49	2.49	2.49
721.000	2.49	2.49	2.49	2.49	2.50
722.000	2.50	2.50	2.50	2.50	2.50
723.000	2.50	2.50	2.50	2.50	2.50
724.000	2.50	2.50	2.50	2.50	2.50
725.000	2.50	2.50	2.50	2.51	2.51
726.000	2.51	2.51	2.51	2.51	2.51
727.000	2.51	2.51	2.51	2.51	2.51
728.000	2.51	2.51	2.51	2.51	2.51
729.000	2.51	2.52	2.52	2.52	2.52
730.000	2.52	2.52	2.52	2.52	2.52
731.000	2.52	2.52	2.52	2.52	2.52
732.000	2.52	2.52	2.52	2.52	2.53
733.000	2.53	2.53	2.53	2.53	2.53
734.000	2.53	2.53	2.53	2.53	2.53
735.000	2.53	2.53	2.53	2.53	2.53
736.000	2.53	2.53	2.54	2.54	2.54
737.000	2.54	2.54	2.54	2.54	2.54
738.000	2.54	2.54	2.54	2.54	2.54
739.000	2.54	2.54	2.54	2.54	2.54
740.000	2.55	2.55	2.55	2.55	2.55
741.000	2.55	2.55	2.55	2.55	2.55
742.000	2.55	2.55	2.55	2.55	2.55
743.000	2.55	2.55	2.56	2.56	2.56
744.000	2.56	2.56	2.56	2.56	2.56
745.000	2.56	2.56	2.56	2.56	2.56
746.000	2.56	2.56	2.56	2.56	2.57
747.000	2.57	2.57	2.57	2.57	2.57
748.000	2.57	2.57	2.57	2.57	2.57
749.000	2.57	2.57	2.57	2.57	2.57
750.000	2.57	2.58	2.58	2.58	2.58

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
751.000	2.58	2.58	2.58	2.58	2.58
752.000	2.58	2.58	2.58	2.58	2.58
753.000	2.58	2.58	2.58	2.59	2.59
754.000	2.59	2.59	2.59	2.59	2.59
755.000	2.59	2.59	2.59	2.59	2.59
756.000	2.59	2.59	2.59	2.59	2.59
757.000	2.60	2.60	2.60	2.60	2.60
758.000	2.60	2.60	2.60	2.60	2.60
759.000	2.60	2.60	2.60	2.60	2.60
760.000	2.60	2.61	2.61	2.61	2.61
761.000	2.61	2.61	2.61	2.61	2.61
762.000	2.61	2.61	2.61	2.61	2.61
763.000	2.61	2.61	2.61	2.62	2.62
764.000	2.62	2.62	2.62	2.62	2.62
765.000	2.62	2.62	2.62	2.62	2.62
766.000	2.62	2.62	2.62	2.62	2.63
767.000	2.63	2.63	2.63	2.63	2.63
768.000	2.63	2.63	2.63	2.63	2.63
769.000	2.63	2.63	2.63	2.63	2.63
770.000	2.64	2.64	2.64	2.64	2.64
771.000	2.64	2.64	2.64	2.64	2.64
772.000	2.64	2.64	2.64	2.64	2.64
773.000	2.65	2.65	2.65	2.65	2.65
774.000	2.65	2.65	2.65	2.65	2.65
775.000	2.65	2.65	2.65	2.65	2.65
776.000	2.65	2.66	2.66	2.66	2.66
777.000	2.66	2.66	2.66	2.66	2.66
778.000	2.66	2.66	2.66	2.66	2.66
779.000	2.66	2.67	2.67	2.67	2.67
780.000	2.67	2.67	2.67	2.67	2.67
781.000	2.67	2.67	2.67	2.67	2.67
782.000	2.67	2.68	2.68	2.68	2.68
783.000	2.68	2.68	2.68	2.68	2.68
784.000	2.68	2.68	2.68	2.68	2.68
785.000	2.68	2.69	2.69	2.69	2.69
786.000	2.69	2.69	2.69	2.69	2.69
787.000	2.69	2.69	2.69	2.69	2.69
788.000	2.69	2.70	2.70	2.70	2.70
789.000	2.70	2.70	2.70	2.70	2.70
790.000	2.70	2.70	2.70	2.70	2.70
791.000	2.70	2.71	2.71	2.71	2.71
792.000	2.71	2.71	2.71	2.71	2.71

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
793.000	2.71	2.71	2.71	2.71	2.71
794.000	2.72	2.72	2.72	2.72	2.72
795.000	2.72	2.72	2.72	2.72	2.72
796.000	2.72	2.72	2.72	2.72	2.73
797.000	2.73	2.73	2.73	2.73	2.73
798.000	2.73	2.73	2.73	2.73	2.73
799.000	2.73	2.73	2.73	2.74	2.74
800.000	2.74	2.74	2.74	2.74	2.74
801.000	2.74	2.74	2.74	2.74	2.74
802.000	2.74	2.74	2.75	2.75	2.75
803.000	2.75	2.75	2.75	2.75	2.75
804.000	2.75	2.75	2.75	2.75	2.75
805.000	2.75	2.76	2.76	2.76	2.76
806.000	2.76	2.76	2.76	2.76	2.76
807.000	2.76	2.76	2.76	2.76	2.76
808.000	2.77	2.77	2.77	2.77	2.77
809.000	2.77	2.77	2.77	2.77	2.77
810.000	2.77	2.77	2.77	2.78	2.78
811.000	2.78	2.78	2.78	2.78	2.78
812.000	2.78	2.78	2.78	2.78	2.78
813.000	2.78	2.78	2.79	2.79	2.79
814.000	2.79	2.79	2.79	2.79	2.79
815.000	2.79	2.79	2.79	2.79	2.79
816.000	2.80	2.80	2.80	2.80	2.80
817.000	2.80	2.80	2.80	2.80	2.80
818.000	2.80	2.80	2.80	2.81	2.81
819.000	2.81	2.81	2.81	2.81	2.81
820.000	2.81	2.81	2.81	2.81	2.81
821.000	2.81	2.82	2.82	2.82	2.82
822.000	2.82	2.82	2.82	2.82	2.82
823.000	2.82	2.82	2.82	2.83	2.83
824.000	2.83	2.83	2.83	2.83	2.83
825.000	2.83	2.83	2.83	2.83	2.83
826.000	2.83	2.84	2.84	2.84	2.84
827.000	2.84	2.84	2.84	2.84	2.84
828.000	2.84	2.84	2.84	2.84	2.85
829.000	2.85	2.85	2.85	2.85	2.85
830.000	2.85	2.85	2.85	2.85	2.85
831.000	2.85	2.86	2.86	2.86	2.86
832.000	2.86	2.86	2.86	2.86	2.86
833.000	2.86	2.86	2.86	2.87	2.87
834.000	2.87	2.87	2.87	2.87	2.87

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
835.000	2.87	2.87	2.87	2.87	2.87
836.000	2.88	2.88	2.88	2.88	2.88
837.000	2.88	2.88	2.88	2.88	2.88
838.000	2.88	2.88	2.89	2.89	2.89
839.000	2.89	2.89	2.89	2.89	2.89
840.000	2.89	2.89	2.89	2.89	2.90
841.000	2.90	2.90	2.90	2.90	2.90
842.000	2.90	2.90	2.90	2.90	2.90
843.000	2.90	2.91	2.91	2.91	2.91
844.000	2.91	2.91	2.91	2.91	2.91
845.000	2.91	2.91	2.92	2.92	2.92
846.000	2.92	2.92	2.92	2.92	2.92
847.000	2.92	2.92	2.92	2.92	2.93
848.000	2.93	2.93	2.93	2.93	2.93
849.000	2.93	2.93	2.93	2.93	2.93
850.000	2.94	2.94	2.94	2.94	2.94
851.000	2.94	2.94	2.94	2.94	2.94
852.000	2.94	2.95	2.95	2.95	2.95
853.000	2.95	2.95	2.95	2.95	2.95
854.000	2.95	2.95	2.96	2.96	2.96
855.000	2.96	2.96	2.96	2.96	2.96
856.000	2.96	2.96	2.96	2.97	2.97
857.000	2.97	2.97	2.97	2.97	2.97
858.000	2.97	2.97	2.97	2.97	2.98
859.000	2.98	2.98	2.98	2.98	2.98
860.000	2.98	2.98	2.98	2.98	2.98
861.000	2.99	2.99	2.99	2.99	2.99
862.000	2.99	2.99	2.99	2.99	2.99
863.000	3.00	3.00	3.00	3.00	3.00
864.000	3.00	3.00	3.00	3.00	3.00
865.000	3.00	3.01	3.01	3.01	3.01
866.000	3.01	3.01	3.01	3.01	3.01
867.000	3.01	3.02	3.02	3.02	3.02
868.000	3.02	3.02	3.02	3.02	3.02
869.000	3.02	3.02	3.03	3.03	3.03
870.000	3.03	3.03	3.03	3.03	3.03
871.000	3.03	3.03	3.04	3.04	3.04
872.000	3.04	3.04	3.04	3.04	3.04
873.000	3.04	3.04	3.05	3.05	3.05
874.000	3.05	3.05	3.05	3.05	3.05
875.000	3.05	3.05	3.06	3.06	3.06
876.000	3.06	3.06	3.06	3.06	3.06

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
877.000	3.06	3.06	3.07	3.07	3.07
878.000	3.07	3.07	3.07	3.07	3.07
879.000	3.07	3.08	3.08	3.08	3.08
880.000	3.08	3.08	3.08	3.08	3.08
881.000	3.08	3.09	3.09	3.09	3.09
882.000	3.09	3.09	3.09	3.09	3.09
883.000	3.09	3.10	3.10	3.10	3.10
884.000	3.10	3.10	3.10	3.10	3.10
885.000	3.11	3.11	3.11	3.11	3.11
886.000	3.11	3.11	3.11	3.11	3.11
887.000	3.12	3.12	3.12	3.12	3.12
888.000	3.12	3.12	3.12	3.12	3.13
889.000	3.13	3.13	3.13	3.13	3.13
890.000	3.13	3.13	3.13	3.14	3.14
891.000	3.14	3.14	3.14	3.14	3.14
892.000	3.14	3.14	3.15	3.15	3.15
893.000	3.15	3.15	3.15	3.15	3.15
894.000	3.15	3.16	3.16	3.16	3.16
895.000	3.16	3.16	3.16	3.16	3.16
896.000	3.17	3.17	3.17	3.17	3.17
897.000	3.17	3.17	3.17	3.17	3.18
898.000	3.18	3.18	3.18	3.18	3.18
899.000	3.18	3.18	3.18	3.19	3.19
900.000	3.19	3.19	3.19	3.19	3.19
901.000	3.19	3.20	3.20	3.20	3.20
902.000	3.20	3.20	3.20	3.20	3.20
903.000	3.21	3.21	3.21	3.21	3.21
904.000	3.21	3.21	3.21	3.21	3.22
905.000	3.22	3.22	3.22	3.22	3.22
906.000	3.22	3.22	3.23	3.23	3.23
907.000	3.23	3.23	3.23	3.23	3.23
908.000	3.24	3.24	3.24	3.24	3.24
909.000	3.24	3.24	3.24	3.24	3.25
910.000	3.25	3.25	3.25	3.25	3.25
911.000	3.25	3.25	3.26	3.26	3.26
912.000	3.26	3.26	3.26	3.26	3.26
913.000	3.27	3.27	3.27	3.27	3.27
914.000	3.27	3.27	3.27	3.28	3.28
915.000	3.28	3.28	3.28	3.28	3.28
916.000	3.28	3.29	3.29	3.29	3.29
917.000	3.29	3.29	3.29	3.29	3.30
918.000	3.30	3.30	3.30	3.30	3.30

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
919.000	3.30	3.31	3.31	3.31	3.31
920.000	3.31	3.31	3.31	3.31	3.32
921.000	3.32	3.32	3.32	3.32	3.32
922.000	3.32	3.32	3.33	3.33	3.33
923.000	3.33	3.33	3.33	3.33	3.34
924.000	3.34	3.34	3.34	3.34	3.34
925.000	3.34	3.34	3.35	3.35	3.35
926.000	3.35	3.35	3.35	3.35	3.36
927.000	3.36	3.36	3.36	3.36	3.36
928.000	3.36	3.36	3.37	3.37	3.37
929.000	3.37	3.37	3.37	3.37	3.38
930.000	3.38	3.38	3.38	3.38	3.38
931.000	3.38	3.39	3.39	3.39	3.39
932.000	3.39	3.39	3.39	3.40	3.40
933.000	3.40	3.40	3.40	3.40	3.40
934.000	3.40	3.41	3.41	3.41	3.41
935.000	3.41	3.41	3.41	3.42	3.42
936.000	3.42	3.42	3.42	3.42	3.42
937.000	3.43	3.43	3.43	3.43	3.43
938.000	3.43	3.43	3.44	3.44	3.44
939.000	3.44	3.44	3.44	3.45	3.45
940.000	3.45	3.45	3.45	3.45	3.45
941.000	3.46	3.46	3.46	3.46	3.46
942.000	3.46	3.46	3.47	3.47	3.47
943.000	3.47	3.47	3.47	3.47	3.48
944.000	3.48	3.48	3.48	3.48	3.48
945.000	3.49	3.49	3.49	3.49	3.49
946.000	3.49	3.49	3.50	3.50	3.50
947.000	3.50	3.50	3.50	3.51	3.51
948.000	3.51	3.51	3.51	3.51	3.51
949.000	3.52	3.52	3.52	3.52	3.52
950.000	3.52	3.53	3.53	3.53	3.53
951.000	3.53	3.53	3.54	3.54	3.54
952.000	3.54	3.54	3.54	3.54	3.55
953.000	3.55	3.55	3.55	3.55	3.55
954.000	3.56	3.56	3.56	3.56	3.56
955.000	3.56	3.57	3.57	3.57	3.57
956.000	3.57	3.57	3.58	3.58	3.58
957.000	3.58	3.58	3.58	3.59	3.59
958.000	3.59	3.59	3.59	3.59	3.60
959.000	3.60	3.60	3.60	3.60	3.60
960.000	3.61	3.61	3.61	3.61	3.61

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
961.000	3.61	3.62	3.62	3.62	3.62
962.000	3.62	3.62	3.63	3.63	3.63
963.000	3.63	3.63	3.64	3.64	3.64
964.000	3.64	3.64	3.64	3.65	3.65
965.000	3.65	3.65	3.65	3.65	3.66
966.000	3.66	3.66	3.66	3.66	3.66
967.000	3.67	3.67	3.67	3.67	3.67
968.000	3.68	3.68	3.68	3.68	3.68
969.000	3.68	3.69	3.69	3.69	3.69
970.000	3.69	3.70	3.70	3.70	3.70
971.000	3.70	3.70	3.71	3.71	3.71
972.000	3.71	3.71	3.72	3.72	3.72
973.000	3.72	3.72	3.73	3.73	3.73
974.000	3.73	3.73	3.73	3.74	3.74
975.000	3.74	3.74	3.74	3.75	3.75
976.000	3.75	3.75	3.75	3.76	3.76
977.000	3.76	3.76	3.76	3.77	3.77
978.000	3.77	3.77	3.77	3.77	3.78
979.000	3.78	3.78	3.78	3.78	3.79
980.000	3.79	3.79	3.79	3.79	3.80
981.000	3.80	3.80	3.80	3.80	3.81
982.000	3.81	3.81	3.81	3.81	3.82
983.000	3.82	3.82	3.82	3.82	3.83
984.000	3.83	3.83	3.83	3.83	3.84
985.000	3.84	3.84	3.84	3.85	3.85
986.000	3.85	3.85	3.85	3.86	3.86
987.000	3.86	3.86	3.86	3.87	3.87
988.000	3.87	3.87	3.87	3.88	3.88
989.000	3.88	3.88	3.89	3.89	3.89
990.000	3.89	3.89	3.90	3.90	3.90
991.000	3.90	3.90	3.91	3.91	3.91
992.000	3.91	3.92	3.92	3.92	3.92
993.000	3.92	3.93	3.93	3.93	3.93
994.000	3.94	3.94	3.94	3.94	3.94
995.000	3.95	3.95	3.95	3.95	3.96
996.000	3.96	3.96	3.96	3.96	3.97
997.000	3.97	3.97	3.97	3.98	3.98
998.000	3.98	3.98	3.99	3.99	3.99
999.000	3.99	3.99	4.00	4.00	4.00
1,000.000	4.00	4.01	4.01	4.01	4.01
1,001.000	4.02	4.02	4.02	4.02	4.03
1,002.000	4.03	4.03	4.03	4.03	4.04

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,003.000	4.04	4.04	4.04	4.05	4.05
1,004.000	4.05	4.05	4.06	4.06	4.06
1,005.000	4.06	4.07	4.07	4.07	4.07
1,006.000	4.08	4.08	4.08	4.08	4.09
1,007.000	4.09	4.09	4.09	4.10	4.10
1,008.000	4.10	4.10	4.11	4.11	4.11
1,009.000	4.11	4.12	4.12	4.12	4.12
1,010.000	4.13	4.13	4.13	4.13	4.14
1,011.000	4.14	4.14	4.15	4.15	4.15
1,012.000	4.15	4.16	4.16	4.16	4.16
1,013.000	4.17	4.17	4.17	4.17	4.18
1,014.000	4.18	4.18	4.19	4.19	4.19
1,015.000	4.19	4.20	4.20	4.20	4.20
1,016.000	4.21	4.21	4.21	4.22	4.22
1,017.000	4.22	4.22	4.23	4.23	4.23
1,018.000	4.23	4.24	4.24	4.24	4.25
1,019.000	4.25	4.25	4.25	4.26	4.26
1,020.000	4.26	4.27	4.27	4.27	4.27
1,021.000	4.28	4.28	4.28	4.29	4.29
1,022.000	4.29	4.29	4.30	4.30	4.30
1,023.000	4.31	4.31	4.31	4.32	4.32
1,024.000	4.32	4.32	4.33	4.33	4.33
1,025.000	4.34	4.34	4.34	4.35	4.35
1,026.000	4.35	4.35	4.36	4.36	4.36
1,027.000	4.37	4.37	4.37	4.38	4.38
1,028.000	4.38	4.39	4.39	4.39	4.39
1,029.000	4.40	4.40	4.40	4.41	4.41
1,030.000	4.41	4.42	4.42	4.42	4.43
1,031.000	4.43	4.43	4.44	4.44	4.44
1,032.000	4.45	4.45	4.45	4.46	4.46
1,033.000	4.46	4.47	4.47	4.47	4.48
1,034.000	4.48	4.48	4.49	4.49	4.49
1,035.000	4.50	4.50	4.50	4.51	4.51
1,036.000	4.51	4.52	4.52	4.52	4.53
1,037.000	4.53	4.53	4.54	4.54	4.54
1,038.000	4.55	4.55	4.55	4.56	4.56
1,039.000	4.56	4.57	4.57	4.58	4.58
1,040.000	4.58	4.59	4.59	4.59	4.60
1,041.000	4.60	4.60	4.61	4.61	4.62
1,042.000	4.62	4.62	4.63	4.63	4.63
1,043.000	4.64	4.64	4.64	4.65	4.65
1,044.000	4.66	4.66	4.66	4.67	4.67

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,045.000	4.67	4.68	4.68	4.69	4.69
1,046.000	4.69	4.70	4.70	4.71	4.71
1,047.000	4.71	4.72	4.72	4.73	4.73
1,048.000	4.73	4.74	4.74	4.75	4.75
1,049.000	4.75	4.76	4.76	4.77	4.77
1,050.000	4.77	4.78	4.78	4.79	4.79
1,051.000	4.79	4.80	4.80	4.81	4.81
1,052.000	4.81	4.82	4.82	4.83	4.83
1,053.000	4.84	4.84	4.84	4.85	4.85
1,054.000	4.86	4.86	4.87	4.87	4.87
1,055.000	4.88	4.88	4.89	4.89	4.90
1,056.000	4.90	4.91	4.91	4.91	4.92
1,057.000	4.92	4.93	4.93	4.94	4.94
1,058.000	4.95	4.95	4.95	4.96	4.96
1,059.000	4.97	4.97	4.98	4.98	4.99
1,060.000	4.99	5.00	5.00	5.01	5.01
1,061.000	5.02	5.02	5.02	5.03	5.03
1,062.000	5.04	5.04	5.05	5.05	5.06
1,063.000	5.06	5.07	5.07	5.08	5.08
1,064.000	5.09	5.09	5.10	5.10	5.11
1,065.000	5.11	5.12	5.12	5.13	5.13
1,066.000	5.14	5.14	5.15	5.15	5.16
1,067.000	5.16	5.17	5.18	5.18	5.19
1,068.000	5.19	5.20	5.20	5.21	5.21
1,069.000	5.22	5.22	5.23	5.23	5.24
1,070.000	5.24	5.25	5.26	5.26	5.27
1,071.000	5.27	5.28	5.28	5.29	5.29
1,072.000	5.30	5.31	5.31	5.32	5.32
1,073.000	5.33	5.33	5.34	5.35	5.35
1,074.000	5.36	5.36	5.37	5.38	5.38
1,075.000	5.39	5.39	5.40	5.41	5.41
1,076.000	5.42	5.42	5.43	5.44	5.44
1,077.000	5.45	5.45	5.46	5.47	5.47
1,078.000	5.48	5.49	5.49	5.50	5.50
1,079.000	5.51	5.52	5.52	5.53	5.54
1,080.000	5.54	5.55	5.56	5.56	5.57
1,081.000	5.58	5.58	5.59	5.60	5.60
1,082.000	5.61	5.62	5.62	5.63	5.64
1,083.000	5.64	5.65	5.66	5.66	5.67
1,084.000	5.68	5.69	5.69	5.70	5.71
1,085.000	5.71	5.72	5.73	5.74	5.74
1,086.000	5.75	5.76	5.76	5.77	5.78

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,087.000	5.79	5.79	5.80	5.81	5.82
1,088.000	5.82	5.83	5.84	5.85	5.86
1,089.000	5.86	5.87	5.88	5.89	5.89
1,090.000	5.90	5.91	5.92	5.93	5.93
1,091.000	5.94	5.95	5.96	5.97	5.97
1,092.000	5.98	5.99	6.00	6.01	6.02
1,093.000	6.02	6.03	6.04	6.05	6.06
1,094.000	6.07	6.08	6.08	6.09	6.10
1,095.000	6.11	6.12	6.13	6.14	6.15
1,096.000	6.16	6.17	6.17	6.18	6.19
1,097.000	6.20	6.21	6.22	6.23	6.24
1,098.000	6.25	6.26	6.27	6.28	6.29
1,099.000	6.30	6.31	6.32	6.33	6.34
1,100.000	6.35	6.36	6.37	6.38	6.39
1,101.000	6.40	6.41	6.42	6.43	6.44
1,102.000	6.45	6.46	6.47	6.48	6.49
1,103.000	6.50	6.51	6.52	6.53	6.54
1,104.000	6.56	6.57	6.58	6.59	6.60
1,105.000	6.61	6.62	6.63	6.65	6.66
1,106.000	6.67	6.68	6.69	6.70	6.72
1,107.000	6.73	6.74	6.75	6.76	6.78
1,108.000	6.79	6.80	6.81	6.83	6.84
1,109.000	6.85	6.86	6.88	6.89	6.90
1,110.000	6.92	6.93	6.94	6.95	6.97
1,111.000	6.98	6.99	7.01	7.02	7.04
1,112.000	7.05	7.06	7.08	7.09	7.11
1,113.000	7.12	7.14	7.15	7.17	7.19
1,114.000	7.20	7.22	7.24	7.25	7.27
1,115.000	7.29	7.30	7.32	7.34	7.36
1,116.000	7.37	7.39	7.41	7.43	7.44
1,117.000	7.46	7.48	7.50	7.52	7.54
1,118.000	7.56	7.57	7.59	7.61	7.63
1,119.000	7.65	7.67	7.69	7.71	7.73
1,120.000	7.75	7.77	7.79	7.82	7.84
1,121.000	7.86	7.88	7.90	7.92	7.94
1,122.000	7.97	7.99	8.01	8.03	8.06
1,123.000	8.08	8.10	8.13	8.15	8.17
1,124.000	8.20	8.22	8.25	8.27	8.30
1,125.000	8.32	8.35	8.37	8.40	8.43
1,126.000	8.45	8.48	8.51	8.53	8.56
1,127.000	8.59	8.62	8.65	8.68	8.70
1,128.000	8.73	8.76	8.79	8.82	8.85

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,129.000	8.88	8.92	8.95	8.98	9.01
1,130.000	9.04	9.08	9.11	9.14	9.17
1,131.000	9.20	9.24	9.27	9.30	9.34
1,132.000	9.37	9.40	9.44	9.47	9.51
1,133.000	9.55	9.58	9.62	9.66	9.69
1,134.000	9.73	9.77	9.81	9.85	9.89
1,135.000	9.93	9.97	10.01	10.06	10.10
1,136.000	10.14	10.19	10.23	10.28	10.32
1,137.000	10.37	10.42	10.46	10.51	10.56
1,138.000	10.61	10.66	10.72	10.77	10.82
1,139.000	10.88	10.93	10.99	11.04	11.10
1,140.000	11.16	11.22	11.28	11.35	11.41
1,141.000	11.47	11.54	11.61	11.67	11.74
1,142.000	11.82	11.89	11.96	12.04	12.11
1,143.000	12.19	12.27	12.36	12.44	12.52
1,144.000	12.61	12.70	12.79	12.89	12.98
1,145.000	13.08	13.18	13.29	13.39	13.50
1,146.000	13.62	13.73	13.85	13.98	14.11
1,147.000	14.24	14.38	14.52	14.67	14.82
1,148.000	14.98	15.14	15.32	15.50	15.69
1,149.000	15.89	16.10	16.32	16.55	16.80
1,150.000	17.07	17.36	17.66	18.00	18.37
1,151.000	18.79	19.25	19.78	20.44	21.32
1,152.000	23.50	24.57	24.96	25.23	25.44
1,153.000	25.60	25.73	25.84	25.93	26.00
1,154.000	26.06	26.11	26.15	26.19	26.21
1,155.000	26.23	26.23	26.24	26.23	26.23
1,156.000	26.21	26.19	26.17	26.14	26.11
1,157.000	26.08	26.04	25.99	25.94	25.89
1,158.000	25.84	25.78	25.71	25.65	25.58
1,159.000	25.50	25.42	25.34	25.26	25.17
1,160.000	25.07	24.98	24.88	24.78	24.67
1,161.000	24.56	24.45	24.33	24.21	24.08
1,162.000	23.95	23.82	23.68	23.54	23.40
1,163.000	23.24	23.09	22.93	22.76	22.59
1,164.000	22.42	22.24	22.05	21.86	21.65
1,165.000	21.45	21.23	21.01	20.78	20.53
1,166.000	20.28	20.02	19.74	19.46	19.15
1,167.000	18.83	18.47	18.10	17.70	17.26
1,168.000	16.78	16.25	15.65	14.92	13.98
1,169.000	11.77	10.67	10.22	9.89	9.62
1,170.000	9.39	9.19	9.00	8.83	8.66

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,171.000	8.51	8.38	8.25	8.12	8.01
1,172.000	7.90	7.80	7.70	7.60	7.51
1,173.000	7.43	7.35	7.27	7.19	7.12
1,174.000	7.05	6.99	6.93	6.87	6.82
1,175.000	6.76	6.71	6.66	6.61	6.56
1,176.000	6.51	6.46	6.42	6.37	6.33
1,177.000	6.29	6.25	6.21	6.17	6.13
1,178.000	6.09	6.05	6.02	5.98	5.95
1,179.000	5.91	5.88	5.85	5.82	5.78
1,180.000	5.75	5.72	5.69	5.66	5.63
1,181.000	5.61	5.58	5.55	5.52	5.50
1,182.000	5.47	5.44	5.42	5.39	5.37
1,183.000	5.35	5.32	5.30	5.27	5.25
1,184.000	5.23	5.21	5.18	5.16	5.14
1,185.000	5.12	5.10	5.08	5.06	5.04
1,186.000	5.02	5.00	4.98	4.96	4.94
1,187.000	4.92	4.91	4.89	4.87	4.85
1,188.000	4.84	4.82	4.80	4.78	4.77
1,189.000	4.75	4.73	4.72	4.70	4.69
1,190.000	4.67	4.66	4.64	4.63	4.61
1,191.000	4.60	4.58	4.57	4.55	4.54
1,192.000	4.52	4.51	4.50	4.48	4.47
1,193.000	4.46	4.44	4.43	4.42	4.40
1,194.000	4.39	4.38	4.36	4.35	4.34
1,195.000	4.33	4.32	4.30	4.29	4.28
1,196.000	4.27	4.26	4.25	4.23	4.22
1,197.000	4.21	4.20	4.19	4.18	4.17
1,198.000	4.16	4.15	4.14	4.13	4.11
1,199.000	4.10	4.09	4.08	4.07	4.06
1,200.000	4.05	4.04	4.03	4.02	4.02
1,201.000	4.01	4.00	3.99	3.98	3.97
1,202.000	3.96	3.95	3.94	3.93	3.92
1,203.000	3.91	3.91	3.90	3.89	3.88
1,204.000	3.87	3.86	3.85	3.85	3.84
1,205.000	3.83	3.82	3.81	3.80	3.80
1,206.000	3.79	3.78	3.77	3.76	3.76
1,207.000	3.75	3.74	3.73	3.73	3.72
1,208.000	3.71	3.70	3.70	3.69	3.68
1,209.000	3.67	3.67	3.66	3.65	3.65
1,210.000	3.64	3.63	3.62	3.62	3.61
1,211.000	3.60	3.60	3.59	3.58	3.58
1,212.000	3.57	3.56	3.56	3.55	3.54

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,213.000	3.54	3.53	3.53	3.52	3.51
1,214.000	3.51	3.50	3.49	3.49	3.48
1,215.000	3.48	3.47	3.46	3.46	3.45
1,216.000	3.45	3.44	3.43	3.43	3.42
1,217.000	3.42	3.41	3.41	3.40	3.39
1,218.000	3.39	3.38	3.38	3.37	3.37
1,219.000	3.36	3.36	3.35	3.34	3.34
1,220.000	3.33	3.33	3.32	3.32	3.31
1,221.000	3.31	3.30	3.30	3.29	3.29
1,222.000	3.28	3.28	3.27	3.27	3.26
1,223.000	3.26	3.25	3.25	3.24	3.24
1,224.000	3.23	3.23	3.22	3.22	3.21
1,225.000	3.21	3.20	3.20	3.19	3.19
1,226.000	3.19	3.18	3.18	3.17	3.17
1,227.000	3.16	3.16	3.15	3.15	3.14
1,228.000	3.14	3.14	3.13	3.13	3.12
1,229.000	3.12	3.11	3.11	3.11	3.10
1,230.000	3.10	3.09	3.09	3.08	3.08
1,231.000	3.08	3.07	3.07	3.06	3.06
1,232.000	3.06	3.05	3.05	3.04	3.04
1,233.000	3.04	3.03	3.03	3.02	3.02
1,234.000	3.02	3.01	3.01	3.00	3.00
1,235.000	3.00	2.99	2.99	2.99	2.98
1,236.000	2.98	2.97	2.97	2.97	2.96
1,237.000	2.96	2.96	2.95	2.95	2.95
1,238.000	2.94	2.94	2.93	2.93	2.93
1,239.000	2.92	2.92	2.92	2.91	2.91
1,240.000	2.91	2.90	2.90	2.90	2.89
1,241.000	2.89	2.89	2.88	2.88	2.88
1,242.000	2.87	2.87	2.87	2.86	2.86
1,243.000	2.86	2.85	2.85	2.85	2.84
1,244.000	2.84	2.84	2.83	2.83	2.83
1,245.000	2.82	2.82	2.82	2.81	2.81
1,246.000	2.81	2.81	2.80	2.80	2.80
1,247.000	2.79	2.79	2.79	2.78	2.78
1,248.000	2.78	2.77	2.77	2.77	2.77
1,249.000	2.76	2.76	2.76	2.75	2.75
1,250.000	2.75	2.75	2.74	2.74	2.74
1,251.000	2.73	2.73	2.73	2.73	2.72
1,252.000	2.72	2.72	2.71	2.71	2.71
1,253.000	2.71	2.70	2.70	2.70	2.69
1,254.000	2.69	2.69	2.69	2.68	2.68

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,255.000	2.68	2.68	2.67	2.67	2.67
1,256.000	2.67	2.66	2.66	2.66	2.65
1,257.000	2.65	2.65	2.65	2.64	2.64
1,258.000	2.64	2.64	2.63	2.63	2.63
1,259.000	2.63	2.62	2.62	2.62	2.62
1,260.000	2.61	2.61	2.61	2.61	2.60
1,261.000	2.60	2.60	2.60	2.59	2.59
1,262.000	2.59	2.59	2.58	2.58	2.58
1,263.000	2.58	2.58	2.57	2.57	2.57
1,264.000	2.57	2.56	2.56	2.56	2.56
1,265.000	2.55	2.55	2.55	2.55	2.55
1,266.000	2.54	2.54	2.54	2.54	2.53
1,267.000	2.53	2.53	2.53	2.53	2.52
1,268.000	2.52	2.52	2.52	2.51	2.51
1,269.000	2.51	2.51	2.51	2.50	2.50
1,270.000	2.50	2.50	2.49	2.49	2.49
1,271.000	2.49	2.49	2.48	2.48	2.48
1,272.000	2.48	2.48	2.47	2.47	2.47
1,273.000	2.47	2.47	2.46	2.46	2.46
1,274.000	2.46	2.45	2.45	2.45	2.45
1,275.000	2.45	2.44	2.44	2.44	2.44
1,276.000	2.44	2.43	2.43	2.43	2.43
1,277.000	2.43	2.42	2.42	2.42	2.42
1,278.000	2.42	2.42	2.41	2.41	2.41
1,279.000	2.41	2.41	2.40	2.40	2.40
1,280.000	2.40	2.40	2.39	2.39	2.39
1,281.000	2.39	2.39	2.38	2.38	2.38
1,282.000	2.38	2.38	2.38	2.37	2.37
1,283.000	2.37	2.37	2.37	2.36	2.36
1,284.000	2.36	2.36	2.36	2.36	2.35
1,285.000	2.35	2.35	2.35	2.35	2.34
1,286.000	2.34	2.34	2.34	2.34	2.34
1,287.000	2.33	2.33	2.33	2.33	2.33
1,288.000	2.33	2.32	2.32	2.32	2.32
1,289.000	2.32	2.32	2.31	2.31	2.31
1,290.000	2.31	2.31	2.31	2.30	2.30
1,291.000	2.30	2.30	2.30	2.30	2.29
1,292.000	2.29	2.29	2.29	2.29	2.29
1,293.000	2.28	2.28	2.28	2.28	2.28
1,294.000	2.28	2.27	2.27	2.27	2.27
1,295.000	2.27	2.27	2.26	2.26	2.26
1,296.000	2.26	2.26	2.26	2.26	2.25

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,297.000	2.25	2.25	2.25	2.25	2.25
1,298.000	2.24	2.24	2.24	2.24	2.24
1,299.000	2.24	2.24	2.23	2.23	2.23
1,300.000	2.23	2.23	2.23	2.22	2.22
1,301.000	2.22	2.22	2.22	2.22	2.22
1,302.000	2.21	2.21	2.21	2.21	2.21
1,303.000	2.21	2.21	2.20	2.20	2.20
1,304.000	2.20	2.20	2.20	2.20	2.19
1,305.000	2.19	2.19	2.19	2.19	2.19
1,306.000	2.19	2.18	2.18	2.18	2.18
1,307.000	2.18	2.18	2.18	2.17	2.17
1,308.000	2.17	2.17	2.17	2.17	2.17
1,309.000	2.16	2.16	2.16	2.16	2.16
1,310.000	2.16	2.16	2.16	2.15	2.15
1,311.000	2.15	2.15	2.15	2.15	2.15
1,312.000	2.14	2.14	2.14	2.14	2.14
1,313.000	2.14	2.14	2.14	2.13	2.13
1,314.000	2.13	2.13	2.13	2.13	2.13
1,315.000	2.12	2.12	2.12	2.12	2.12
1,316.000	2.12	2.12	2.12	2.11	2.11
1,317.000	2.11	2.11	2.11	2.11	2.11
1,318.000	2.11	2.10	2.10	2.10	2.10
1,319.000	2.10	2.10	2.10	2.10	2.09
1,320.000	2.09	2.09	2.09	2.09	2.09
1,321.000	2.09	2.09	2.08	2.08	2.08
1,322.000	2.08	2.08	2.08	2.08	2.08
1,323.000	2.07	2.07	2.07	2.07	2.07
1,324.000	2.07	2.07	2.07	2.07	2.06
1,325.000	2.06	2.06	2.06	2.06	2.06
1,326.000	2.06	2.06	2.05	2.05	2.05
1,327.000	2.05	2.05	2.05	2.05	2.05
1,328.000	2.05	2.04	2.04	2.04	2.04
1,329.000	2.04	2.04	2.04	2.04	2.04
1,330.000	2.03	2.03	2.03	2.03	2.03
1,331.000	2.03	2.03	2.03	2.03	2.02
1,332.000	2.02	2.02	2.02	2.02	2.02
1,333.000	2.02	2.02	2.02	2.01	2.01
1,334.000	2.01	2.01	2.01	2.01	2.01
1,335.000	2.01	2.01	2.00	2.00	2.00
1,336.000	2.00	2.00	2.00	2.00	2.00
1,337.000	2.00	1.99	1.99	1.99	1.99
1,338.000	1.99	1.99	1.99	1.99	1.99

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,339.000	1.99	1.98	1.98	1.98	1.98
1,340.000	1.98	1.98	1.98	1.98	1.98
1,341.000	1.97	1.97	1.97	1.97	1.97
1,342.000	1.97	1.97	1.97	1.97	1.97
1,343.000	1.96	1.96	1.96	1.96	1.96
1,344.000	1.96	1.96	1.96	1.96	1.96
1,345.000	1.95	1.95	1.95	1.95	1.95
1,346.000	1.95	1.95	1.95	1.95	1.95
1,347.000	1.94	1.94	1.94	1.94	1.94
1,348.000	1.94	1.94	1.94	1.94	1.94
1,349.000	1.93	1.93	1.93	1.93	1.93
1,350.000	1.93	1.93	1.93	1.93	1.93
1,351.000	1.93	1.92	1.92	1.92	1.92
1,352.000	1.92	1.92	1.92	1.92	1.92
1,353.000	1.92	1.91	1.91	1.91	1.91
1,354.000	1.91	1.91	1.91	1.91	1.91
1,355.000	1.91	1.91	1.90	1.90	1.90
1,356.000	1.90	1.90	1.90	1.90	1.90
1,357.000	1.90	1.90	1.90	1.89	1.89
1,358.000	1.89	1.89	1.89	1.89	1.89
1,359.000	1.89	1.89	1.89	1.89	1.88
1,360.000	1.88	1.88	1.88	1.88	1.88
1,361.000	1.88	1.88	1.88	1.88	1.88
1,362.000	1.88	1.87	1.87	1.87	1.87
1,363.000	1.87	1.87	1.87	1.87	1.87
1,364.000	1.87	1.87	1.86	1.86	1.86
1,365.000	1.86	1.86	1.86	1.86	1.86
1,366.000	1.86	1.86	1.86	1.86	1.85
1,367.000	1.85	1.85	1.85	1.85	1.85
1,368.000	1.85	1.85	1.85	1.85	1.85
1,369.000	1.85	1.84	1.84	1.84	1.84
1,370.000	1.84	1.84	1.84	1.84	1.84
1,371.000	1.84	1.84	1.84	1.83	1.83
1,372.000	1.83	1.83	1.83	1.83	1.83
1,373.000	1.83	1.83	1.83	1.83	1.83
1,374.000	1.82	1.82	1.82	1.82	1.82
1,375.000	1.82	1.82	1.82	1.82	1.82
1,376.000	1.82	1.82	1.82	1.81	1.81
1,377.000	1.81	1.81	1.81	1.81	1.81
1,378.000	1.81	1.81	1.81	1.81	1.81
1,379.000	1.81	1.80	1.80	1.80	1.80
1,380.000	1.80	1.80	1.80	1.80	1.80

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,381.000	1.80	1.80	1.80	1.79	1.79
1,382.000	1.79	1.79	1.79	1.79	1.79
1,383.000	1.79	1.79	1.79	1.79	1.79
1,384.000	1.79	1.79	1.78	1.78	1.78
1,385.000	1.78	1.78	1.78	1.78	1.78
1,386.000	1.78	1.78	1.78	1.78	1.78
1,387.000	1.77	1.77	1.77	1.77	1.77
1,388.000	1.77	1.77	1.77	1.77	1.77
1,389.000	1.77	1.77	1.77	1.77	1.76
1,390.000	1.76	1.76	1.76	1.76	1.76
1,391.000	1.76	1.76	1.76	1.76	1.76
1,392.000	1.76	1.76	1.76	1.75	1.75
1,393.000	1.75	1.75	1.75	1.75	1.75
1,394.000	1.75	1.75	1.75	1.75	1.75
1,395.000	1.75	1.75	1.74	1.74	1.74
1,396.000	1.74	1.74	1.74	1.74	1.74
1,397.000	1.74	1.74	1.74	1.74	1.74
1,398.000	1.74	1.73	1.73	1.73	1.73
1,399.000	1.73	1.73	1.73	1.73	1.73
1,400.000	1.73	1.73	1.73	1.73	1.73
1,401.000	1.73	1.72	1.72	1.72	1.72
1,402.000	1.72	1.72	1.72	1.72	1.72
1,403.000	1.72	1.72	1.72	1.72	1.72
1,404.000	1.72	1.71	1.71	1.71	1.71
1,405.000	1.71	1.71	1.71	1.71	1.71
1,406.000	1.71	1.71	1.71	1.71	1.71
1,407.000	1.71	1.70	1.70	1.70	1.70
1,408.000	1.70	1.70	1.70	1.70	1.70
1,409.000	1.70	1.70	1.70	1.70	1.70
1,410.000	1.70	1.70	1.69	1.69	1.69
1,411.000	1.69	1.69	1.69	1.69	1.69
1,412.000	1.69	1.69	1.69	1.69	1.69
1,413.000	1.69	1.69	1.69	1.68	1.68
1,414.000	1.68	1.68	1.68	1.68	1.68
1,415.000	1.68	1.68	1.68	1.68	1.68
1,416.000	1.68	1.68	1.68	1.68	1.67
1,417.000	1.67	1.67	1.67	1.67	1.67
1,418.000	1.67	1.67	1.67	1.67	1.67
1,419.000	1.67	1.67	1.67	1.67	1.67
1,420.000	1.66	1.66	1.66	1.66	1.66
1,421.000	1.66	1.66	1.66	1.66	1.66
1,422.000	1.66	1.66	1.66	1.66	1.66

## Figueroa Business Center Detention Calculations

Subsection: Read Hydrograph

Scenario: Base

Label: CM-1

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 0.200 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,423.000	1.66	1.66	1.65	1.65	1.65
1,424.000	1.65	1.65	1.65	1.65	1.65
1,425.000	1.65	1.65	1.65	1.65	1.65
1,426.000	1.65	1.65	1.65	1.65	1.64
1,427.000	1.64	1.64	1.64	1.64	1.64
1,428.000	1.64	1.64	1.64	1.64	1.64
1,429.000	1.64	1.64	1.64	1.64	1.64
1,430.000	1.64	1.63	1.63	1.63	1.63
1,431.000	1.63	1.63	1.63	1.63	1.63
1,432.000	1.63	1.63	1.63	1.63	1.63
1,433.000	1.63	1.63	1.63	1.63	1.62
1,434.000	1.62	1.62	1.62	1.62	1.62
1,435.000	1.62	1.62	1.62	1.62	1.62
1,436.000	1.62	1.62	1.62	1.62	1.62
1,437.000	1.62	1.62	1.61	1.61	1.61
1,438.000	1.61	1.61	1.61	1.61	1.61
1,439.000	1.61	1.61	1.61	1.61	1.61
1,440.000	1.61	1.59	1.57	1.55	1.53
1,441.000	1.51	1.49	1.47	1.45	1.44
1,442.000	1.42	1.40	1.38	1.36	1.34
1,443.000	1.32	1.30	1.28	1.26	1.24
1,444.000	1.23	1.21	1.19	1.17	1.15
1,445.000	1.13	1.11	1.09	1.07	1.05
1,446.000	1.03	1.02	1.00	0.98	0.96
1,447.000	0.94	0.92	0.90	0.88	0.86
1,448.000	0.85	0.83	0.81	0.79	0.77
1,449.000	0.75	0.73	0.71	0.69	0.68
1,450.000	0.66	0.64	0.62	0.60	0.58
1,451.000	0.56	0.54	0.52	0.51	0.49
1,452.000	0.47	0.45	0.43	0.41	0.39
1,453.000	0.37	0.36	0.34	0.32	0.30
1,454.000	0.28	0.26	0.24	0.22	0.21
1,455.000	0.19	0.17	0.15	0.13	0.11
1,456.000	0.09	0.07	0.06	0.04	0.02
1,457.000	0.00	(N/A)	(N/A)	(N/A)	(N/A)

## Figueroa Business Center Detention Calculations

Subsection: Addition Summary

Scenario: Base

Label: O-3

### Summary for Hydrograph Addition at 'O-3'

	Upstream Link	Upstream Node
Outlet-2		PO-3

### Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	Outlet-2	5.965	1,164.000	21.60
Flow (In)	O-3	5.965	1,164.000	21.60

## Figueroa Business Center Detention Calculations

Subsection: Time vs. Elevation

Scenario: Base

Label: PO-3 (OUT)

### Time vs. Elevation (ft)

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	100.00	100.01	100.04	100.07	100.11
15.000	100.15	100.19	100.22	100.24	100.25
30.000	100.25	100.25	100.26	100.26	100.26
45.000	100.26	100.26	100.26	100.26	100.26
60.000	100.26	100.26	100.26	100.26	100.26
75.000	100.26	100.26	100.26	100.26	100.26
90.000	100.26	100.26	100.26	100.26	100.26
105.000	100.26	100.27	100.27	100.27	100.27
120.000	100.27	100.27	100.27	100.27	100.27
135.000	100.27	100.27	100.27	100.27	100.27
150.000	100.27	100.27	100.27	100.27	100.27
165.000	100.27	100.27	100.27	100.27	100.27
180.000	100.27	100.27	100.27	100.28	100.28
195.000	100.28	100.28	100.28	100.28	100.28
210.000	100.28	100.28	100.28	100.28	100.28
225.000	100.28	100.28	100.28	100.28	100.28
240.000	100.28	100.28	100.28	100.28	100.28
255.000	100.28	100.29	100.29	100.29	100.29
270.000	100.29	100.29	100.29	100.29	100.29
285.000	100.29	100.29	100.29	100.29	100.29
300.000	100.29	100.29	100.29	100.29	100.29
315.000	100.29	100.29	100.29	100.30	100.30
330.000	100.30	100.30	100.30	100.30	100.30
345.000	100.30	100.30	100.30	100.30	100.30
360.000	100.30	100.30	100.30	100.30	100.30
375.000	100.30	100.30	100.31	100.31	100.31
390.000	100.31	100.31	100.31	100.31	100.31
405.000	100.31	100.31	100.31	100.31	100.31
420.000	100.31	100.31	100.31	100.31	100.32
435.000	100.32	100.32	100.32	100.32	100.32
450.000	100.32	100.32	100.32	100.32	100.32
465.000	100.32	100.32	100.32	100.32	100.32
480.000	100.33	100.33	100.33	100.33	100.33
495.000	100.33	100.33	100.33	100.33	100.33
510.000	100.33	100.33	100.33	100.33	100.34
525.000	100.34	100.34	100.34	100.34	100.34
540.000	100.34	100.34	100.34	100.34	100.34
555.000	100.34	100.34	100.34	100.35	100.35
570.000	100.35	100.35	100.35	100.35	100.35
585.000	100.35	100.35	100.35	100.35	100.36
600.000	100.36	100.36	100.36	100.36	100.36

## Figueroa Business Center Detention Calculations

Subsection: Time vs. Elevation

Scenario: Base

Label: PO-3 (OUT)

### Time vs. Elevation (ft)

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
615.000	100.36	100.36	100.36	100.36	100.36
630.000	100.37	100.37	100.37	100.37	100.37
645.000	100.37	100.37	100.37	100.37	100.37
660.000	100.38	100.38	100.38	100.38	100.38
675.000	100.38	100.38	100.38	100.38	100.39
690.000	100.39	100.39	100.39	100.39	100.39
705.000	100.39	100.39	100.39	100.40	100.40
720.000	100.40	100.40	100.40	100.40	100.40
735.000	100.40	100.41	100.41	100.41	100.41
750.000	100.41	100.41	100.41	100.42	100.42
765.000	100.42	100.42	100.42	100.42	100.42
780.000	100.43	100.43	100.43	100.43	100.43
795.000	100.43	100.44	100.44	100.44	100.44
810.000	100.44	100.44	100.45	100.45	100.45
825.000	100.45	100.45	100.46	100.46	100.46
840.000	100.46	100.46	100.47	100.47	100.47
855.000	100.47	100.47	100.48	100.48	100.48
870.000	100.48	100.49	100.49	100.49	100.49
885.000	100.49	100.50	100.50	100.50	100.51
900.000	100.51	100.51	100.51	100.52	100.52
915.000	100.52	100.52	100.53	100.53	100.53
930.000	100.54	100.54	100.54	100.55	100.55
945.000	100.55	100.56	100.56	100.57	100.57
960.000	100.57	100.58	100.58	100.59	100.59
975.000	100.59	100.60	100.60	100.61	100.61
990.000	100.62	100.62	100.63	100.63	100.64
1,005.000	100.64	100.65	100.66	100.66	100.67
1,020.000	100.67	100.68	100.69	100.69	100.70
1,035.000	100.71	100.72	100.73	100.73	100.74
1,050.000	100.75	100.76	100.77	100.78	100.79
1,065.000	100.80	100.81	100.83	100.84	100.85
1,080.000	100.87	100.88	100.90	100.91	100.93
1,095.000	100.95	100.97	100.99	101.01	101.03
1,110.000	101.05	101.07	101.09	101.12	101.15
1,125.000	101.19	101.23	101.28	101.33	101.39
1,140.000	101.47	101.56	101.67	101.84	102.19
1,155.000	102.72	103.29	103.76	103.97	103.89
1,170.000	103.32	102.64	102.14	101.73	101.44
1,185.000	101.23	101.09	100.98	100.86	100.79
1,200.000	100.73	100.69	100.66	100.63	100.61
1,215.000	100.59	100.57	100.56	100.54	100.53

## Figueroa Business Center Detention Calculations

Subsection: Time vs. Elevation

Scenario: Base

Label: PO-3 (OUT)

### Time vs. Elevation (ft)

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
1,230.000	100.52	100.51	100.50	100.49	100.48
1,245.000	100.47	100.46	100.45	100.45	100.44
1,260.000	100.43	100.43	100.42	100.41	100.41
1,275.000	100.40	100.40	100.39	100.39	100.38
1,290.000	100.38	100.37	100.37	100.37	100.36
1,305.000	100.36	100.36	100.35	100.35	100.35
1,320.000	100.34	100.34	100.34	100.33	100.33
1,335.000	100.33	100.32	100.32	100.32	100.32
1,350.000	100.31	100.31	100.31	100.31	100.31
1,365.000	100.30	100.30	100.30	100.30	100.29
1,380.000	100.29	100.29	100.29	100.29	100.29
1,395.000	100.28	100.28	100.28	100.28	100.28
1,410.000	100.28	100.27	100.27	100.27	100.27
1,425.000	100.27	100.27	100.26	100.26	100.26
1,440.000	100.26	(N/A)	(N/A)	(N/A)	(N/A)

## Figueroa Business Center Detention Calculations

Subsection: Time vs. Volume

Scenario: Base

Label: PO-3

### Time vs. Volume (ac-ft)

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
0.000	0.000	0.000	0.000	0.001	0.002
15.000	0.003	0.004	0.005	0.006	0.006
30.000	0.006	0.006	0.006	0.006	0.006
45.000	0.006	0.006	0.006	0.006	0.006
60.000	0.006	0.006	0.006	0.006	0.006
75.000	0.006	0.006	0.006	0.006	0.006
90.000	0.006	0.006	0.007	0.007	0.007
105.000	0.007	0.007	0.007	0.007	0.007
120.000	0.007	0.007	0.007	0.007	0.007
135.000	0.007	0.007	0.007	0.007	0.007
150.000	0.007	0.007	0.007	0.007	0.007
165.000	0.007	0.007	0.007	0.007	0.007
180.000	0.007	0.007	0.007	0.007	0.007
195.000	0.007	0.007	0.007	0.007	0.007
210.000	0.007	0.007	0.007	0.007	0.007
225.000	0.007	0.007	0.007	0.007	0.007
240.000	0.007	0.007	0.007	0.007	0.007
255.000	0.007	0.007	0.007	0.007	0.007
270.000	0.007	0.007	0.007	0.007	0.007
285.000	0.007	0.007	0.007	0.008	0.008
300.000	0.008	0.008	0.008	0.008	0.008
315.000	0.008	0.008	0.008	0.008	0.008
330.000	0.008	0.008	0.008	0.008	0.008
345.000	0.008	0.008	0.008	0.008	0.008
360.000	0.008	0.008	0.008	0.008	0.008
375.000	0.008	0.008	0.008	0.008	0.008
390.000	0.008	0.008	0.008	0.008	0.008
405.000	0.008	0.008	0.008	0.008	0.008
420.000	0.008	0.008	0.008	0.008	0.008
435.000	0.008	0.009	0.009	0.009	0.009
450.000	0.009	0.009	0.009	0.009	0.009
465.000	0.009	0.009	0.009	0.009	0.009
480.000	0.009	0.009	0.009	0.009	0.009
495.000	0.009	0.009	0.009	0.009	0.009
510.000	0.009	0.009	0.009	0.009	0.009
525.000	0.009	0.009	0.009	0.009	0.009
540.000	0.009	0.009	0.010	0.010	0.010
555.000	0.010	0.010	0.010	0.010	0.010
570.000	0.010	0.010	0.010	0.010	0.010
585.000	0.010	0.010	0.010	0.010	0.010
600.000	0.010	0.010	0.010	0.010	0.010

## Figueroa Business Center Detention Calculations

Subsection: Time vs. Volume

Scenario: Base

Label: PO-3

### Time vs. Volume (ac-ft)

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
615.000	0.010	0.010	0.010	0.010	0.010
630.000	0.011	0.011	0.011	0.011	0.011
645.000	0.011	0.011	0.011	0.011	0.011
660.000	0.011	0.011	0.011	0.011	0.011
675.000	0.011	0.011	0.011	0.011	0.011
690.000	0.011	0.011	0.012	0.012	0.012
705.000	0.012	0.012	0.012	0.012	0.012
720.000	0.012	0.012	0.012	0.012	0.012
735.000	0.012	0.012	0.012	0.012	0.012
750.000	0.013	0.013	0.013	0.013	0.013
765.000	0.013	0.013	0.013	0.013	0.013
780.000	0.013	0.013	0.013	0.013	0.013
795.000	0.014	0.014	0.014	0.014	0.014
810.000	0.014	0.014	0.014	0.014	0.014
825.000	0.014	0.014	0.015	0.015	0.015
840.000	0.015	0.015	0.015	0.015	0.015
855.000	0.015	0.015	0.016	0.016	0.016
870.000	0.016	0.016	0.016	0.016	0.016
885.000	0.016	0.017	0.017	0.017	0.017
900.000	0.017	0.017	0.017	0.017	0.018
915.000	0.018	0.018	0.018	0.018	0.018
930.000	0.019	0.019	0.019	0.019	0.019
945.000	0.019	0.020	0.020	0.020	0.020
960.000	0.020	0.021	0.021	0.021	0.021
975.000	0.021	0.022	0.022	0.022	0.022
990.000	0.023	0.023	0.023	0.023	0.024
1,005.000	0.024	0.024	0.025	0.025	0.025
1,020.000	0.026	0.026	0.026	0.027	0.027
1,035.000	0.028	0.028	0.029	0.029	0.030
1,050.000	0.030	0.031	0.031	0.032	0.032
1,065.000	0.033	0.034	0.034	0.035	0.036
1,080.000	0.037	0.038	0.039	0.040	0.041
1,095.000	0.042	0.043	0.044	0.046	0.047
1,110.000	0.048	0.049	0.051	0.053	0.055
1,125.000	0.058	0.060	0.064	0.067	0.072
1,140.000	0.077	0.083	0.092	0.103	0.130
1,155.000	0.167	0.203	0.225	0.230	0.229
1,170.000	0.205	0.162	0.126	0.096	0.075
1,185.000	0.060	0.051	0.044	0.037	0.032
1,200.000	0.029	0.027	0.025	0.023	0.022
1,215.000	0.021	0.020	0.020	0.019	0.018

## **Figueroa Business Center Detention Calculations**

Subsection: Time vs. Volume

Scenario: Base

Label: PO-3

### **Time vs. Volume (ac-ft)**

**Output Time increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)	Volume (ac-ft)
1,230.000	0.018	0.017	0.016	0.016	0.016
1,245.000	0.015	0.015	0.014	0.014	0.014
1,260.000	0.013	0.013	0.013	0.013	0.012
1,275.000	0.012	0.012	0.012	0.011	0.011
1,290.000	0.011	0.011	0.011	0.011	0.010
1,305.000	0.010	0.010	0.010	0.010	0.010
1,320.000	0.010	0.009	0.009	0.009	0.009
1,335.000	0.009	0.009	0.009	0.009	0.009
1,350.000	0.008	0.008	0.008	0.008	0.008
1,365.000	0.008	0.008	0.008	0.008	0.008
1,380.000	0.008	0.008	0.007	0.007	0.007
1,395.000	0.007	0.007	0.007	0.007	0.007
1,410.000	0.007	0.007	0.007	0.007	0.007
1,425.000	0.007	0.007	0.007	0.007	0.006
1,440.000	0.006	(N/A)	(N/A)	(N/A)	(N/A)

## Figueroa Business Center Detention Calculations

Subsection: Pipe Volume

Scenario: Base

Label: PO-3

### Volume Results (Pipe)

Pipe Storage Upstream Invert	100.00 ft
Pipe Storage Downstream Invert	100.00 ft
Pipe Storage Length	200.00 ft
Pipe Storage Diameter	48.0 in
Pipe Storage Number of Barrels	4
Pipe Storage Slice Width	0.50 ft
Pipe Storage Vertical Increment	0.05 ft

Elevation (ft)	Perpendicular Downstream Depth (ft)	Perpendicular Downstream Area (ft <sup>2</sup> )	Wetted Length (ft)	Filled Length (ft)	Perpendicular Upstream Depth (ft)	Perpendicular Upstream Area (ft <sup>2</sup> )	Total Volume (ac-ft)
100.00	0.00	0.0	200.00	0.00	0.00	0.0	0.000
100.05	0.05	0.0	200.00	0.00	0.05	0.0	0.001
100.10	0.10	0.1	200.00	0.00	0.10	0.1	0.002
100.15	0.15	0.2	200.00	0.00	0.15	0.2	0.003
100.20	0.20	0.2	200.00	0.00	0.20	0.2	0.004
100.25	0.25	0.3	200.00	0.00	0.25	0.3	0.006
100.30	0.30	0.4	200.00	0.00	0.30	0.4	0.008
100.35	0.35	0.5	200.00	0.00	0.35	0.5	0.010
100.40	0.40	0.7	200.00	0.00	0.40	0.7	0.012
100.45	0.45	0.8	200.00	0.00	0.45	0.8	0.014
100.50	0.50	0.9	200.00	0.00	0.50	0.9	0.017
100.55	0.55	1.0	200.00	0.00	0.55	1.0	0.019
100.60	0.60	1.2	200.00	0.00	0.60	1.2	0.022
100.65	0.65	1.3	200.00	0.00	0.65	1.3	0.024
100.70	0.70	1.5	200.00	0.00	0.70	1.5	0.027
100.75	0.75	1.6	200.00	0.00	0.75	1.6	0.030
100.80	0.80	1.8	200.00	0.00	0.80	1.8	0.033
100.85	0.85	2.0	200.00	0.00	0.85	2.0	0.036
100.90	0.90	2.1	200.00	0.00	0.90	2.1	0.039
100.95	0.95	2.3	200.00	0.00	0.95	2.3	0.042
101.00	1.00	2.5	200.00	0.00	1.00	2.5	0.045
101.05	1.05	2.6	200.00	0.00	1.05	2.6	0.048
101.10	1.10	2.8	200.00	0.00	1.10	2.8	0.052
101.15	1.15	3.0	200.00	0.00	1.15	3.0	0.055
101.20	1.20	3.2	200.00	0.00	1.20	3.2	0.058
101.25	1.25	3.4	200.00	0.00	1.25	3.4	0.062
101.30	1.30	3.5	200.00	0.00	1.30	3.5	0.065
101.35	1.35	3.7	200.00	0.00	1.35	3.7	0.069
101.40	1.40	3.9	200.00	0.00	1.40	3.9	0.072
101.45	1.45	4.1	200.00	0.00	1.45	4.1	0.076
101.50	1.50	4.3	200.00	0.00	1.50	4.3	0.079

## Figueroa Business Center Detention Calculations

Subsection: Pipe Volume

Scenario: Base

Label: PO-3

Elevation (ft)	Perpendicular Downstream Depth (ft)	Perpendicular Downstream Area (ft <sup>2</sup> )	Wetted Length (ft)	Filled Length (ft)	Perpendicular Upstream Depth (ft)	Perpendicular Upstream Area (ft <sup>2</sup> )	Total Volume (ac-ft)
101.55	1.55	4.5	200.00	0.00	1.55	4.5	0.083
101.60	1.60	4.7	200.00	0.00	1.60	4.7	0.086
101.65	1.65	4.9	200.00	0.00	1.65	4.9	0.090
101.70	1.70	5.1	200.00	0.00	1.70	5.1	0.093
101.75	1.75	5.3	200.00	0.00	1.75	5.3	0.097
101.80	1.80	5.5	200.00	0.00	1.80	5.5	0.101
101.85	1.85	5.7	200.00	0.00	1.85	5.7	0.104
101.90	1.90	5.9	200.00	0.00	1.90	5.9	0.108
101.95	1.95	6.1	200.00	0.00	1.95	6.1	0.112
102.00	2.00	6.3	200.00	0.00	2.00	6.3	0.115
102.05	2.05	6.5	200.00	0.00	2.05	6.5	0.119
102.10	2.10	6.7	200.00	0.00	2.10	6.7	0.123
102.15	2.15	6.9	200.00	0.00	2.15	6.9	0.126
102.20	2.20	7.1	200.00	0.00	2.20	7.1	0.130
102.25	2.25	7.3	200.00	0.00	2.25	7.3	0.134
102.30	2.30	7.5	200.00	0.00	2.30	7.5	0.137
102.35	2.35	7.7	200.00	0.00	2.35	7.7	0.141
102.40	2.40	7.9	200.00	0.00	2.40	7.9	0.145
102.45	2.45	8.1	200.00	0.00	2.45	8.1	0.148
102.50	2.50	8.3	200.00	0.00	2.50	8.3	0.152
102.55	2.55	8.5	200.00	0.00	2.55	8.5	0.155
102.60	2.60	8.6	200.00	0.00	2.60	8.6	0.159
102.65	2.65	8.8	200.00	0.00	2.65	8.8	0.162
102.70	2.70	9.0	200.00	0.00	2.70	9.0	0.166
102.75	2.75	9.2	200.00	0.00	2.75	9.2	0.169
102.80	2.80	9.4	200.00	0.00	2.80	9.4	0.173
102.85	2.85	9.6	200.00	0.00	2.85	9.6	0.176
102.90	2.90	9.8	200.00	0.00	2.90	9.8	0.179
102.95	2.95	9.9	200.00	0.00	2.95	9.9	0.182
103.00	3.00	10.1	200.00	0.00	3.00	10.1	0.186
103.05	3.05	10.3	200.00	0.00	3.05	10.3	0.189
103.10	3.10	10.5	200.00	0.00	3.10	10.5	0.192
103.15	3.15	10.6	200.00	0.00	3.15	10.6	0.195
103.20	3.20	10.8	200.00	0.00	3.20	10.8	0.198
103.25	3.25	10.9	200.00	0.00	3.25	10.9	0.201
103.30	3.30	11.1	200.00	0.00	3.30	11.1	0.204
103.35	3.35	11.2	200.00	0.00	3.35	11.2	0.206
103.40	3.40	11.4	200.00	0.00	3.40	11.4	0.209
103.45	3.45	11.5	200.00	0.00	3.45	11.5	0.212
103.50	3.50	11.7	200.00	0.00	3.50	11.7	0.214
103.55	3.55	11.8	200.00	0.00	3.55	11.8	0.217
103.60	3.60	11.9	200.00	0.00	3.60	11.9	0.219
103.65	3.65	12.0	200.00	0.00	3.65	12.0	0.221
103.70	3.70	12.1	200.00	0.00	3.70	12.1	0.223

Bentley Systems, Inc. Haestad Methods Solution  
Center

2022.08.30 - XEBEC.ppc  
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PondPack CONNECT Edition  
[10.02.00.01]  
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## Figueroa Business Center Detention Calculations

Subsection: Pipe Volume

Scenario: Base

Label: PO-3

Elevation (ft)	Perpendicular Downstream Depth (ft)	Perpendicular Downstream Area (ft <sup>2</sup> )	Wetted Length (ft)	Filled Length (ft)	Perpendicular Upstream Depth (ft)	Perpendicular Upstream Area (ft <sup>2</sup> )	Total Volume (ac-ft)
103.75	3.75	12.2	200.00	0.00	3.75	12.2	0.225
103.80	3.80	12.3	200.00	0.00	3.80	12.3	0.226
103.85	3.85	12.4	200.00	0.00	3.85	12.4	0.228
103.90	3.90	12.5	200.00	0.00	3.90	12.5	0.229
103.95	3.95	12.5	200.00	0.00	3.95	12.5	0.230
104.00	4.00	12.6	200.00	200.00	4.00	12.6	0.231

## **Figueroa Business Center Detention Calculations**

Subsection: Outlet Input Data

Scenario: Base

Label: Composite Outlet Structure - 1

### **Requested Pond Water Surface Elevations**

Minimum (Headwater)	100.00 ft
Increment (Headwater)	1.00 ft
Maximum (Headwater)	104.00 ft

### **Outlet Connectivity**

Structure Type	Outlet ID	Direction	Outfall	E1 (ft)	E2 (ft)
Orifice-Circular Tailwater Settings	Orifice - 1 Tailwater	Forward	TW	100.00 (N/A)	104.00 (N/A)

## Figueroa Business Center Detention Calculations

Subsection: Outlet Input Data

Scenario: Base

Label: Composite Outlet Structure - 1

Structure ID:	Orifice - 1
Structure Type:	Orifice-Circular
Number of Openings	2
Elevation	100.00 ft
Orifice Diameter	15.0 in
Orifice Coefficient	0.600
Structure ID:	TW
Structure Type:	TW Setup, DS Channel
Tailwater Type	Free Outfall
Convergence Tolerances	
Maximum Iterations	30
Tailwater Tolerance (Minimum)	0.01 ft
Tailwater Tolerance (Maximum)	0.50 ft
Headwater Tolerance (Minimum)	0.01 ft
Headwater Tolerance (Maximum)	0.50 ft
Flow Tolerance (Minimum)	0.001 ft <sup>3</sup> /s
Flow Tolerance (Maximum)	10.000 ft <sup>3</sup> /s

## Figueroa Business Center Detention Calculations

Subsection: Individual Outlet Curves

Scenario: Base

Label: Composite Outlet Structure - 1

### RATING TABLE FOR ONE OUTLET TYPE

Structure ID = Orifice - 1 (Orifice-Circular)

Upstream ID = (Pond Water Surface)

Downstream ID = Tailwater (Pond Outfall)

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
100.00	0.00	(N/A)	0.00
101.00	6.22	(N/A)	0.00
102.00	13.85	(N/A)	0.00
103.00	18.20	(N/A)	0.00
104.00	21.70	(N/A)	0.00

### Computation Messages

Upstream HW &  
DNstream TW < Inv.EI  
CRIT.DEPTH CONTROL  
Vh= .291ft Dcr= .710ft  
CRIT.DEPTH Hev= .00ft  
H =1.38  
H =2.38  
H =3.38

## Figueroa Business Center Detention Calculations

Subsection: Composite Rating Curve

Scenario: Base

Label: Composite Outlet Structure - 1

### Composite Outflow Summary

Water Surface Elevation (ft)	Flow (ft <sup>3</sup> /s)	Tailwater Elevation (ft)	Convergence Error (ft)
100.00	0.00	(N/A)	0.00
101.00	6.22	(N/A)	0.00
102.00	13.85	(N/A)	0.00
103.00	18.20	(N/A)	0.00
104.00	21.70	(N/A)	0.00

### Contributing Structures

None Contributing
Orifice - 1

## Figueroa Business Center Detention Calculations

Subsection: Diverted Hydrograph

Scenario: Base

Label: Outlet-2

Peak Discharge	21.60 ft <sup>3</sup> /s
Time to Peak	1,164.000 min
Hydrograph Volume	5.965 ac-ft

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
0.000	0.00	0.06	0.22	0.43	0.68
15.000	0.94	1.19	1.37	1.47	1.52
30.000	1.56	1.58	1.59	1.59	1.60
45.000	1.60	1.61	1.61	1.61	1.61
60.000	1.62	1.62	1.62	1.62	1.62
75.000	1.63	1.63	1.63	1.63	1.63
90.000	1.64	1.64	1.64	1.64	1.65
105.000	1.65	1.65	1.65	1.65	1.66
120.000	1.66	1.66	1.66	1.67	1.67
135.000	1.67	1.67	1.67	1.68	1.68
150.000	1.68	1.68	1.69	1.69	1.69
165.000	1.69	1.70	1.70	1.70	1.70
180.000	1.71	1.71	1.71	1.71	1.72
195.000	1.72	1.72	1.72	1.73	1.73
210.000	1.73	1.73	1.74	1.74	1.74
225.000	1.74	1.75	1.75	1.75	1.75
240.000	1.76	1.76	1.76	1.76	1.77
255.000	1.77	1.77	1.78	1.78	1.78
270.000	1.78	1.79	1.79	1.79	1.80
285.000	1.80	1.80	1.80	1.81	1.81
300.000	1.81	1.82	1.82	1.82	1.82
315.000	1.83	1.83	1.83	1.84	1.84
330.000	1.84	1.85	1.85	1.85	1.86
345.000	1.86	1.86	1.87	1.87	1.87
360.000	1.88	1.88	1.88	1.88	1.89
375.000	1.89	1.90	1.90	1.90	1.91
390.000	1.91	1.91	1.92	1.92	1.92
405.000	1.93	1.93	1.93	1.94	1.94
420.000	1.94	1.95	1.95	1.96	1.96
435.000	1.96	1.97	1.97	1.97	1.98
450.000	1.98	1.99	1.99	1.99	2.00
465.000	2.00	2.01	2.01	2.01	2.02
480.000	2.02	2.03	2.03	2.04	2.04
495.000	2.04	2.05	2.05	2.06	2.06
510.000	2.07	2.07	2.07	2.08	2.08
525.000	2.09	2.09	2.10	2.10	2.11
540.000	2.11	2.12	2.12	2.13	2.13

## Figueroa Business Center Detention Calculations

Subsection: Diverted Hydrograph

Scenario: Base

Label: Outlet-2

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

Output Time Increment = 3.000 min

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
555.000	2.14	2.14	2.15	2.15	2.16
570.000	2.16	2.17	2.17	2.18	2.18
585.000	2.19	2.19	2.20	2.20	2.21
600.000	2.21	2.22	2.23	2.23	2.24
615.000	2.24	2.25	2.25	2.26	2.27
630.000	2.27	2.28	2.28	2.29	2.30
645.000	2.30	2.31	2.31	2.32	2.33
660.000	2.33	2.34	2.35	2.35	2.36
675.000	2.37	2.37	2.38	2.39	2.39
690.000	2.40	2.41	2.42	2.42	2.43
705.000	2.44	2.45	2.45	2.46	2.47
720.000	2.48	2.48	2.49	2.50	2.51
735.000	2.52	2.53	2.53	2.54	2.55
750.000	2.56	2.57	2.58	2.59	2.59
765.000	2.60	2.61	2.62	2.63	2.64
780.000	2.65	2.66	2.67	2.68	2.69
795.000	2.70	2.71	2.72	2.73	2.74
810.000	2.75	2.76	2.78	2.79	2.80
825.000	2.81	2.82	2.83	2.85	2.86
840.000	2.87	2.88	2.90	2.91	2.92
855.000	2.93	2.95	2.96	2.98	2.99
870.000	3.00	3.02	3.03	3.05	3.06
885.000	3.08	3.09	3.11	3.13	3.14
900.000	3.16	3.18	3.19	3.21	3.23
915.000	3.25	3.26	3.28	3.30	3.32
930.000	3.34	3.36	3.38	3.40	3.43
945.000	3.45	3.47	3.49	3.52	3.54
960.000	3.56	3.59	3.61	3.64	3.67
975.000	3.69	3.72	3.75	3.78	3.81
990.000	3.84	3.87	3.90	3.93	3.97
1,005.000	4.00	4.04	4.07	4.11	4.15
1,020.000	4.19	4.23	4.28	4.32	4.36
1,035.000	4.41	4.46	4.51	4.56	4.62
1,050.000	4.67	4.73	4.79	4.86	4.92
1,065.000	4.99	5.06	5.14	5.22	5.30
1,080.000	5.39	5.48	5.57	5.68	5.79
1,095.000	5.90	6.03	6.16	6.28	6.42
1,110.000	6.56	6.73	6.92	7.14	7.38
1,125.000	7.66	7.98	8.34	8.75	9.23
1,140.000	9.79	10.48	11.37	12.61	14.69
1,155.000	17.00	19.23	20.88	21.60	21.33
1,170.000	19.34	16.66	14.46	11.81	9.57

## Figueroa Business Center Detention Calculations

Subsection: Diverted Hydrograph

Scenario: Base

Label: Outlet-2

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,185.000	8.00	6.89	6.07	5.37	4.90
1,200.000	4.56	4.30	4.10	3.94	3.80
1,215.000	3.68	3.57	3.47	3.38	3.30
1,230.000	3.22	3.15	3.09	3.03	2.97
1,245.000	2.92	2.86	2.82	2.77	2.73
1,260.000	2.69	2.65	2.61	2.57	2.54
1,275.000	2.50	2.47	2.44	2.41	2.38
1,290.000	2.36	2.33	2.30	2.28	2.26
1,305.000	2.23	2.21	2.19	2.17	2.15
1,320.000	2.13	2.11	2.09	2.07	2.05
1,335.000	2.04	2.02	2.00	1.99	1.97
1,350.000	1.96	1.94	1.93	1.91	1.90
1,365.000	1.89	1.87	1.86	1.85	1.83
1,380.000	1.82	1.81	1.80	1.79	1.78
1,395.000	1.77	1.75	1.74	1.73	1.72
1,410.000	1.71	1.70	1.69	1.68	1.67
1,425.000	1.67	1.66	1.65	1.64	1.63
1,440.000	1.62	(N/A)	(N/A)	(N/A)	(N/A)

## Figueroa Business Center Detention Calculations

Subsection: Elevation-Volume-Flow Table (Pond)

Scenario: Base

Label: PO-3

Infiltration													
Infiltration Method (Computed)	No Infiltration												
Initial Conditions													
<table><tr><td>Elevation (Water Surface, Initial)</td><td>100.00 ft</td></tr><tr><td>Volume (Initial)</td><td>0.000 ac-ft</td></tr><tr><td>Flow (Initial Outlet)</td><td>0.00 ft³/s</td></tr><tr><td>Flow (Initial Infiltration)</td><td>0.00 ft³/s</td></tr><tr><td>Flow (Initial, Total)</td><td>0.00 ft³/s</td></tr><tr><td>Time Increment</td><td>3.000 min</td></tr></table>		Elevation (Water Surface, Initial)	100.00 ft	Volume (Initial)	0.000 ac-ft	Flow (Initial Outlet)	0.00 ft³/s	Flow (Initial Infiltration)	0.00 ft³/s	Flow (Initial, Total)	0.00 ft³/s	Time Increment	3.000 min
Elevation (Water Surface, Initial)	100.00 ft												
Volume (Initial)	0.000 ac-ft												
Flow (Initial Outlet)	0.00 ft³/s												
Flow (Initial Infiltration)	0.00 ft³/s												
Flow (Initial, Total)	0.00 ft³/s												
Time Increment	3.000 min												

Elevation (ft)	Outflow (ft³/s)	Storage (ac-ft)	Area (acres)	Infiltration (ft³/s)	Flow (Total) (ft³/s)	2S/t + O (ft³/s)
100.00	0.00	0.000	0.000	0.00	0.00	0.00
101.00	6.22	0.045	0.000	0.00	6.22	28.06
102.00	13.85	0.115	0.000	0.00	13.85	69.70
103.00	18.20	0.186	0.000	0.00	18.20	108.07
104.00	21.70	0.231	0.000	0.00	21.70	133.40

## Figueroa Business Center Detention Calculations

Subsection: Level Pool Pond Routing Summary  
Label: PO-3 (IN)

Scenario: Base

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### Infiltration

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Infiltration Method (Computed)	No Infiltration
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### Initial Conditions

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Elevation (Water Surface, Initial)	100.00 ft
Volume (Initial)	0.000 ac-ft
Flow (Initial Outlet)	0.00 ft <sup>3</sup> /s
Flow (Initial Infiltration)	0.00 ft <sup>3</sup> /s
Flow (Initial, Total)	0.00 ft <sup>3</sup> /s
Time Increment	3.000 min

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### Inflow/Outflow Hydrograph Summary

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Flow (Peak In)	26.23 ft <sup>3</sup> /s	Time to Peak (Flow, In)	1,155.000 min
Flow (Peak Outlet)	21.60 ft <sup>3</sup> /s	Time to Peak (Flow, Outlet)	1,164.000 min

---

Elevation (Water Surface, Peak)	103.97 ft
Volume (Peak)	0.230 ac-ft

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### Mass Balance (ac-ft)

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Volume (Initial)	0.000 ac-ft
Volume (Total Inflow)	5.977 ac-ft
Volume (Total Infiltration)	0.000 ac-ft
Volume (Total Outlet Outflow)	5.965 ac-ft
Volume (Retained)	0.003 ac-ft
Volume (Unrouted)	-0.009 ac-ft
Error (Mass Balance)	0.2 %

---

## Figueroa Business Center Detention Calculations

Subsection: Pond Routed Hydrograph (total out)

Scenario: Base

Label: PO-3 (OUT)

Peak Discharge	21.60 ft <sup>3</sup> /s
Time to Peak	1,164.000 min
Hydrograph Volume	5.965 ac-ft

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
0.000	0.00	0.06	0.22	0.43	0.68
15.000	0.94	1.19	1.37	1.47	1.52
30.000	1.56	1.58	1.59	1.59	1.60
45.000	1.60	1.61	1.61	1.61	1.61
60.000	1.62	1.62	1.62	1.62	1.62
75.000	1.63	1.63	1.63	1.63	1.63
90.000	1.64	1.64	1.64	1.64	1.65
105.000	1.65	1.65	1.65	1.65	1.66
120.000	1.66	1.66	1.66	1.67	1.67
135.000	1.67	1.67	1.67	1.68	1.68
150.000	1.68	1.68	1.69	1.69	1.69
165.000	1.69	1.70	1.70	1.70	1.70
180.000	1.71	1.71	1.71	1.71	1.72
195.000	1.72	1.72	1.72	1.73	1.73
210.000	1.73	1.73	1.74	1.74	1.74
225.000	1.74	1.75	1.75	1.75	1.75
240.000	1.76	1.76	1.76	1.76	1.77
255.000	1.77	1.77	1.78	1.78	1.78
270.000	1.78	1.79	1.79	1.79	1.80
285.000	1.80	1.80	1.80	1.81	1.81
300.000	1.81	1.82	1.82	1.82	1.82
315.000	1.83	1.83	1.83	1.84	1.84
330.000	1.84	1.85	1.85	1.85	1.86
345.000	1.86	1.86	1.87	1.87	1.87
360.000	1.88	1.88	1.88	1.88	1.89
375.000	1.89	1.90	1.90	1.90	1.91
390.000	1.91	1.91	1.92	1.92	1.92
405.000	1.93	1.93	1.93	1.94	1.94
420.000	1.94	1.95	1.95	1.96	1.96
435.000	1.96	1.97	1.97	1.97	1.98
450.000	1.98	1.99	1.99	1.99	2.00
465.000	2.00	2.01	2.01	2.01	2.02
480.000	2.02	2.03	2.03	2.04	2.04
495.000	2.04	2.05	2.05	2.06	2.06
510.000	2.07	2.07	2.07	2.08	2.08
525.000	2.09	2.09	2.10	2.10	2.11
540.000	2.11	2.12	2.12	2.13	2.13

## Figueroa Business Center Detention Calculations

Subsection: Pond Routed Hydrograph (total out)

Scenario: Base

Label: PO-3 (OUT)

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
555.000	2.14	2.14	2.15	2.15	2.16
570.000	2.16	2.17	2.17	2.18	2.18
585.000	2.19	2.19	2.20	2.20	2.21
600.000	2.21	2.22	2.23	2.23	2.24
615.000	2.24	2.25	2.25	2.26	2.27
630.000	2.27	2.28	2.28	2.29	2.30
645.000	2.30	2.31	2.31	2.32	2.33
660.000	2.33	2.34	2.35	2.35	2.36
675.000	2.37	2.37	2.38	2.39	2.39
690.000	2.40	2.41	2.42	2.42	2.43
705.000	2.44	2.45	2.45	2.46	2.47
720.000	2.48	2.48	2.49	2.50	2.51
735.000	2.52	2.53	2.53	2.54	2.55
750.000	2.56	2.57	2.58	2.59	2.59
765.000	2.60	2.61	2.62	2.63	2.64
780.000	2.65	2.66	2.67	2.68	2.69
795.000	2.70	2.71	2.72	2.73	2.74
810.000	2.75	2.76	2.78	2.79	2.80
825.000	2.81	2.82	2.83	2.85	2.86
840.000	2.87	2.88	2.90	2.91	2.92
855.000	2.93	2.95	2.96	2.98	2.99
870.000	3.00	3.02	3.03	3.05	3.06
885.000	3.08	3.09	3.11	3.13	3.14
900.000	3.16	3.18	3.19	3.21	3.23
915.000	3.25	3.26	3.28	3.30	3.32
930.000	3.34	3.36	3.38	3.40	3.43
945.000	3.45	3.47	3.49	3.52	3.54
960.000	3.56	3.59	3.61	3.64	3.67
975.000	3.69	3.72	3.75	3.78	3.81
990.000	3.84	3.87	3.90	3.93	3.97
1,005.000	4.00	4.04	4.07	4.11	4.15
1,020.000	4.19	4.23	4.28	4.32	4.36
1,035.000	4.41	4.46	4.51	4.56	4.62
1,050.000	4.67	4.73	4.79	4.86	4.92
1,065.000	4.99	5.06	5.14	5.22	5.30
1,080.000	5.39	5.48	5.57	5.68	5.79
1,095.000	5.90	6.03	6.16	6.28	6.42
1,110.000	6.56	6.73	6.92	7.14	7.38
1,125.000	7.66	7.98	8.34	8.75	9.23
1,140.000	9.79	10.48	11.37	12.61	14.69
1,155.000	17.00	19.23	20.88	21.60	21.33
1,170.000	19.34	16.66	14.46	11.81	9.57

## Figueroa Business Center Detention Calculations

Subsection: Pond Routed Hydrograph (total out)

Scenario: Base

Label: PO-3 (OUT)

### HYDROGRAPH ORDINATES (ft<sup>3</sup>/s)

**Output Time Increment = 3.000 min**

**Time on left represents time for first value in each row.**

Time (min)	Flow (ft <sup>3</sup> /s)				
1,185.000	8.00	6.89	6.07	5.37	4.90
1,200.000	4.56	4.30	4.10	3.94	3.80
1,215.000	3.68	3.57	3.47	3.38	3.30
1,230.000	3.22	3.15	3.09	3.03	2.97
1,245.000	2.92	2.86	2.82	2.77	2.73
1,260.000	2.69	2.65	2.61	2.57	2.54
1,275.000	2.50	2.47	2.44	2.41	2.38
1,290.000	2.36	2.33	2.30	2.28	2.26
1,305.000	2.23	2.21	2.19	2.17	2.15
1,320.000	2.13	2.11	2.09	2.07	2.05
1,335.000	2.04	2.02	2.00	1.99	1.97
1,350.000	1.96	1.94	1.93	1.91	1.90
1,365.000	1.89	1.87	1.86	1.85	1.83
1,380.000	1.82	1.81	1.80	1.79	1.78
1,395.000	1.77	1.75	1.74	1.73	1.72
1,410.000	1.71	1.70	1.69	1.68	1.67
1,425.000	1.67	1.66	1.65	1.64	1.63
1,440.000	1.62	(N/A)	(N/A)	(N/A)	(N/A)

## Figueroa Business Center Detention Calculations

Subsection: Pond Inflow Summary

Scenario: Base

Label: PO-3 (IN)

### Summary for Hydrograph Addition at 'PO-3'

Upstream Link <Catchment to Outflow Node>	Upstream Node CM-1
--	-----------------------

#### Node Inflows

Inflow Type	Element	Volume (ac-ft)	Time to Peak (min)	Flow (Peak) (ft³/s)
Flow (From)	CM-1	5.994	1,155.400	26.24
Flow (In)	PO-3	5.977	1,155.000	26.23

## **Figueroa Business Center Detention Calculations**

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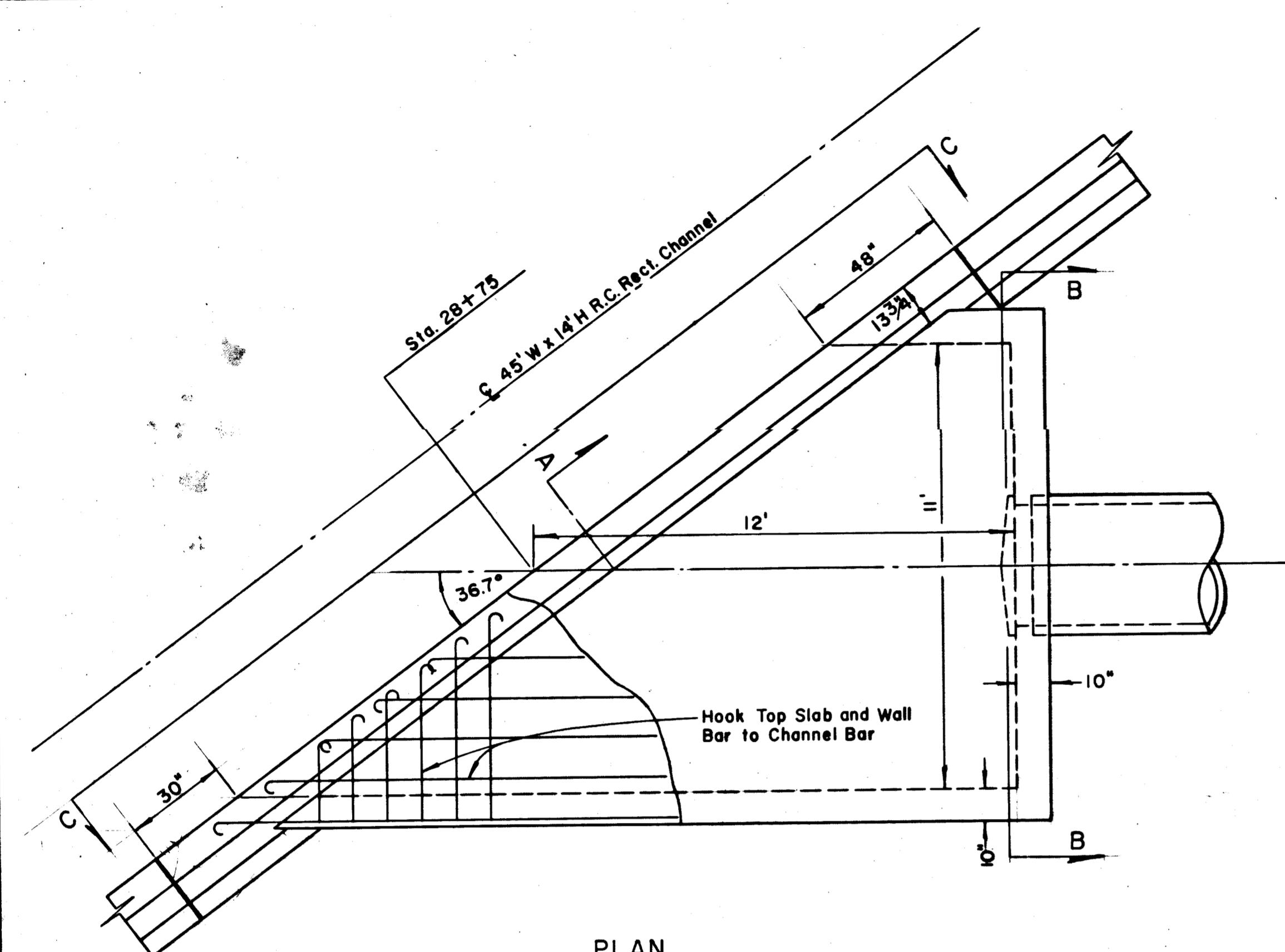
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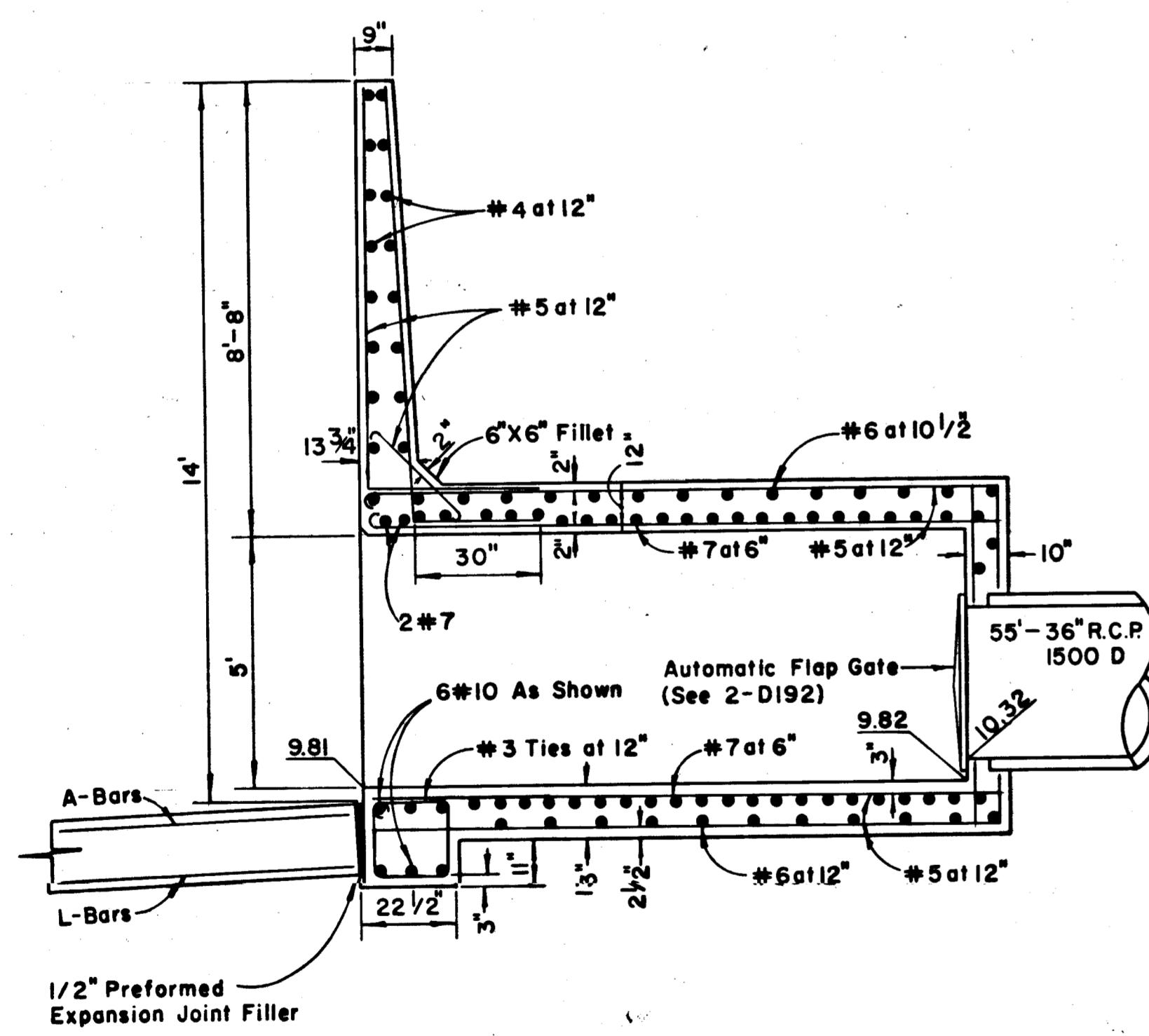
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## APPENDIX G

### REFERENCE DOCUMENT

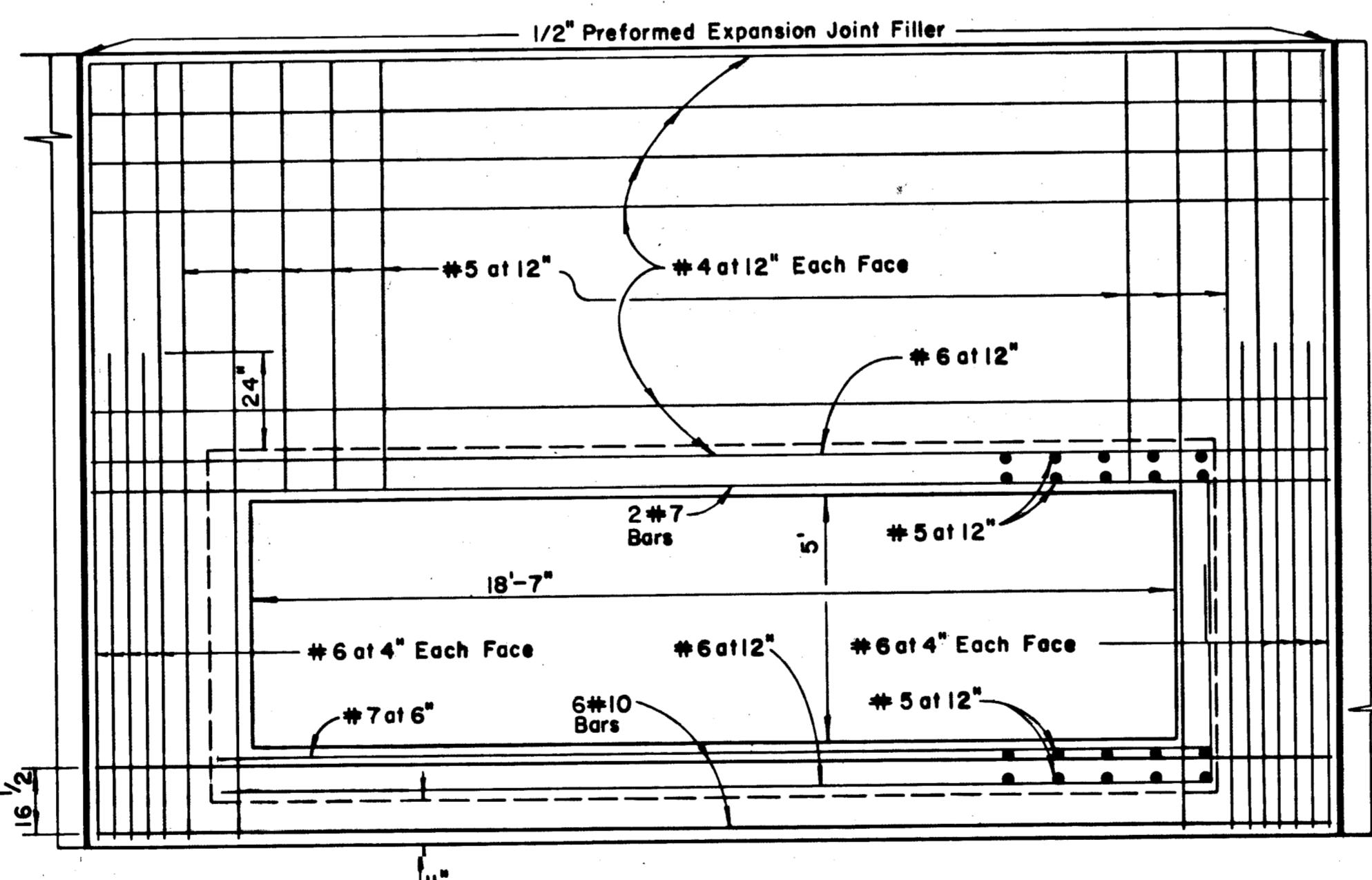


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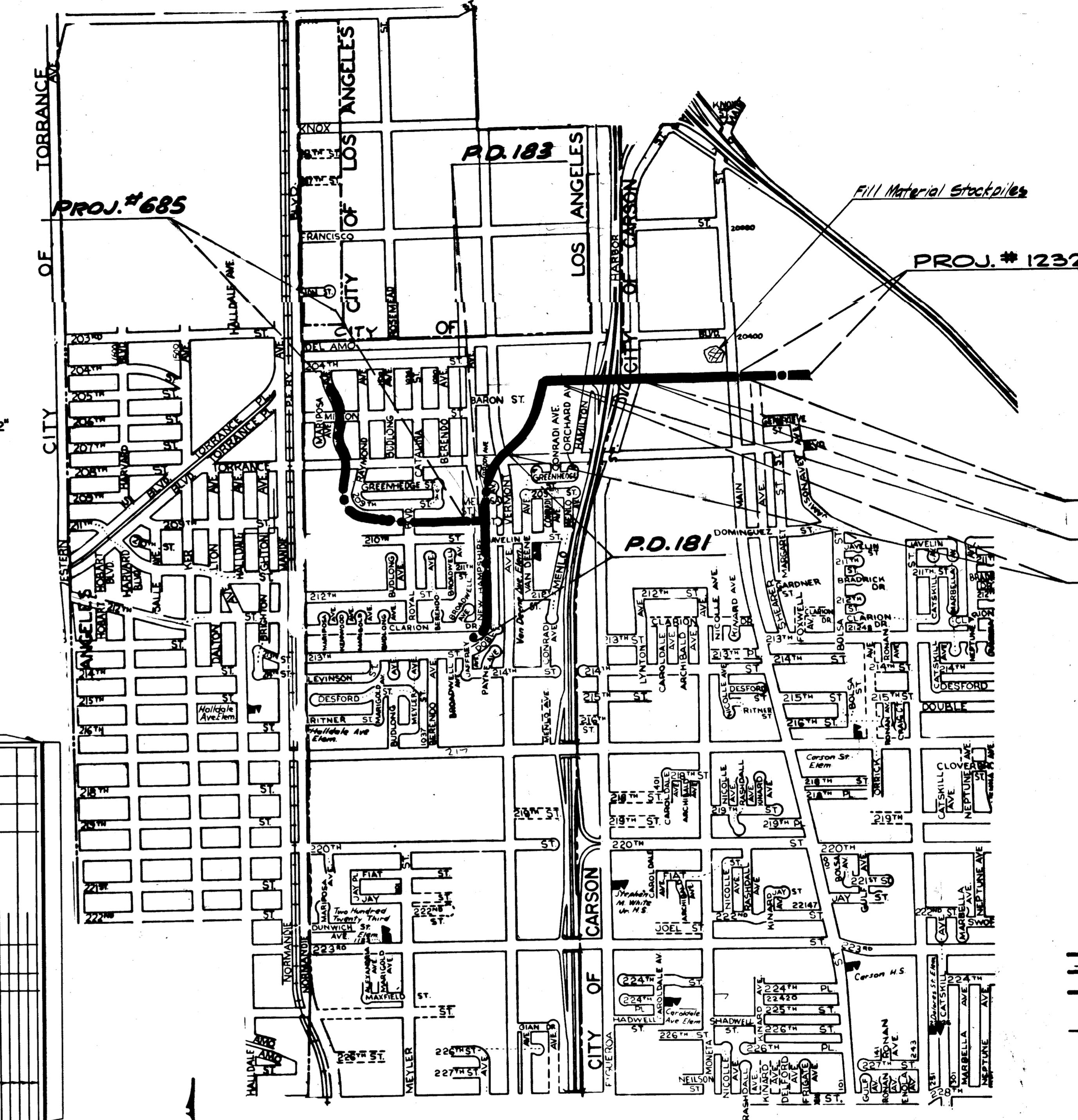


SECTION A-A

INLET STRUCTURE at STA. 28+75



SECTION C-C



**LOCATION MA**

SCALE: 1"=1000'

2000 1000 0 1000 2000

APPROVED AS TO CITY OF  
CARSON

FEB 10 1968

PREPARED BY	
<b>JOHN A. LAMBIE</b>	
COUNTY ENGINEER	
RECOMMENDED BY	
 <u>Remley R. Lammer</u> ASST. DIVISION ENGINEER - DESIGN DIVISION	
DRAWN BY	<u>E. MOORE</u>
TRACED BY	<u>E. MOORE</u>
CHECKED BY	<u>M. LOWE</u>
DESIGNED BY	<u>E. MOORE</u>
SUBMITTED BY	<u>K. KUHNEN</u>
DATE 10-1-68	

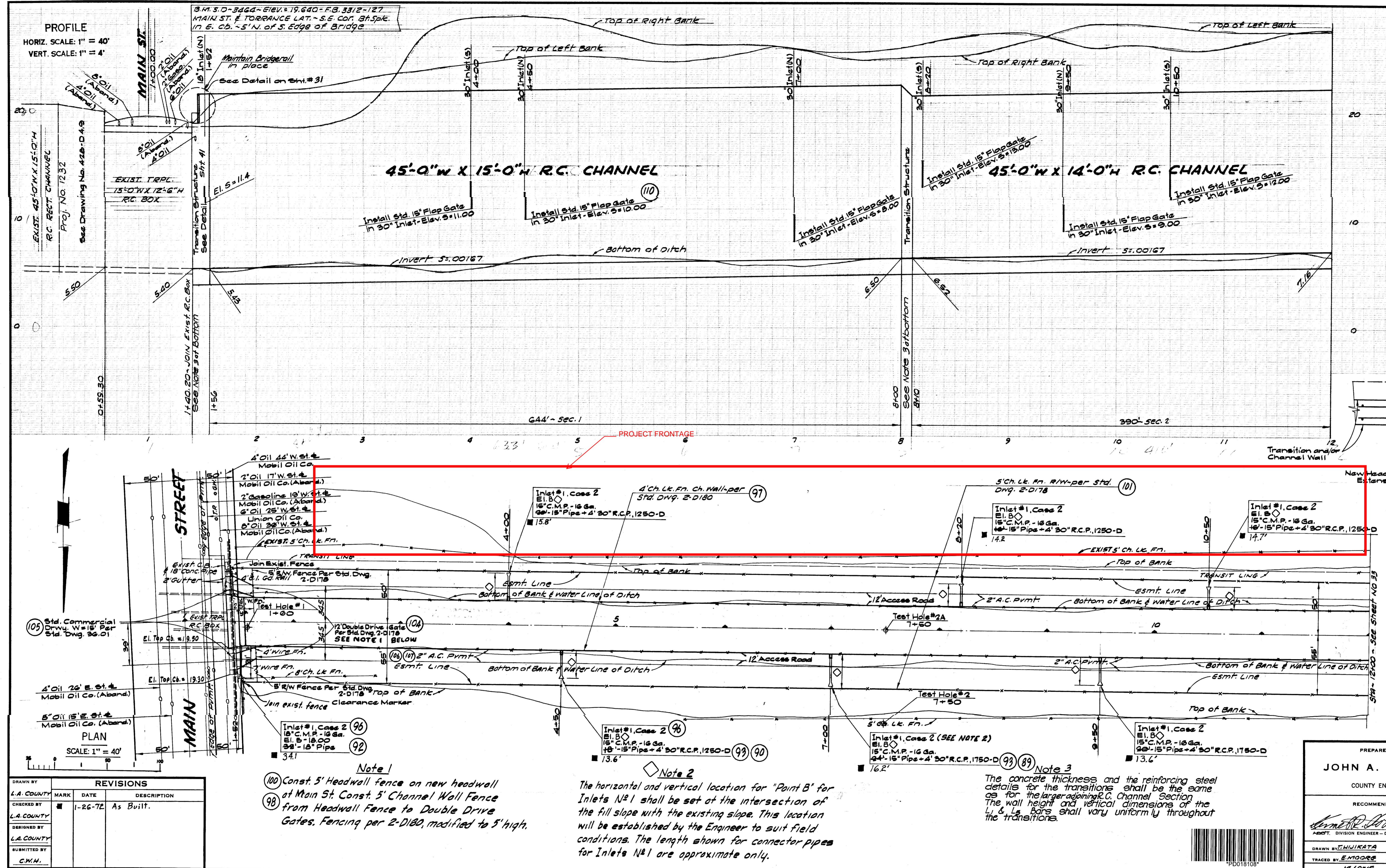
1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

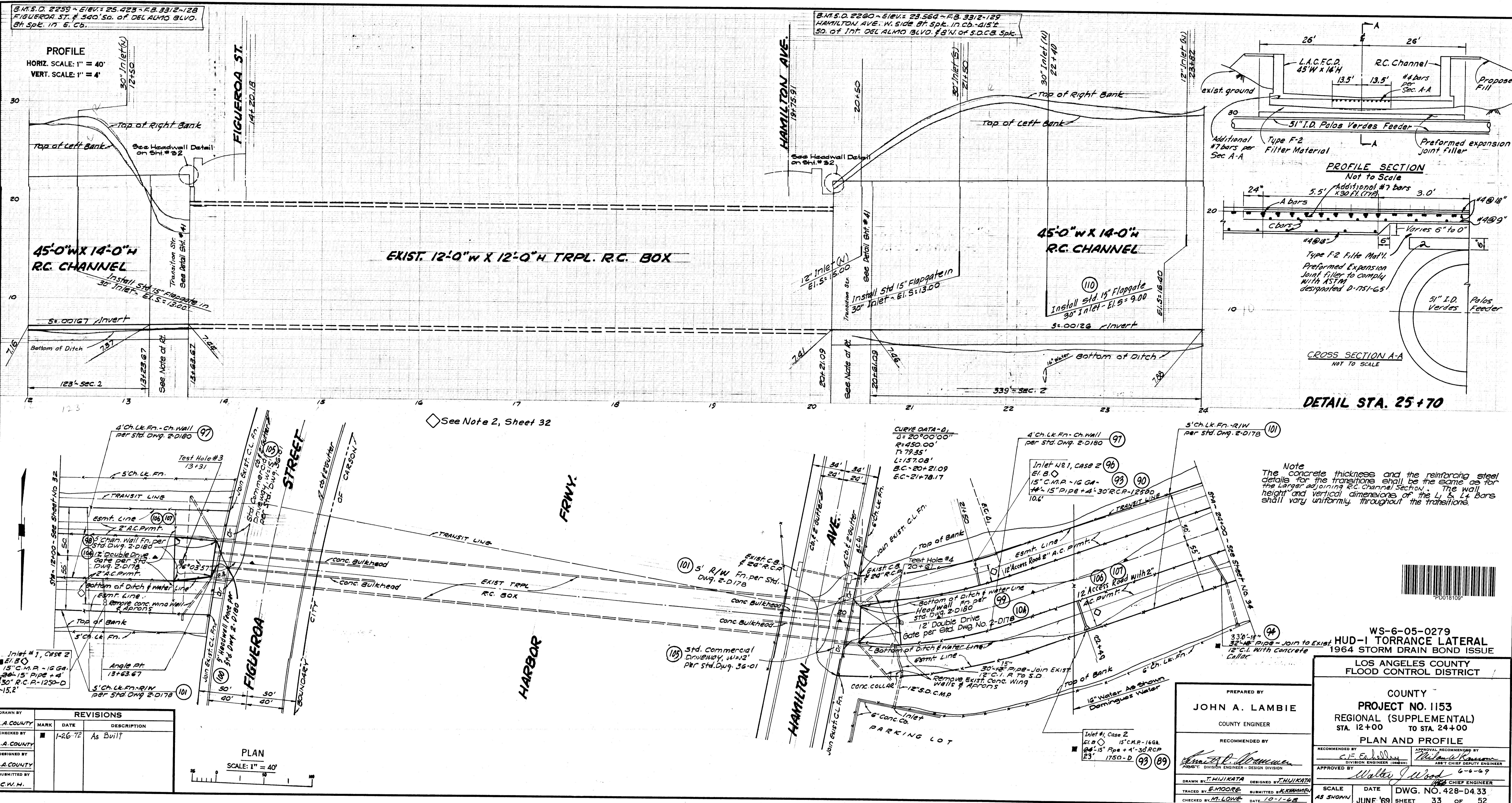
COUNTY  
PROJECT NO. 1153,  
REGIONAL (SUPPLEMENTAL)  
LOCATION MAP &  
INLET STRUCTURE AT STA. 28+75

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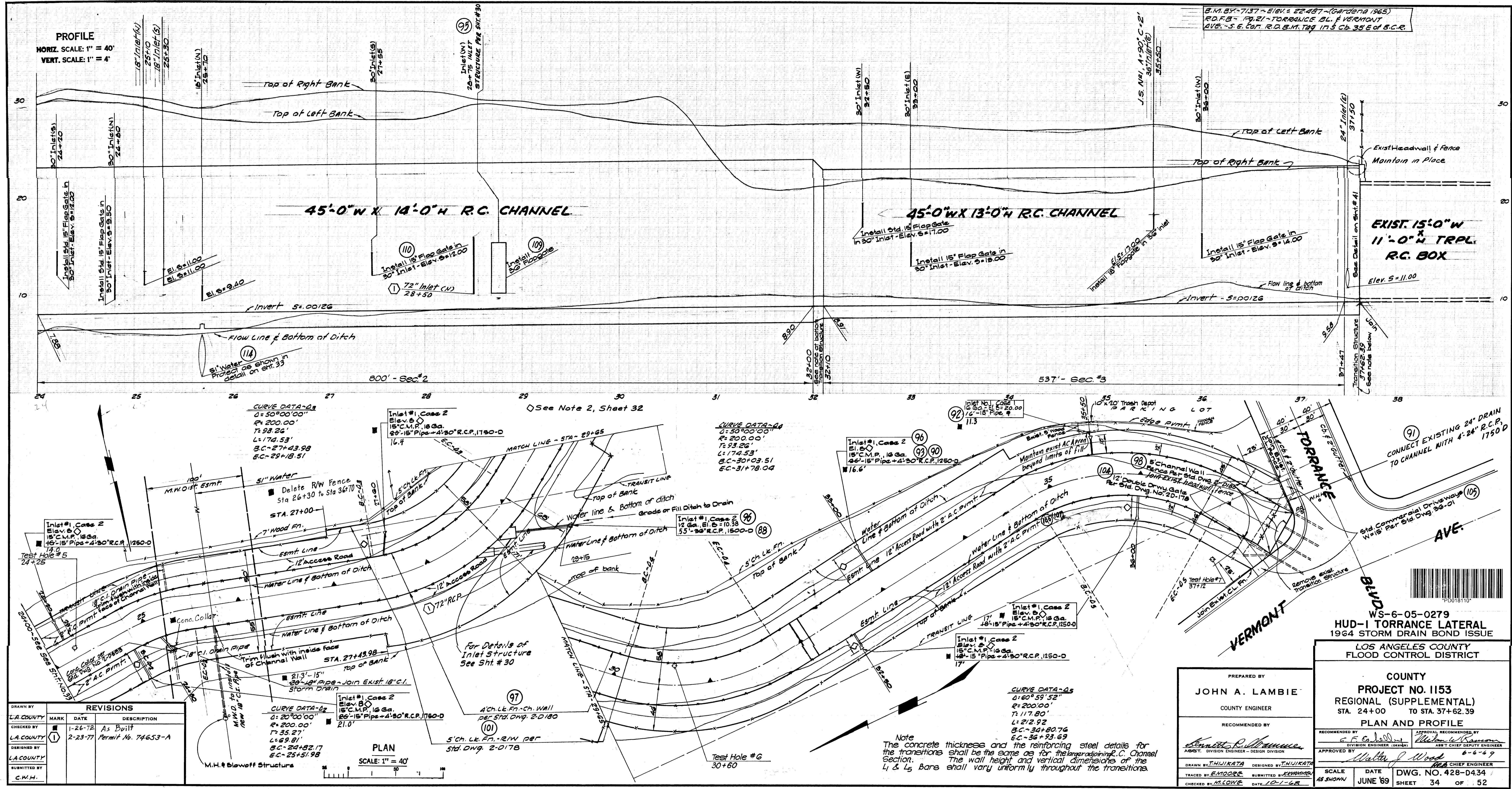




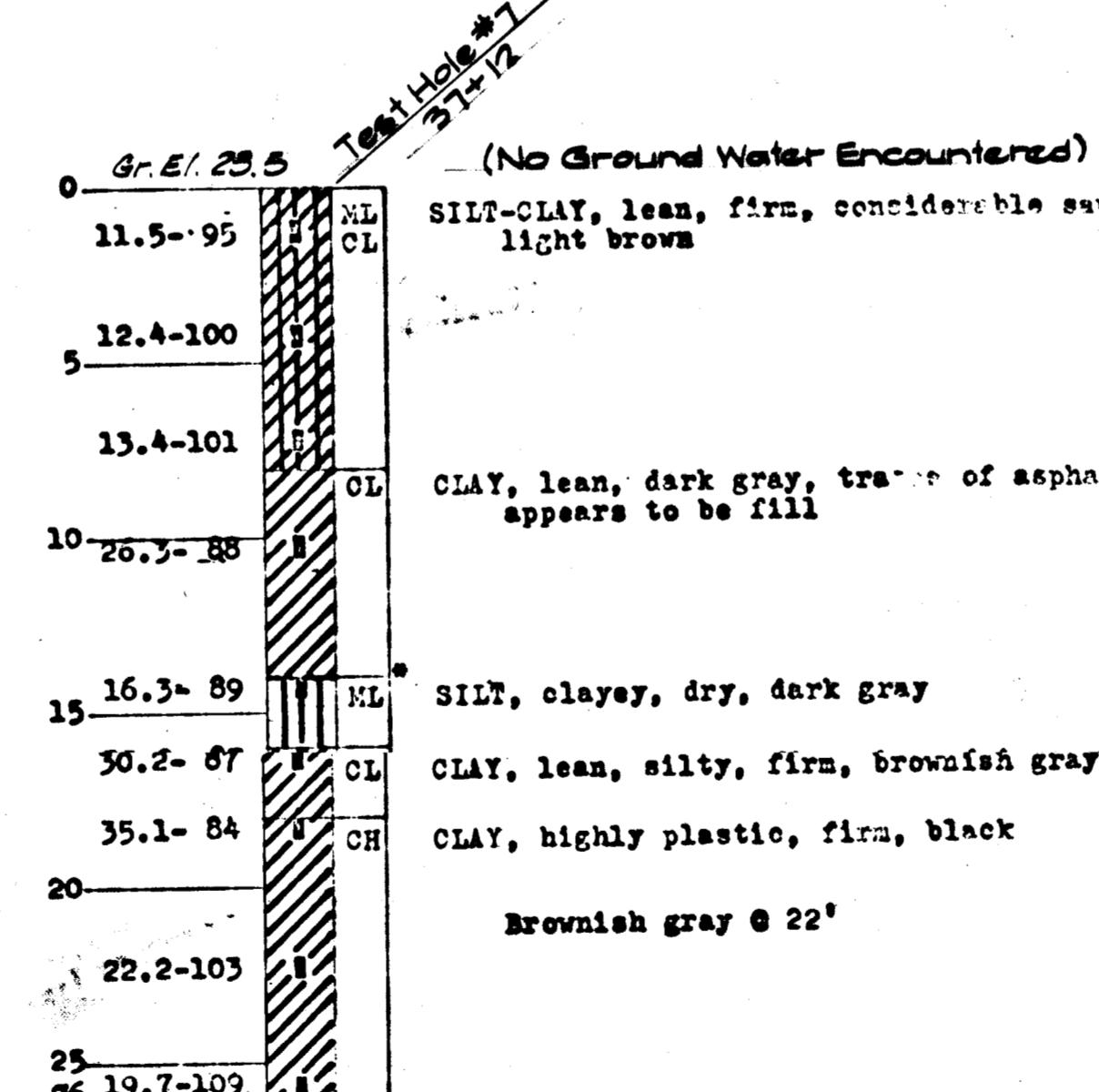
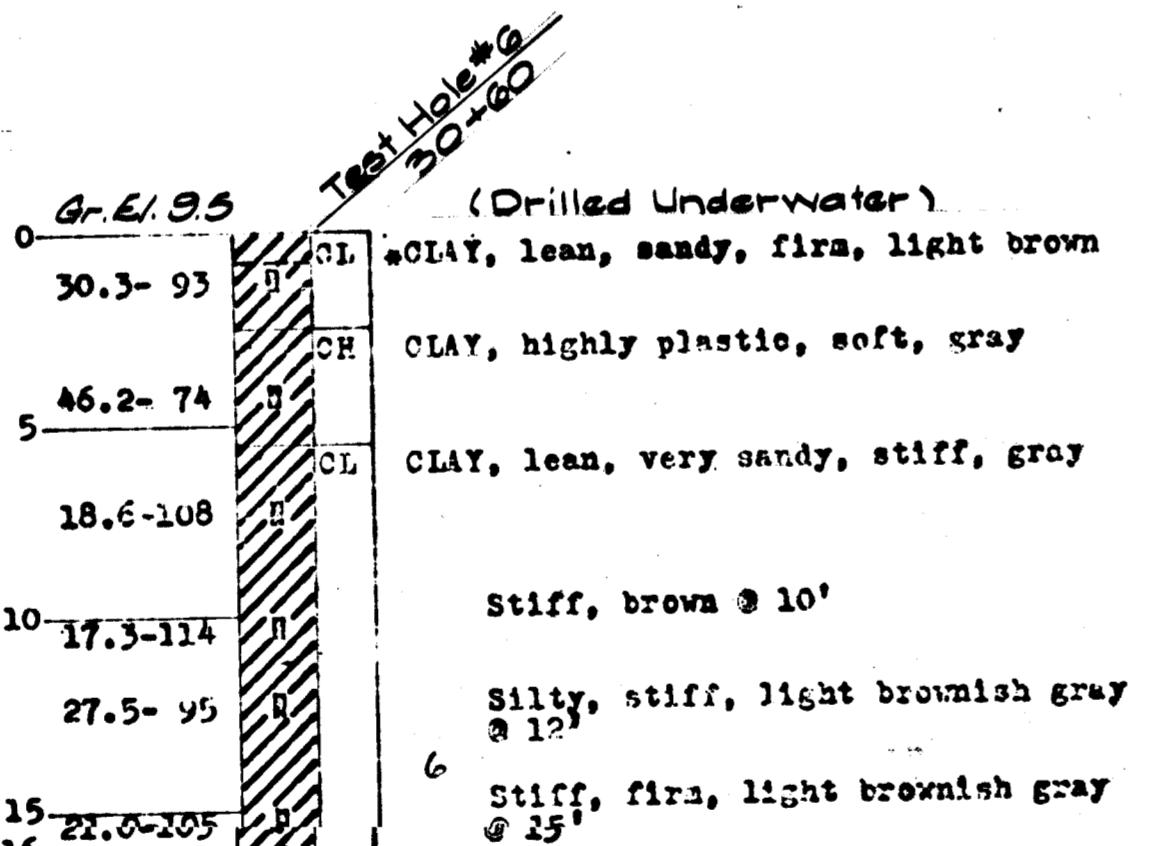
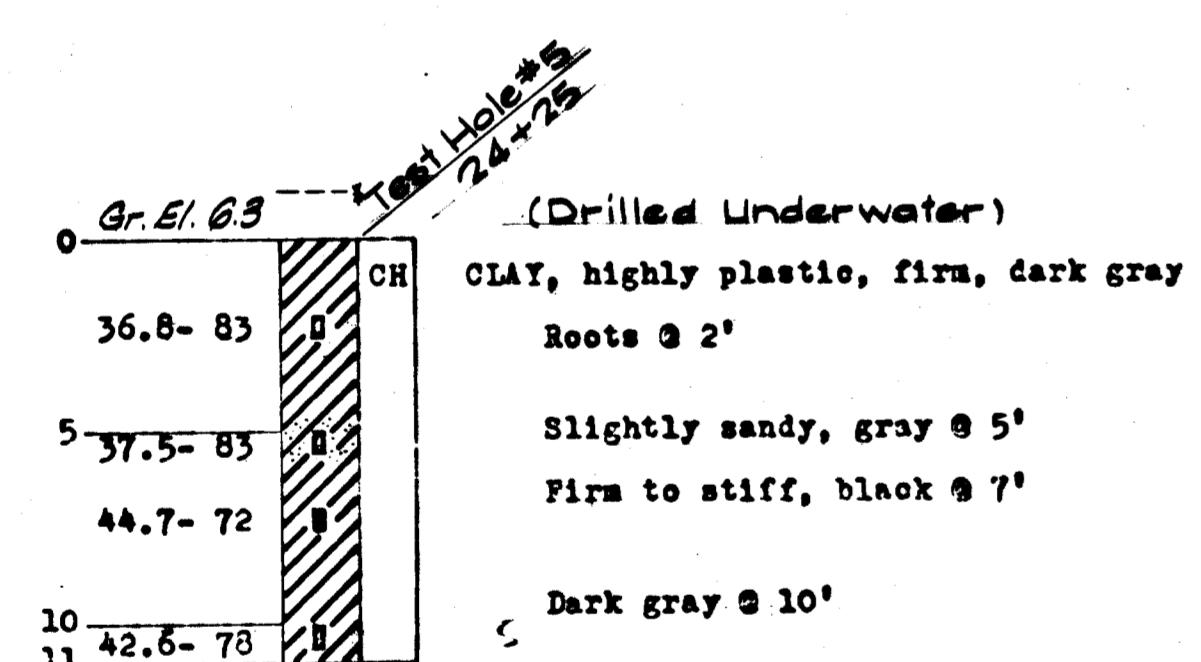
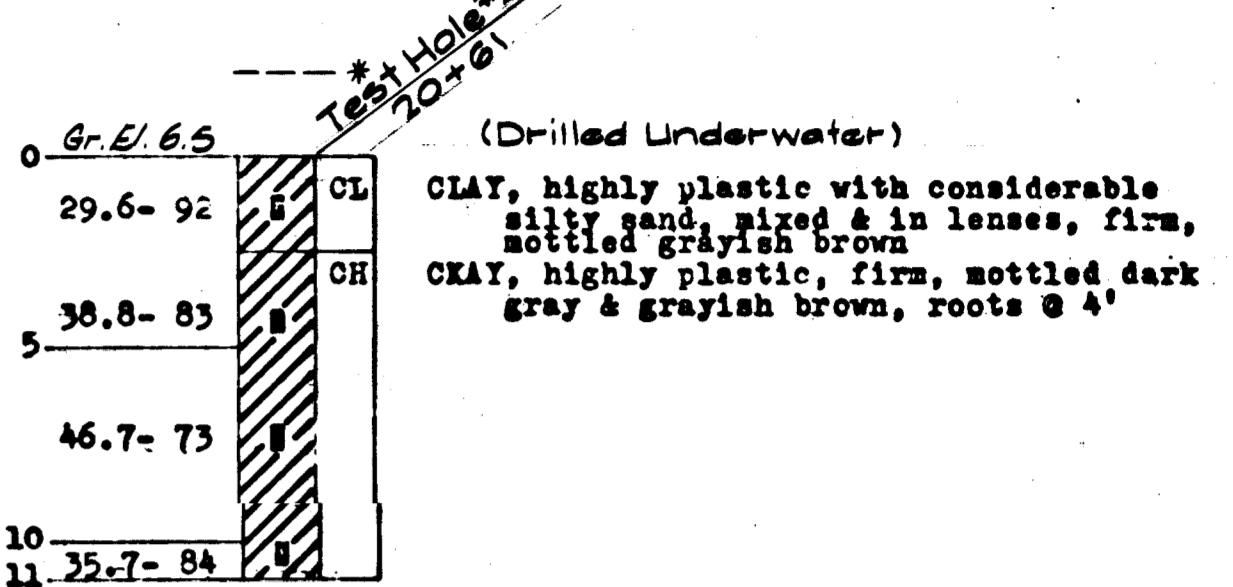
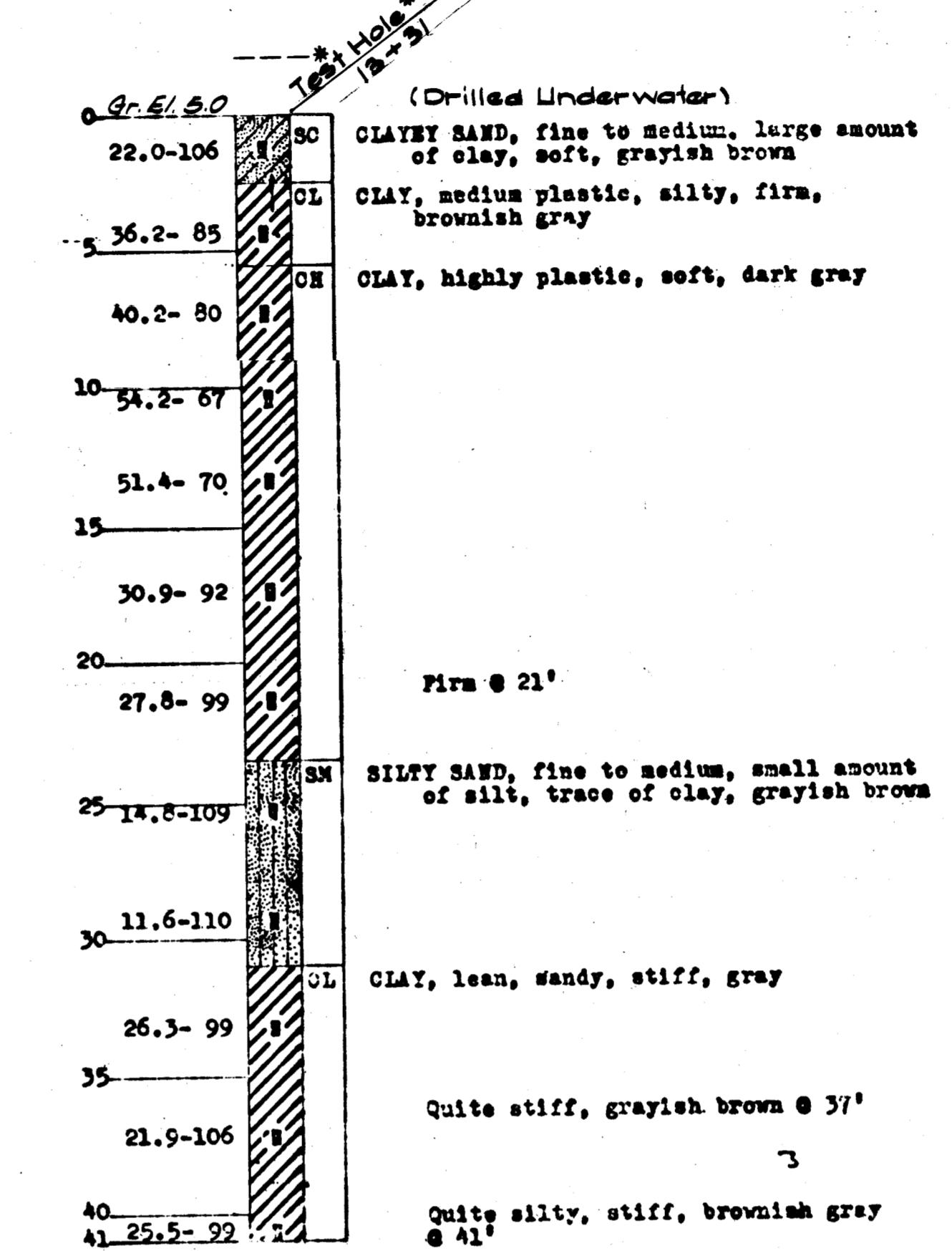
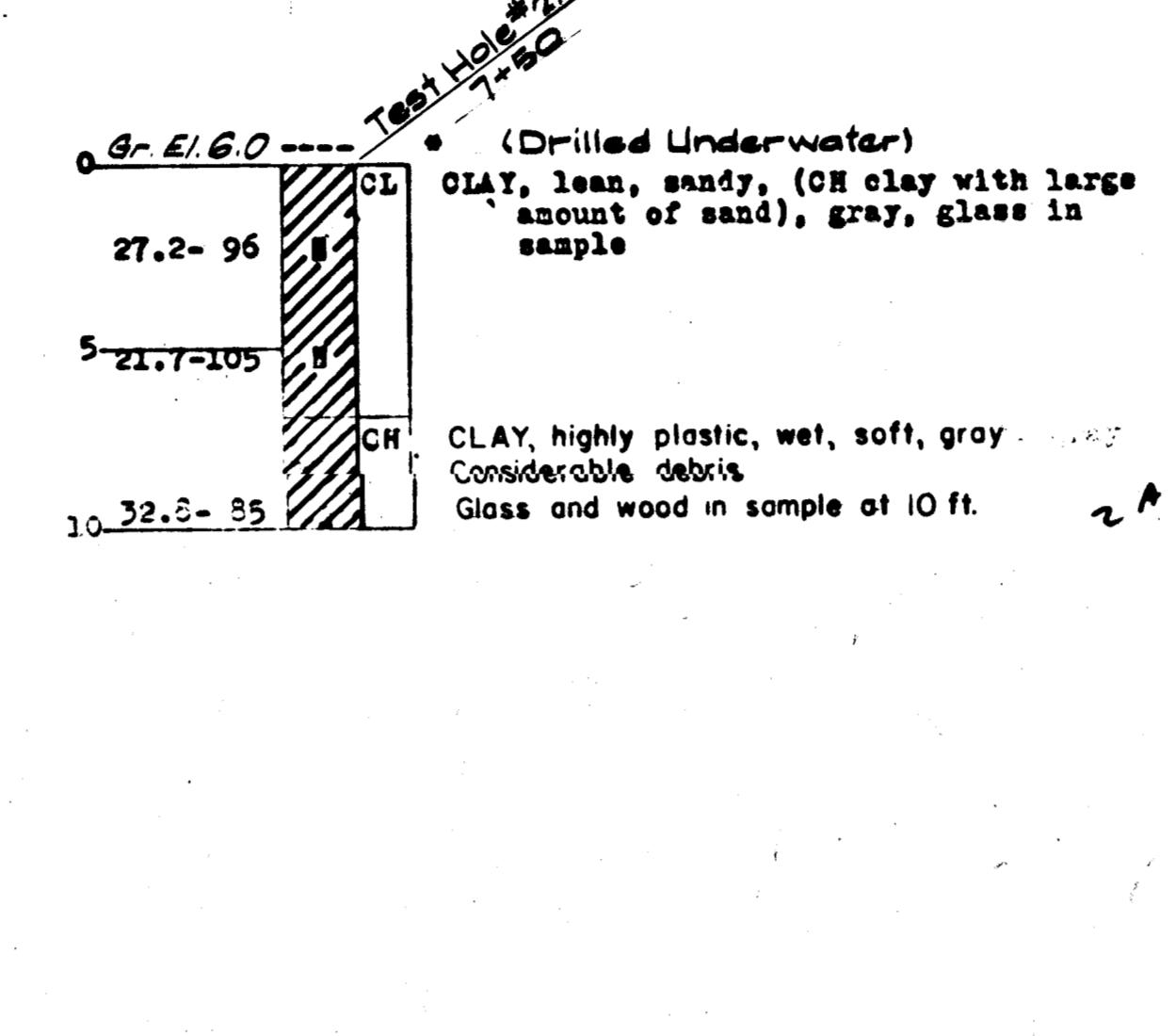
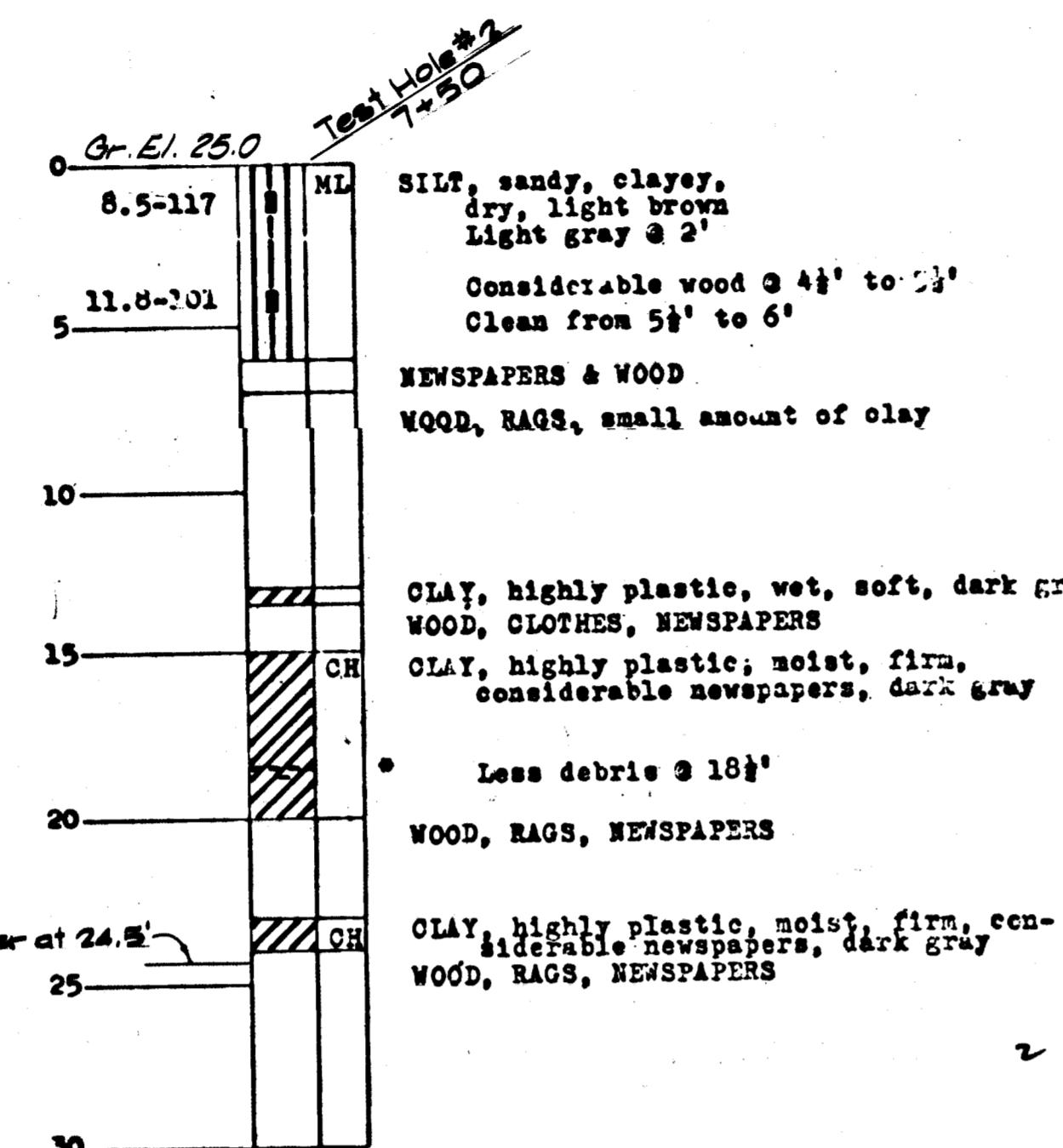
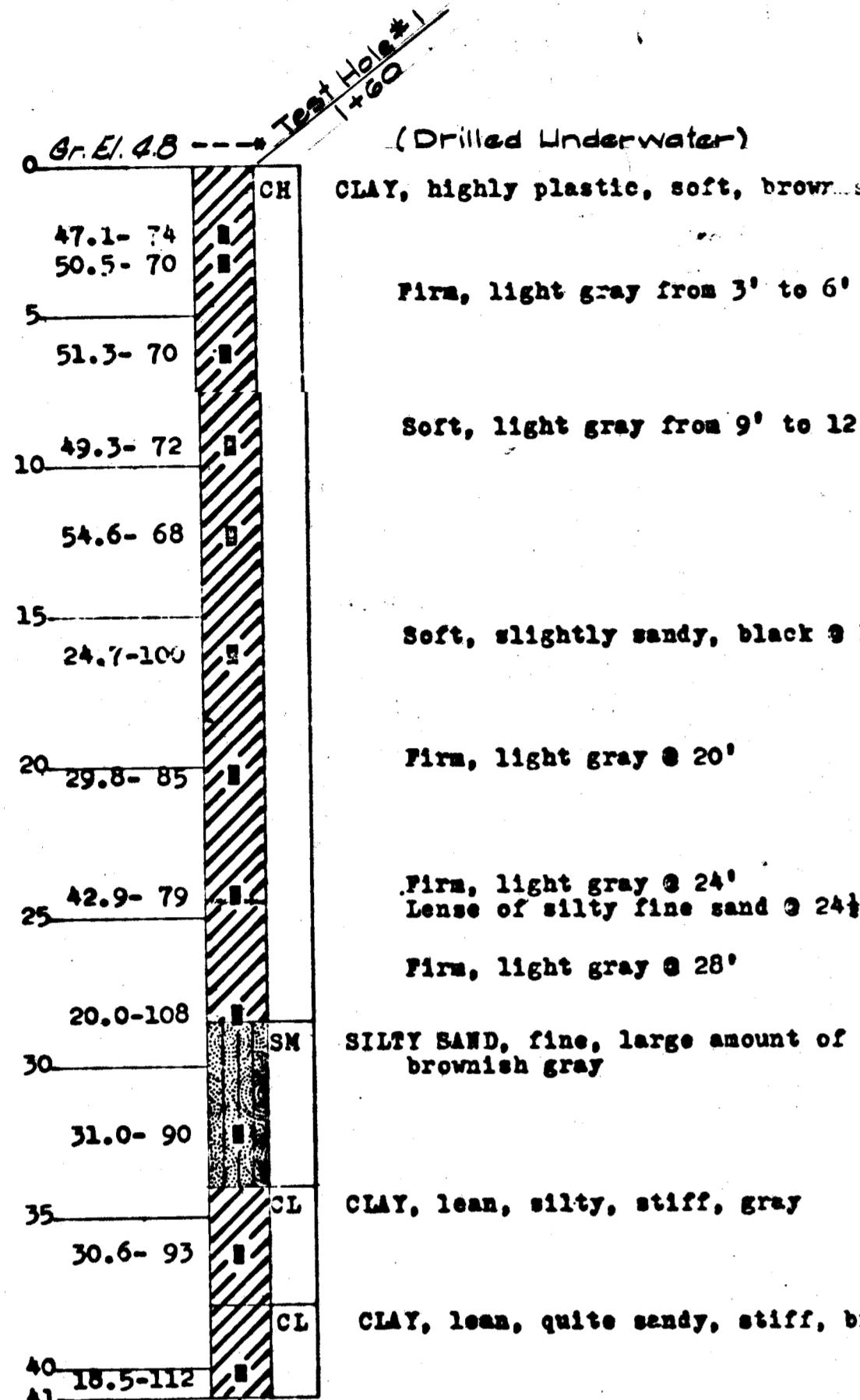
## **"AS BUILT" DRAWING**



"AS BUILT" DRAWING



## **"AS BUILT" DRAWING**



### LOG OF BORINGS

REVISIONS			
DRAWN BY	MARK	DATE	DESCRIPTION
County of L.A.			
CHECKED BY			
DESIGNED BY			
County of L.A.			
SUBMITTED BY			
C.W.H.			

N O T E:  
SOIL CLASSIFICATION WAS MADE IN ACCORDANCE WITH THE UNIFIED SOIL CLASSIFICATION SYSTEM SHOWN ON STD. DWG. NO. E-0613.

\* DENOTES APPROXIMATE INVERT ON EACH TEST HOLE LOG. THE NUMBER GIVEN ON THE LEFT IS THE MOISTURE CONTENT AND THE ONE ON THE RIGHT IS THE IN-PLACE DRY DENSITY.

WS-6-05-0279  
HUD-I TORRANCE LATERAL  
1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

COUNTY  
PROJECT NO. 1153  
REGIONAL (SUPPLEMENTAL)  
LOG OF BORINGS

PREPARED BY  
**JOHN A. LAMBIE**  
COUNTY ENGINEER

RECOMMENDED BY  
**John R. Hamm**  
ASSISTANT DIVISION ENGINEER - DESIGN DIVISION

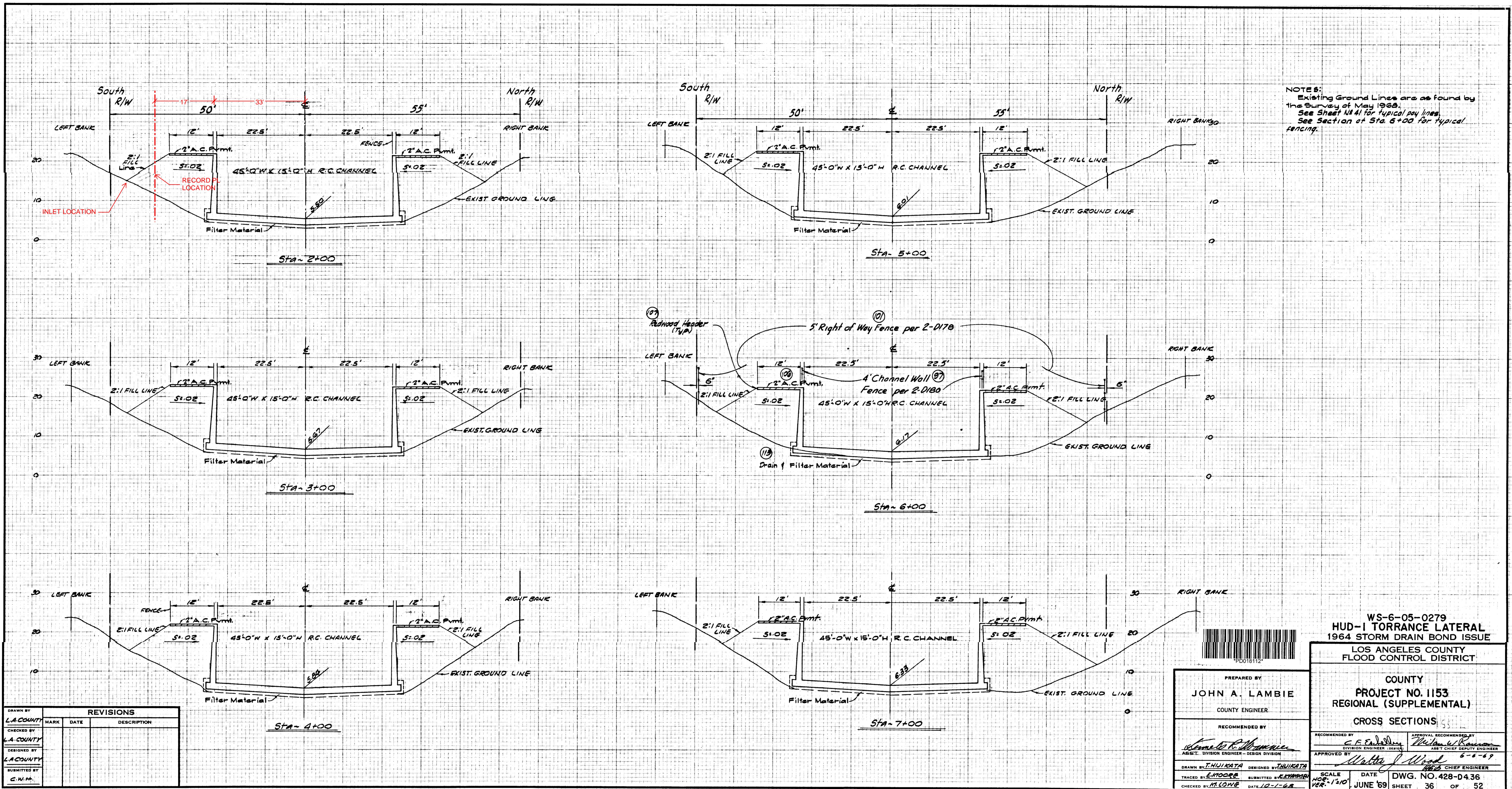
APPROVED BY  
**E.C. Johnson**  
DIVISION ENGINEER - DESIGN  
AND CHIEF DEPUTY ENGINEER  
6-6-69

APPROVED BY  
**Walter J. Wood**  
CHIEF ENGINEER  
6-6-69

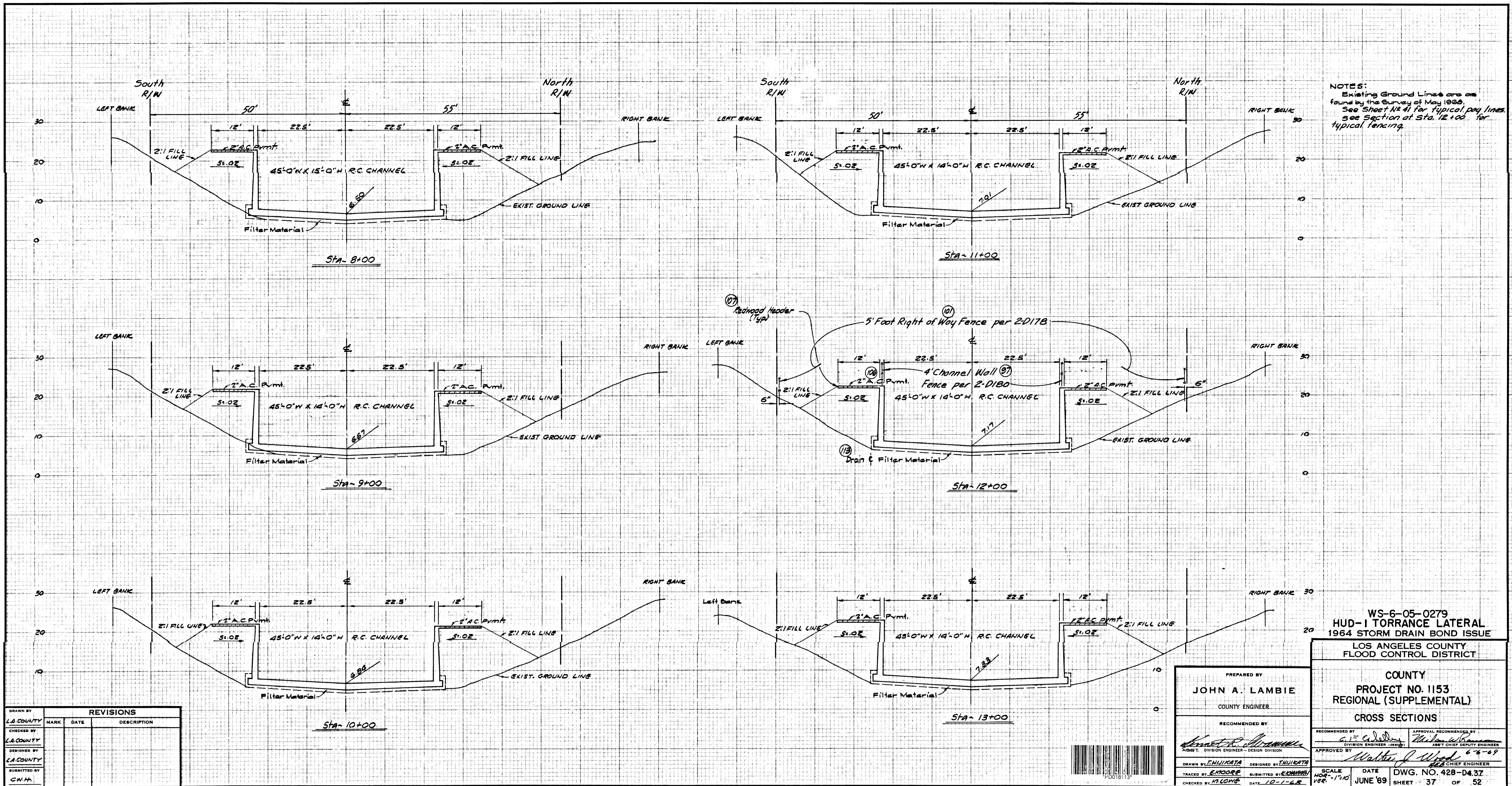
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TRACED BY **E. Moore** SUBMITTED BY **K. Kujimura**  
CHECKED BY **M. Lewis** DATE **10-1-69**

SCALE **1" = 5'** DATE **JUNE '69** DWG. NO. **428-D435**  
SHEET **35** OF **52**

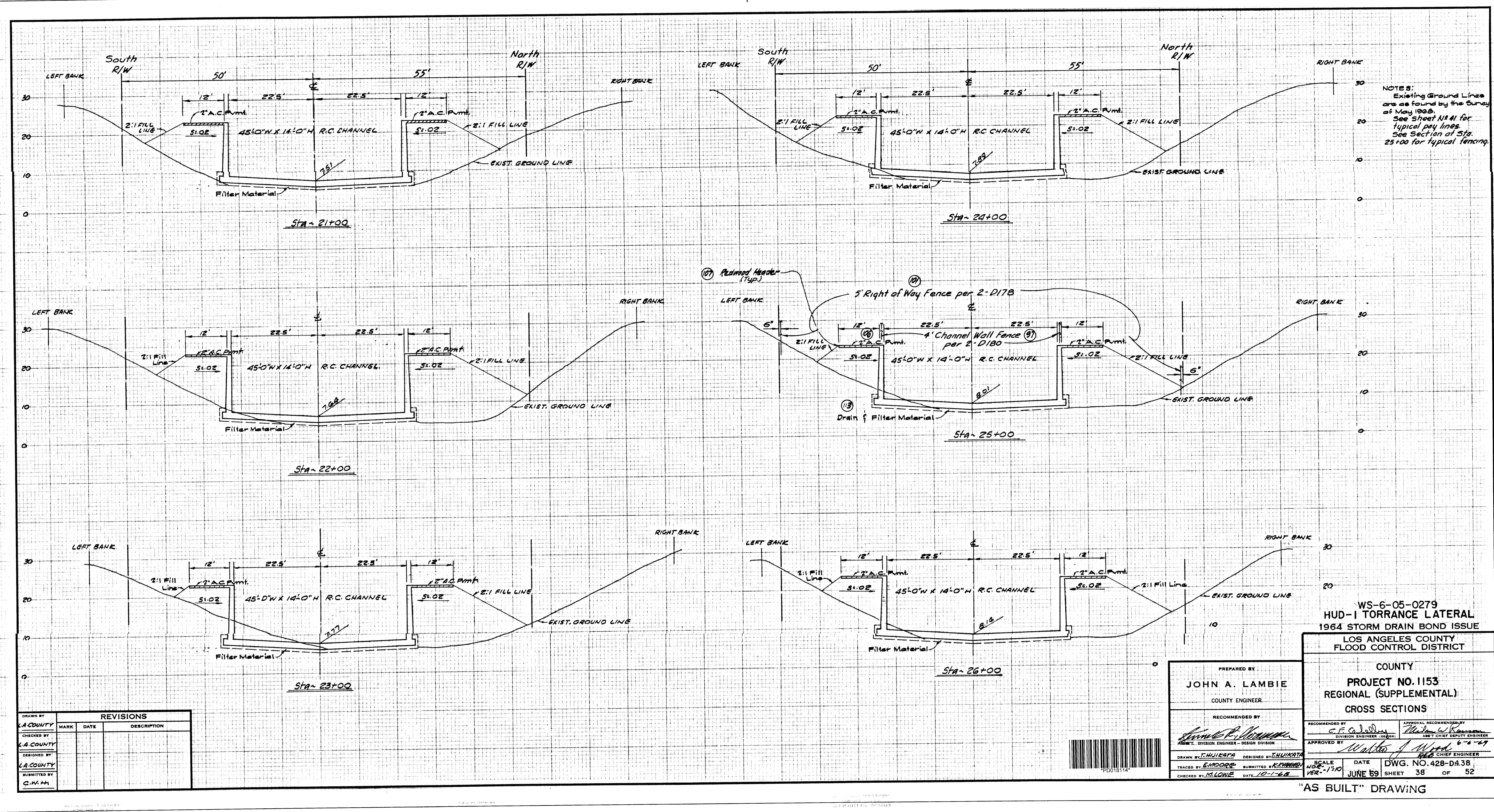
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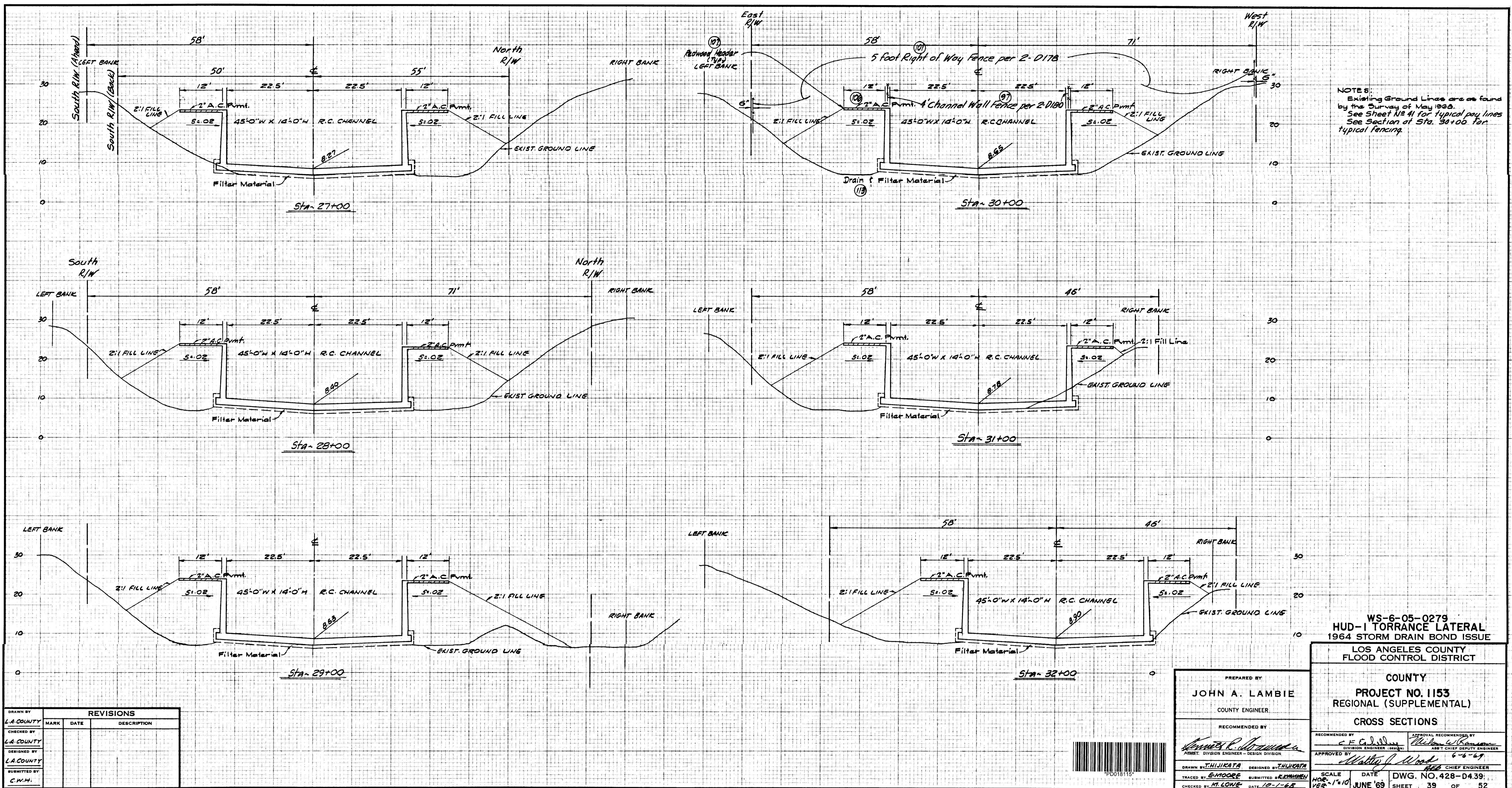


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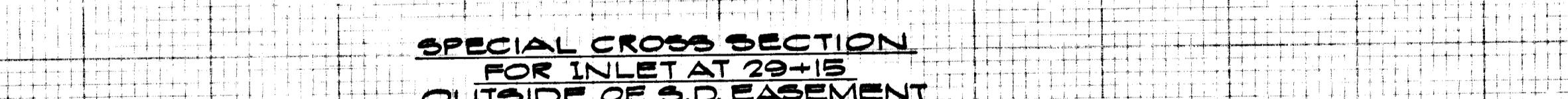
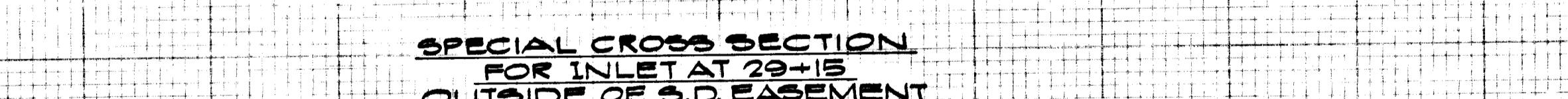
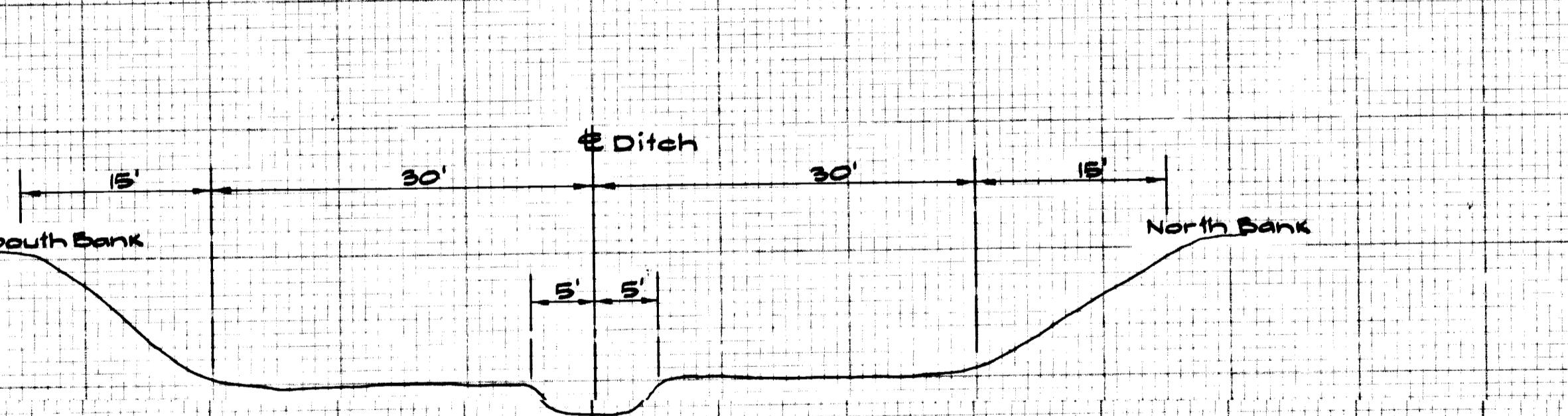
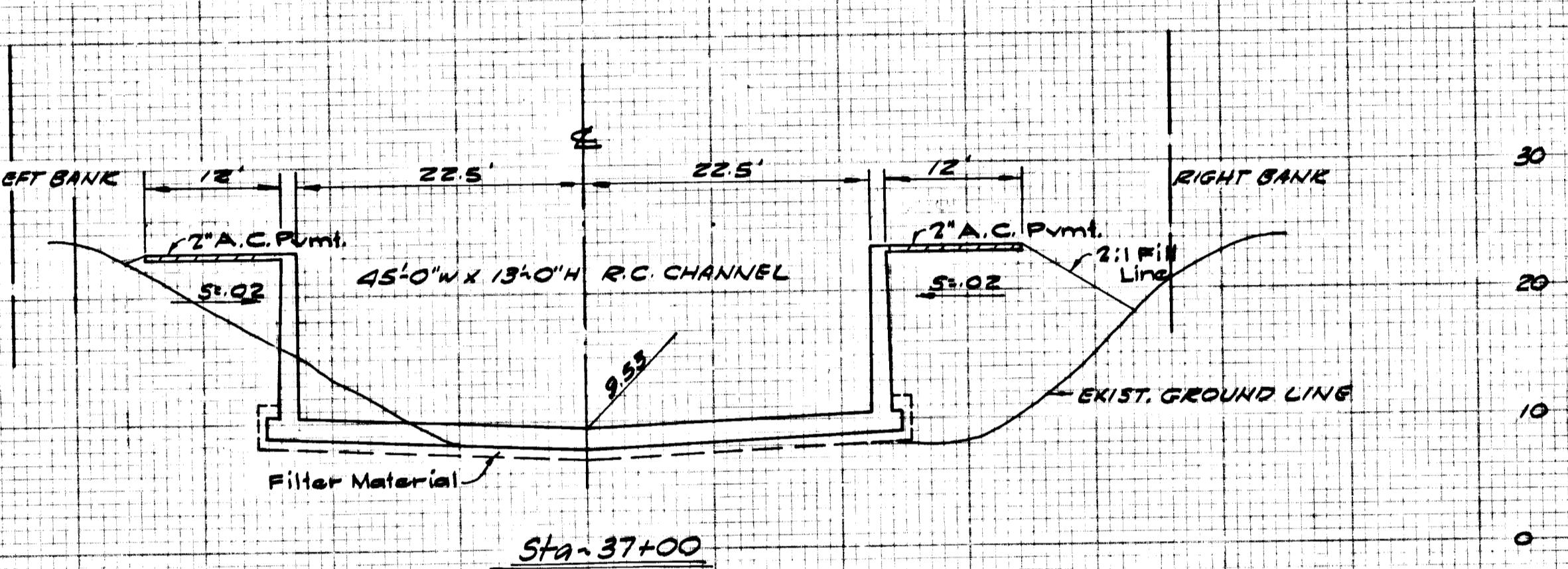
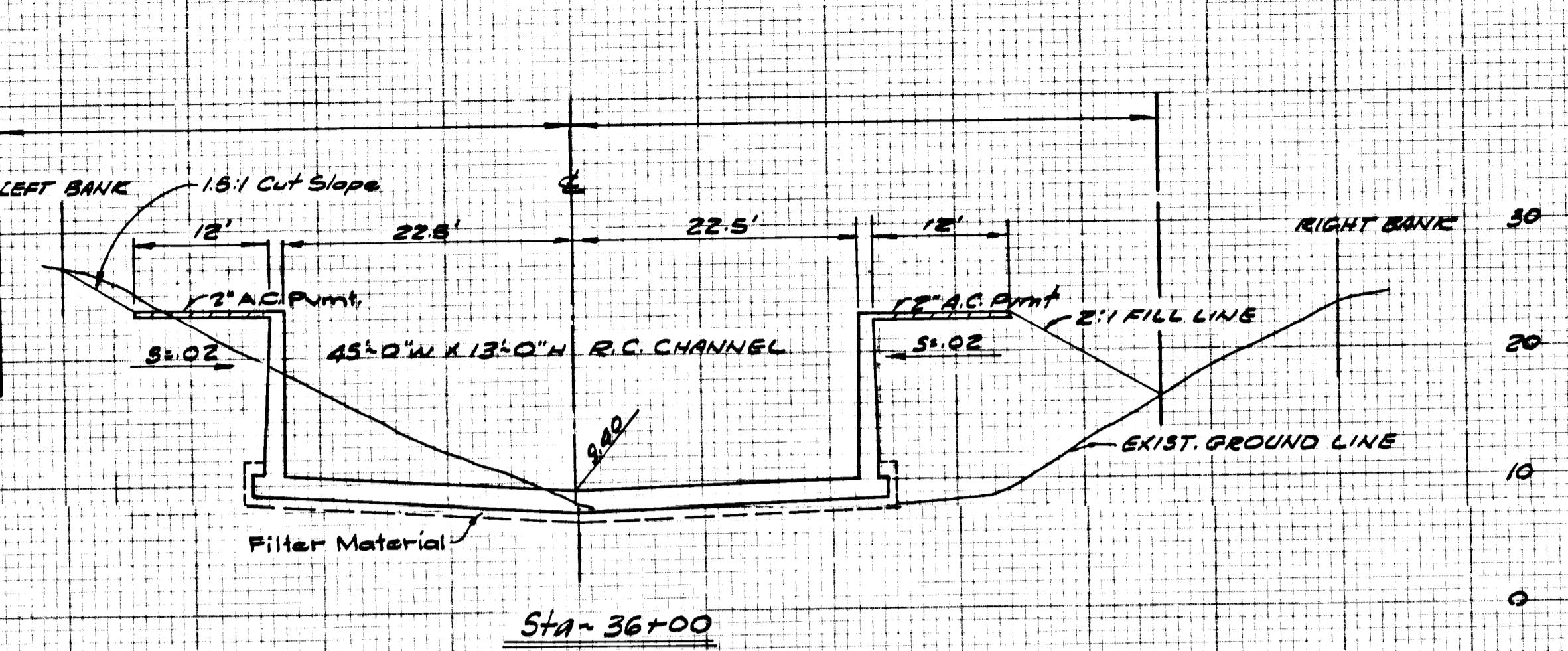
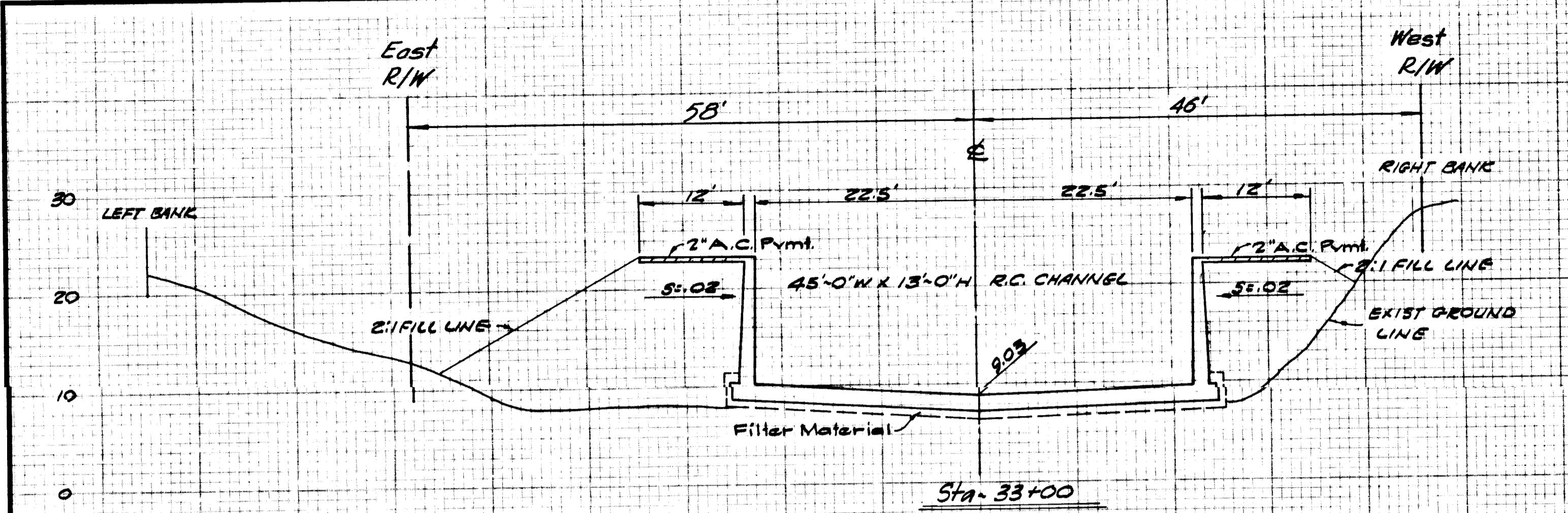


"AS BUILT" DRAWING





"AS BUILT" DRAWING



REVISIONS			
DRAWN BY	MARK	DATE	DESCRIPTION
LA COUNTY			
CHECKED BY			
DESIGNED BY			
SUBMITTED BY			
C.W.H.			

WS-6-05-0279  
HUD-1 TORRANCE LATERAL  
1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

COUNTY  
PROJECT NO. 1153  
REGIONAL (SUPPLEMENTAL)

CROSS SECTIONS

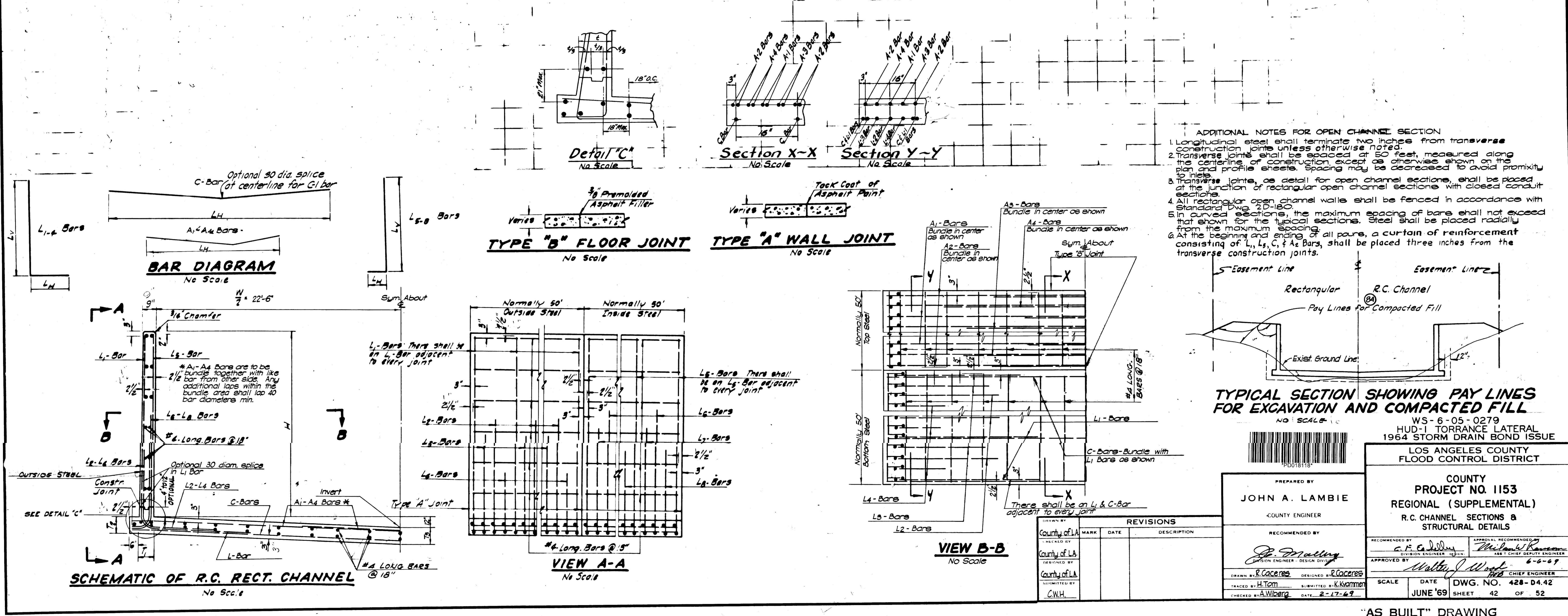
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APPROVED BY <i>Walter J. Wood</i> CHIEF ENGINEER	6-6-69
DRAWN BY <i>I. H. Kikata</i> TRACED BY <i>E. Moore</i> CHECKED BY <i>M. Lowe</i>	DESIGNED BY <i>I. H. Kikata</i> SUBMITTED BY <i>E. Moore</i> DATE <i>10-1-68</i>
SCALE <i>H.O. 1:10</i>	DATE <i>JUNE '69</i>
VER. <i>A</i>	DWG. NO. <i>428-D440</i>
SHEET <i>1</i> OF <i>52</i>	SHEET <i>40</i> OF <i>52</i>

"AS BUILT" DRAWING

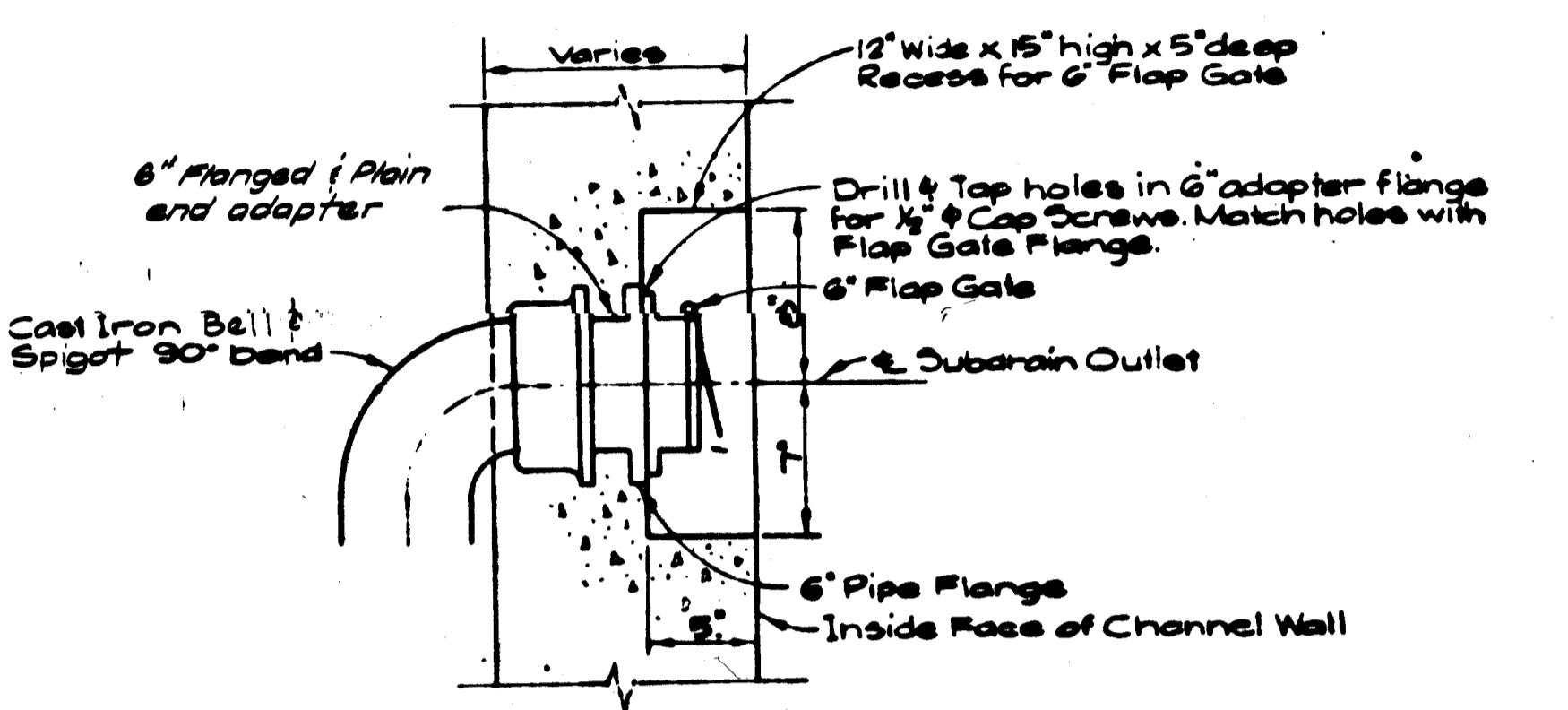
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	NOMINAL SIZE W H	T<sub>1</sub>	T<sub>2</sub>	T<sub>3</sub>	CONCRETE CU YDS / LINEAR FT.		REINFORCE- MENT STEEL LBS / UN. FT.		A<sub>1</sub>-BAR				A<sub>2</sub>-BAR				A<sub>3</sub>-BAR				A<sub>4</sub>-BAR				L<sub>1</sub>-BAR				L<sub>2</sub>-BAR				L<sub>3</sub>-BAR				L<sub>4</sub>-BAR				L<sub>5</sub>-BAR				L<sub>6</sub>-BAR				L<sub>7</sub>-BAR				L<sub>8</sub>-BAR				L<sub>9</sub>-BAR				L<sub>10</sub>-BAR				L<sub>11</sub>-BAR				L<sub>12</sub>-BAR				L<sub>13</sub>-BAR				L<sub>14</sub>-BAR				L<sub>15</sub>-BAR				L<sub>16</sub>-BAR				L<sub>17</sub>-BAR				L<sub>18</sub>-BAR				L<sub>19</sub>-BAR				L<sub>20</sub>-BAR				L<sub>21</sub>-BAR				L<sub>22</sub>-BAR				L<sub>23</sub>-BAR				L<sub>24</sub>-BAR				L<sub>25</sub>-BAR				L<sub>26</sub>-BAR				L<sub>27</sub>-BAR				L<sub>28</sub>-BAR				L<sub>29</sub>-BAR				L<sub>30</sub>-BAR				L<sub>31</sub>-BAR				L<sub>32</sub>-BAR				L<sub>33</sub>-BAR				L<sub>34</sub>-BAR				L<sub>35</sub>-BAR				L<sub>36</sub>-BAR				L<sub>37</sub>-BAR				L<sub>38</sub>-BAR				L<sub>39</sub>-BAR				L<sub>40</sub>-BAR				L<sub>41</sub>-BAR				L<sub>42</sub>-BAR				L<sub>43</sub>-BAR				L<sub>44</sub>-BAR				L<sub>45</sub>-BAR				L<sub>46</sub>-BAR				L<sub>47</sub>-BAR				L<sub>48</sub>-BAR				L<sub>49</sub>-BAR				L<sub>50</sub>-BAR				L<sub>51</sub>-BAR				L<sub>52</sub>-BAR				L<sub>53</sub>-BAR				L<sub>54</sub>-BAR				L<sub>55</sub>-BAR				L<sub>56</sub>-BAR				L<sub>57</sub>-BAR				L<sub>58</sub>-BAR				L<sub>59</sub>-BAR				L<sub>60</sub>-BAR				L<sub>61</sub>-BAR				L<sub>62</sub>-BAR				L<sub>63</sub>-BAR				L<sub>64</sub>-BAR				L<sub>65</sub>-BAR				L<sub>66</sub>-BAR				L<sub>67</sub>-BAR				L<sub>68</sub>-BAR				L<sub>69</sub>-BAR				L<sub>70</sub>-BAR				L<sub>71</sub>-BAR				L<sub>72</sub>-BAR				L<sub>73</sub>-BAR				L<sub>74</sub>-BAR				L<sub>75</sub>-BAR				L<sub>76</sub>-BAR				L<sub>77</sub>-BAR				L<sub>78</sub>-BAR				L<sub>79</sub>-BAR				L<sub>80</sub>-BAR				L<sub>81</sub>-BAR				L<sub>82</sub>-BAR				L<sub>83</sub>-BAR				L<sub>84</sub>-BAR				L<sub>85</sub>-BAR				L<sub>86</sub>-BAR				L<sub>87</sub>-BAR				L<sub>88</sub>-BAR				L<sub>89</sub>-BAR				L<sub>90</sub>-BAR				L<sub>91</sub>-BAR				L<sub>92</sub>-BAR				L<sub>93</sub>-BAR				L<sub>94</sub>-BAR				L<sub>95</sub>-BAR				L<sub>96</sub>-BAR				L<sub>97</sub>-BAR				L<sub>98</sub>-BAR				L<sub>99</sub>-BAR				L<sub>100</sub>-BAR				L<sub>101</sub>-BAR				L<sub>102</sub>-BAR				L<sub>103</sub>-BAR				L<sub>104</sub>-BAR				L<sub>105</sub>-BAR				L<sub>106</sub>-BAR				L<sub>107</sub>-BAR				L<sub>108</sub>-BAR				L<sub>109</sub>-BAR				L<sub>110</sub>-BAR				L<sub>111</sub>-BAR				L<sub>112</sub>-BAR				L<sub>113</sub>-BAR				L<sub>114</sub>-BAR				L<sub>115</sub>-BAR				L<sub>116</sub>-BAR				L<sub>117</sub>-BAR				L<sub>118</sub>-BAR				L<sub>119</sub>-BAR				L<sub>120</sub>-BAR				L<sub>121</sub>-BAR				L<sub>122</sub>-BAR				L<sub>123</sub>-BAR				L<sub>124</sub>-BAR				L<sub>125</sub>-BAR				L<sub>126</sub>-BAR				L<sub>127</sub>-BAR				L<sub>128</sub>-BAR				L<sub>129</sub>-BAR				L<sub>130</sub>-BAR				L<sub>131</sub>-BAR				L<sub>132</sub>-BAR				L<sub>133</sub>-BAR				L<sub>134</sub>-BAR				L<sub>135</sub>-BAR				L<sub>136</sub>-BAR				L<sub>137</sub>-BAR				L<sub>138</sub>-BAR				L<sub>139</sub>-BAR				L<sub>140</sub>-BAR				L<sub>141</sub>-BAR				L<sub>142</sub>-BAR				L<sub>143</sub>-BAR				L<sub>144</sub>-BAR				L<sub>145</sub>-BAR				L<sub>146</sub>-BAR				L<sub>147</sub>-BAR				L<sub>148</sub>-BAR				L<sub>149</sub>-BAR				L<sub>150</sub>-BAR				L<sub>151</sub>-BAR				L<sub>152</sub>-BAR				L<sub>153</sub>-BAR				L<sub>154</sub>-BAR				L<sub>155</sub>-BAR				L<sub>156</sub>-BAR				L<sub>157</sub>-BAR				L<sub>158</sub>-BAR				L<sub>159</sub>-BAR				L<sub>160</sub>-BAR				L<sub>161</sub>-BAR				L<sub>162</sub>-BAR				L<sub>163</sub>-BAR				L<sub>164</sub>-BAR				L<sub>165</sub>-BAR				L<sub>166</sub>-BAR				L<sub>167</sub>-BAR				L<sub>168</sub>-BAR				L<sub>169</sub>-BAR				L<sub>170</sub>-BAR				L<sub>171</sub>-BAR				L<sub>172</sub>-BAR				L<sub>173</sub>-BAR				L<sub>174</sub>-BAR				L<sub>175</sub>-BAR				L<sub>176</sub>-BAR				L<sub>177</sub>-BAR				L<sub>178</sub>-BAR				L<sub>179</sub>-BAR				L<sub>180</sub>-BAR				L<sub>181</sub>-BAR				L<sub>182</sub>-BAR				L<sub>183</sub>-BAR				L<sub>184</sub>-BAR				L<sub>185</sub>-BAR				L<sub>186</sub>-BAR				L<sub>187</sub>-BAR				L<sub>188</sub>-BAR				L<sub>189</sub>-BAR				L<sub>190</sub>-BAR				L<sub>191</sub>-BAR				L<sub>192</sub>-BAR				L<sub>193</sub>-BAR				L<sub>194</sub>-BAR				L<sub>195</sub>-BAR				L<sub>196</sub>-BAR				L<sub>197</sub>-BAR				L<sub>198</sub>-BAR				L<sub>199</sub>-BAR				L<sub>200</sub>-BAR				L<sub>201</sub>-BAR				L<sub>202</sub>-BAR				L<sub>203</sub>-BAR				L<sub>204</sub>-BAR				L<sub>205</sub>-BAR				L<sub>206</sub>-BAR				L<sub>207</sub>-BAR				L<sub>208</sub>-BAR				L<sub>209</sub>-BAR				L<sub>210</sub>-BAR				L<sub>211</sub>-BAR				L<sub>212</sub>-BAR				L<sub>213</sub>-BAR				L<sub>214</sub>-BAR				L<sub>215</sub>-BAR				L<sub>216</sub>-BAR				L<sub>217</sub>-BAR				L<sub>218</sub>-BAR				L<sub>219</sub>-BAR				L<sub>220</sub>-BAR				L<sub>221</sub>-BAR				L<sub>222</sub>-BAR				L<sub>223</sub>-BAR				L<sub>224</sub>-BAR				L<sub>225</sub>-BAR				L<sub>226</sub>-BAR				L<sub>227</sub>-BAR				L<sub>228</sub>-BAR				L<sub>229</sub>-BAR				L<sub>230</sub>-BAR				L<sub>231</sub>-BAR				L<sub>232</sub>-BAR				L<sub>233</sub>-BAR				L<sub>234</sub>-BAR				L<sub>235</sub>-BAR				L<sub>236</sub>-BAR				L<sub>237</sub>-BAR				L<sub>238</sub>-BAR				L<sub>239</sub>-BAR				L<sub>240</sub>-BAR				L<sub>241</sub>-BAR				L<sub>242</sub>-BAR				L<sub>243</sub>-BAR				L<sub>244</sub>-BAR				L<sub>245</sub>-BAR				L<sub>246</sub>-BAR				L<sub>247</sub>-BAR				L<sub>248</sub>-BAR				L<sub>249</sub>-BAR				L<sub>250</sub>-BAR				L<sub>251</sub>-BAR				L<sub>252</sub>-BAR				L<sub>253</sub>-BAR				L<sub>254</sub>-BAR				L<sub>255</sub>-BAR				L<sub>256</sub>-BAR				L<sub>257</sub>-BAR				L<sub>258</sub>-BAR				L<sub>259</sub>-BAR				L<sub>260</sub>-BAR				L<sub>261</sub>-BAR				L<sub>262</sub>-BAR				L<sub>263</sub>-BAR				L<sub>264</sub>-BAR				L<sub>265</sub>-BAR				L<sub>266</sub>-BAR				L<sub>267</sub>-BAR				L<sub>268</sub>-BAR				L<sub>269</sub>-BAR				L<sub>270</sub>-BAR				L<sub>271</sub>-BAR				L<sub>272</sub>-BAR				L<sub>273</sub>-BAR				L<sub>274</sub>-BAR				L<sub>275</sub>-BAR				L<sub>276</sub>-BAR				L<sub>277</sub>-BAR				L<sub>278</sub>-BAR				L<sub>279</sub>-BAR				L<sub>280</sub>-BAR				L<sub>281</sub>-BAR				L<sub>282</sub>-BAR				L<sub>283</sub>-BAR				L<sub>284</sub>-BAR				L<sub>285</sub>-BAR				L<sub>286</sub>-BAR				L<sub>287</sub>-BAR				L<sub>288</sub>-BAR				L<sub>289</sub>-BAR				L<sub>290</sub>-BAR				L<sub>291</sub>-BAR				L<sub>292</sub>-BAR				L<sub>293</sub>-BAR				L<sub>294</sub>-BAR				L<sub>295</sub>-BAR				L<sub>296</sub>-BAR				L<sub>297</sub>-BAR				L<sub>298</sub>-BAR				L<sub>299</sub>-BAR				L<sub>300</sub>-BAR				L<sub>301</sub>-BAR				L<sub>302</sub>-BAR				L<sub>303</sub>-BAR				L<sub>304</sub>-BAR				L<sub>305</sub>-BAR				L<sub>306</sub>-BAR				L<sub>307</sub>-BAR				L<sub>308</sub>-BAR				L<sub>309</sub>-BAR				L<sub>310</sub>-BAR				L<sub>311</sub>-BAR				L<sub>312</sub>-BAR				L<sub>313</sub>-BAR				L<sub>314</sub>-BAR				L<sub>315</sub>-BAR				L<sub>316</sub>-BAR				L<sub>317</sub>-BAR				L<sub>318</sub>-BAR				L<sub>319</sub>-BAR				L<sub>320</sub>-BAR				L<sub>321</sub>-BAR				L<sub>322</sub>-BAR				L<sub>323</sub>-BAR				L<sub>324</sub>-BAR				L<sub>325</sub>-BAR				L<sub>326</sub>-BAR				L<sub>327</sub>-BAR				L<sub>328</sub>-BAR				L<sub>329</sub>-BAR				L<sub>330</sub>-BAR				L<sub>331</sub>-BAR				L<sub>332</sub>-BAR				L<sub>333</sub>-BAR				L<sub>334</sub>-BAR				L<sub>335</sub>-BAR				L<sub>336</sub>-BAR				L<sub>337</sub>-BAR				L<sub>338</sub>-BAR				L<sub>339</sub>-BAR				L<sub>340</sub>-BAR				L<sub>341</sub>-BAR				L<sub>342</sub>-BAR				L<sub>343</sub>-BAR				L<sub>344</sub>-BAR				L<sub>345</sub>-BAR				L<sub>346</sub>-BAR				L<sub>347</sub>-BAR				L<sub>348</sub>-BAR				L<sub>349</sub>-BAR				L<sub>350</sub>-BAR				L<sub>351</sub>-BAR				L<sub>352</sub>-BAR				L<sub>353</sub>-BAR				L<sub>354</sub>-BAR				L<sub>355</sub>-BAR				L<sub>356</sub>-BAR				L<sub>357</sub>-BAR				L<sub>358</sub>-BAR				L<sub>359</sub>-BAR				L<sub>360</sub>-BAR				L<sub>361</sub>-BAR				L<sub>362</sub>-BAR				L<sub>363</sub>-BAR				L<sub>364</sub>-BAR				L<sub>365</sub>-BAR				L<sub>366</sub>-BAR				L<sub>367</sub>-BAR				L<sub>368</sub>-BAR				L<sub>369</sub>-BAR				L<sub>370</sub>-BAR				L<sub>371</sub>-BAR				L<sub>372</sub>-BAR				L<sub>373</sub>-BAR				L<sub>374</sub>-BAR				L<sub>375</sub>-BAR				L<sub>376</sub>-BAR				L<sub>377</sub>-BAR				L<sub>378</sub>-BAR				L<sub>379</sub>-BAR				L<sub>380</sub>-BAR				L<sub>381</sub>-BAR				L<sub>382</sub>-BAR				L<sub>383</sub>-BAR				L<sub>384</sub>-BAR				L<sub>385</sub>-BAR				L<sub>386</sub>-BAR				L<sub>387</sub>-BAR				L<sub>388</sub>-BAR				L<sub>389</sub>-BAR				L<sub>390</sub>-BAR				L<sub>391</sub>-BAR				L<sub>392</sub>-BAR				L<sub>393</sub>-BAR				L<sub>394</sub>-BAR				L<sub>395</sub>-BAR				L<sub>396</sub>-BAR				L<sub>397</sub>-BAR				L<sub>398</sub>-BAR			
<th colspan

SECTION DATA				QUANTITIES		STEEL SCHEDULE												STRESS:			
Section	Station to Station	NOMINAL SIZE	CONCRETE CU YDS.	REINFORCEMENT STEEL LINEAR FT.	STEEL LBS./LINEAR FT.	A <sub>1</sub> -BAR	A <sub>2</sub> -BAR	A <sub>3</sub> -BAR	A <sub>4</sub> -BAR	L <sub>1</sub> -BAR	L <sub>2</sub> -BAR	L <sub>3</sub> -BAR	L <sub>4</sub> -BAR	L <sub>5</sub> -BAR	L <sub>6</sub> -BAR	L <sub>7</sub> -BAR	L <sub>8</sub> -BAR	C-BAR	Longitudinal Steel		
		W	H	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	SIZE L SPACING	SIZE L SPACING	SIZE L SPACING												
1	1-56-8-00	45'-0"	15'-0"	18'	18'	20%	4.15	838	#8	16"	33'-7"	#8	#6	#5	#7	#8	#5	#5	#6	108	10 34
2	8-10-13+25.67 20+6.09-32-00	45'-0"	14'-0"	16 1/2"	16 1/2"	19%	3.79	768	#8	16"	34'-2 1/2"	#8	#6	#5	#7	#8	#5	#6	#7	108	10 34

LL = 1-H20-S16 TRUCK  
 WALL:  
 fc = 3000 p.s.l.  
 fc = 1000 p.s.l.  
 fs = 20,000 p.s.l.  
 n = 10  
 K = 148  
 INVERT:  
 fc = 4000 p.s.l.  
 fc = 1800 p.s.l.  
 fs = 20,000 p.s.l.  
 n = 8  
 K = 324  
 MAX. AGGREGATE FOR INVERT = 1"

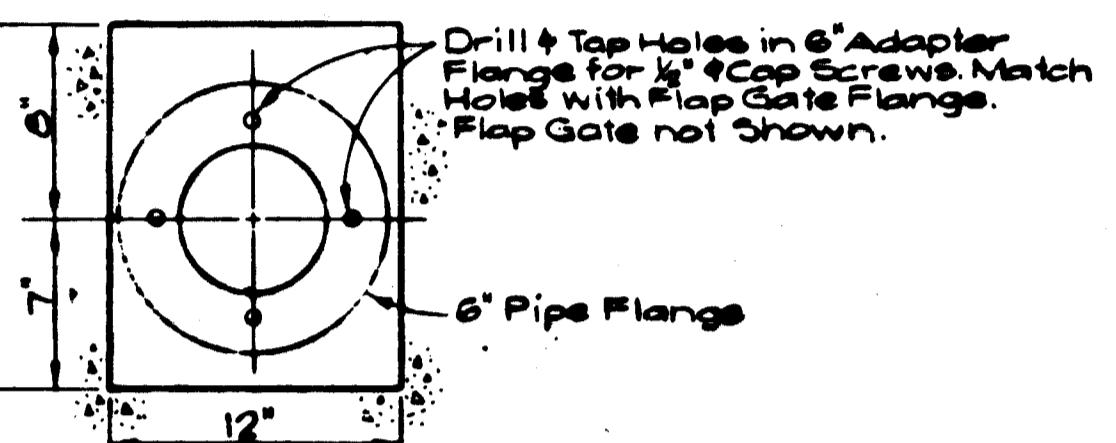


"AS BUILT" DRAWING



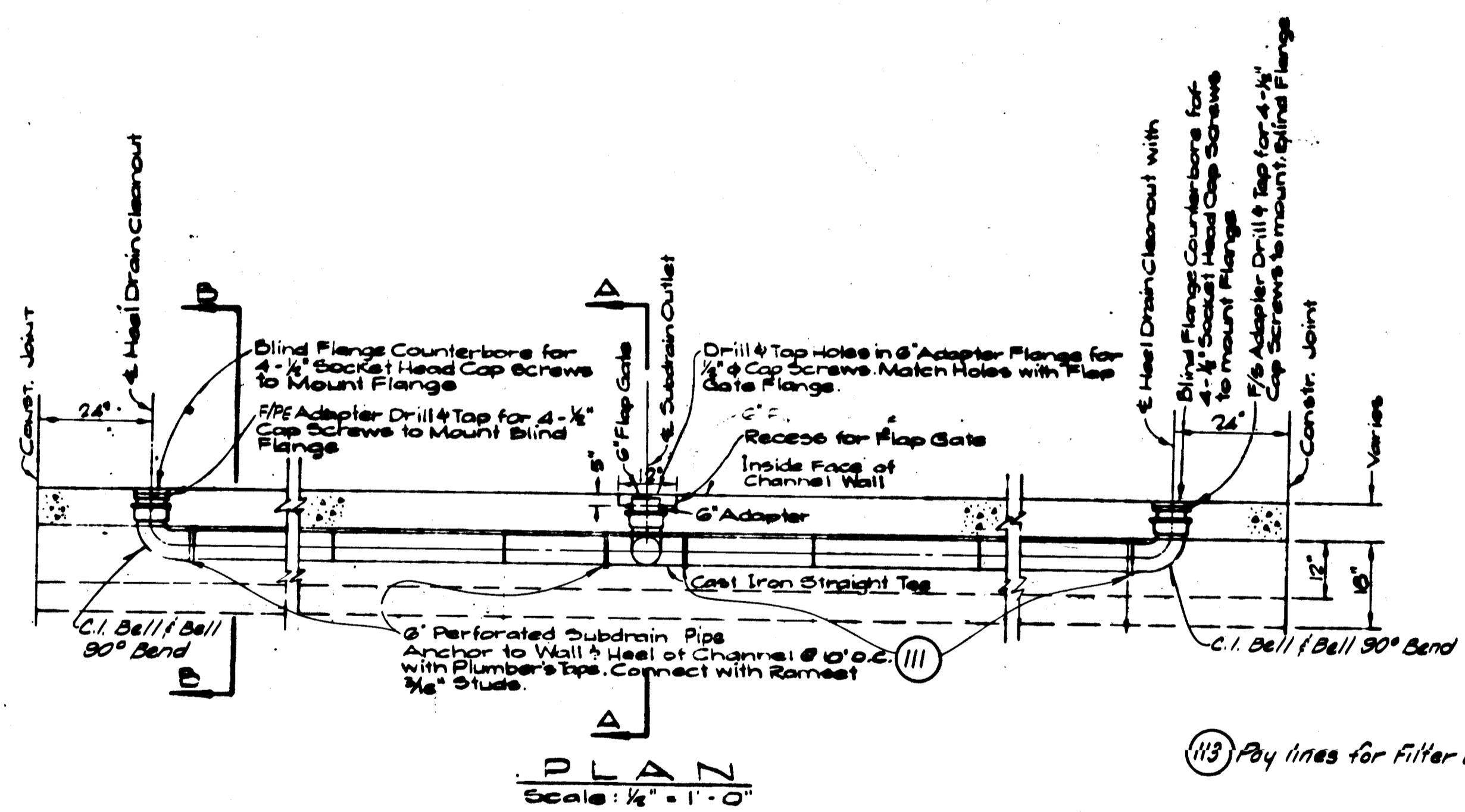
**SUBDRAIN OUTLET DETAIL**

Scale:  $\frac{1}{6} = 1'-0''$



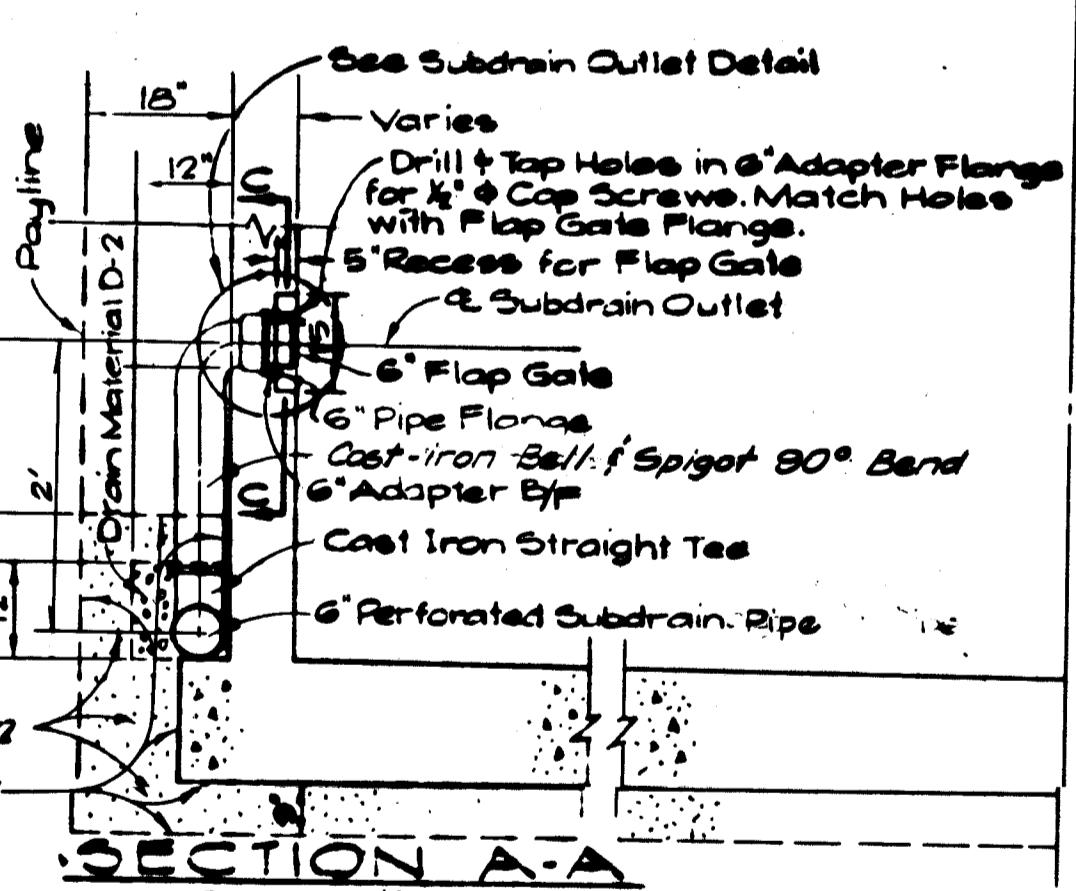
**SECTION C-C**

Scale:  $\frac{1}{6} = 1'-0''$



**PLAN**

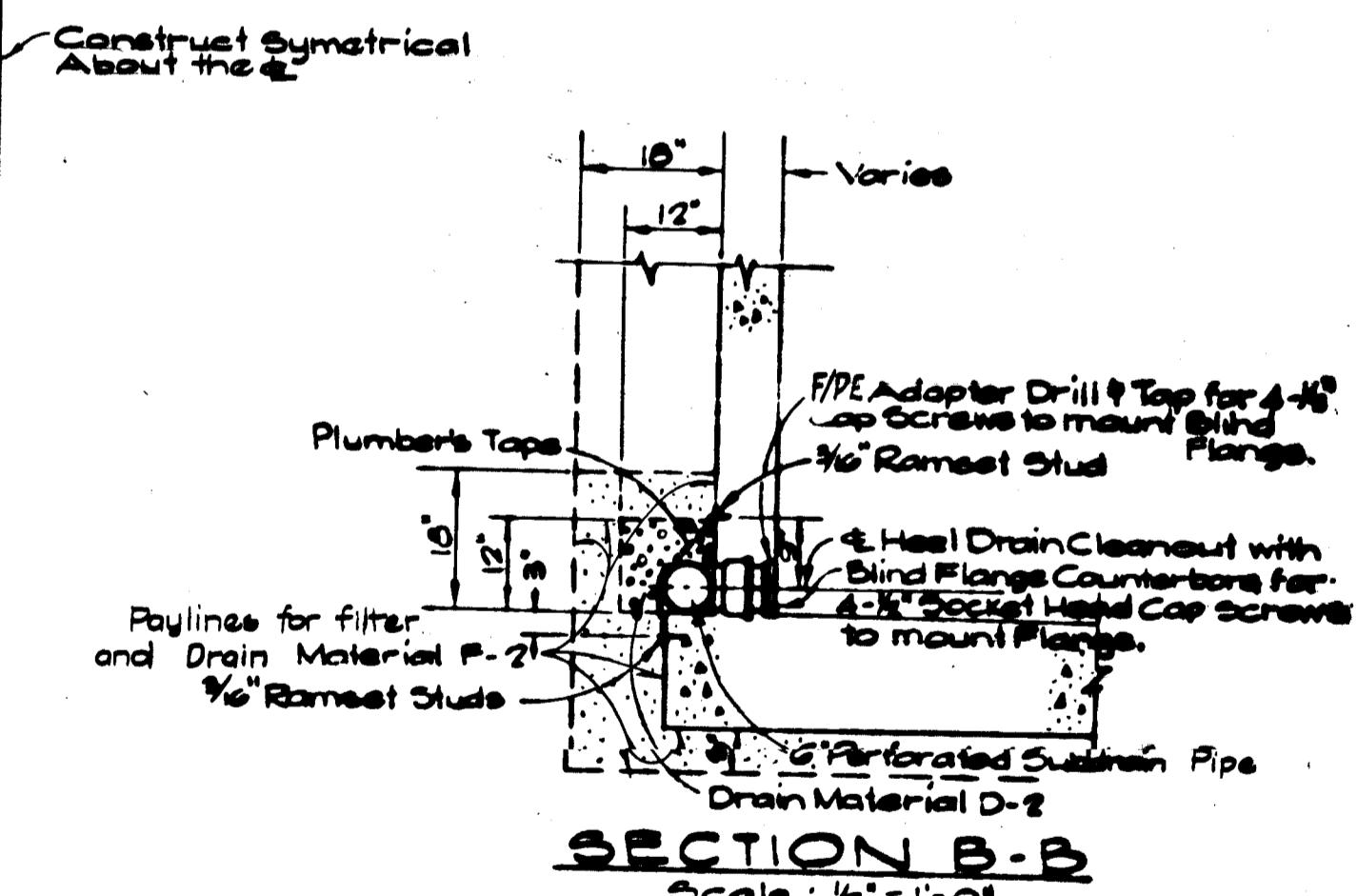
Scale:  $\frac{1}{6} = 1'-0''$



(13) Pay lines for Filter and Drain Material

**SECTION A-A**

Scale:  $\frac{1}{6} = 1'-0''$



**SECTION B-B**

Scale:  $\frac{1}{6} = 1'-0''$

**NOTES SUBDRAINAGE SYSTEM**

**Filter and Drain Material, Subdrain Pipe**

1. Filter Material F-2 and Drain Material D-2 and Subdrain pipe shall be per Section C of the specifications.

**Subdrain and Appurtenances**

2. Automatic Flap Gates

The flap gates shall be flat back, adjustable inclined face, automatic flap gates, designed for seating head of not less than 20 feet. See Section C8 of the specifications.

3. The Bell and Flange adaptors, companion flanges and gate boxes, shall be cast from grey iron ASTM A-48 Class 30.

Except for the bell and flanged adaptors and companion flanges, the bell and spigot outlet pipes and fittings shall be cast iron AWWA C 100, Class D, or AWWA C 110, Class 30.

4. A district approved type of neoprene gasket shall be used at flanged adaptors.

5. Where the distance between construction joints or the distance from a construction joint to a side inlet, which interferes with the subdrain pipe, is less than 20 feet, the subdrainage piping shall be continuous across the construction joint into the adjacent wall section. Where the above distance is 20 ft or greater, a complete unit of subdrain pipe and appurtenant fittings shall be constructed within said distance.

WS-6-05-0279  
HUD-1 TORRANCE LATERAL  
1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

PREPARED BY  
**JOHN A. LAMBIE**  
COUNTY ENGINEER

COUNTY  
PROJECT NO. 1153  
REGIONAL (SUPPLEMENTAL)  
SUBDRAINAGE SYSTEM

RECOMMENDED BY  
*G. Hollings*  
DIVISION ENGINEER - DESIGN DIVISION  
APPROVED BY  
*Walter J. Wood*  
CHIEF ENGINEER  
6-6-69

DRAWN BY W. Hiraga DESIGNED BY W. Hiraga  
TRACED BY W. Hiraga SUBMITTED BY K. Kramer  
CHECKED BY D. Parach DATE 2-17-69

SCALE DATE DWG. NO. 428-D4.43  
AS SHOWN JUNE '69 SHEET 43 OF 52

"AS BUILT" DRAWING

REVISIONS		
MARK	DATE	DESCRIPTION
COUNTY OF LA		
DESIGNED BY		
COUNTY OF LA		
APPROVED BY		
COUNTY OF LA		
W. Hiraga		