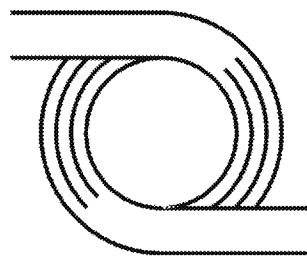


**AECOM**

**WILSON  
MEANY**



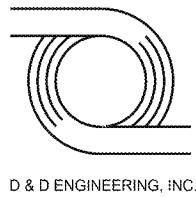
D & D ENGINEERING, INC.

## PROJECT PRELIMINARY HYDROLOGY REPORT

August 23, 2018

D & D Engineering, Inc.  
8901 S. La Cienega Blvd.  
Inglewood, CA 90301  
424-351-6800





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## **FIGURES**

*Figure 1 — Vicinity Map*

*Figure 2 — Existing Storm Drains*

*Figure 3 — Pre-Development Hydrology Map*

*Figure 4 — Post-Development Hydrology Map*

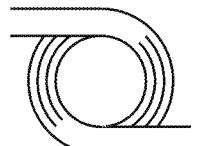
*Figure 5— Proposed Onsite Runoff Distribution to Existing Storm Drain Lines*

## **APPENDICES**

### Appendix A

*Off-Site Hydrology and LACDOW Information Request Summary*

- ∞ *Figure 2 — Existing Storm Drains*
- ∞ *Offsite Tributary Area Map for Project 4402 & 681*
- ∞ *Offsite Tributary Area Map for Project DDI #8*
- ∞ *Information Request Summary*



#### Appendix B

- *LACDPW, 2006 Hydrology Manual, Appendix B Hydrologic Maps, 08 Inglewood*

#### Appendix C

##### *Pre-Development Runoff Calculations*

- ∞ *Figure 3 — Pre-Development Hydrology Map*
- ∞ *Sub-areas HydroCalc Worksheets*

#### Appendix D

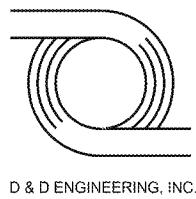
##### *Post-Development Runoff Calculations and Basin Routing*

- ∞ *Figure 4 — Post-Development Hydrology Map*
- ∞ *Figure 5 — Proposed Onsite Runoff Distribution to Existing Storm Drain Lines*
- ∞ *Sub-Areas HydroCalc Worksheets*
- ∞ *Summary of Post-Development Runoff Distribution to Existing Storm Drain Systems*

#### Appendix E

##### *Los Angeles County As-Built Plans*

- ∞ *LACDPW Project 4402 & 681 As-Built Plans*
- ∞ *LACDPW Project 4401, Line A As-Built Plans*
- ∞ *LACDPW DDI # 8 As-Built Plans*



## **I. INTRODUCTION**

The purpose of this report is to outline and describe the onsite hydrology and existing storm drain infrastructure serving the existing site where Project Condor is to be constructed on. Additionally, this report will present the on-site hydrology of the proposed project, quantify the proposed storm runoff flows, the proposed, and the new storm drain infrastructure necessary to accommodate the proposed project. New infrastructure design is to adhere to the approved Los Angeles County Department of Public Works (LACDPW) allowable storm drain discharges from the site.

## **II. SITE DESCRIPTION**

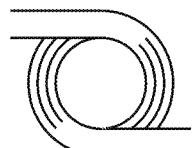
Project Condor is comprised of three sites located near the intersection of Century Boulevard and Prairie Avenue in the city of Inglewood. The first and main project site is located to the southeast of the intersection, the second is located to the southwest of the intersection, and the third site is further east, just east of Doty avenue. The first site of the proposed development includes a multi-purpose sport arena, a parking structure and other miscellaneous use buildings. The site is located on an approximately 17-acre parcel bound by Century Blvd on the North, Prairie Ave on the West, Doty Ave on the East and 103th Street on the South. The second site includes proposed parking structure over an approximately 5.5-acre site, just west of Prairie Avenue. The third site includes proposed approximately 2.9-acre surface parking and portion of vacant land over an approximately 5-acre site, not contiguous to the main project site, just east of Doty Avenue. Refer to the project site map, *Figure 1 — Vicinity Map*, for project site locations.

The existing site over the proposed main project site currently contains commercial buildings, a hotel, a fast-food restaurant and vacant land for significant portion. The existing site over the proposed parking structure site consists of twenty-seven parcels that are all currently vacant lots. The existing site over the proposed surface parking site consists of five parcels that are all currently vacant lots.

The site topography generally slopes from the north-east to south-west corner.

Currently, the existing site runoff is discharging to surrounding public streets where it is collected by the existing storm drain system. There is currently no existing on-site storm drain system in place. The existing runoff breakdown from project sites to the existing storm drain systems is as follows:

- ∞ Majority of main site runoff of 18.4 cfs to Project 4402 and Project 681 County storm drain lines.



- ∞ Parking structure site runoff is split to two systems – portion north of 101<sup>st</sup> Street runoff of 2.8 cfs to Project 4402 Line B and portion south of 101<sup>st</sup> Street runoff of 4.8 cfs to DDI#0008 Freeman Avenue County storm drain lines.
- ∞ Surface parking runoff of 6.3 cfs to DDI # 0008 Yukon County storm drain line.

### **III. EXISTING STORM DRAIN SYSTEMS DESCRIPTION AND CAPACITY**

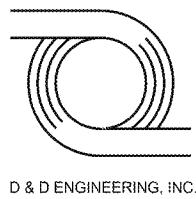
Existing as-built record drawings and hydrology maps were obtained from LACDPW to characterize the storm drains that currently serve the project sites. The as-built plans can be found in [Appendix E](#).

The existing storm drain systems serving the project sites are maintained by the LACDPW and include Project 4401 Line A, Project 4402 & 681 and Project DDI # 8. These are located adjacent to the project site along Prairie and Doty Avenues. Refer to *Figure 2 — Existing Storm Drains* for existing off-site storm drain infrastructure.

The table below summarizes the storm drain infrastructure adjacent to the project site based on the latest available as-built and record drawings reviewed to date.

Location	Size	Notes
Prairie Avenue	LACDPW Project 4402 & 681- 60" diameter storm drain that flows south along Prairie Avenue.	Collects runoff flowing to Prairie from offsite properties as well as majority of proposed site
Doty Avenue	LACDPW Project 4401, Line A – 7'-0" W x 9'-0" H RCB that flows south along Doty Ave	Accepts flows from Projects 4401, Line B and MTD 922 north of Century Avenue and runoff to Doty Avenue from adjacent properties
East of Doty Avenue	LACDPW Project DDI # 8 – 4'-3" W x 4'-0" H RCB	Flowing south parallel and to the east of Doty Avenue

An information request was submitted to the LACDPW to obtain information regarding capacities of the existing storm drain systems listed above and the allowable Q's that can be discharged from the project sites to these storm drain systems. Refer to [Appendix A](#) for a summary of the allowable storm water discharges to Project 4401, Project 4402 and DDI #8 prepared and approved on October 2017 by the LACDPW Design Division.



#### **IV. PROJECT DESCRIPTION**

Project Condor is a mixed-use project that includes a multi-purpose sport arena with auxiliary structures including retail, office buildings, restaurants, parking structures and plaza areas. The project consists of 71,000 sq. ft. of office space, 25,000 sq. ft. of retail space, 15,000 sq. ft. of food services, 85,000 sq. ft. of practice facilities, 15,000 sq. ft. of community space, 25,000 sq. ft. of sports medicine clinic and an 18,000-seat arena, a parking structure and substantial amounts of surface parking.

#### **V. HYDROLOGY ANALYSIS AND CALCULATIONS**

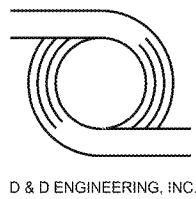
Hydrologic calculations were performed utilizing the LACDPW Hydrology Manual dated January 2006 and county HydroCalc Program Method. Per the LACDPW hydrology Manual, The Capital Flood Level of Protection produced by a 50-year frequency design storm is applied to proposed on-site drainage areas and facilities in sump conditions.

The existing and post-development flow rates generated by the Condor project site were calculated using the LACDPW Inglewood 50-year, 24-hour isohyet (5.15 inches rainfall depth) and associated runoff coefficient curve (Soil Type No.16 for main site and No.13 for surface parking site) and are shown in [Appendix C](#) and [Appendix D](#).

#### **VI. POST DEVELOPMENT RUNOFF AND BASIN ROUTING**

Project Condor consists of three major subareas as shown in *Figure 4 — Post-Development Hydrology Map*, with each of the project sites consisting of separate subareas. The main project site consists of two major drainage area, denoted as DA "A-3" and DA "A-4", with a contributing runoff to the existing Project 681 storm drain lines. The parking structure site consists of another two major drainage area denoted as DA "A-5" and DA "A-6" with a contributing runoff to the existing Project 4402 & 681 storm drain lines. The parking lot site consists of another two major drainage area denoted as DA "A-1" and DA "A-2", with a contributing runoff to the existing DDI #8 storm drain system. Design peak flows were calculated for a 50-year frequency design storm for basin routing, refer to [Appendix D f](#) or supporting calculations.

As shown in [Appendix C](#) and [Appendix D](#), the post-development runoff quantities exceed the pre-development runoff quantities. Additionally, the post-development peak flows for proposed drainage sub-areas exceed the approved allowable discharge rates to existing LACDPW Project 4402 & 681 and DDI #8 systems. Therefore, on-site detention is required for all three project's sites. For the arena site, an underground precast detention facility with an approximately 90,000 cu.ft. volume. A similar detention facility will be required for the surface parking site with



an approximately 8,500 cu. ft volume and for northerly portion of the parking structure with approximately volume of 5,300 cu. ft. volume. The southerly portion of the parking structure drainage is anticipated to be diverted to the Prairie Avenue project # 681 storm drain instead of the Freeman storm drain system. A similar detention facility will not be feasible for the southerly parking structure site, therefore the additional detention from the arena site will compensate for the southerly portion of the parking structure. The arena site detention facility outfall will be restricted to a maximum 7.9 cfs and with the parking structure peak runoff of 8.7 cfs, the total discharge to project # 681 of 16.36 cfs will not exceed the allowable flow rate of 16.96 cfs. The surface parking lot and northerly portion of the parking structure detention facilities will have maximum outfall rates of 4.8 cfs and 2.2 cfs, respectfully.

Summary of allowable flow rates and project contributing flow rates table from all detention facilities can be found in Appendix D.

## **VII. SUMMARY AND CONCLUSION**

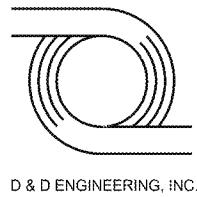
The results of this study are summarized in following table.

Table 1- Allowable Runoff, existing and proposed flows

ITEM	Project 4402 (cfs)	Project 681 (cfs)	DDI#8 (cfs)	TOTAL (CFS)
Proposed Onsite 50-year Flow into Pipeline-prior to detention (Figure 4)	6.6 (Sub-area A6)	41.0 (Sub-areas A3, A4 & A5)	10.7 (Sub-areas A1 & A2)	58.3
Proposed Onsite 50-year Flow into Pipeline (HydroCalc, Figure 5) *	<b>2.2</b> (Sub-area A6 detention outfall)	<b>16.6</b> (Sub-areas A3 & A4 detention outfall & A5)	<b>4.8</b> (Sub-areas A1 & A2 detention outfall)	<b>23.6</b>
LACDPW Allowable Flow Rates (Appendix B)	2.4	16.9	5.1	24.4

\*Proposed runoff shown in the table are the maximum outfalls from detention facilities or proposed sites.

The Los Angeles County Department of Public Works, Design Division provided a confirmation of the allowable flow rates that may be discharged to each of the downstream storm drains adjacent to the project site, refer to Appendix A for the summary noticed provided by the LACDPW.

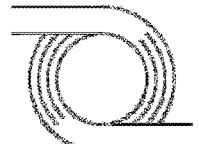


Based on our preliminary post-developed hydrology calculations the following has been observed:

- ∞ The design outfall from the arena site detention facility and southerly portion of the parking structure for Project 681 is approximately 16.6 cfs and the LACDPW allowable limit is 16.9 cfs.
- ∞ The design outfall from the northerly portion of the parking structure facility for Project 4402, Line C is approximately 2.2 cfs and the LACDPW allowable limit is 2.4 cfs.
- ∞ The design outfall from the surface parking site detention facility for DDI #8 is approximately 4.8 cfs and the LACDPW allowable limit is 5.1 cfs.

In summary, Project Condor will discharge 2.2 cfs and 16.6 cfs to Project 4402 & 681 and 4.8 cfs to DDI # 8, all discharge rates being within the allowable limits of 2.4cfs, 16.9 cfs and 5.1 cfs, respectively, as set by the LACDPW. Therefore, the existing downstream storm drain lines have adequate capacity for the proposed discharge from the project site. On-site storm drain pipelines and detention facilities should be designed to provide the capital flood level of protection from runoff from a 50-year frequency design storm.

The information contained within this report will be used for obtaining future connection permits to Los Angeles County Flood Control District (LACFCD) facilities and represents the existing hydrology and hydraulic data that will be used for future on-site storm drainage design.



## Figures

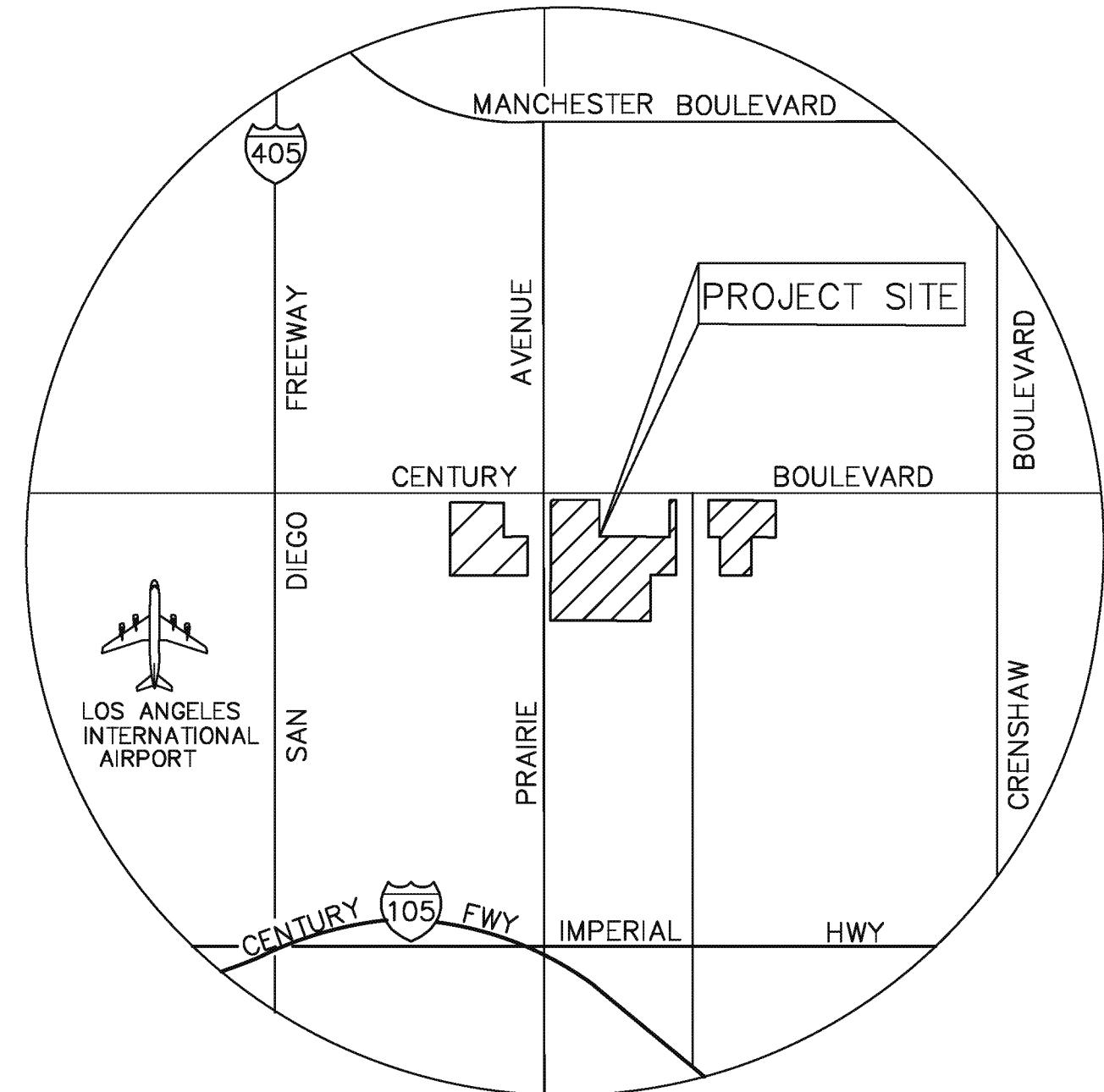
*Figure 1 — Vicinity Map*

*Figure 2 — Existing Storm Drains*

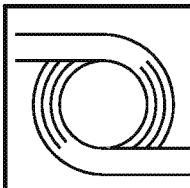
*Figure 3 — Pre-Development Hydrology Map*

*Figure 4 — Post-Development Hydrology Map*

*Figure 5 — Proposed Onsite Runoff Distribution to  
Existing Storm Drain Lines*



**FIGURE 1**



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8901 S. LA CIENEGA BLVD, SUITE 106  
INGLEWOOD, CA 90301  
Phone: 424-351-6800

PROJECT CONDOR

VICINITY MAP

SCALE:	AS SHOWN
DATE:	08/22/18
SHT NO.:	1 OF 1

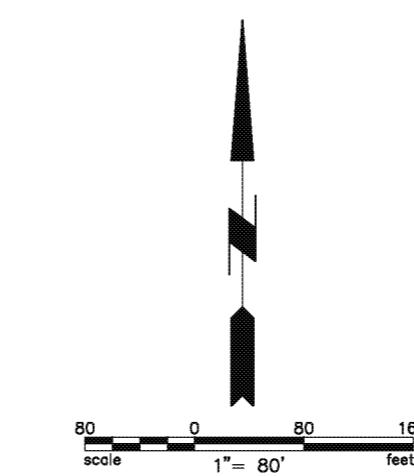


## **LEGEND**

     PROJECT STUDY LIMITS

    EXISTING STORM DRAIN LINES

    EXISTING CITY OF INGLEWOOD STORM DRAIN LINE



## **FIGURE 2**

 <p><b>D &amp; D ENGINEERING, INC.</b></p> <p>8901 S. LA CIENEGA BLVD. SUITE 106 INGLEWOOD, CA 90301 Phone: 424-351-6800</p>	<h1>PROJECT CONDOR</h1> <h2>EXISTING STORM DRAINS</h2>	<p>SCALE: 1" = 80'</p> <p>DATE: 08/22/18</p> <p>SHT NO.: 1 OF 1</p>
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### LEGEND

PROJECT STUDY LIMITS  
 EXISTING STORM DRAIN LINES

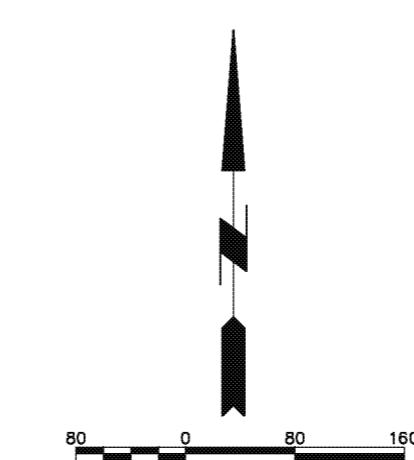


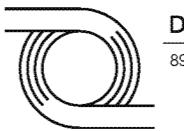
AREA ACRES



DRAINAGE SUBAREA

SUBAREA	ACREAGE	SOIL TYPE	LENGTH	SLOPE	Q <sub>25</sub>
A1	10.7	16	965'	0.004	11.8 cfs
A2	6.2	16	910'	0.004	6.6 cfs
A3	5.1	13	685'	0.004	6.3 cfs
A4	3.3	16	427	0.005	4.8 cfs
A5	2.2	16	600	0.003	2.6 cfs
TOTAL	27.5	-----	-----	-----	32.1 cfs

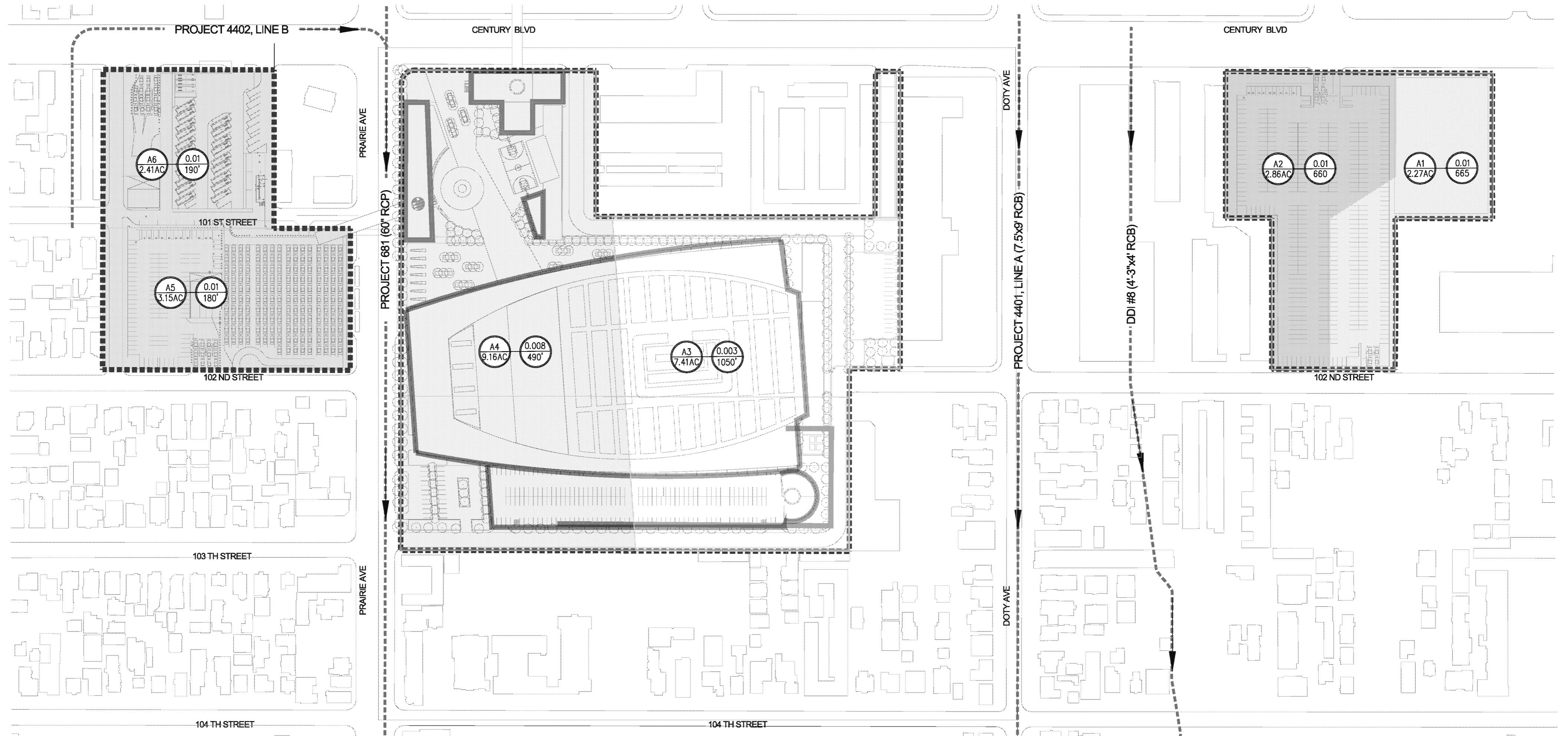


  
**D & D ENGINEERING, INC.**  
 8901 S. LA CIENEGA BLVD. SUITE 106  
 INGLEWOOD, CA 90301  
 Phone: 424-351-6800

**PROJECT CONDOR**  
**PRE-DEVELOPMENT**  
**HYDROLOGY MAP**

SCALE: 1" = 80'  
 DATE: 08/21/18  
 SHOT NO: 1  
 OF 1

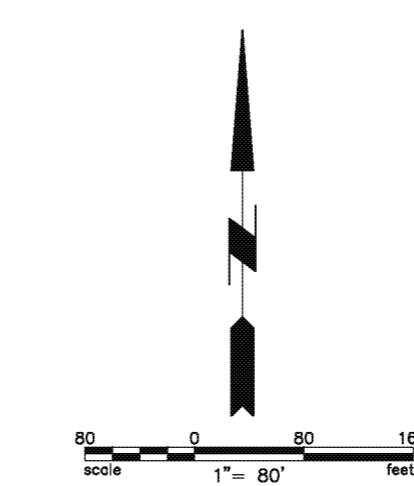
**FIGURE 3**



#### LEGEND

- PROJECT STUDY LIMITS
  - EXISTING STORM DRAIN LINES
  - DRAINAGE AREA
- AREA  
  ACRES  
  SLOPE  
  LENGTH

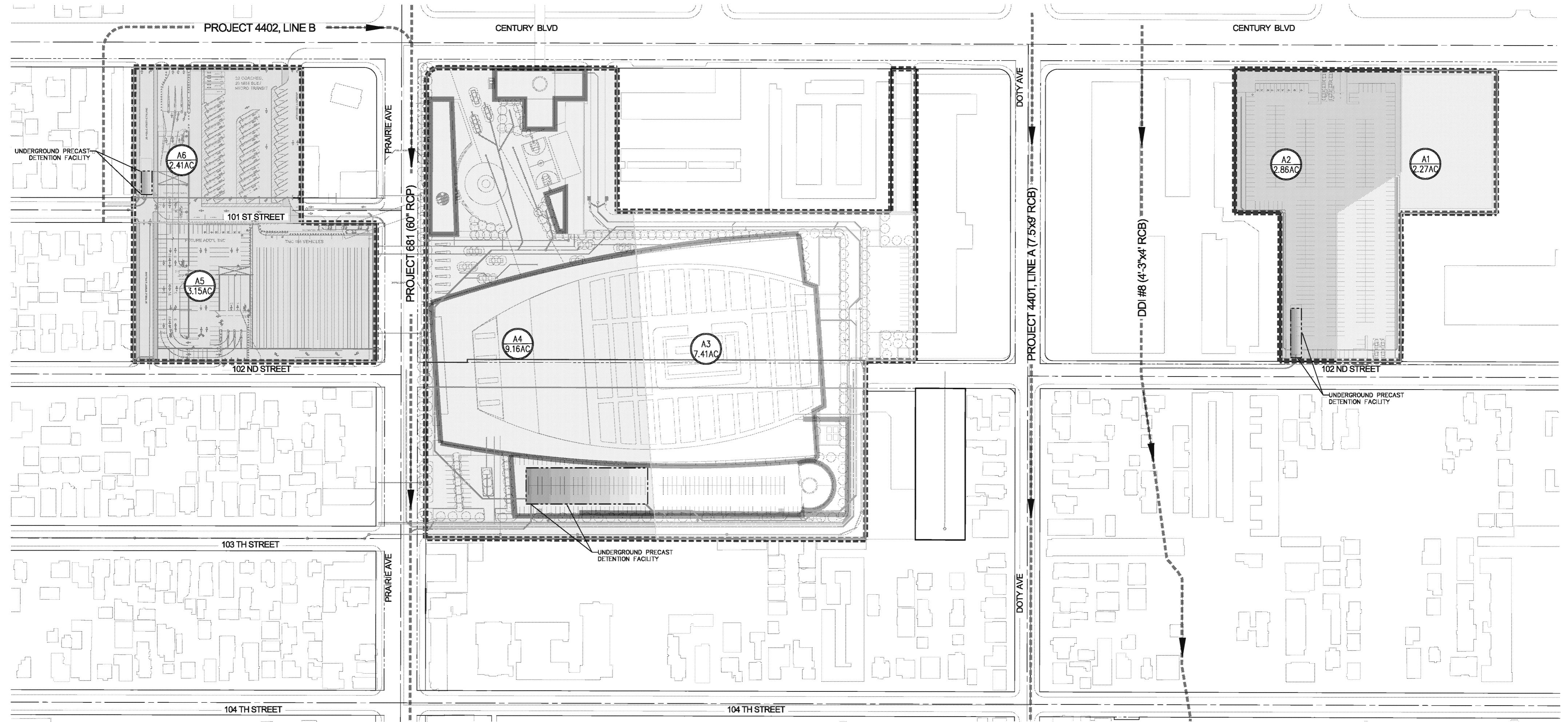
SUBAREA	ACREAGE	LENGTH	SLOPE	Q <sub>50</sub>
A1	2.3	665'	0.010	4.7 cfs
A2	2.9	660'	0.010	6.0 cfs
A3	7.4	1050'	0.004	12.1 cfs
A4	9.2	490'	0.008	20.2 cfs
A5	3.2	190'	0.010	8.7 cfs
A6	2.4	180'	0.010	6.6 cfs
TOTAL	27.4	-----	-----	58.3 cfs



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INGLEWOOD, CA 90301  
Phone: 424-351-6800

FIGURE 4  
PROJECT CONDOR  
POST-DEVELOPMENT  
HYDROLOGY MAP

SCALE: 1" = 80'  
DATE: 08/21/18  
SH NO: 1 OF 1



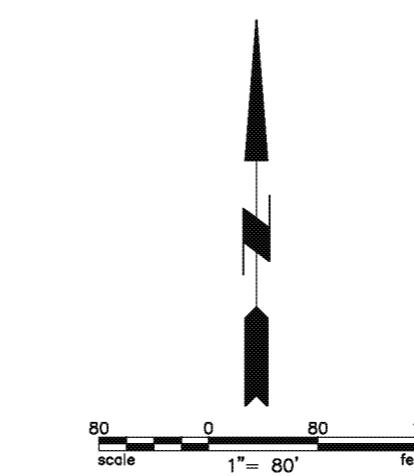
SUBAREA	ACREAGE	LENGTH	SLOPE	Q <sub>ds</sub>
A1	2.3	665'	0.010	4.7 cfs
A2	2.9	660'	0.010	6.0 cfs
A3	7.4	1050'	0.004	12.1 cfs
A4	9.2	490'	0.008	20.2 cfs
A5	3.2	190'	0.010	8.7 cfs
A6	2.4	180'	0.010	6.6 cfs
TOTAL	27.4	---	---	58.3 cfs

#### LEGEND

- ██████████ PROJECT STUDY LIMITS
- ██████████ EXISTING STORM DRAIN LINES
- ██████████ DRAINAGE SUB-AREA

EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE (cfs)	CONTRIBUTING FLOW (cfs)	NOTE
PROJECT DDI #0008	A1 & A2	5.10	4.8	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	2.40	2.2	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	16.90	16.6*	SUFFICIENT SD CAPACITY

\* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 7.9 CFS AND DRAINAGE AREA A6 RUNOFF OF 8.7 CFS.



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INGLEWOOD, CA 90301  
Phone: 424-351-6800

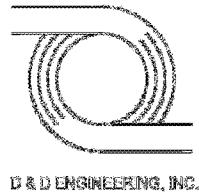
#### PROJECT CONDOR

PROPOSED ONSITE RUNOFF  
DISTRIBUTION TO EXISTING STORM  
DRAIN LINES

SCALE: 1" = 80'  
DATE: 08/21/18  
SH NO:  
1 OF 1

Driving Name: M:\V700\1700\1700\03\11\Report\Proposed onsite runoff distribution to existing lines - DB-21-18.cwg  
Last Opened: Aug 23, 2018 - 4:35pm by Boris

**FIGURE 5**



## Appendix A

### ***Off-Site Hydrology and LACDOW Information Request Summary***

*Figure 2 — Existing Storm Drains*

*Offsite Tributary Area Map for Project 4402 & 681*

*Offsite Tributary Area Map for Project DDI #8*

*Information Request Summary*

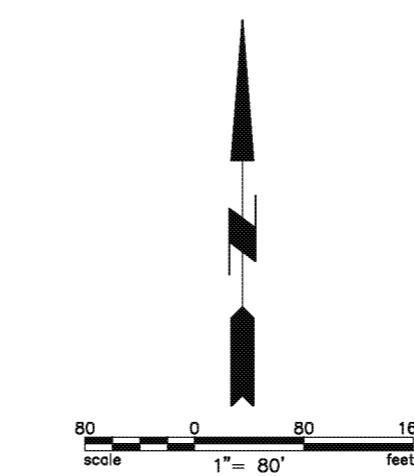


## **LEGEND**

     PROJECT STUDY LIMITS

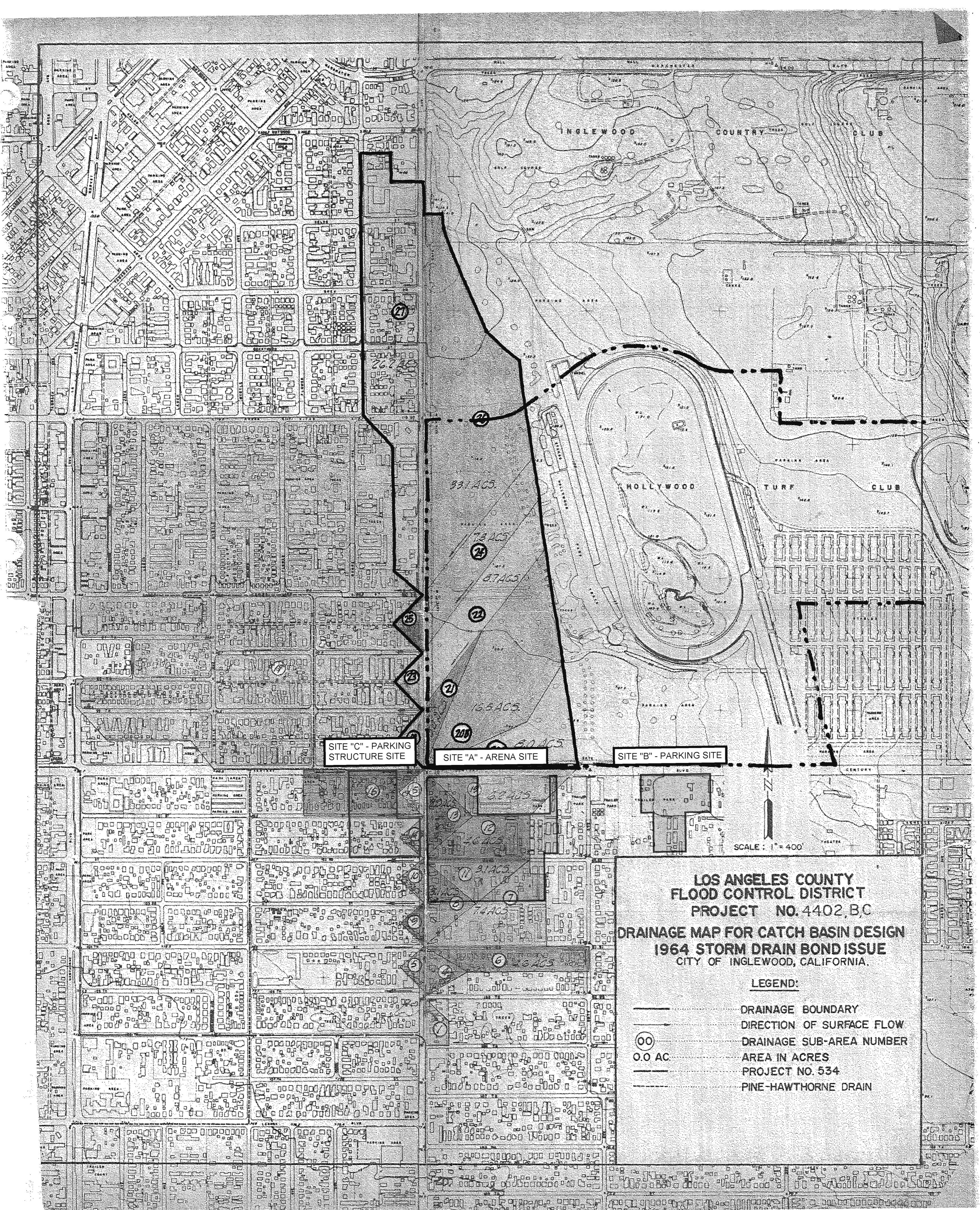
    EXISTING STORM DRAIN LINES

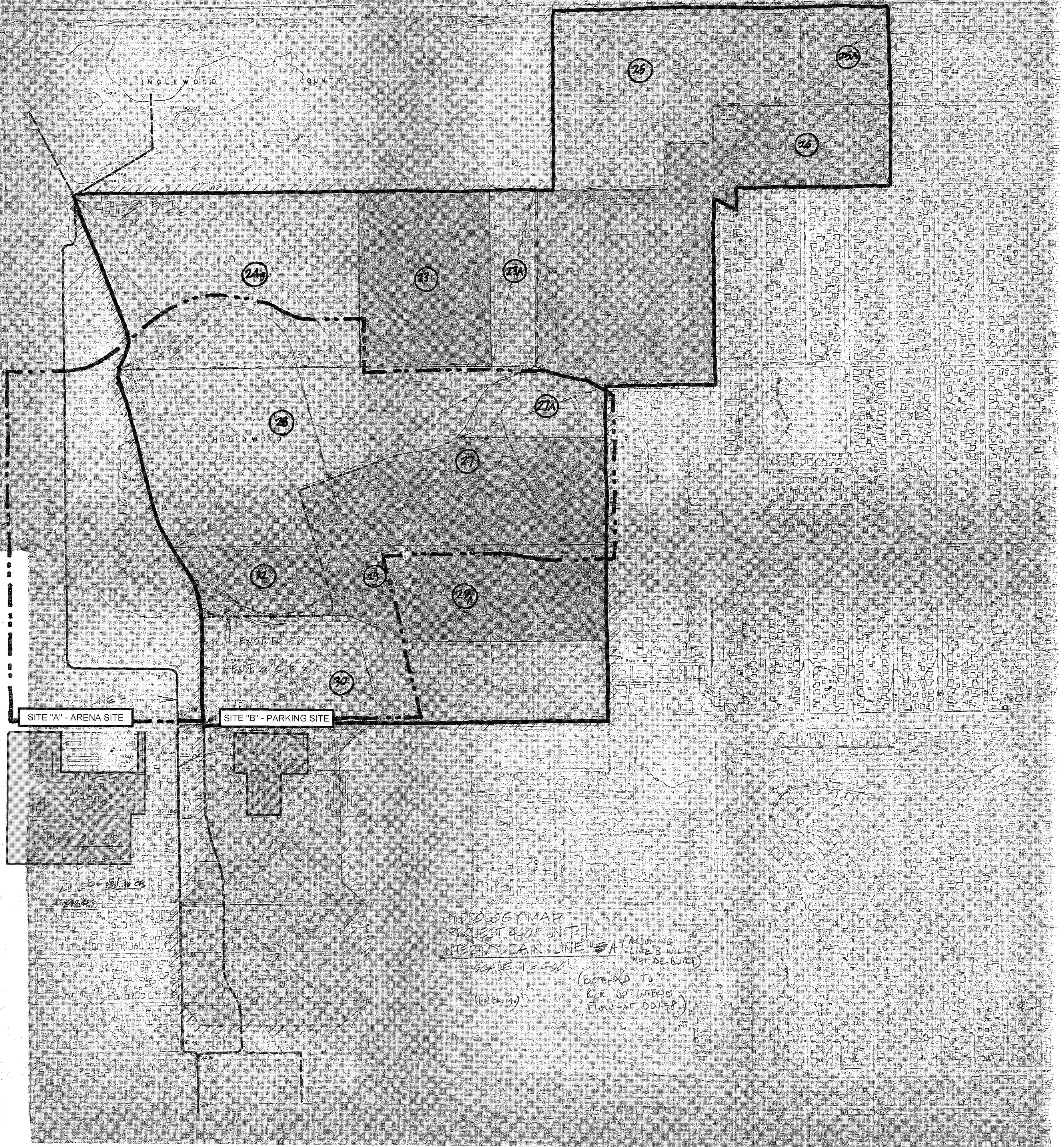
    EXISTING CITY OF INGLEWOOD STORM DRAIN LINE



## **FIGURE 2**

 <p><b>D &amp; D ENGINEERING, INC.</b></p> <p>8901 S. LA CIENEGA BLVD. SUITE 106 INGLEWOOD, CA 90301 Phone: 424-351-6800</p>	<h1>PROJECT CONDOR</h1> <h2>EXISTING STORM DRAINS</h2>	<p>SCALE: 1" = 80'</p> <p>DATE: 08/22/18</p> <p>SHT NO.: 1 OF 1</p>
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LOS ANGELES COUNTY  
DEPARTMENT OF PUBLIC WORKS  
DESIGN DIVISION – HYDRAULIC ANALYSIS UNIT

Office Use Only	
<input type="checkbox"/> Sent	Initials: _____
<input type="checkbox"/> Fax	Email <input checked="" type="checkbox"/> Other: _____
Date: _____ Time: _____	

INFORMATION REQUEST SUMMARY

INFORMATION REQUESTED BY

\*Requester's Name: Boris Tantchev  
Company: D & D Engineering, Inc.  
\*Phone Number: 8182-653-8666 Fax Number: 424/383-4122  
\*Email: BTantchev@DandDEngineeringInc.com

Method of Contact:  Walk-in  Phone  Fax  Email  Print: NO Date: 10/16/17

Intended Use: Research and Due Diligence

Proposed Project Type: Land Development - Mixed Use and Retail/Com Acreage Involved: 26

\*Will information be used in any litigation?  YES  NO

Case Info. Name: \_\_\_\_\_ No: \_\_\_\_\_ Location: \_\_\_\_\_

INFORMATION REQUESTED (Attach Assessor Map)

LACFCD Facility: Name: LACFCD Proj #681 and Proj #4401-U1 Line A, and DDI 0008  
Unit: \_\_\_\_\_ Line: \_\_\_\_\_ Station: \_\_\_\_\_  
City: Inglewood  
\*Street/Cross-street: Century Blvd and Prairie Avenue  
\*Thomas Guide: Page: 703 Grid: E5  Site Map/Plans Submitted  
Info. Requested: Allowable Q

\*Required Information. See Page 2 of 2 for Instructions.

BELOW SECTION TO BE COMPLETED BY THE HYDRAULIC ANALYSIS UNIT

INFORMATION PROVIDED: Allowable q per acre.

REFERENCES SEARCHED: Projects 534, 4401, 4402 and DDI 8 Hydrology.

COMMENTS, ETC:

Allowable q per acre for connection to Project 4402 = 1.00 cfs.  
Allowable q per acre for connection to Project 4401 = 0.70 cfs  
Allowable q per acre for connection to DDI 8 = 1.00 cfs.

INFORMATION PROVIDED BY: Ambrose C Ajaelo PE

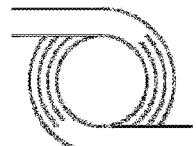
Date: 10/26/2017

INFORMATION REVIEWED BY:

Date:



8901 S. La Cienega Blvd, Suite 106 | Inglewood, CA | 424.351.6800



D & D ENGINEERING, INC.

## **Appendix B**

*LACDPW, 2006 Hydrology Manual, Appendix B  
Hydrologic Maps, 08 Inglewood*

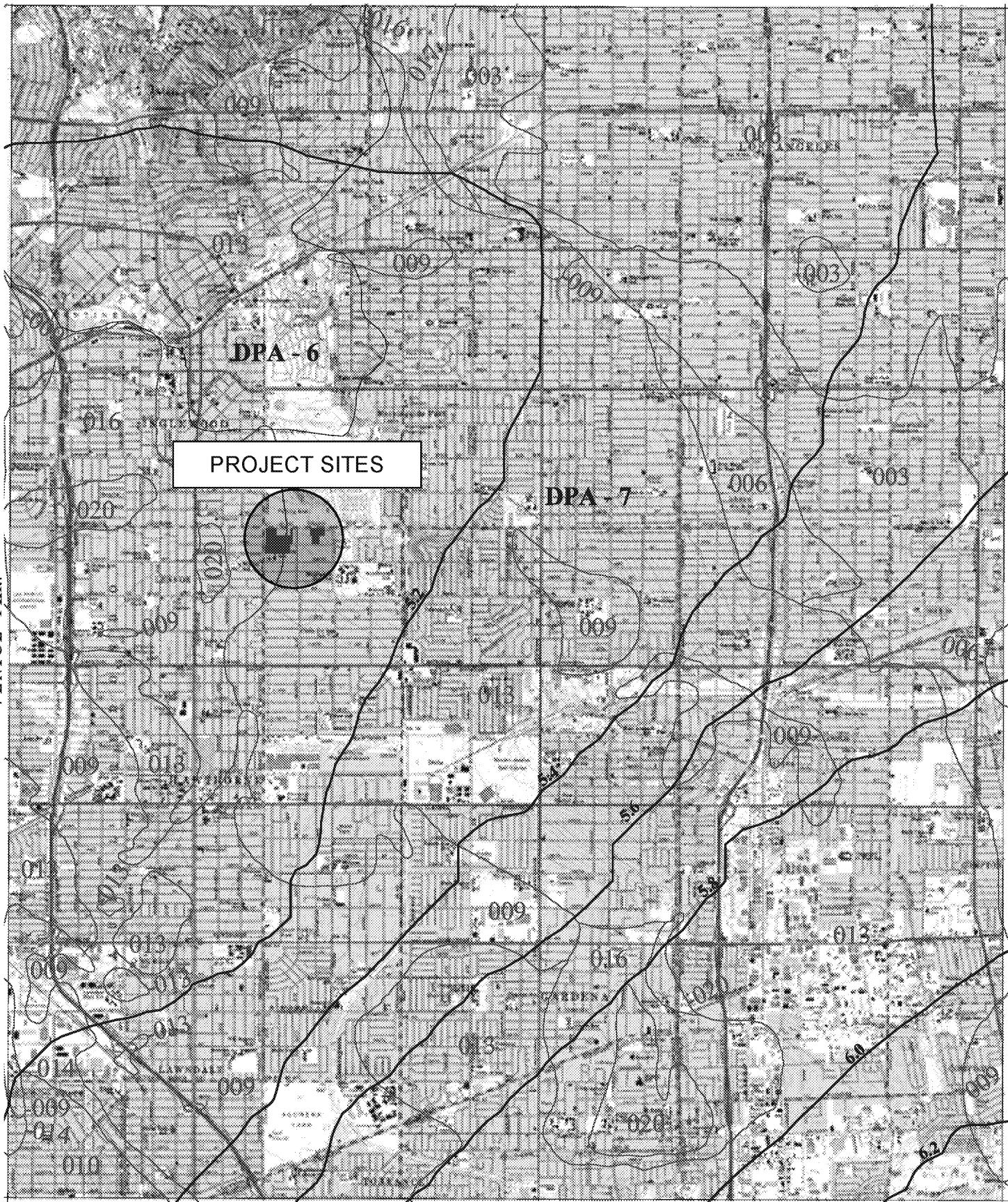
34° 00' 00"

HOLLYWOOD 1-H1.18

-118° 22' 30"

VENICE 1-H1.7

SOUTH GATE 1-H1.9



8901 S. La Cienega Blvd, Suite 106 | Inglewood, CA | 424.351.6800



## **Appendix C**

### ***Pre-Development Runoff Calculations***

*Figure 3 — Pre-Development Hydrology Map  
Sub-areas HydroCalc Worksheets*



### LEGEND

PROJECT STUDY LIMITS  
 EXISTING STORM DRAIN LINES

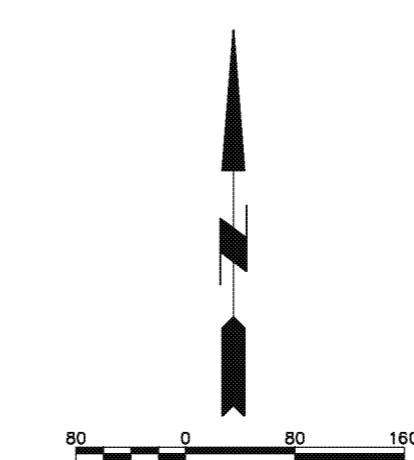


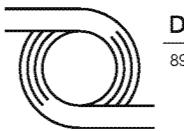
AREA ACRES



DRAINAGE SUBAREA

SUBAREA	ACREAGE	SOIL TYPE	LENGTH	SLOPE	Q <sub>25</sub>
A1	10.7	16	965'	0.004	11.8 cfs
A2	6.2	16	910'	0.004	6.6 cfs
A3	5.1	13	685'	0.004	6.3 cfs
A4	3.3	16	427	0.005	4.8 cfs
A5	2.2	16	600	0.003	2.6 cfs
TOTAL	27.5	-----	-----	-----	32.1 cfs



  
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 INGLEWOOD, CA 90301  
 Phone: 424-351-6800

**PROJECT CONDOR**  
**PRE-DEVELOPMENT**  
**HYDROLOGY MAP**

SCALE: 1" = 80'  
 DATE: 08/21/18  
 SHOT NO: 1  
 OF 1

**FIGURE 3**

# Peak Flow Hydrologic Analysis

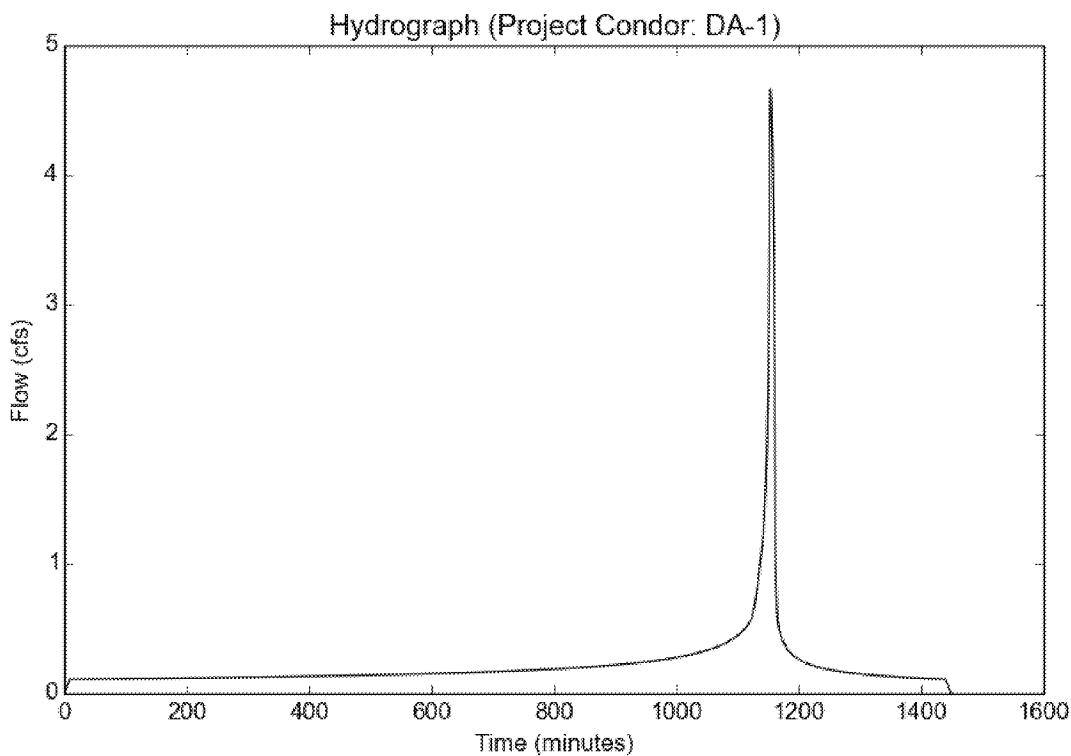
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Report Proposed Conditions.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	DA-1
Area (ac)	2.27
Flow Path Length (ft)	665.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.4
Soil Type	13
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	5.15
Peak Intensity (in/hr)	2.3309
Undeveloped Runoff Coefficient (Cu)	0.8687
Developed Runoff Coefficient (Cd)	0.8812
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	4.6628
Burned Peak Flow Rate (cfs)	4.6628
24-Hr Clear Runoff Volume (ac-ft)	0.4473
24-Hr Clear Runoff Volume (cu-ft)	19482.7616



# Peak Flow Hydrologic Analysis

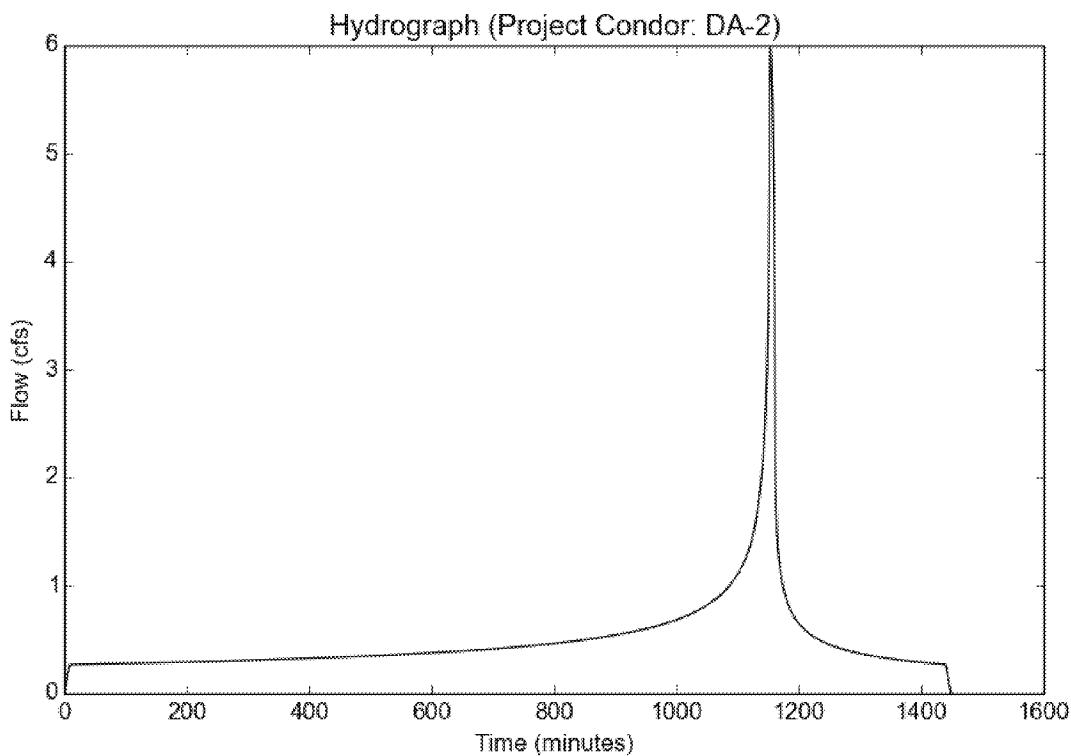
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Report Proposed Conditions.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	DA-2
Area (ac)	2.86
Flow Path Length (ft)	660.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
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)	5.15
Peak Intensity (in/hr)	2.3309
Undeveloped Runoff Coefficient (Cu)	0.8687
Developed Runoff Coefficient (Cd)	0.8969
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	5.979
Burned Peak Flow Rate (cfs)	5.979
24-Hr Clear Runoff Volume (ac-ft)	1.0069
24-Hr Clear Runoff Volume (cu-ft)	43859.4344



# Peak Flow Hydrologic Analysis

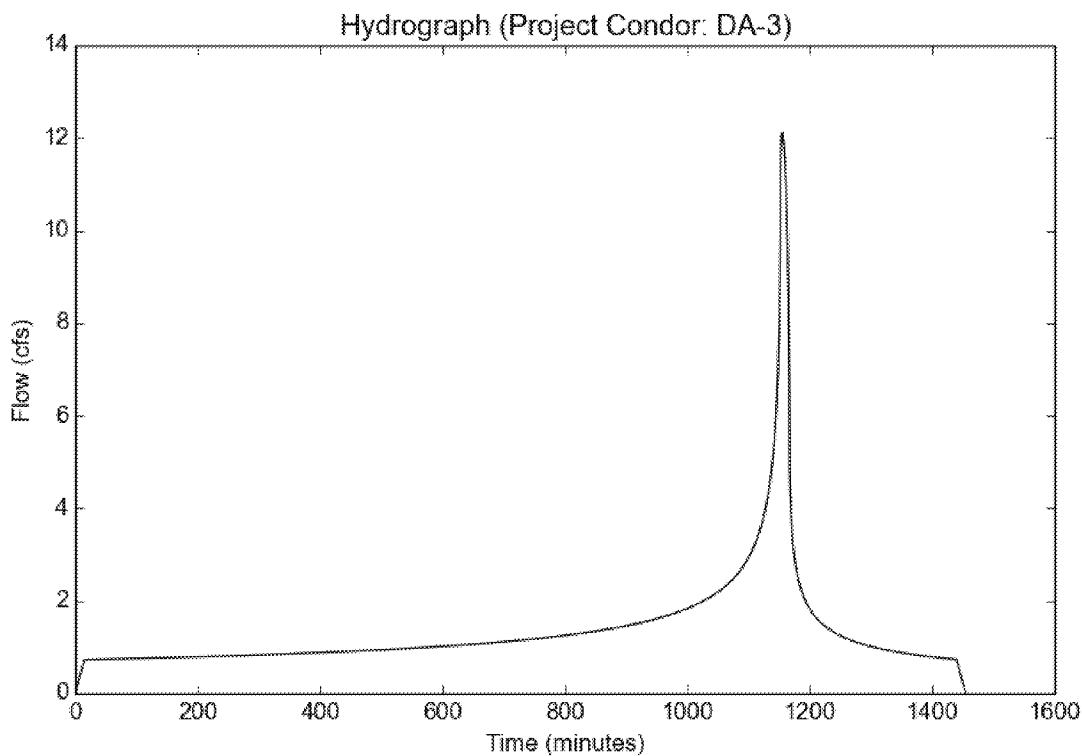
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Report Proposed Conditions.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	DA-3
Area (ac)	7.41
Flow Path Length (ft)	1050.0
Flow Path Slope (vft/hft)	0.0035
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.95
Soil Type	16
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	5.15
Peak Intensity (in/hr)	1.8334
Undeveloped Runoff Coefficient (Cu)	0.7308
Developed Runoff Coefficient (Cd)	0.8915
Time of Concentration (min)	15.0
Clear Peak Flow Rate (cfs)	12.1122
Burned Peak Flow Rate (cfs)	12.1122
24-Hr Clear Runoff Volume (ac-ft)	2.7251
24-Hr Clear Runoff Volume (cu-ft)	118707.0023



# Peak Flow Hydrologic Analysis

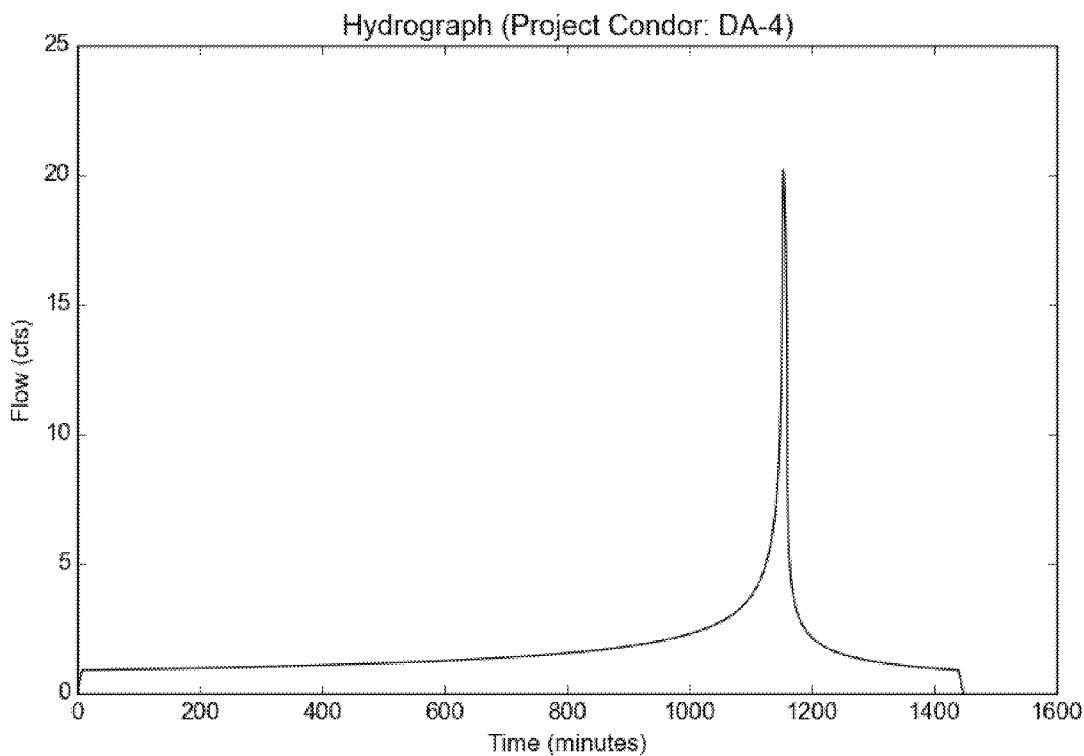
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Report Proposed Conditions.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	DA-4
Area (ac)	9.16
Flow Path Length (ft)	490.0
Flow Path Slope (vft/hft)	0.008
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.95
Soil Type	16
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	5.15
Peak Intensity (in/hr)	2.4636
Undeveloped Runoff Coefficient (Cu)	0.8069
Developed Runoff Coefficient (Cd)	0.8953
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	20.205
Burned Peak Flow Rate (cfs)	20.205
24-Hr Clear Runoff Volume (ac-ft)	3.369
24-Hr Clear Runoff Volume (cu-ft)	146752.9576



# Peak Flow Hydrologic Analysis

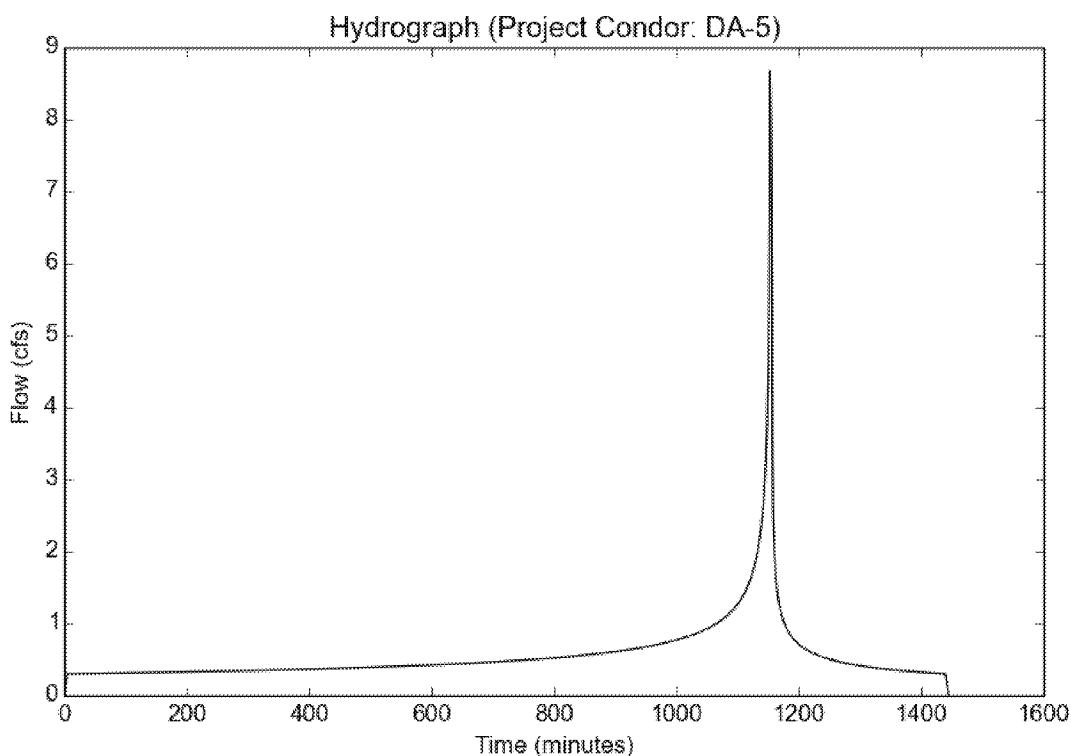
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Report Proposed Conditions.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	DA-5
Area (ac)	3.15
Flow Path Length (ft)	190.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.92
Soil Type	16
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	5.15
Peak Intensity (in/hr)	3.0726
Undeveloped Runoff Coefficient (Cu)	0.8531
Developed Runoff Coefficient (Cd)	0.8962
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	8.6746
Burned Peak Flow Rate (cfs)	8.6746
24-Hr Clear Runoff Volume (ac-ft)	1.1298
24-Hr Clear Runoff Volume (cu-ft)	49212.197



# Peak Flow Hydrologic Analysis

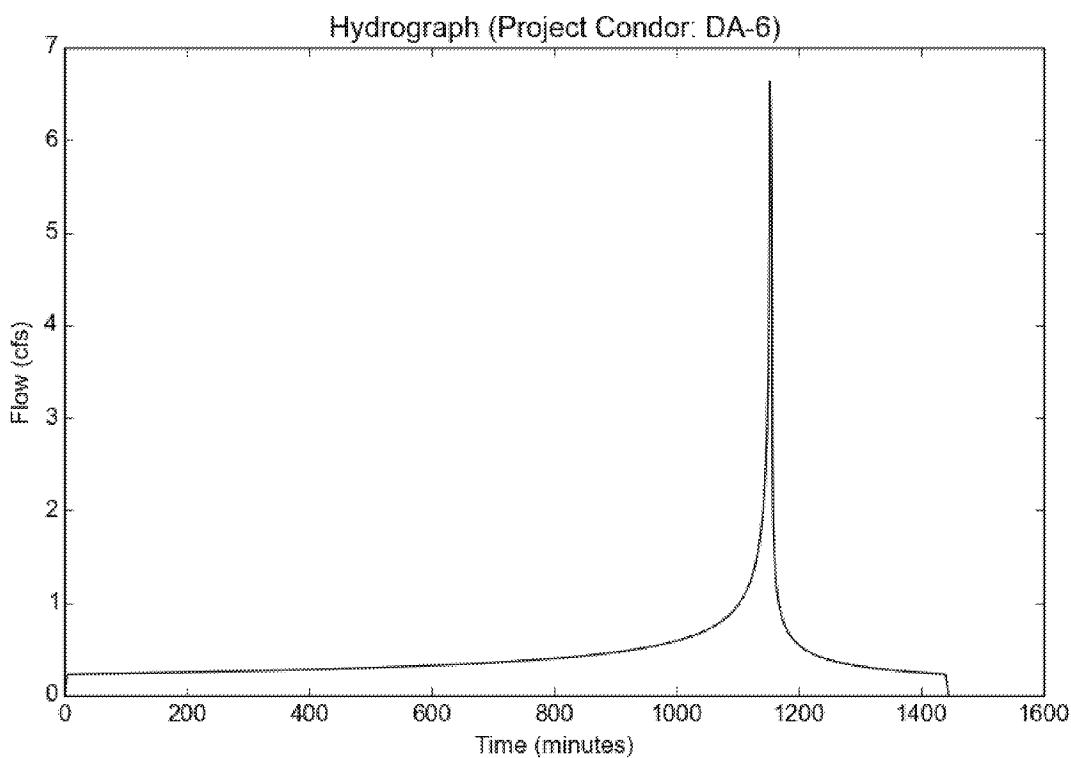
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Version: HydroCalc 1.0.2

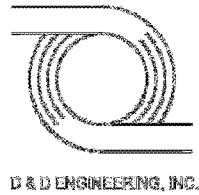
## Input Parameters

Project Name	Project Condor
Subarea ID	DA-6
Area (ac)	2.41
Flow Path Length (ft)	180.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.92
Soil Type	16
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

## Output Results

Modeled (50-yr) Rainfall Depth (in)	5.15
Peak Intensity (in/hr)	3.0726
Undeveloped Runoff Coefficient (Cu)	0.8531
Developed Runoff Coefficient (Cd)	0.8962
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.6368
Burned Peak Flow Rate (cfs)	6.6368
24-Hr Clear Runoff Volume (ac-ft)	0.8644
24-Hr Clear Runoff Volume (cu-ft)	37651.2365





## **Appendix D**

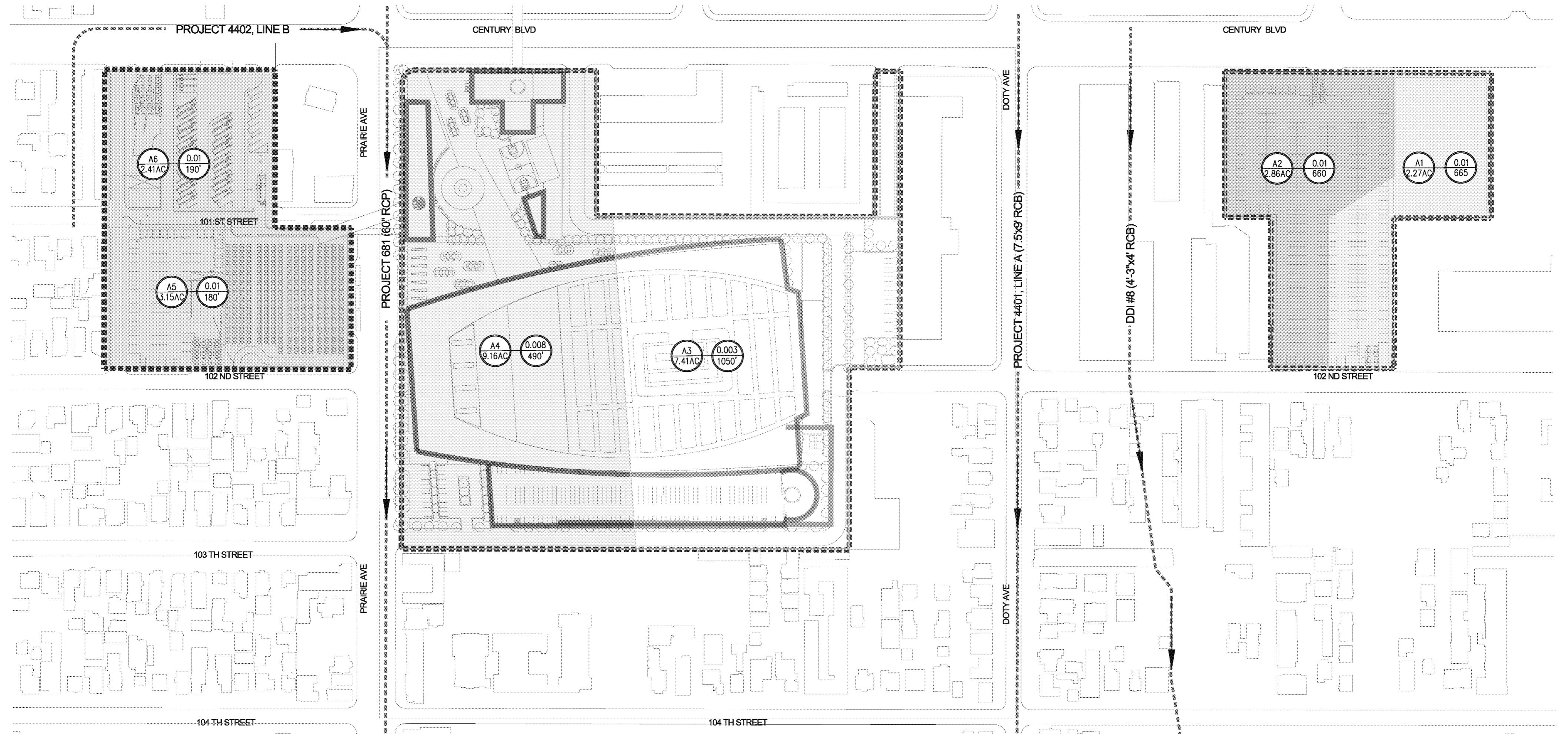
### ***Post-Development Runoff Calculations and Basin Routing***

*Figure 4 — Post-Development Hydrology Map*

*Figure 5 — Proposed Onsite Runoff Distribution to Existing Storm Drain Lines*

*Sub-Areas HydroCalc Worksheets*

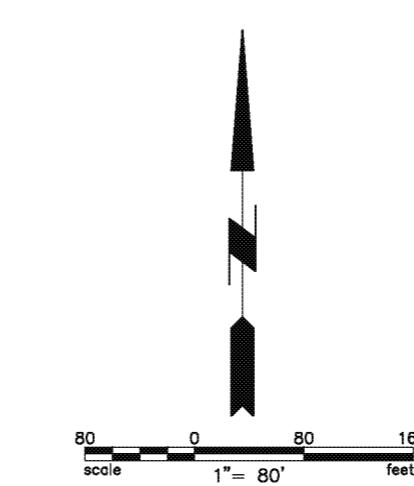
*Summary of Post-Development Runoff Distribution to Existing Storm Drain Systems*



#### LEGEND

- PROJECT STUDY LIMITS
  - EXISTING STORM DRAIN LINES
  - DRAINAGE AREA
- AREA  
  ACRES  
  SLOPE  
  LENGTH

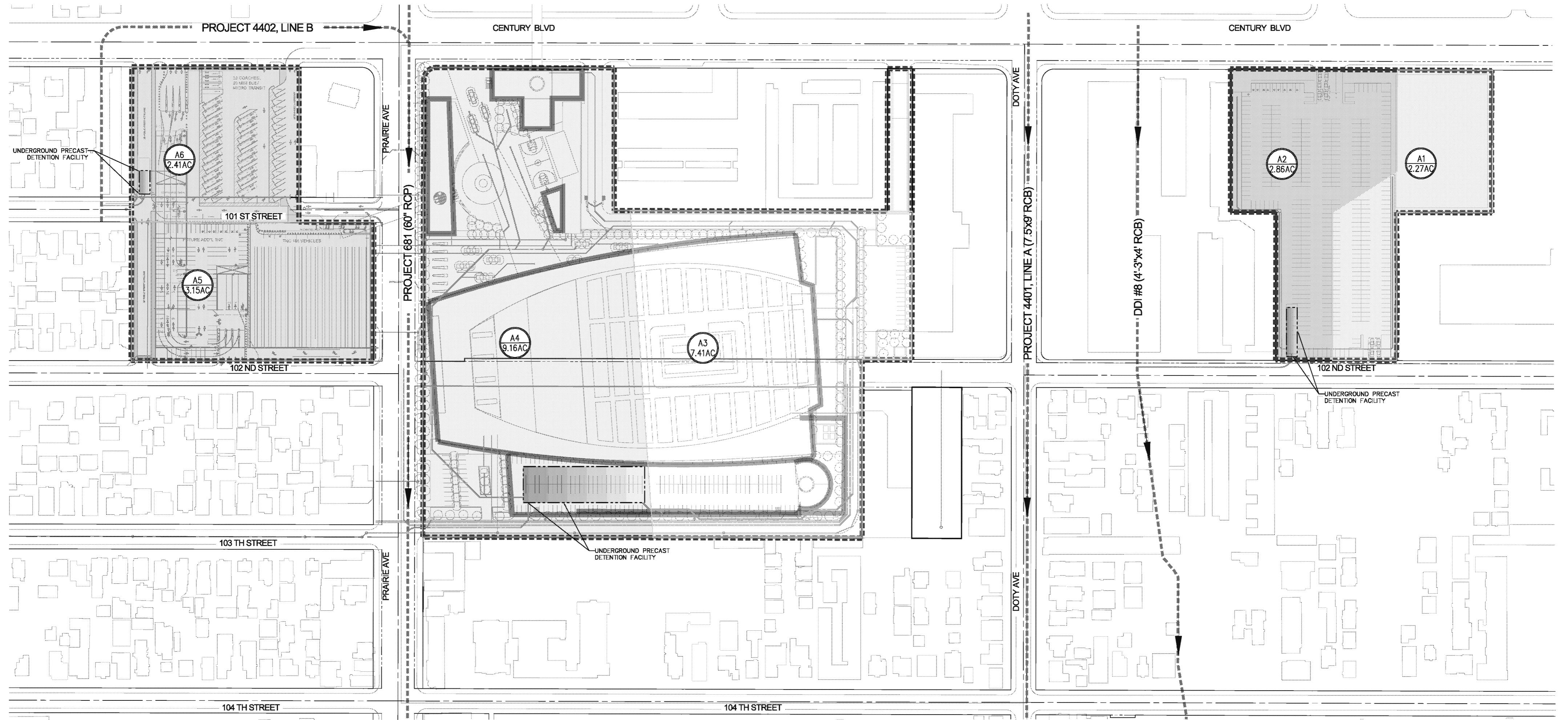
SUBAREA	ACREAGE	LENGTH	SLOPE	Q <sub>50</sub>
A1	2.3	665'	0.010	4.7 cfs
A2	2.9	660'	0.010	6.0 cfs
A3	7.4	1050'	0.004	12.1 cfs
A4	9.2	490'	0.008	20.2 cfs
A5	3.2	190'	0.010	8.7 cfs
A6	2.4	180'	0.010	6.6 cfs
TOTAL	27.4	-----	-----	58.3 cfs



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FIGURE 4  
PROJECT CONDOR  
POST-DEVELOPMENT  
HYDROLOGY MAP

SCALE: 1" = 80'  
DATE: 08/21/18  
SH NO: 1 OF 1



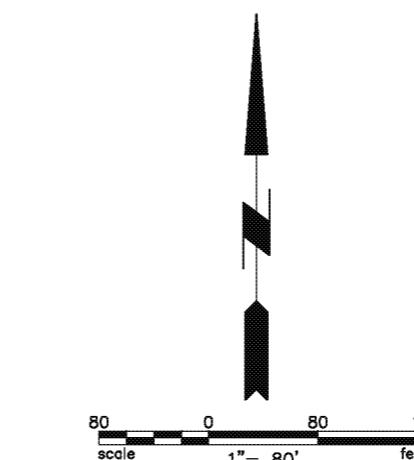
SUBAREA	ACREAGE	LENGTH	SLOPE	$Q_{fs}$
A1	2.3	665'	0.010	4.7 cfs
A2	2.9	660'	0.010	6.0 cfs
A3	7.4	1050'	0.004	12.1 cfs
A4	9.2	490'	0.008	20.2 cfs
A5	3.2	190'	0.010	8.7 cfs
A6	2.4	180'	0.010	6.6 cfs
TOTAL	27.4	---	---	58.3 cfs

#### LEGEND

- ██████████ PROJECT STUDY LIMITS
- ██████████ EXISTING STORM DRAIN LINES
- ██████████ DRAINAGE SUB-AREA

EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE (cfs)	CONTRIBUTING FLOW (cfs)	NOTE
PROJECT DD #0008	A1 & A2	5.10	4.8	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	2.40	2.2	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	16.90	16.6*	SUFFICIENT SD CAPACITY

\* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 7.9 CFS AND DRAINAGE AREA A6 RUNOFF OF 8.7 CFS.



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Phone: 424-351-6800

#### PROJECT CONDOR

PROPOSED ONSITE RUNOFF  
DISTRIBUTION TO EXISTING STORM  
DRAIN LINES

SCALE: 1" = 80'  
DATE: 08/21/18  
SH NO:  
1 OF 1

FIGURE 5

# Peak Flow Hydrologic Analysis

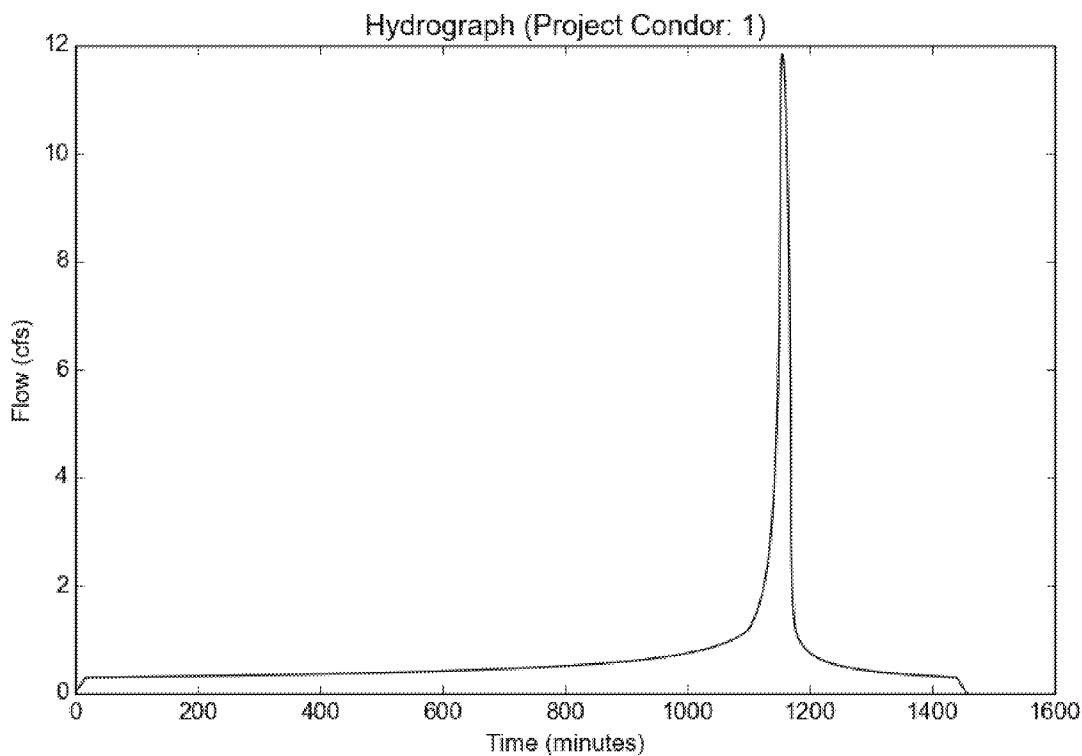
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Existing Drainage Area Report.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	1
Area (ac)	10.7
Flow Path Length (ft)	965.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.22
Soil Type	16
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	4.5217
Peak Intensity (in/hr)	1.5178
Undeveloped Runoff Coefficient (Cu)	0.6806
Developed Runoff Coefficient (Cd)	0.7289
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	11.8372
Burned Peak Flow Rate (cfs)	11.8372
24-Hr Clear Runoff Volume (ac-ft)	1.3194
24-Hr Clear Runoff Volume (cu-ft)	57473.0735



# Peak Flow Hydrologic Analysis

File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Existing Drainage Area Report.pdf  
Version: HydroCalc 1.0.2

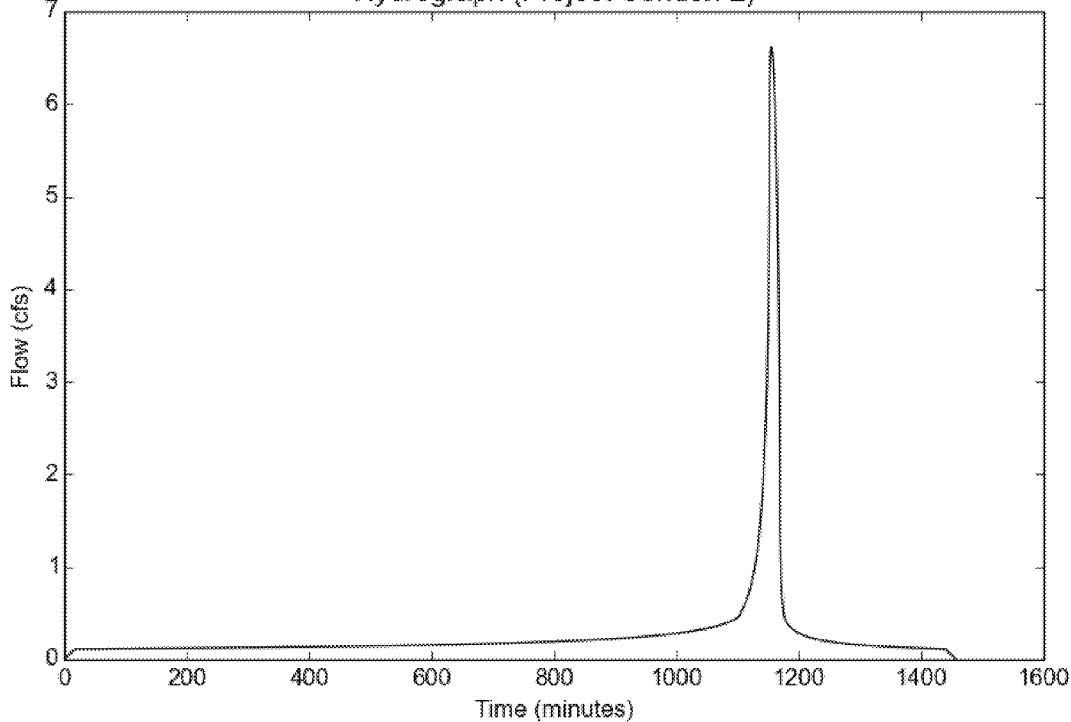
## Input Parameters

Project Name	Project Condor
Subarea ID	2
Area (ac)	6.2
Flow Path Length (ft)	910.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.1
Soil Type	16
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	4.5217
Peak Intensity (in/hr)	1.5178
Undeveloped Runoff Coefficient (Cu)	0.6806
Developed Runoff Coefficient (Cd)	0.7026
Time of Concentration (min)	17.0
Clear Peak Flow Rate (cfs)	6.6112
Burned Peak Flow Rate (cfs)	6.6112
24-Hr Clear Runoff Volume (ac-ft)	0.5613
24-Hr Clear Runoff Volume (cu-ft)	24451.3721

Hydrograph (Project Condor: 2)



# Peak Flow Hydrologic Analysis

File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Existing Drainage Area Report.pdf  
Version: HydroCalc 1.0.2

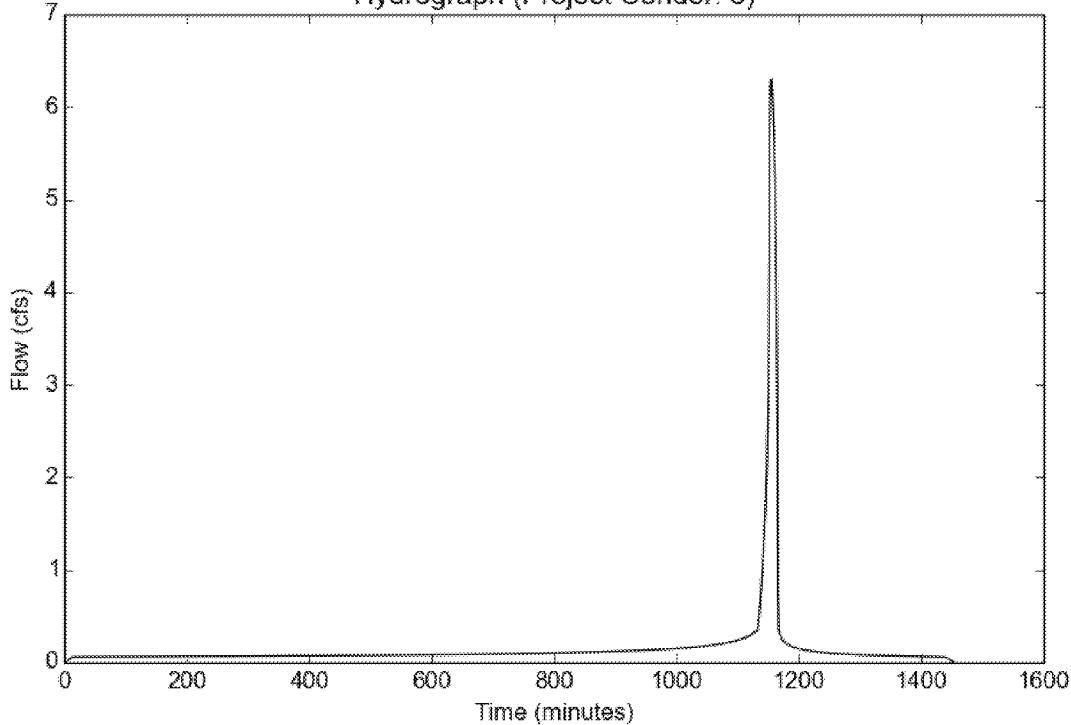
## Input Parameters

Project Name	Project Condor
Subarea ID	3
Area (ac)	5.1
Flow Path Length (ft)	685.0
Flow Path Slope (vft/hft)	0.004
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.02
Soil Type	13
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	4.5217
Peak Intensity (in/hr)	1.6628
Undeveloped Runoff Coefficient (Cu)	0.7394
Developed Runoff Coefficient (Cd)	0.7426
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	6.2979
Burned Peak Flow Rate (cfs)	6.2979
24-Hr Clear Runoff Volume (ac-ft)	0.3313
24-Hr Clear Runoff Volume (cu-ft)	14431.2809

Hydrograph (Project Condor: 3)



# Peak Flow Hydrologic Analysis

File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Existing Drainage Area Report.pdf  
Version: HydroCalc 1.0.2

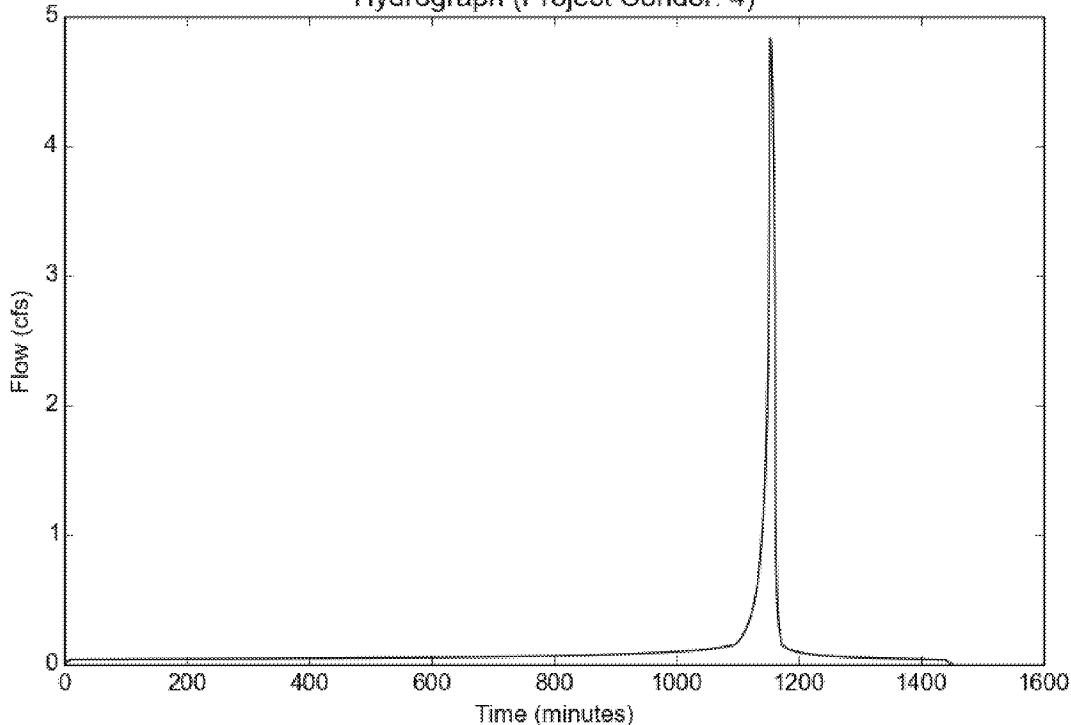
## Input Parameters

Project Name	Project Condor
Subarea ID	4
Area (ac)	3.3
Flow Path Length (ft)	427.0
Flow Path Slope (vft/hft)	0.0047
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.02
Soil Type	16
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

Modeled (25-yr) Rainfall Depth (in)	4.5217
Peak Intensity (in/hr)	1.9477
Undeveloped Runoff Coefficient (Cu)	0.749
Developed Runoff Coefficient (Cd)	0.752
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	4.8336
Burned Peak Flow Rate (cfs)	4.8336
24-Hr Clear Runoff Volume (ac-ft)	0.2283
24-Hr Clear Runoff Volume (cu-ft)	9945.7762

Hydrograph (Project Condor: 4)



# Peak Flow Hydrologic Analysis

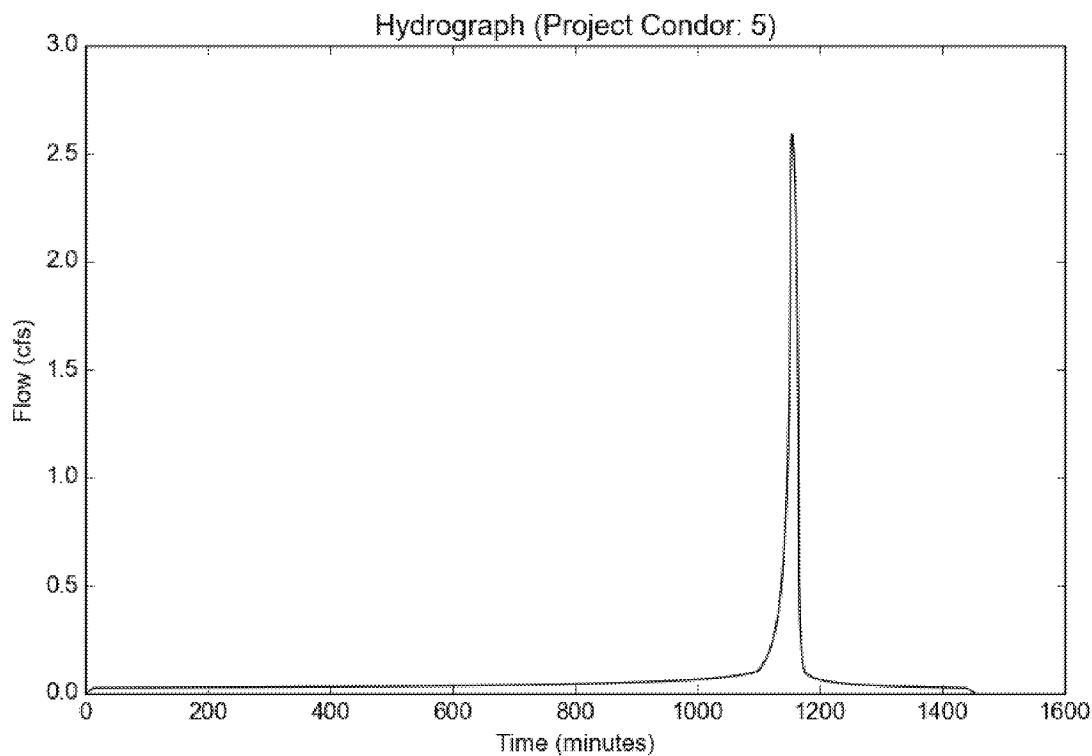
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual HydroCalc/EIR/Project Condor Existing Drainage Area Report.pdf  
Version: HydroCalc 1.0.2

## Input Parameters

Project Name	Project Condor
Subarea ID	5
Area (ac)	2.2
Flow Path Length (ft)	600.0
Flow Path Slope (vft/hft)	0.003
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.02
Soil Type	16
Design Storm Frequency	25-yr
Fire Factor	0
LID	False

## Output Results

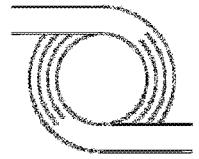
Modeled (25-yr) Rainfall Depth (in)	4.5217
Peak Intensity (in/hr)	1.6628
Undeveloped Runoff Coefficient (Cu)	0.7037
Developed Runoff Coefficient (Cd)	0.7076
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	2.5886
Burned Peak Flow Rate (cfs)	2.5886
24-Hr Clear Runoff Volume (ac-ft)	0.1516
24-Hr Clear Runoff Volume (cu-ft)	6601.9462



EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE (cfs)	CONTRIBUTING FLOW (cfs)	NOTE
PROJECT DDI #0008	A1 & A2	5.10	4.8	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	2.40	2.2	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	16.90	16.6*	SUFFICIENT SD CAPACITY

\* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 7.9 CFS AND DRAINAGE AREA A6 RUNOFF OF 8.7 CFS.

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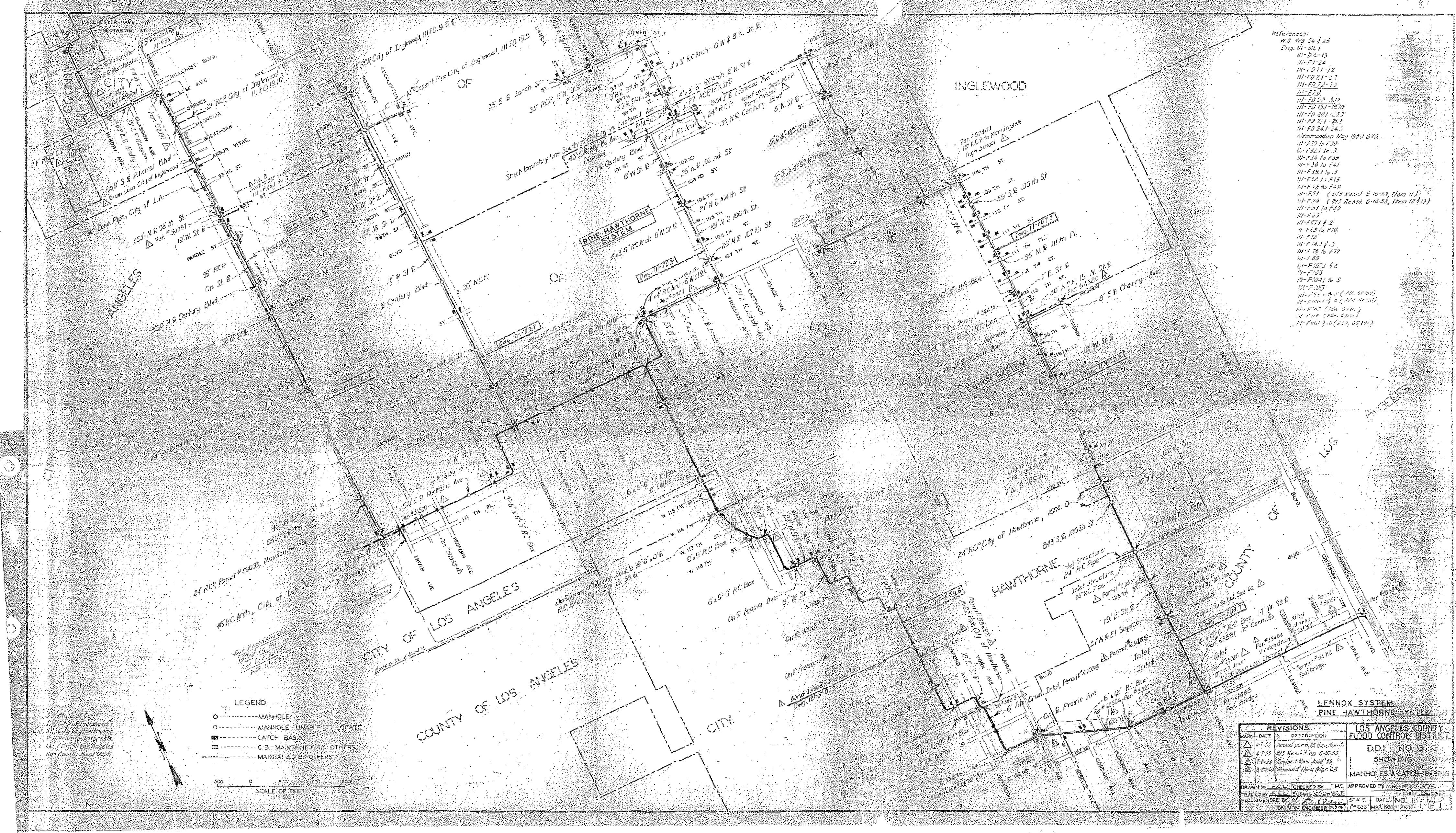
## Appendix E

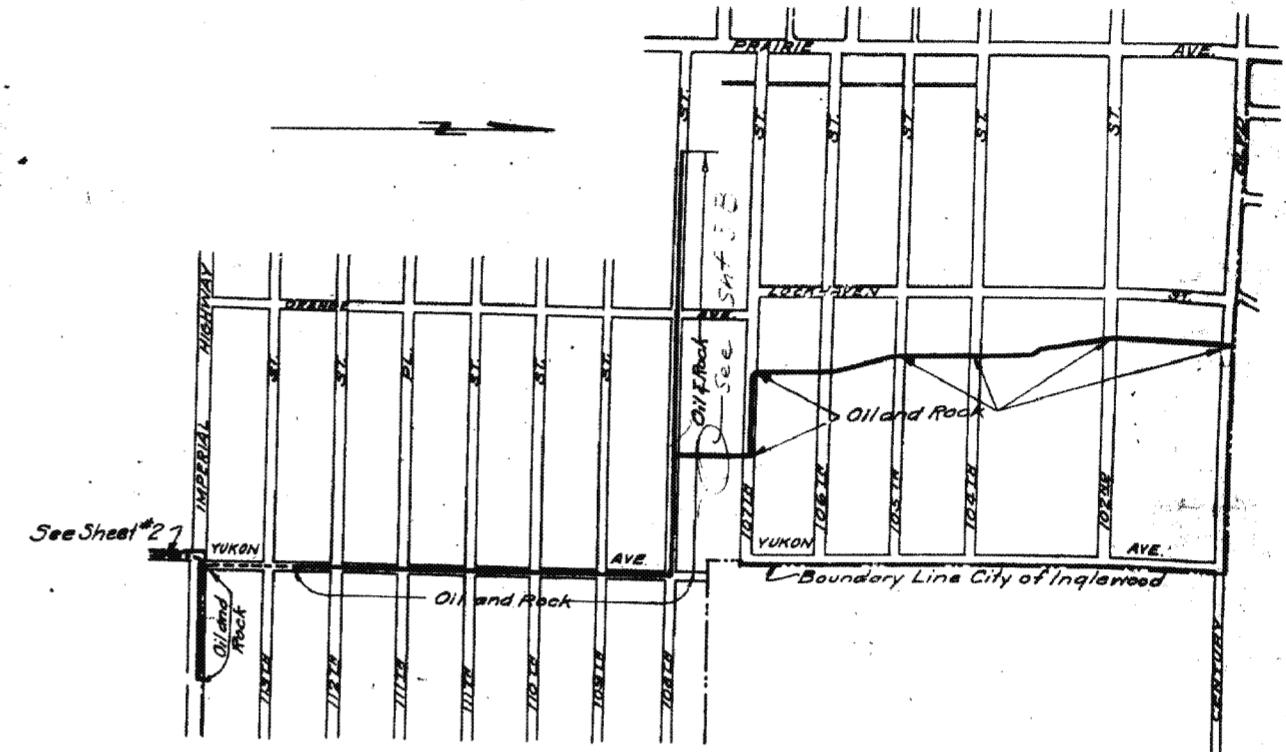
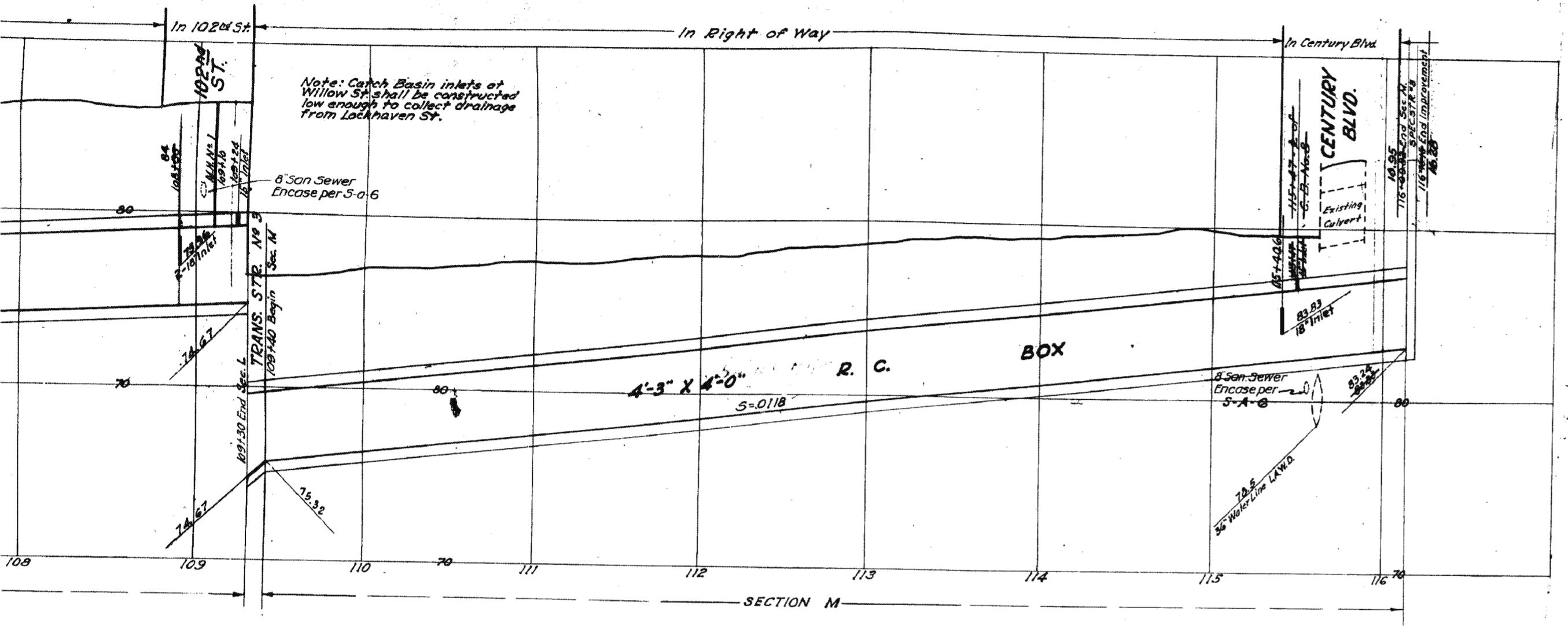
### *LA County As-Built Plans*

*LACDPW Project 4402 & 681 As Built Plans*

*LACDPW Project 4401, Line A As Built Plans*

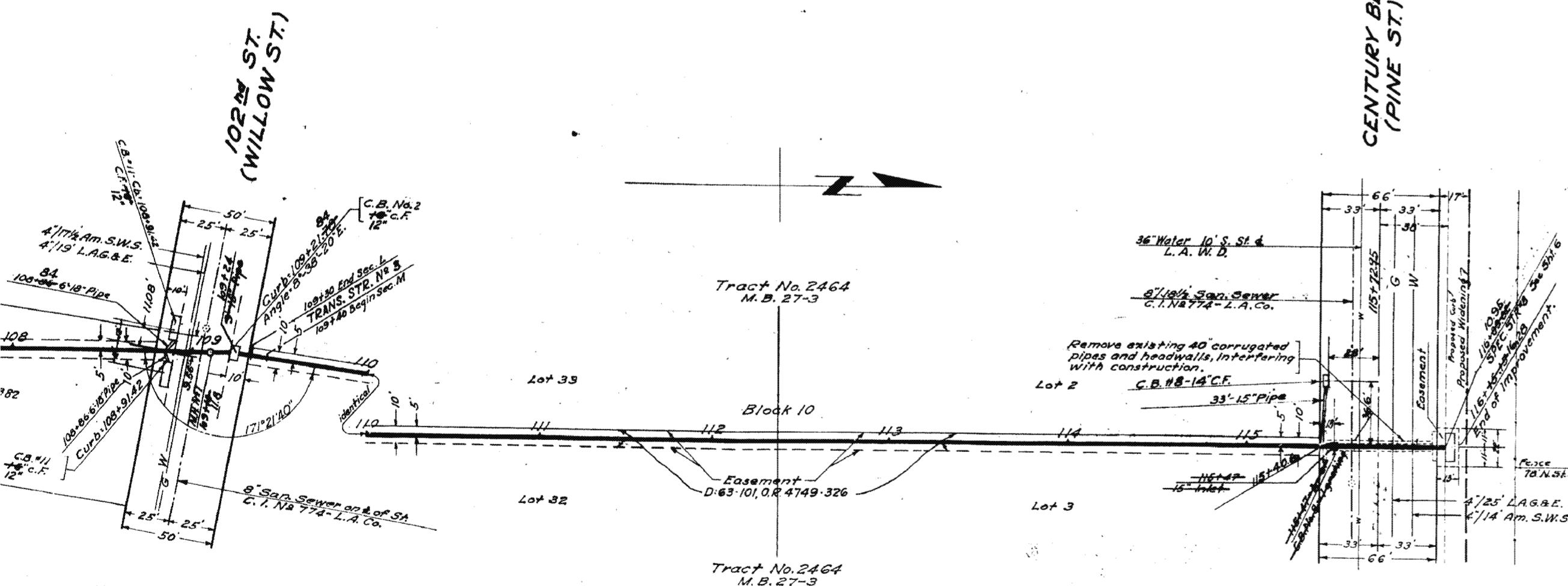
*LACDPW DDI # 8 As Built Plans*

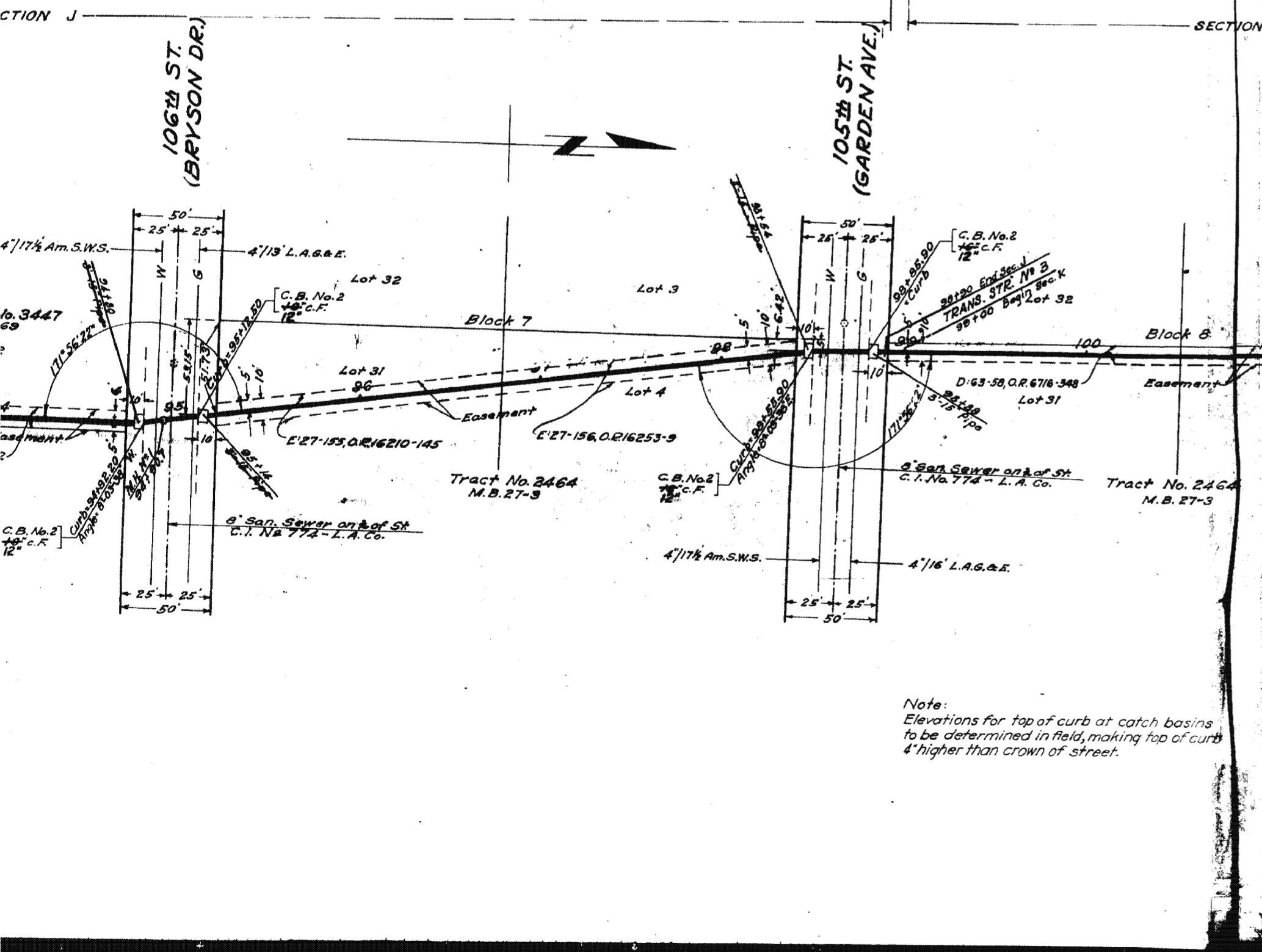
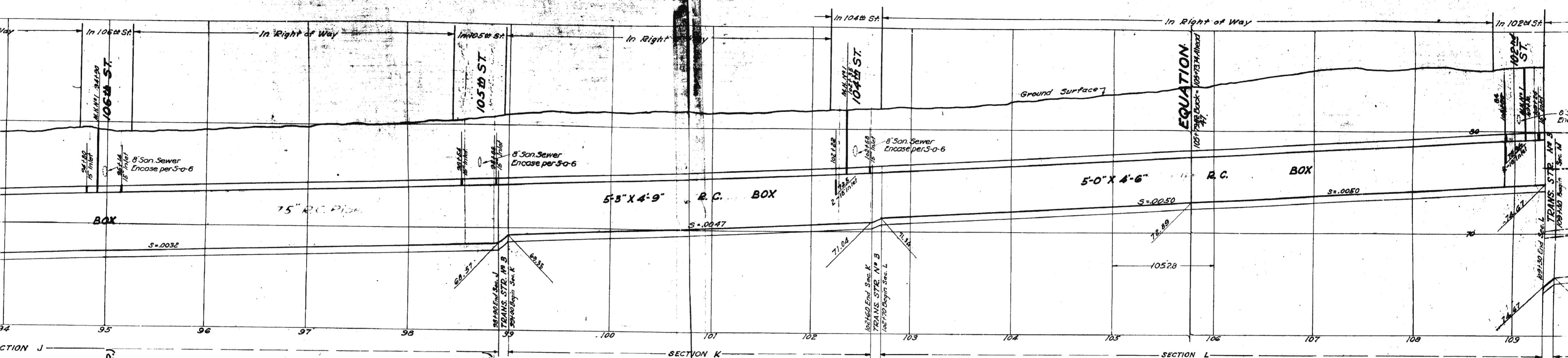




KEY MAP  
SHOWING DRAINS AND RESURFACING

III-FD 7.3

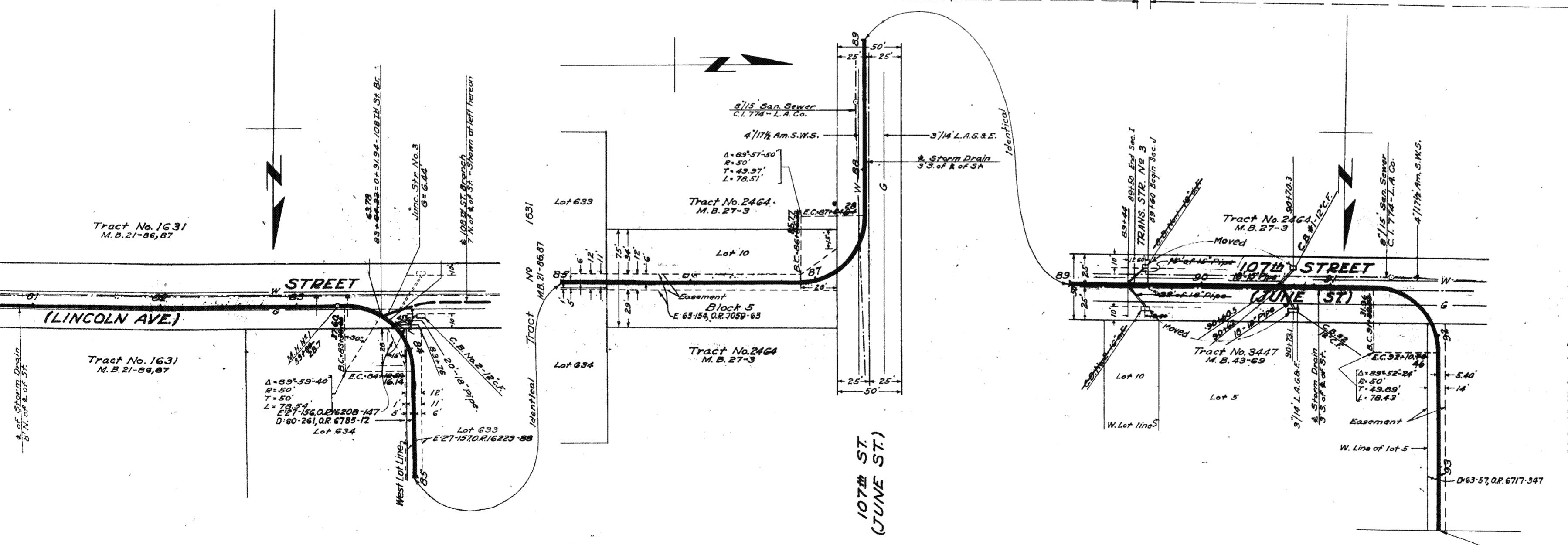
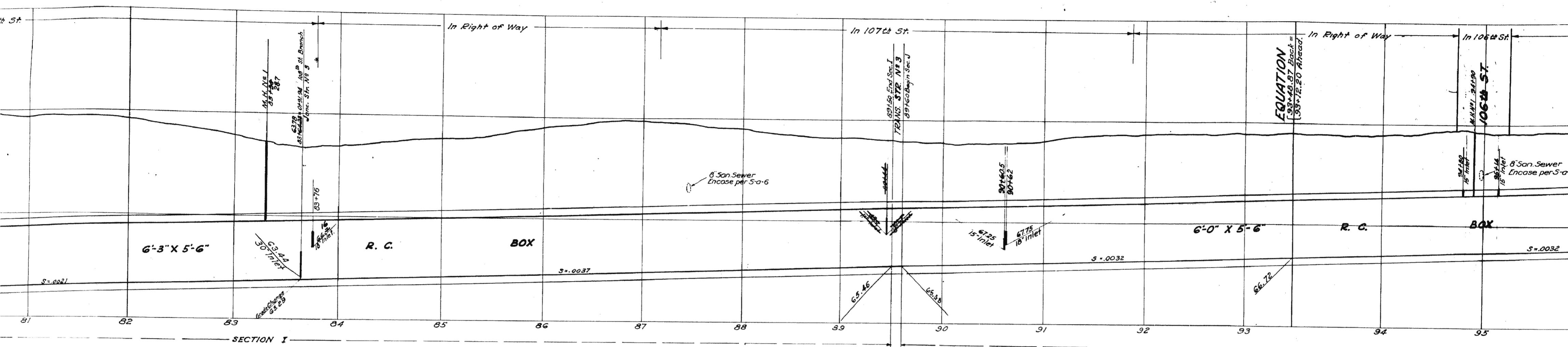




**Note:**  
Elevations for top of curb at catch basins  
to be determined in field, making top of curb  
1" higher than crown of street.

-UKON

AVENUE

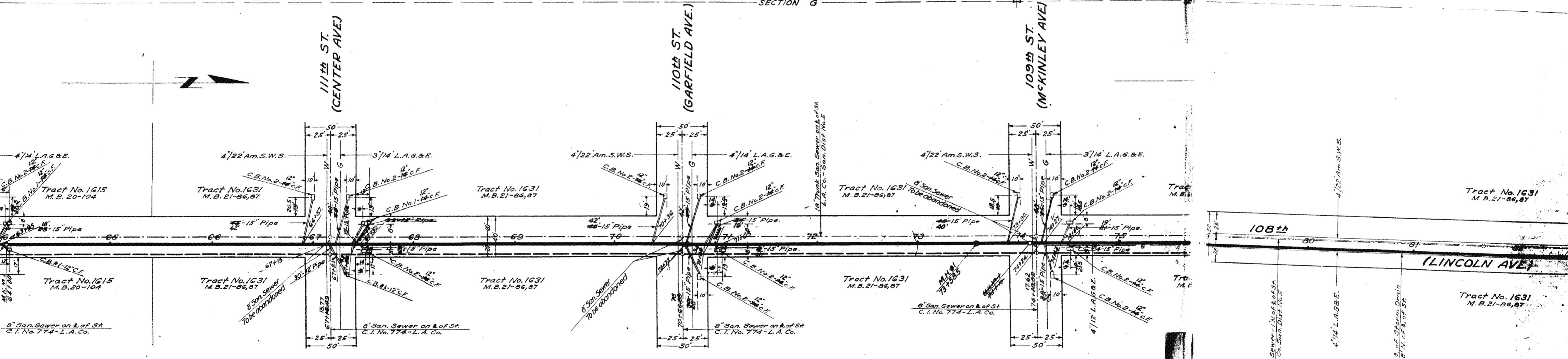
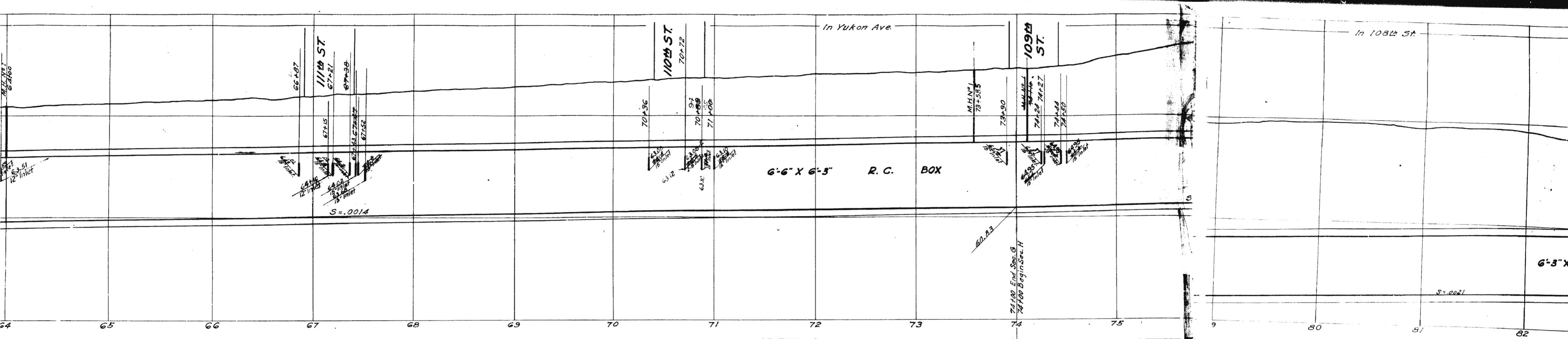


KON

## **AVENUE**

## **LINE**

F3



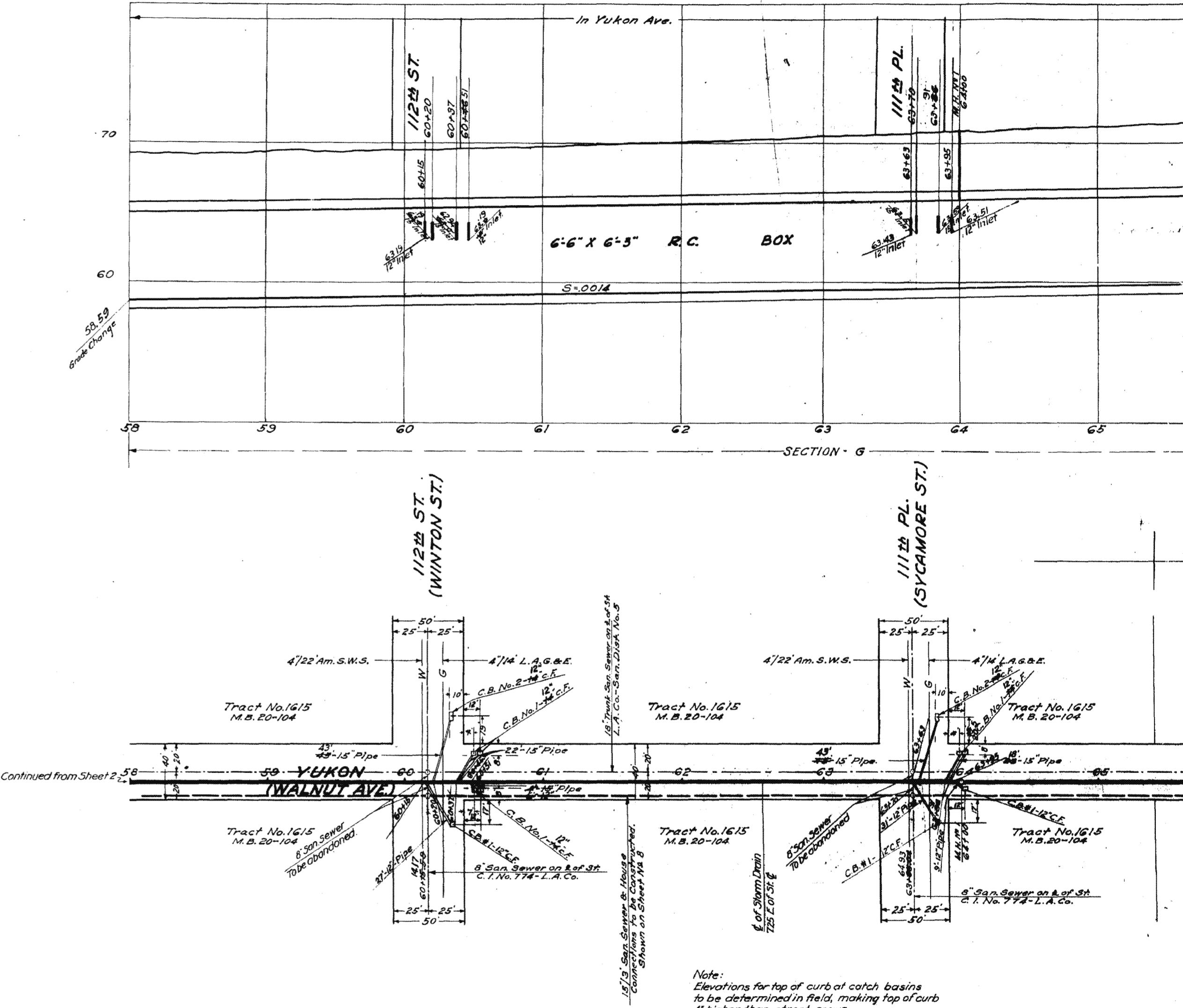
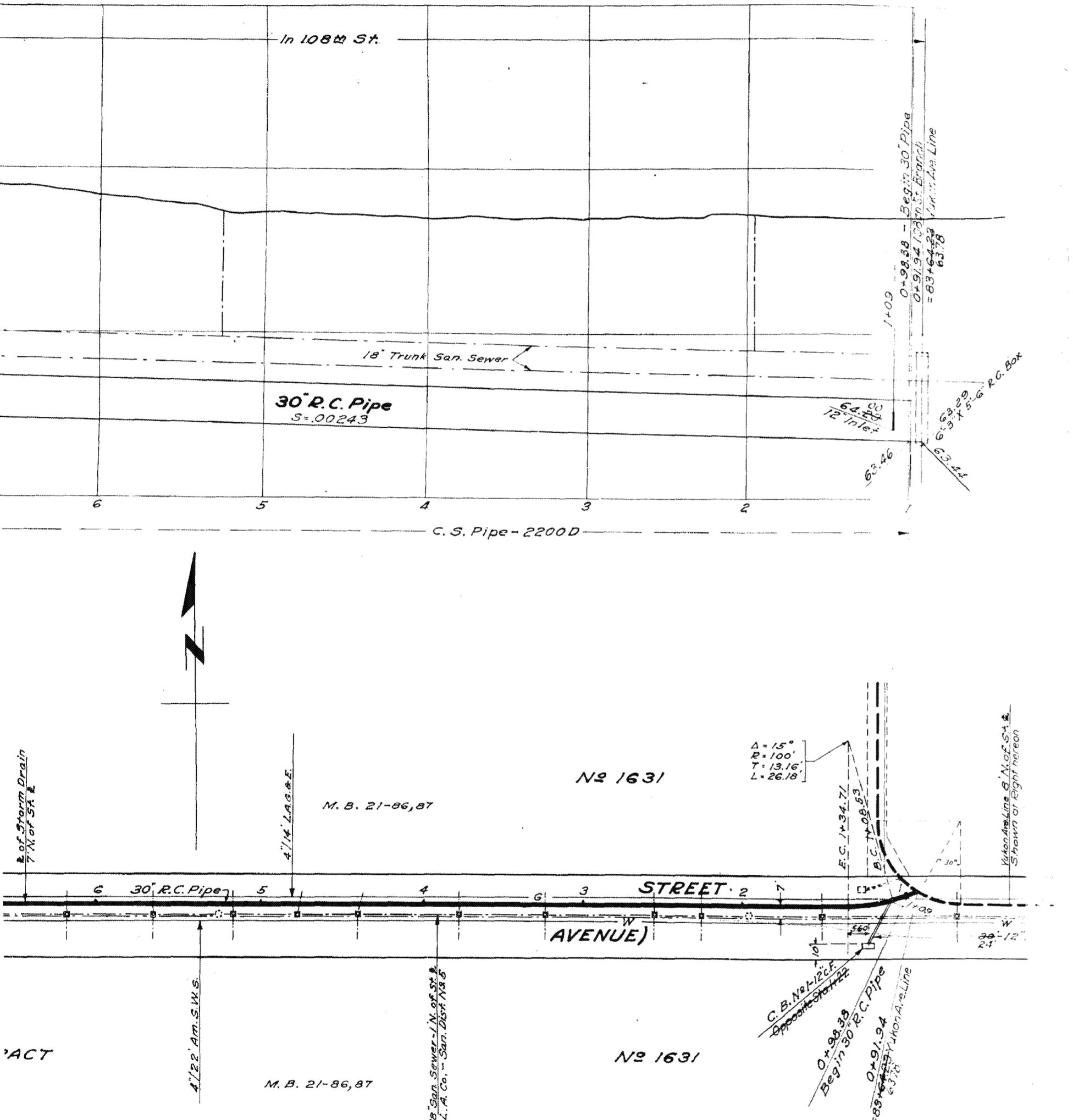
*Note:*  
*Elevations for top of curb at catch basins  
to be determined in field, making top of curb  
4" higher than crown of street.*

## **LINE**

*YUKON*

AVEI

F4



**BRANCH**

**YUKON**

AVENUE

(N) 12/14/195

*Note:*  
Elevations for top of curb at catch basins  
to be determined in field, making top of curb  
4" higher than street crown.

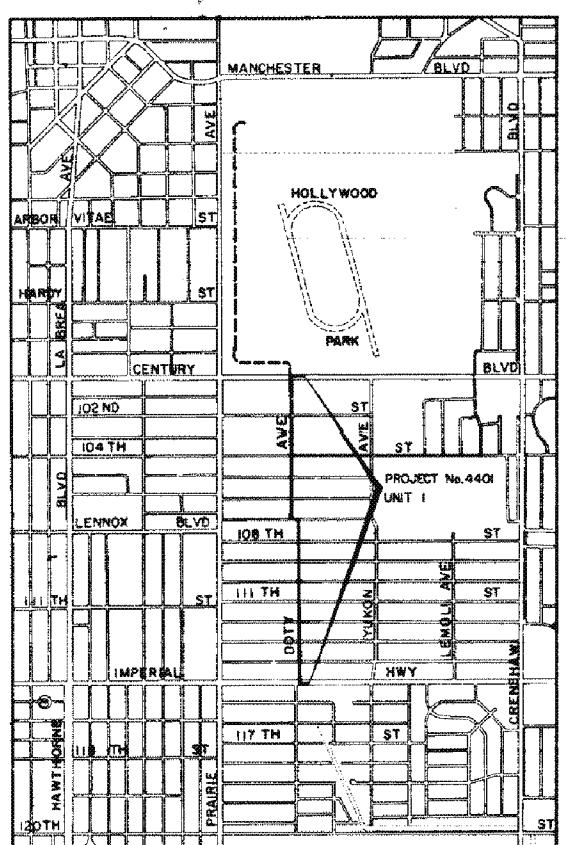
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INDEX TO DRAWINGS

SHEET NO.

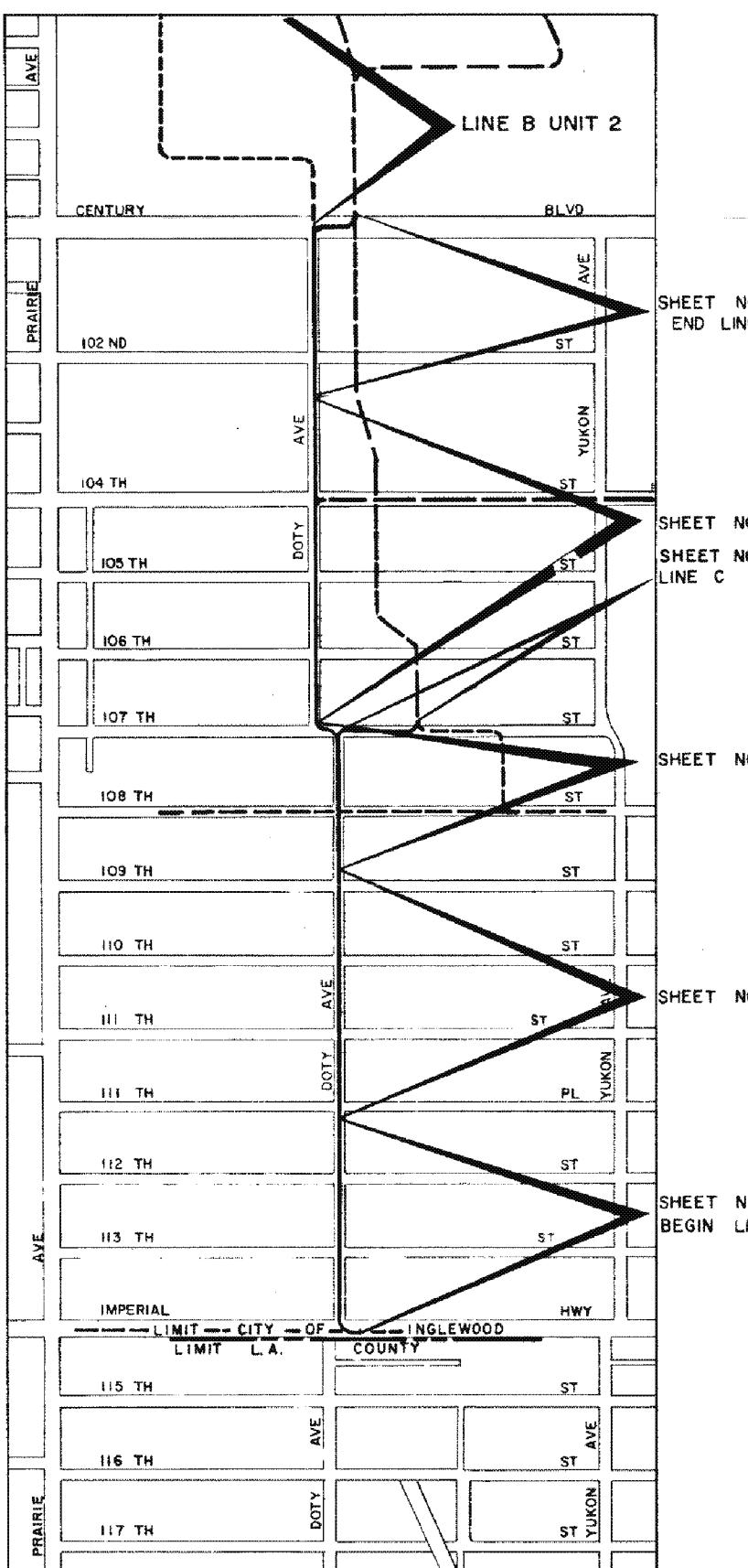
TITLE

1. VICINITY MAP, LOCATION PLAN, INDEX TO DRAWINGS
2. GENERAL NOTES, STRUCTURAL NOTES
3. LEGEND & ABBREVIATIONS, STANDARD DRAWINGS, STRUCTURAL NOTES
4. PLAN & PROFILE CONCRETE CONDUIT LINE A
5. PLAN & PROFILE CONCRETE CONDUIT LINE A
6. PLAN & PROFILE CONCRETE CONDUIT LINES A AND C
7. PLAN & PROFILE CONCRETE CONDUIT LINE A
8. PLAN & PROFILE CONCRETE CONDUIT LINE A
9. PLAN & PROFILE COUNTY TRUNK LINE, SEWER LINE A & SEWER SIPHON
10. PLAN & PROFILE SANITARY SEWER SIPHON
11. SINGLE R.C. BOX SCHEDULE & DETAILS
12. SINGLE R.C. BOX SCHEDULE
13. RESURFACING PLAN
14. LOG OF BORINGS



VICINITY MAP

1000 0 1000 2000 3000 4000  
GRAPHIC SCALE



LOCATION MAP

500 0 500 1000 1500  
GRAPHIC SCALE

DRAWN BY	REVISIONS		
	MARK	DATE	DESCRIPTION
CHECKED BY			
DESIGNED BY			
SUBMITTED BY			

LEGEND

- Proposed Storm Drain (UNIT 1)  
Proposed Storm Drain         
Existing Storm Drain

1964 STORM DRAIN BOND ISSUE	
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
PROJECT NO. 4401 INGLEWOOD	
LINES A AND C UNIT I VICINITY MAP, LOCATION MAP AND INDEX TO DRAWINGS	
CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	
SUBMITTED BY: <i>William Maher</i> ASSISTANT CITY ENGINEER RCE 17167	
RECOMMENDED BY: <i>J. M. Milne</i> DIVISION ENGINEER (DESIGN)	
APPROVED BY: <i>A. C. Thompson</i> CHIEF ENGINEER - CIVIL ENGINEER NO. 6726	
SCALE	DATE
DWG. NO. 364-4401-D6.1	AS SHOWN
Sep 74	
SHEET 1 OF 14	

"AS BUILT" DRAWING

GENERAL NOTES

1. NUMBERS IN CIRCLES INDICATE ITEM UNDER WHICH PAYMENT WILL BE MADE.
2. ELEVATIONS SHOWN ARE IN FEET ABOVE THE U.S.G.S. MEAN SEA LEVEL DATUM.
3. STATIONS SHOWN ON DRAWINGS ARE ALONG CENTERLINE OF CONDUIT OR ON A LINE NORMAL TO CENTERLINE OF CONDUIT.
4. STATIONS AND INVERT ELEVATIONS OF PIPE INLETS SHOWN ON THE PROFILES ARE AT THE INSIDE FACE OF THE CONDUIT, UNLESS OTHERWISE SHOWN.
5. ALL FIELD BOOK REFERENCES ARE TO CITY OF INGLEWOOD FIELD BOOKS, UNLESS OTHERWISE NOTED.
6. LOCATIONS SHOWN ON THE PLANS FOR EXISTING SANITARY SEWER HOUSE CONNECTIONS ARE APPROXIMATE ONLY.
7. PIPE CONNECTIONS TO STORM DRAIN SHALL CONFORM TO STANDARD DRAWING 2-D191 & 2-D193 UNLESS OTHERWISE SHOWN.
8. TIES FOR CATCH BASINS AS SHOWN ON THE DRAWINGS ARE FROM CURB RETURN TO CENTER LINE OF CATCH BASINS, UNLESS OTHERWISE SHOWN.
9. LOCATIONS OF CATCH BASIN CONNECTOR PIPE JUNCTIONS WITH CATCH BASINS AS SHOWN ON THE DRAWINGS ARE SCHEMATIC. IT IS INTENDED THAT SUCH JUNCTIONS BE LOCATED AT THE DOWNSTREAM ENDS OF THE CATCH BASINS, UNLESS A DETAIL OF THE CONNECTION IS SHOWN OR A NOTE SPECIFICALLY INDICATES OTHERWISE. IN ALL CASES THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER TO MEET FIELD CONDITIONS.
10. MONOLITHIC CATCH BASIN CONNECTIONS SHALL BE CONSTRUCTED, WHERE APPLICABLE, PER STANDARD DRAWING 2-D224.
11. "V<sub>1</sub>" IS THE DEPTH OF INLET OF CATCH BASINS IN SERIES MEASURED FROM TOP OF CURB TO INVERT OF CONNECTOR PIPE. "V<sub>2</sub>" IS THE SAME AS "V" ON THE VARIOUS CATCH BASIN STANDARD DRAWINGS.
12. ALL EXISTING SANITARY SEWERS SHOWN ON THE DRAWINGS ARE CITY OF INGLEWOOD SEWERS, UNLESS OTHERWISE NOTED.
13. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
14. DELETED.
15. UTILITIES DESIGNATED BY THE SYMBOL "\*" WILL BE ABANDONED IN PLACE AND THE OWNER WILL INSTALL A NEW SECTION OF THE AFFECTED UTILITY AT A LOCATION IN CLOSE PROXIMITY TO, BUT WHICH DOES NOT PHYSICALLY INTERFERE WITH, THE PROPOSED STORM DRAIN CONDUIT AND APPURTENANT STRUCTURES.
16. WHERE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D173.1, .2 OR .3, UNLESS OTHERWISE INDICATED.

REVISIONS		
MARK	DATE	DESCRIPTION

GENERAL NOTES

17. SANITARY SEWER HOUSE CONNECTION RECONSTRUCTION AND RECONNECTION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D250, UNLESS OTHERWISE SHOWN.
18. SANITARY SEWERS AND HOUSE CONNECTIONS CROSSING OVER THE STORM DRAIN TRENCH SHALL BE SUPPORTED IN ACCORDANCE WITH STANDARD DRAWING 2-D173.1 TO .3 AND ENCASED PER GENERAL NOTE 1 ON STANDARD DRAWING 2-D173.1.
19. WHEN INDICATED ON THE DRAWINGS, SANITARY SEWERS AND HOUSE CONNECTIONS SHALL BE ENCASED OR BLANKETED IN ACCORDANCE WITH STANDARD DRAWING 2-D251.
20. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING CULVERTS, PIPES OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE, UNLESS OTHERWISE SHOWN.
21. ALL RESURFACING, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED SHALL BE CONSTRUCTED AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS, UNLESS OTHERWISE NOTED.
22. REFER TO SHEET I3 FOR TYPICAL CATCH BASIN CONNECTOR PIPE PROFILE.
23. STREET RESURFACING PLANS ARE SHOWN ON SHEET I3.
24. SOIL TEST BORINGS FOR THIS PROJECT WERE MADE IN AUGUST AND SEPTEMBER, 1972
25. PAY LINES FOR EXCAVATION FOR REINFORCED CONCRETE BOX CONDUIT ARE SHOWN ON SHEET II OF THE DRAWINGS.
26. DESIGN OF THE PIPE SHOWN HEREON IS BASED ON THE ASSUMPTION THE PIPE WILL BE INSTALLED IN ACCORDANCE WITH CASE III BEDDING AS SHOWN ON STANDARD DRAWING 2-D177 UNLESS OTHERWISE SHOWN. "W" VALUES SHALL BE AS SPECIFIED ON STANDARD DWG. 2-D177 FOR CASE III BEDDING, NOTES 3(a), 3(b) AND 3(c). IF THE "W" VALUE AT THE TOP OF THE PIPE IS EXCEEDED, THE BEDDING SHALL BE MODIFIED, AND/OR PIPE OF ADDITIONAL STRENGTH SHALL BE PROVIDED. THE PROPOSED MODIFICATION SHALL BE APPROVED BY THE DISTRICT.
27. CONCRETE BACKFILL SHALL BE PROVIDED AROUND PIPE 21" IN DIAMETER OR LESS WHERE THE COVER IS EQUAL TO OR LESS THAN 2'-0", AROUND PIPE GREATER THAN 21 INCHES IN DIAMETER BUT LESS THAN 39 INCHES WHERE THE COVER IS LESS THAN 1'-3", AND FOR PIPE 39" OR GREATER WHERE THE COVER IS LESS THAN 1'-0". THE CONCRETE BACKFILL SHALL BE AS SPECIFIED ON STANDARD DRAWING 2-D177, NOTE 3.
28. CURB FACE (C.F.) SHOWN ON THE GENERAL PLAN PERTAINS TO THE CURB FACE AT THE CATCH BASIN OPENING UNLESS OTHERWISE NOTED. FOR LOCAL DEPRESSION NO. 2, THE CURB FACE SHALL BE THE EXISTING PLUS 4", UNLESS OTHERWISE SPECIFIED.
29. ASBESTOS CEMENT PIPE MAY BE USED IN LIEU OF REINFORCED CONCRETE PIPE 42 INCHES OR LESS IN DIAMETER.
30. THE REQUIRED D-LOAD FOR THE ASBESTOS CEMENT PIPE SHALL BE 1.5 TIMES THAT SPECIFIED ON THE PLANS FOR REINFORCED CONCRETE PIPE.
31. UTILITIES DESIGNATED BY THE SYMBOL \* WILL BE REMOVED BY THE OWNER AND THE OWNER WILL REINSTALL A NEW SECTION OF THE AFFECTED UTILITY AT A LOCATION IN CLOSE PROXIMITY TO, BUT WHICH DOES NOT PHYSICALLY INTERFERE WITH, THE PROPOSED STORM DRAIN CONDUIT AND APPURTENANT STRUCTURES.

STRUCTURAL NOTES

1. DIMENSIONS FROM FACE OF CONCRETE TO STEEL ARE TO CENTER OF BAR AND SHALL BE 2" UNLESS OTHERWISE SHOWN.
2. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
3. ALL BAR BENDS AND HOOKS SHALL CONFORM TO THE 1963 AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" SECTION 801.
4. PLACING OF REINFORCEMENT SHALL CONFORM TO THE 1963 AMERICAN CONCRETE INSTITUTE'S "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" SECTION 803.
5. TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 30 INCHES OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
6. TRANSVERSE CONSTRUCTION JOINTS IN WALLS AND SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTER LINE OF CONSTRUCTION.
7. THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE 1-1/2 INCHES FROM THE CONCRETE SURFACE UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
8. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
9. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF THE ENGINEER. NO MORE THAN 2 SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
10. LONGITUDINAL STEEL SHALL BE LAPPED 20 BAR DIAMETERS AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES.
11. LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS.
12. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), AS DETAILED FOR LONGITUDINAL KEYWAYS AT THE BASE OF THE WALLS, SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS THAN 10 FEET. SPACING MAY BE DECREASED TO AVOID PROXIMITY TO INLETS. ALL CONSTRUCTION JOINTS IN BOTTOM SLAB, TOP SLAB, AND SIDE WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED.
13. THE VERTICAL STEEL IN THE INTERIOR FACE OF EXTERIOR WALLS MAY BE SPLICED AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE SPLICE SHALL BE 20 BAR DIAMETERS IN LENGTH.



1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
PROJECT NO. 4401 INGLEWOOD	
LINES A AND C UNIT I	
GENERAL NOTES & STRUCTURAL NOTES	
SUBMITTED BY: <i>William Maher</i> ASSISTANT CITY ENGINEER R.C.E. 17167	APPROVED BY: <i>John L. Brown</i> 1-3-74 CITY ENGINEER R.C.E. 11237 DATE
RECOMMENDED BY: <i>G. J. Morris</i>	DIVISION ENGINEER (DESIGN) DWG. NO. 364-4401-D62 AS SHOWN DATE Sept. 74 SHEET 2 OF 14

AS BUILT" DRAWING

## LEGEND AND ABBREVIATIONS

RIGHT OF WAY (OR EASEMENT)
PROPERTY LINE
CURB
GUTTER
SIDE INLET CATCH BASIN
EXISTING DRAINAGE STRUCTURES
GRATING TYPE CATCH BASIN
DRIVEWAY
LIMIT OF CONCRETE SURFACE
WALK
TRAFFIC SIGNAL
DEAD MAN
POWER, TELEPHONE OR GUY POLE
FIRE HYDRANT
ELECTROLIER
WATER & GAS METER
BENCH MARK
TEST BORING
TREE
TREES TO BE REPLACED BY CONTRACTOR
UNDER EXISTING UTILITY
OVER EXISTING UTILITY
TRAFFIC SIGNAL CONDUIT
T.S.C.
TRANSITION STRUCTURE
T.S.
MANHOLE
M.H.
LOCAL DEPRESSION
L.D.
REINFORCED CONCRETE PIPE
R.C.P.
TEST BORING
T.B.
JUNCTION STRUCTURE
J.S.
CATCH BASIN
C.B.
SANITARY SEWER
S.S.
TEMPORARY BENCH MARKS
T.B.M.
SOUTHERN CALIFORNIA GAS CO.
SCG
L.A. DEPT. OF WATER & POWER WATER SYST.
D.W.&P.W.S.
SOUTHERN CALIFORNIA WATER CO.
SCW
INGLEWOOD CITY WATER DEPT.
I.W.D.
SOUTHERN CALIFORNIA EDISON CO.
S.C.E.
PACIFIC TELEPHONE & TELEGRAPH CO.
P.T.&T.
RICHFIELD OIL CO. GAS LINE
R.G.L.
HOLLYWOOD TURF CLUB WATER
H.T.C.W.
UNIFIED SCHOOL DISTRICT WATER
U.S.D.W.
BURIED CABLE
BUR. CA.
CRUSHED AGGREGATE BASE
C.A.B.
LIGHT STANDARD
L.S.

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT  
STANDARD DRAWINGS

DRAWING NO.	TITLE
2-D 88	LOCAL DEPRESSION NO.2
2-D 96	STANDARD DROP STEP
2-D 104	MANHOLE NO.3
2-D 107	CONCRETE RINGS, REDUCER AND PIPE FOR MANHOLE SHAFT
2-D 156	MANHOLE FRAME AND COVER FOR CATCH BASINS
2-D 157	CATCH BASIN REINFORCEMENT FOR ROUND MANHOLES
2-D 160	CATCH BASIN NO.1
2-D 162	CATCH BASIN NO.2
2-D 171	STANDARD A-615 REINFORCING BARS
2-D 172	CATCH BASIN REINFORCEMENT
2-D 173.1 TO 3	PIPE SUPPORTS ACROSS TRENCHES
2-D 175	REMOVABLE PROTECTION BAR FOR CATCH BASINS
2-D 177	PIPE BEDDING IN TRENCHES
2-D 184	MANHOLE NO.2
2-D 189	JUNCTION STRUCTURE NO.1
2-D 191	JUNCTION STRUCTURE NO.3
2-D 193	JUNCTION STRUCTURE NO.4
2-D 224	CONNECTION TO CATCH BASIN FOR PIPES 12" THROUGH 72"
2-D 232	DETAIL OF CATCH BASIN OPENING
2-D 235	TRANSITION STRUCTURE NO.1
2-D 239	TRANSITION STRUCTURE NO.2
2-D 250	REMODELING OF SANITARY SEWER HOUSE CONNECTIONS
2-D 251	PROTECTION FOR MAIN LINE AND HOUSE CONNECTION SEWERS
2-D 264	ADJUSTABLE PROTECTION BAR STIRRUP
2-D 393	CONCRETE COLLAR FOR PIPES 12" THROUGH 66"
2-D 466	CRITERIA FOR THE DESIGN OF SHORING FOR EXCAVATIONS
2-D 400	SAMPLE SHEET FOR USE AS A GUIDE IN PREPARING CALCULATIONS FOR SHORING OF EXCAVATIONS
2-D 413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D 465	ADDITIONAL REINFORCEMENT FOR JACKED R.C. BOX
2-D 431	"D" LOAD TABLE FOR DESIGN OF ASBESTOS CEMENT PIPE
2-D 461	MODIFICATIONS FOR SIDE OPENING CATCH BASINS
2-D 472	STANDARD 24 INCH MANHOLE FRAME AND COVER
2-D 476	PORTABLE SECURITY FENCE FOR OPEN TRENCHES

LOS ANGELES COUNTY ENGINEER  
STANDARD DRAWINGS

DRAWING NO.	TITLE
S-3	BRICK MANHOLE
S-17	STANDARD MANHOLE STEP
S-21	BEDDING FOR SEWER PIPE
S-23	CRADLING AND ENCASEMENT
S-27	CHIMNEY PIPE AND BASE
S-33	ALLOWABLE TRENCH WIDTH
S-35	LOCKING MANHOLE FRAME AND COVER
S-36	NON-REINFORCED PRECAST CONCRETE MANHOLE

LOS ANGELES COUNTY ROAD DEPARTMENT  
STANDARD DRAWINGSM57-39R  
32-01LOS ANGELES COUNTY SANITATION DISTRICT  
STANDARD DRAWINGS

DRAWING NO.	TITLE
S-a-201	STANDARD MANHOLE, TYPE "A"
S-a-204	STANDARD MANHOLE, TYPE "D"
S-a-207	STANDARD 24" MANHOLE FRAME & COVER
S-a-209	STANDARD MANHOLE STEP
S-a-217	CONCRETE PIPE SUPPORT
S-a-220	STANDARD PULL RING
S-a-222	TEMPORARY SEWER SUPPORT
S-a-227	STANDARD CONCRETE BEAM FOR HOUSE CONNECTIONS

CITY OF INGLEWOOD  
STANDARD DRAWINGS

G-1	STANDARD CURB & GUTTER AND STANDARD CROSS GUTTER
G-2	STANDARD ALLEY INTERSECTION
G-4	STANDARD DRIVEWAY APPROACH

21. THE CONTRACTOR SHALL USE JACKING HEADS OR LOAD SPREADING BEAMS OF SUCH DESIGN AND SIZE AS TO SPREAD THE JACKING FORCE UNIFORMLY OVER THE ENTIRE INVERT SECTION.
22. IF THE LOAD SPREADING DEVICE OR JACKING HEAD SELECTED DOES NOT PERMIT THE REQUIRED 20 BAR DIAMETER EXTENSION OF THE NORMAL LONGITUDINAL STEEL, CONTINUITY MAY BE MAINTAINED BY DOWELING FROM THE ADJACENT SECTION.
23. THE LEADING EDGE OF CONDUIT SHALL BE EQUIPPED WITH A JACKING HEAD SECURELY ANCHORED THERE. THE LENGTH AND DETAILS OF THE JACKING HEAD SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
24. THE USE OF GUIDE RAILS, SLABS, CRADLES, ETC. WILL BE SUBJECT TO WRITTEN APPROVAL BY THE ENGINEER.

## STRUCTURAL NOTES CONT'D.

14. UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIALLY. STRAIGHT TRANSVERSE BARS IN TOP AND BOTTOM SLABS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS; SPACING SHALL BE AT THE CENTERLINE OF CONSTRUCTION. STRAIGHT BARS AND L-BARS IN WALLS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
15. AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C<sub>2</sub>, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
16. IN ALL SECTIONS LAP C AND C<sub>2</sub> BARS, THE VERTICAL LENGTH OF C AND C<sub>2</sub> BARS HAS BEEN CALCULATED FOR A FOUR-INCH STARTER WALL. IF THE HEIGHT OF STARTER IS VARIED, THE VERTICAL LENGTH OF THE C AND C<sub>2</sub> BARS SHALL BE VARIED CORRESPONDINGLY SO AS TO MAINTAIN A 30 DIAMETER LAP BETWEEN THE TWO BARS. THE LAPS SHALL BE BASED ON THE SMALLER BAR.
17. IF WALL THICKNESS IS SIX INCHES, PLACE REINFORCEMENT AT THE CENTERLINE OF THE WALL.
18. CONCRETE QUANTITIES ARE BASED ON A SIX BY SIX INCH FILLET AND STEEL QUANTITIES DO NOT INCLUDE ANY OPTIONAL SPLICES.
19. ALL LONGITUDINAL BARS SHALL BE NO. 4 BARS. SPACING SHALL BE 18 INCHES UNLESS OTHERWISE SHOWN. BARS IN TOP OR BOTTOM SLAB SHALL BE SPACED SYMMETRICAL ABOUT THE CENTER LINE. BARS IN WALLS SHALL BE SPACED SYMMETRICAL ABOUT MID HEIGHT OF THE WALLS.
20. CONCRETE BREAKOUT NOTES:
  1. FOR CONCRETE REMOVAL, WHERE REINFORCEMENT IS TO BE RETAINED THROUGH THE JOINT, MAKE A SAWCUT ONE AND ONE-HALF INCHES DEEP ON THE EXPOSED FACES OF THE CONCRETE AT THE REMOVAL LIMITS. CUT A GROOVE IN THE CONCRETE ADJACENT TO THE SAWCUT, ON THE SIDE TO BE REMOVED TO THE DEPTH OF THE SAWCUT, WITH A CHIPPING HAMMER. EXISTING REINFORCEMENT SHALL BE RESTORED AND RETAINED OR CUT AND LAPPED 30 BAR DIAMETERS WITH NEW REINFORCEMENT.
  2. CARE SHALL BE EXERCISED IN SAWING AT THE REMOVAL LIMITS SO AS NOT TO CUT THE REINFORCEMENT IN THE STRUCTURE TO REMAIN. AFTER MAKING SAW CUTS THE CONCRETE SHALL BE REMOVED WITH HAND OPERATED EQUIPMENT. USE OF EXPLOSIVES, WRECKING BALLS, STOMPERS OR OTHER EQUIPMENT, WHICH WOULD CAUSE DAMAGE TO THE EXISTING FACILITY REMAINING IN PLACE, WILL NOT BE PERMITTED. THE ENGINEER SHALL BE THE SOLE JUDGE OF THE USAGE OF ANY EQUIPMENT FOR THE CONCRETE REMOVAL OPERATION.

1964 STORM DRAIN BOND ISSUE  
LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

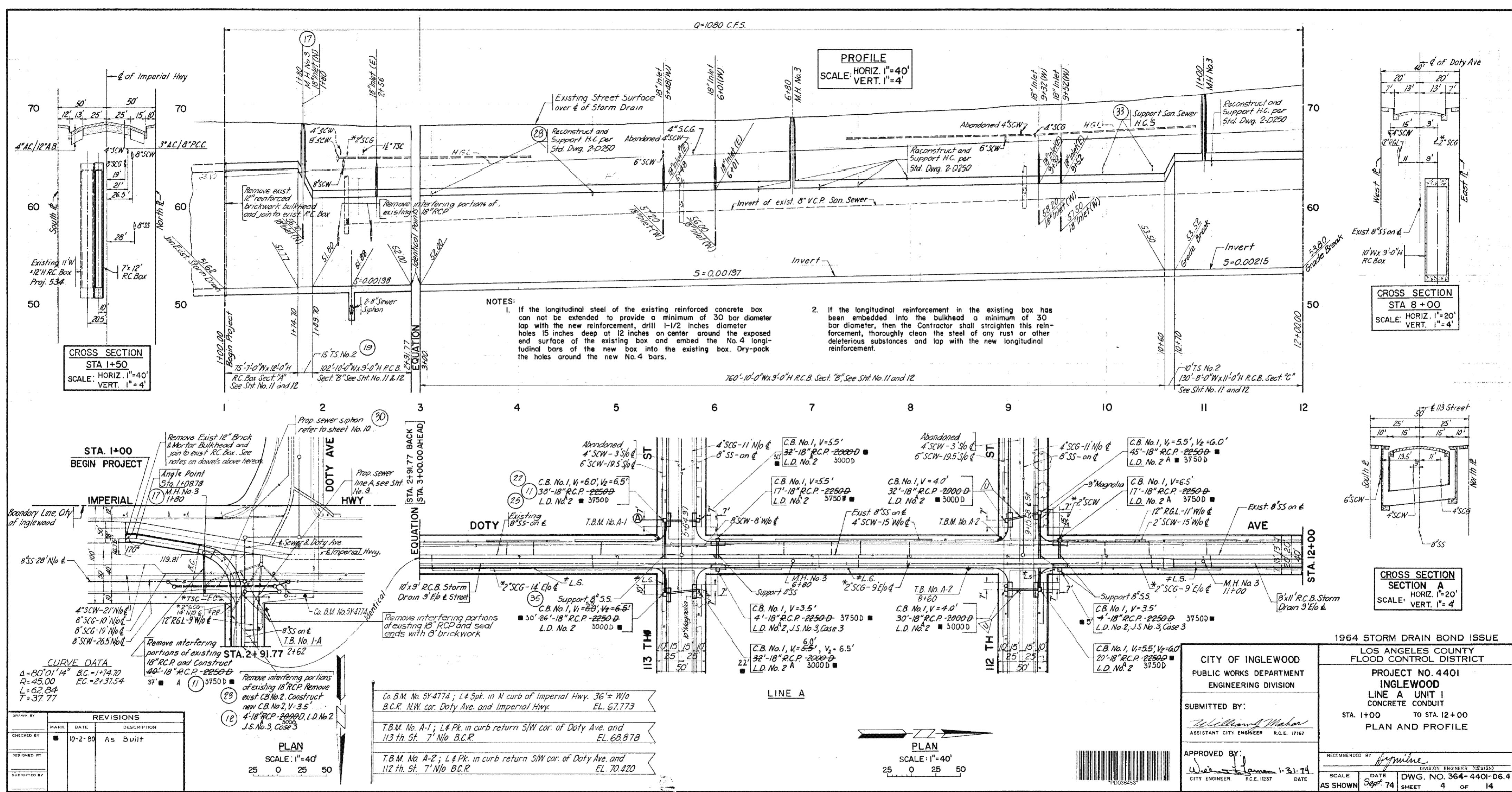
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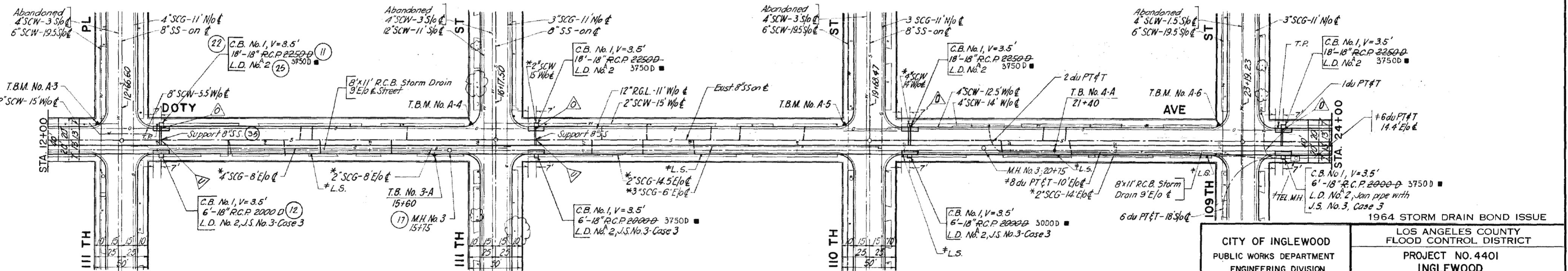
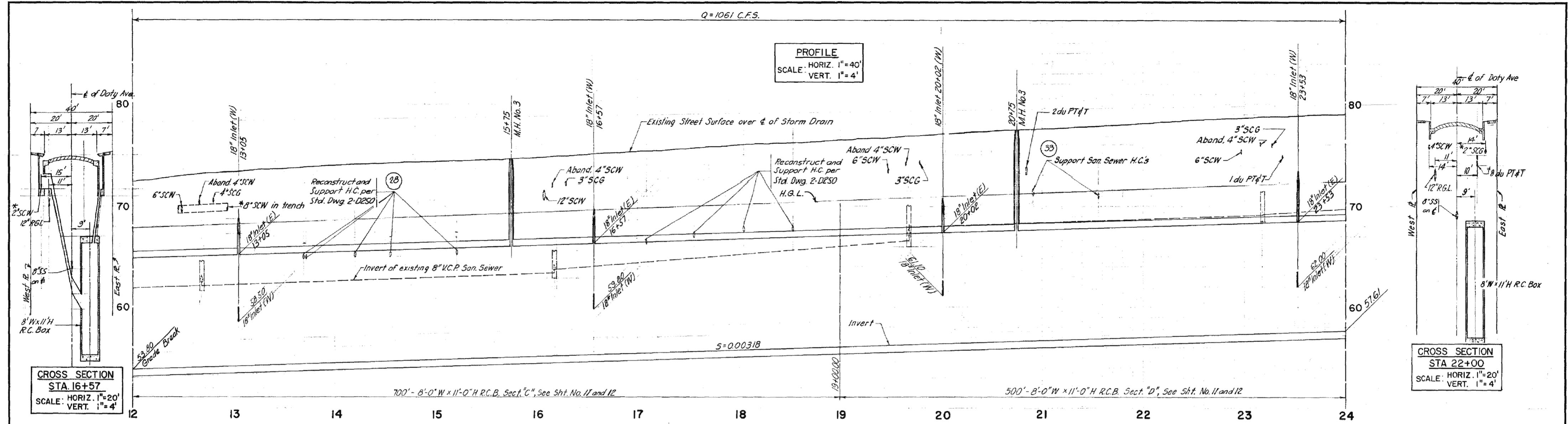
INGLEWOOD

LINES A, AND C UNIT I  
LEGEND AND ABBREVIATION,  
STANDARD DRAWINGS, AND STRUCTURAL NOTESSUBMITTED BY:  
*William Maher*  
ASSISTANT CITY ENGINEER R.C.E. 17167APPROVED BY:  
*Weber Johnson* 1-31-74  
CITY ENGINEER R.C.E. 11237 DATE  
RECOMMENDED BY: *Gymilne*  
AS SHOWN Sept 74 DIVISION ENGINEER (DESIGN)  
DWG. NO. 364-440I-D63  
SHEET 3 OF 14

DRAWN BY		
REVISIONS		
MARK	DATE	DESCRIPTION
CHECKED BY		
DESIGNED BY		
SUBMITTED BY		

"AS BUILT" DRAWING





REVISIONS			
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DESIGNED BY			
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SUBMITTED BY			
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PLAN

T.B.M. No. A-3 L& Pk. in curb return S/W cor. of Doty Ave.  
and III th Pl. 7' N/o B.C.R. EI. 70.420

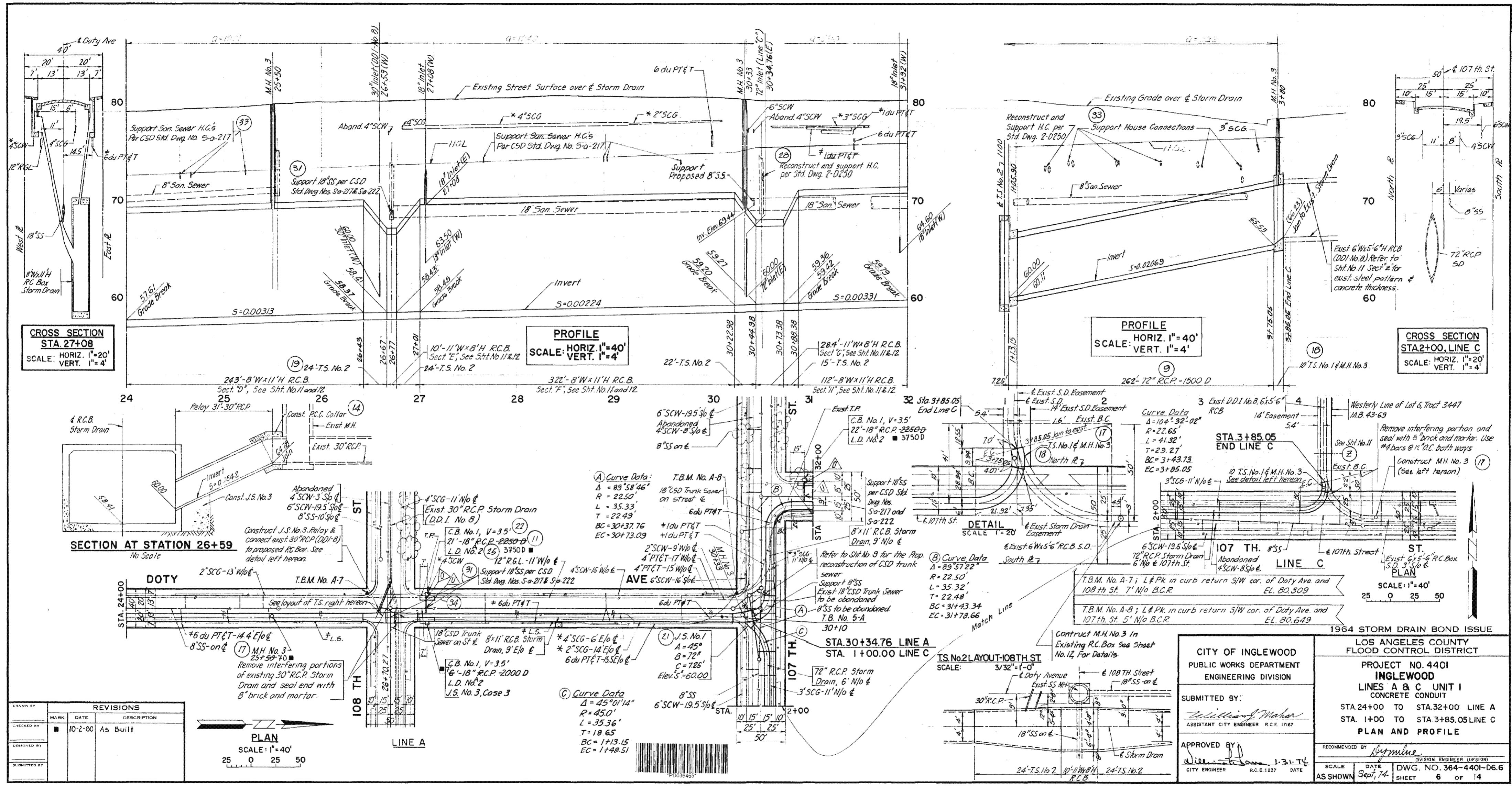
T.B.M. No. A-4 L& Pk. in curb return S/W cor. of Doty Ave.  
and III th St. 7' N/o B.C.R. EI. 74.868

T.B.M. No. A-5 L&Pk. in curb return S/W cor. of Doty Ave.  
and 110th St. 7' N/o B.C.R. El. 76.889

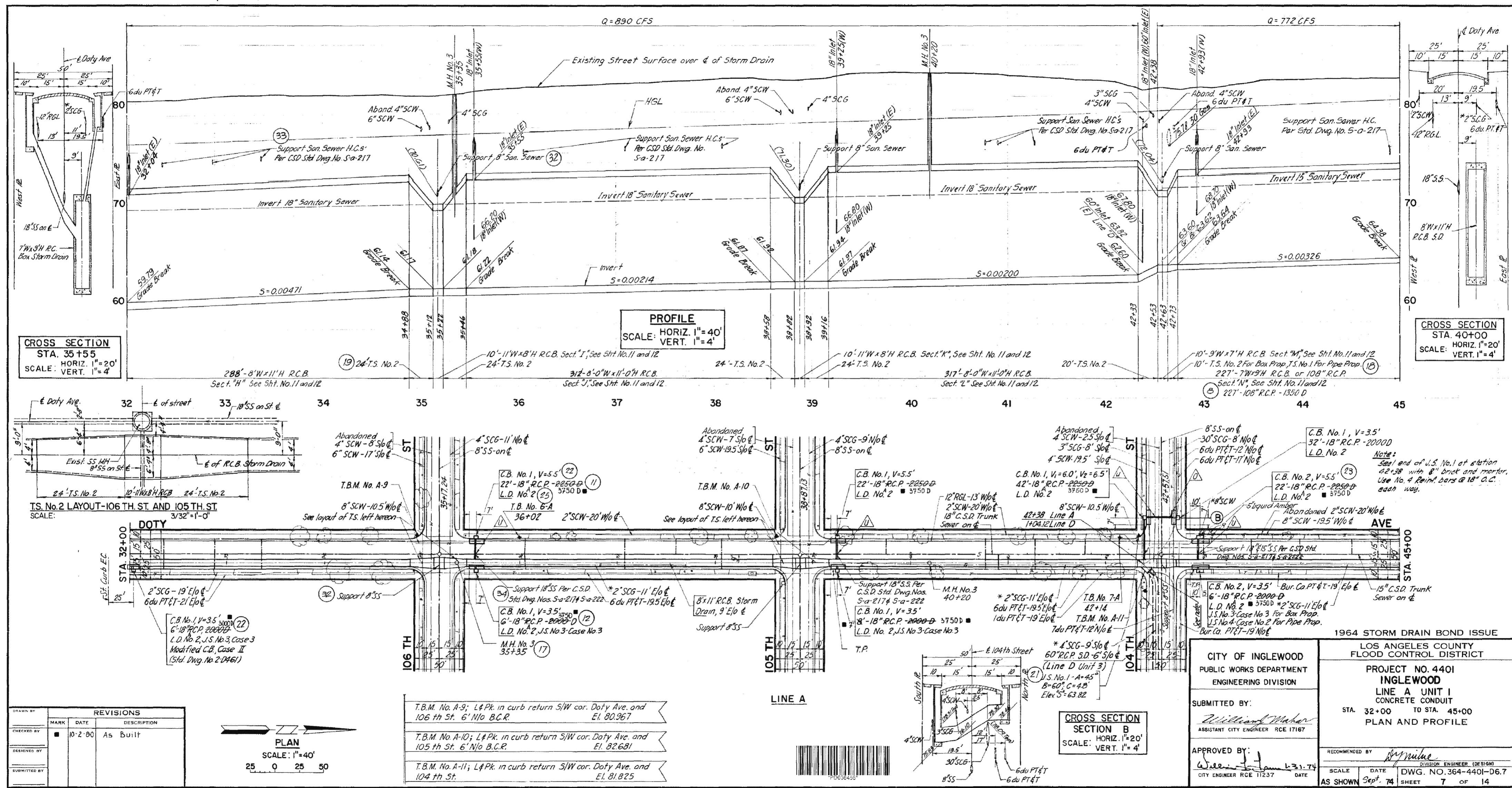
T.B.M. No. A-6 L&Pk. in curb return S/W cor. of Doty Ave.  
and 109th St. 7' N/o B.C.R. El. 78.896



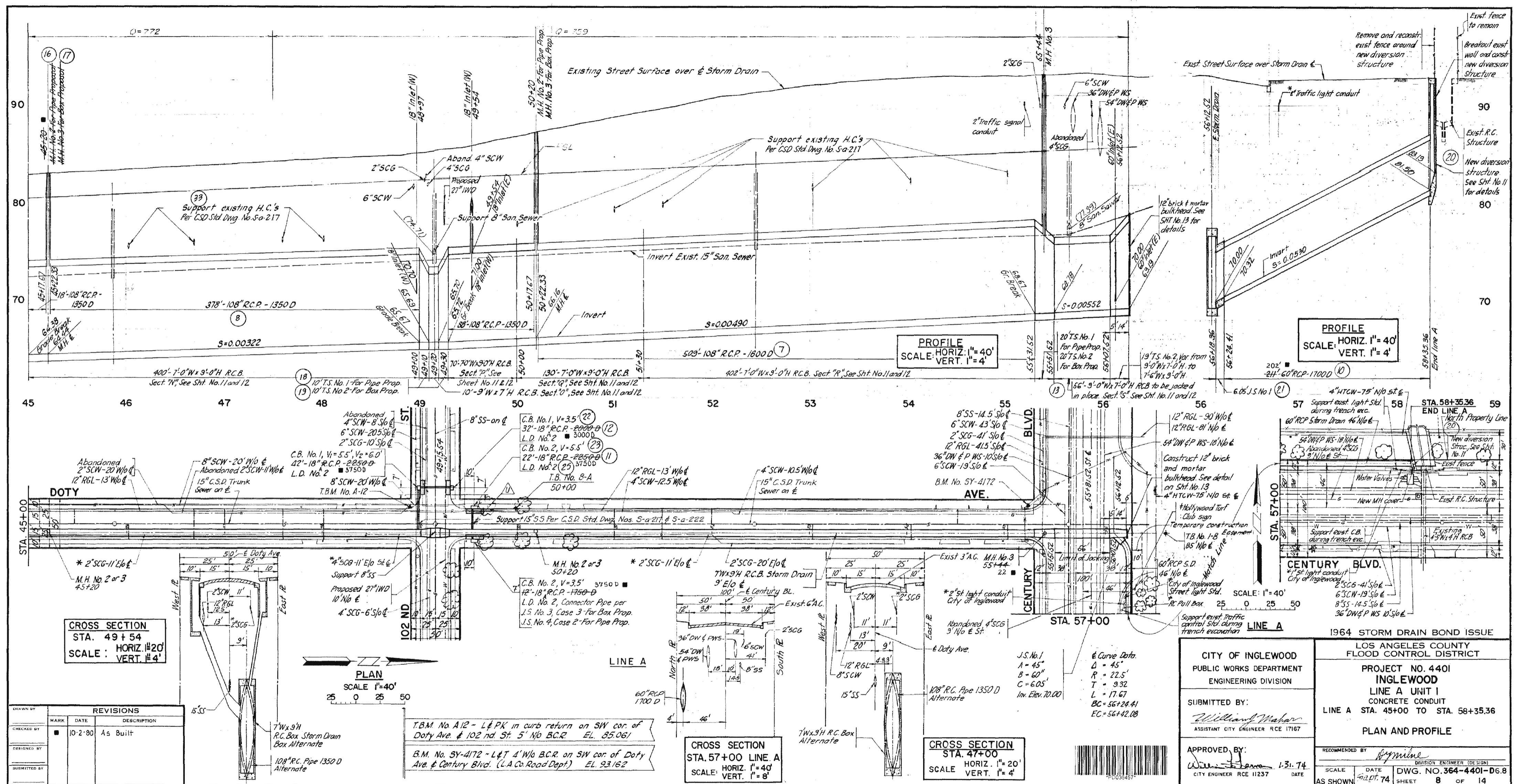
<p><b>CITY OF INGLEWOOD</b>  <b>PUBLIC WORKS DEPARTMENT</b>  <b>ENGINEERING DIVISION</b></p> <p>SUBMITTED BY:  <i>William J. Maher</i>          ASSISTANT CITY ENGINEER R.C.E. 17167</p> <p>APPROVED BY:  <i>W. J. Maher 1-31-74</i>          CITY ENGINEER R.C.E. 11237 DATE</p>	<p><b>LOS ANGELES COUNTY FLOOD CONTROL DISTRICT</b></p> <p><b>PROJECT NO. 4401</b>  <b>INGLEWOOD</b>  <b>LINE A UNIT I</b>  <b>CONCRETE CONDUIT</b></p> <p>STA. 12+00 TO STA. 24+00</p> <p><b>PLAN AND PROFILE</b></p> <p>RECOMMENDED BY <i>Jymilne</i></p> <p>SCALE DATE DWG. NO. 364-4401-D6.5          AS SHOWN Sept 74 SHEET 5 OF 14</p>
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## **"AS BUILT" DRAWING**



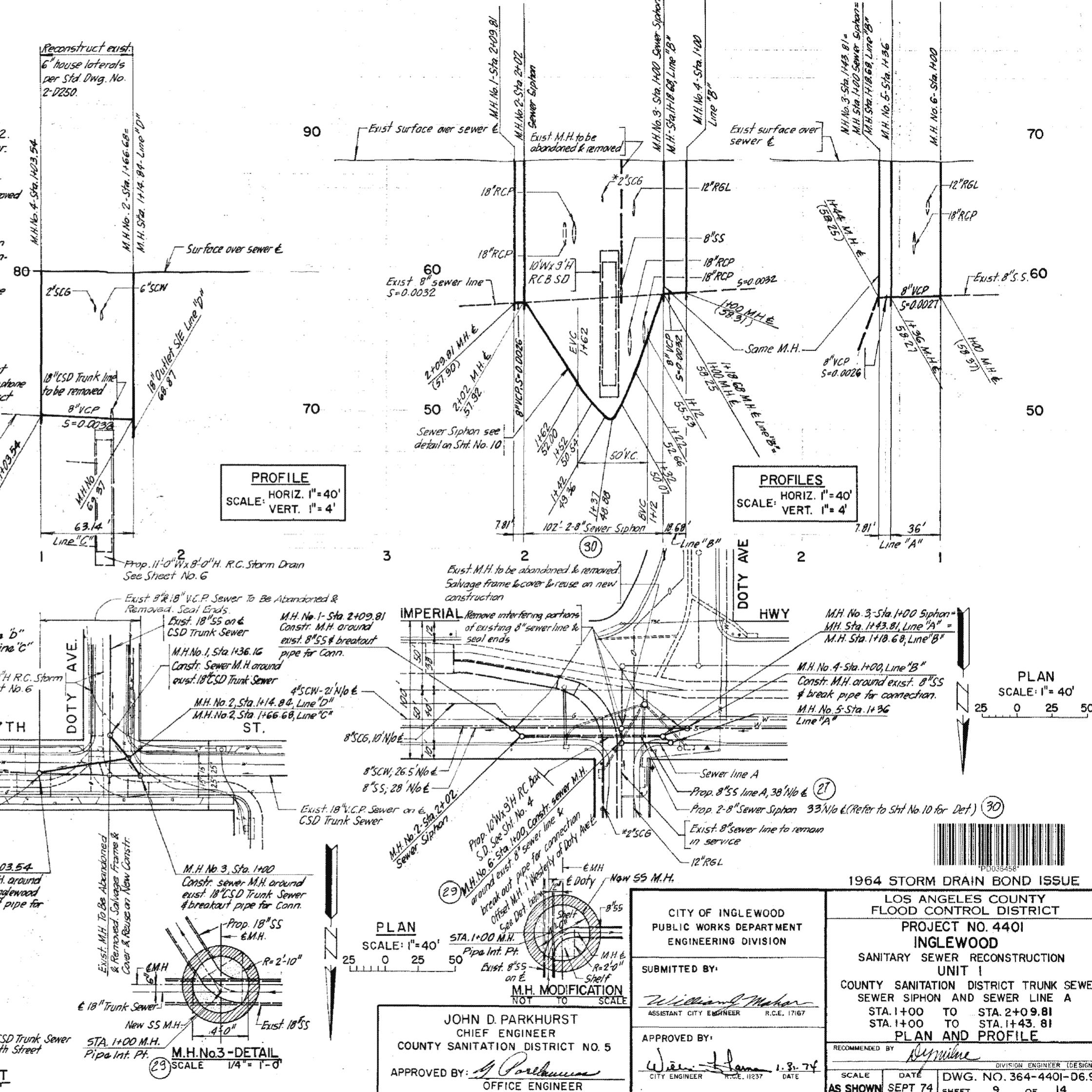
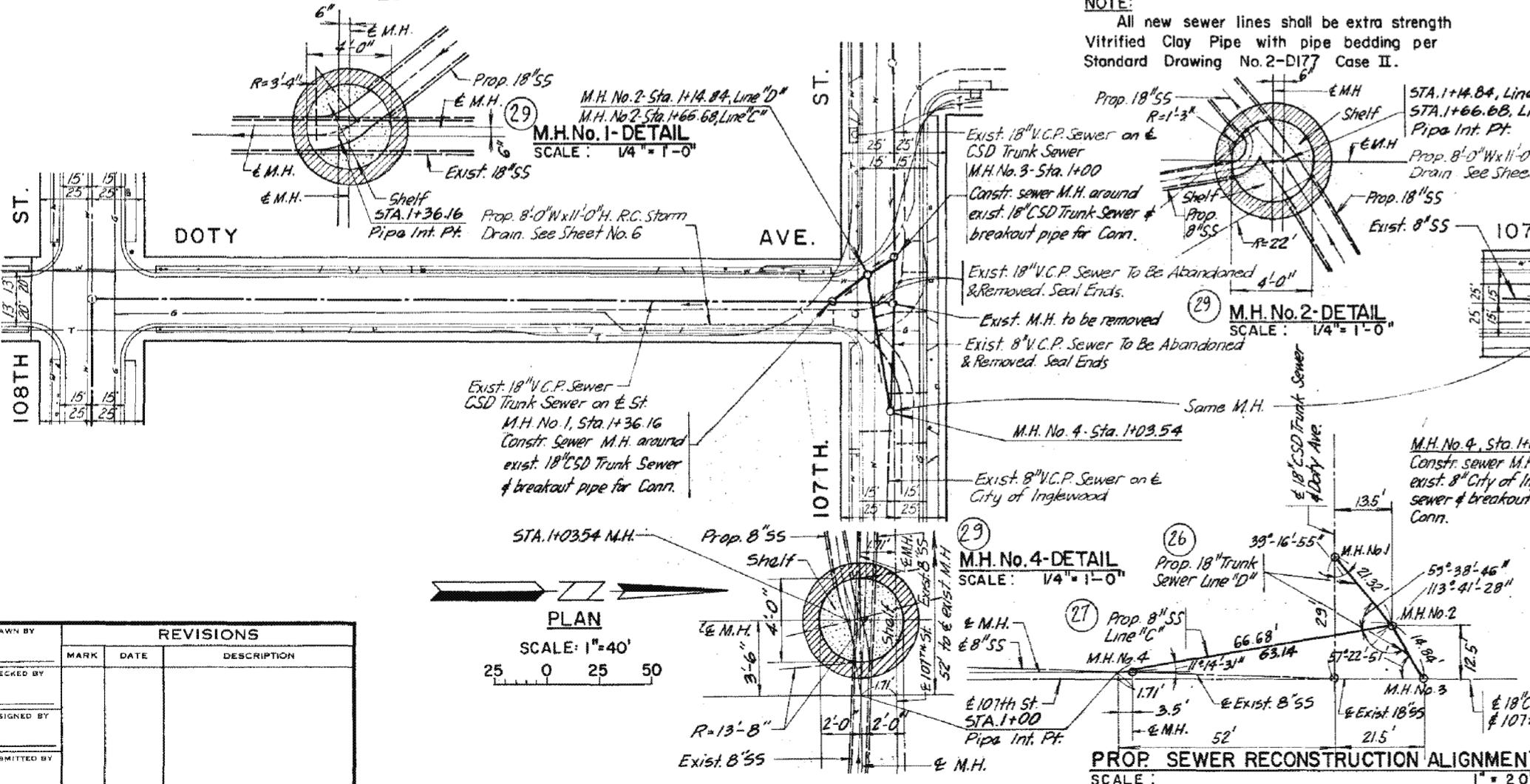
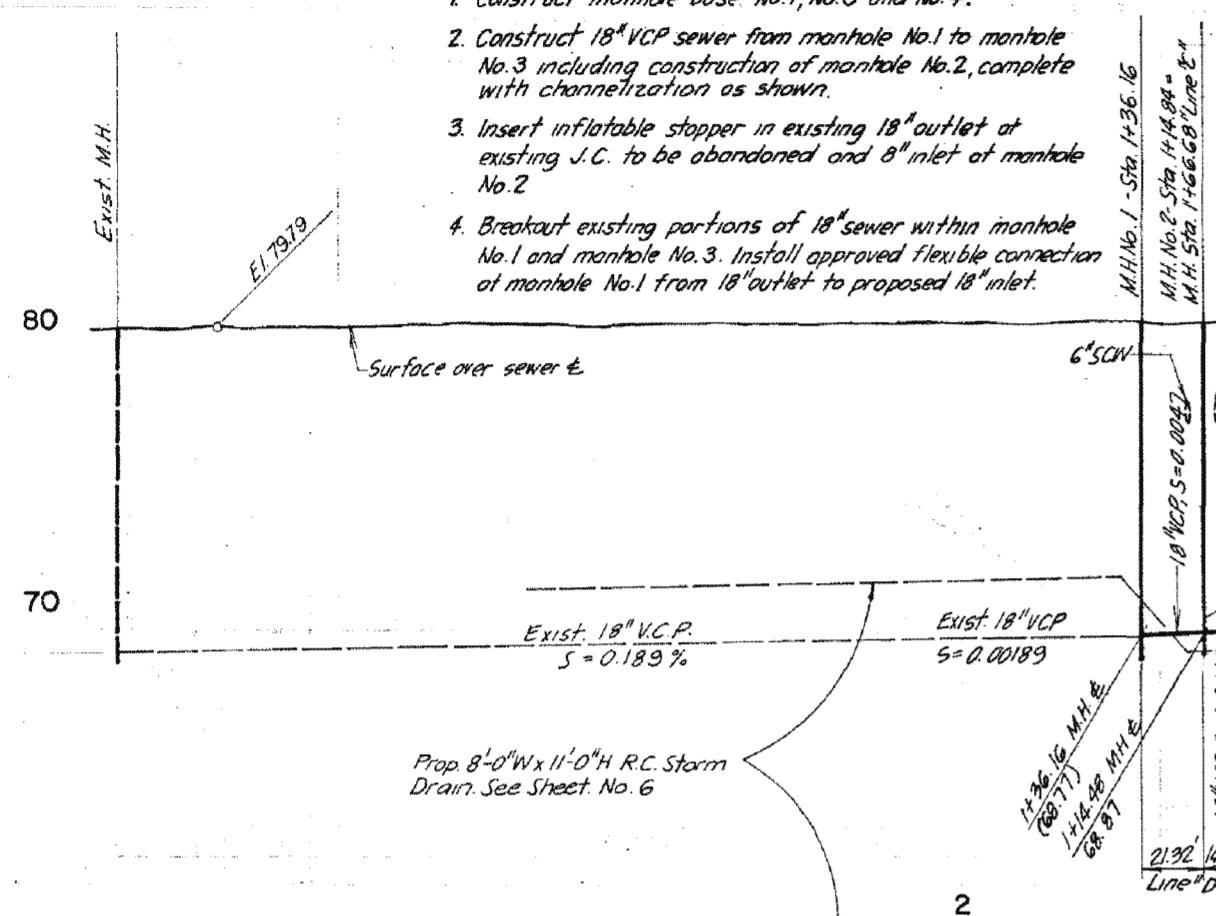
"AS BUILT" DRAWING



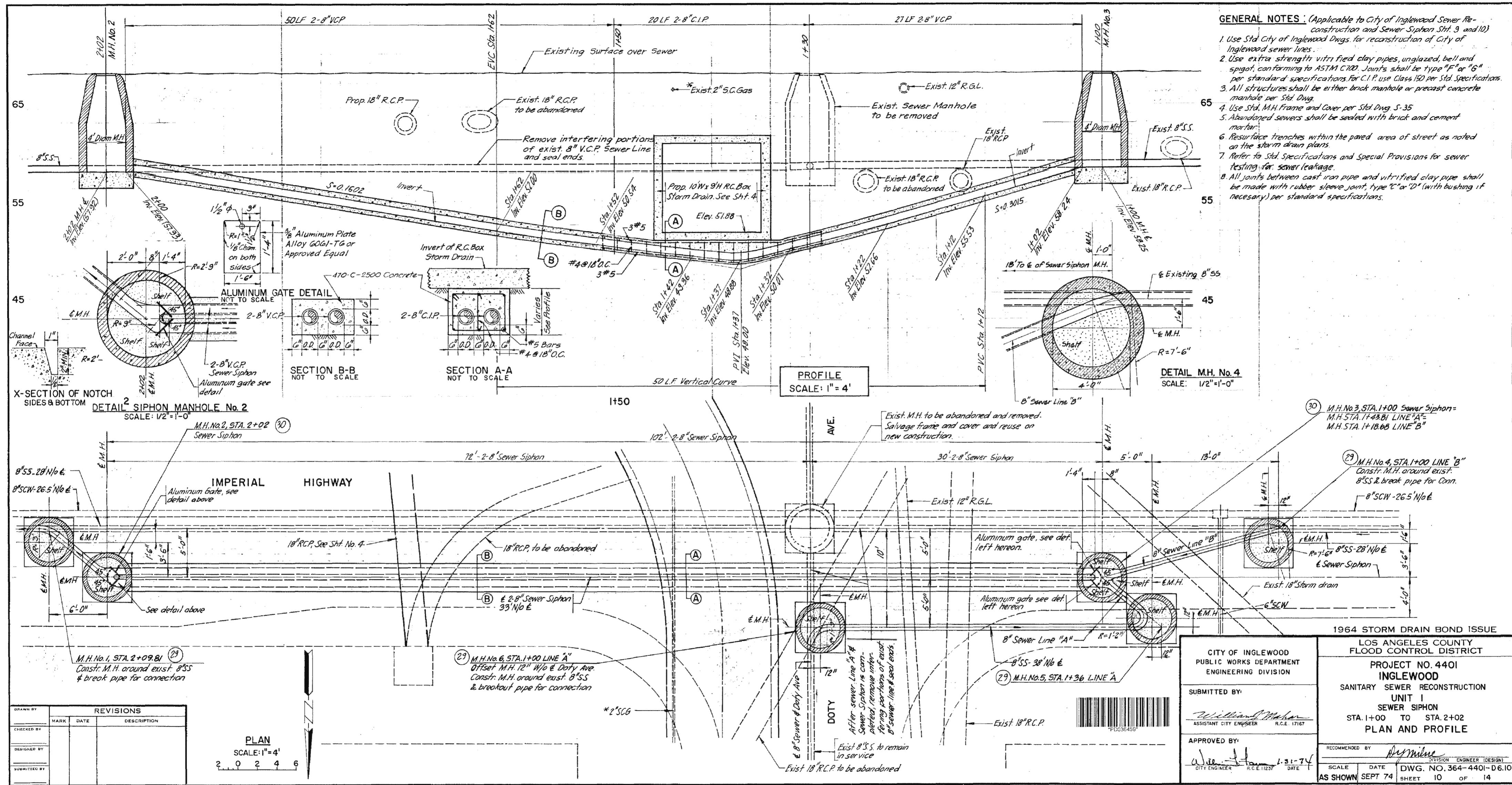
**SEQUENCE OF WORK FOR THE RECONSTRUCTION OF EXISTING 18 INCH  
SANITATION DISTRICT SEWER AT DOTY AVENUE & 107<sup>TH</sup> ST.**

During Low Flow Period and Under the Direction of the Sanitation District Representative,  
the Contractor Shall Comply with the Following:

1. Construct manhole base No.1, No.3 and No.4.
2. Construct 18" VCP sewer from manhole No.1 to manhole No.3 including construction of manhole No.2, complete with channelization as shown.
3. Insert infloatable stopper in existing 18" outlet at existing J.C. to be abandoned and 8" inlet at manhole No.2.
4. Breakout existing portions of 18" sewer within manhole No.1 and manhole No.3. Install approved flexible connection of manhole No.1 from 18" outlet to proposed 18" inlet.

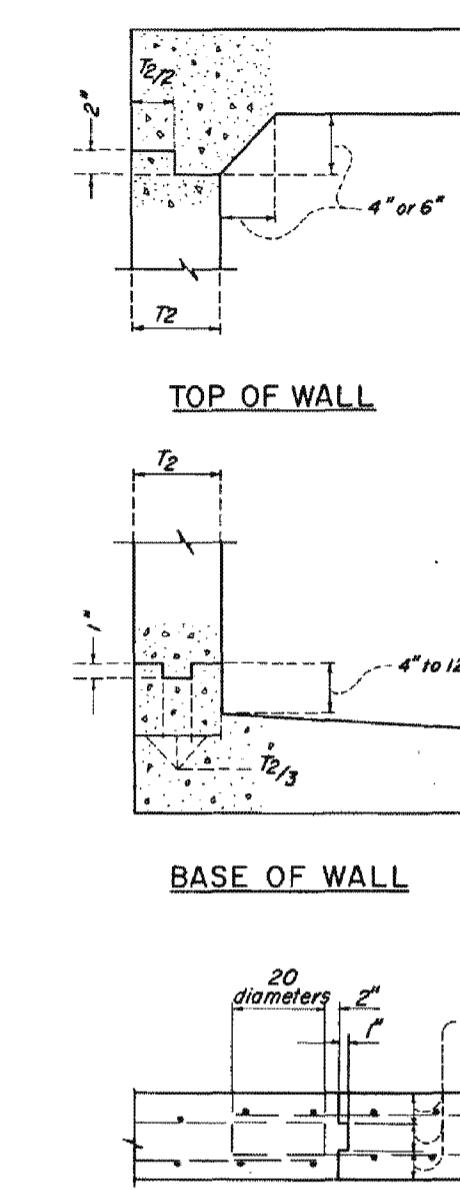


"AS BUILT" DRAWING



"AS BUILT" DRAWING

INITIAL DATE  
DESIGNED BY  
DRAWN BY  
CHECKED BY  
SUPERVISOR BY  
PROJECT FLOOR



#### TRANSVERSE JOINT

#### CONSTRUCTION JOINT DETAILS NO SCALE

**DESIGN DATA:**  
LIVE LOAD: H20-S16-44 unless otherwise noted

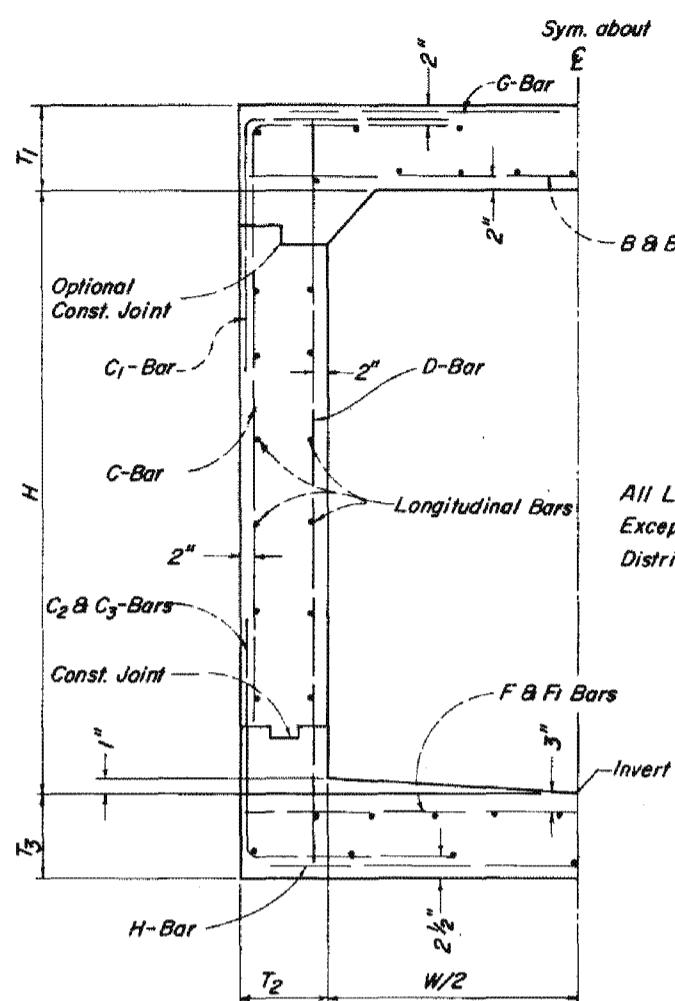
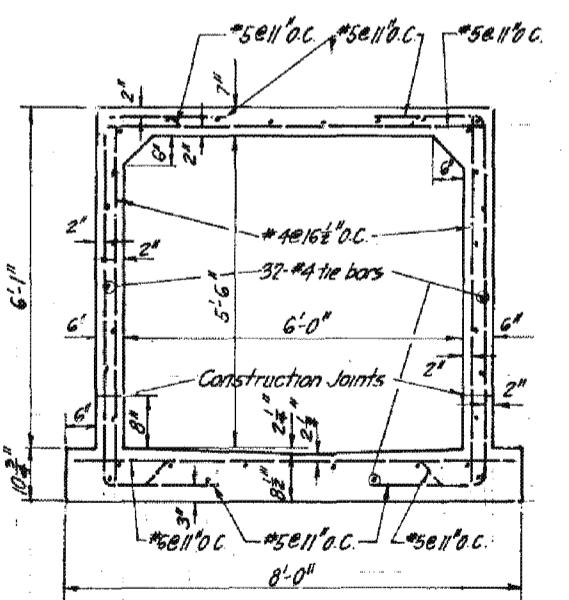
**DEAD LOAD:**  
Earth load per Morston's formula:  $W=120 \text{ PCF}$   
 $K_u = K_d = 0.150$   
 $Bd = \text{Outside width of box plus 3 feet}$   
Side earth  $W = 40 \text{ PSF}$  per foot of depth  
Internal water pressure: 62.4 psf per foot of depth  
Weight of Concrete: 150 pcf.

**ALLOWABLE STRESSES:**  
 $f_c' = 4000 \text{ p.s.i. at 28 days}$   
 $f_c = 1800 \text{ p.s.i.}$   
 $f_s = 24,000 \text{ p.s.i.}$

$n = 8$   
shear and bond stresses per A.C.I. 318-63

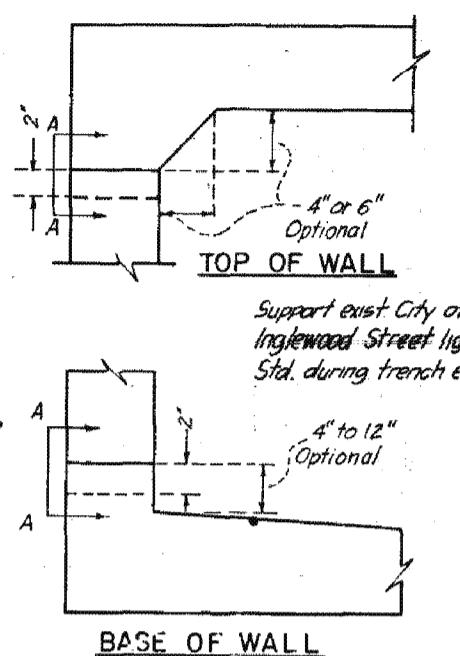
#### SECTION Z (Refer to Sheet No. 6)

SCALE:  $1/2'' = 1'-0''$

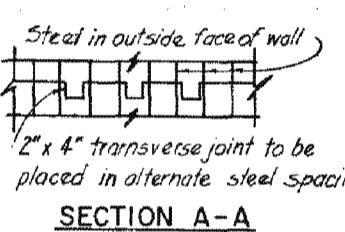


#### TYPICAL R.C. BOX SECTION NO SCALE

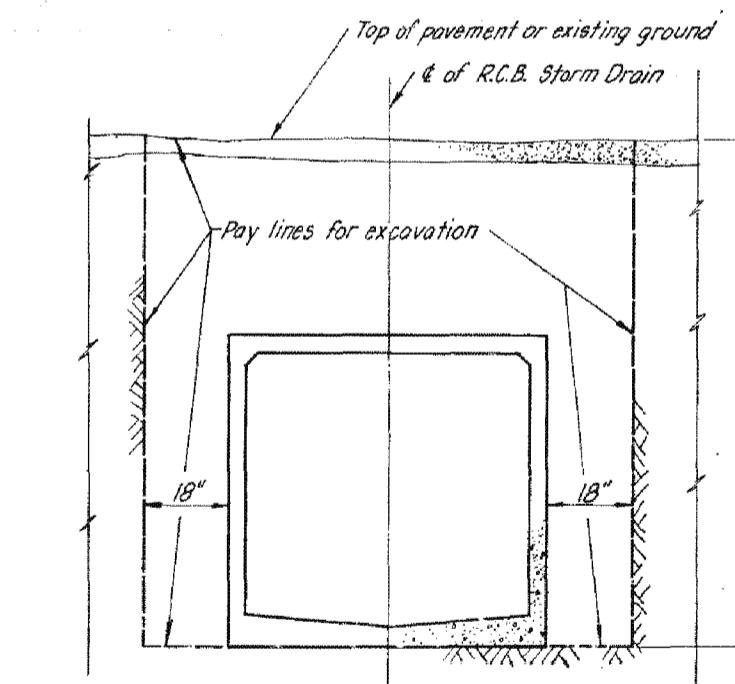
#### CONSTRUCTION JOINT DETAILS FOR BOXES JACKED IN PLACE



Refer to Std. Dug No. 2-D465 for additional steel details

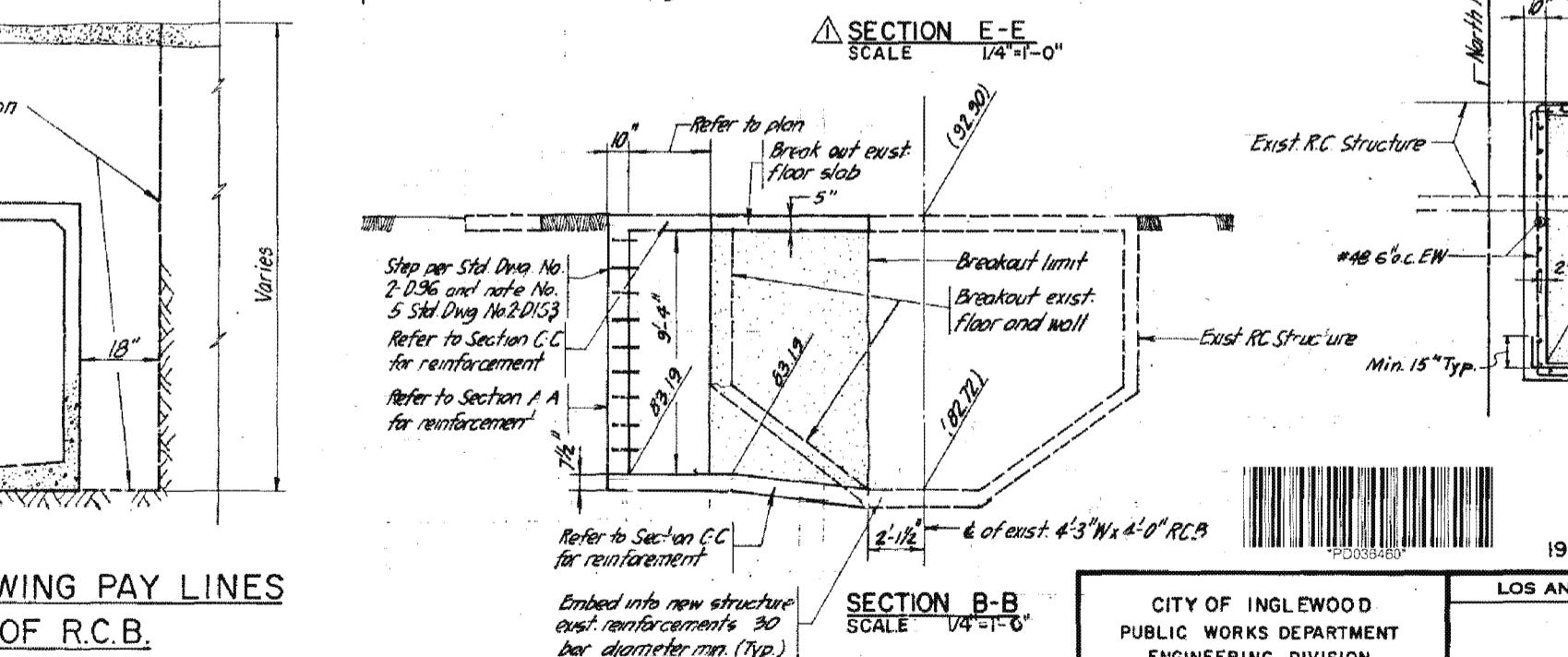
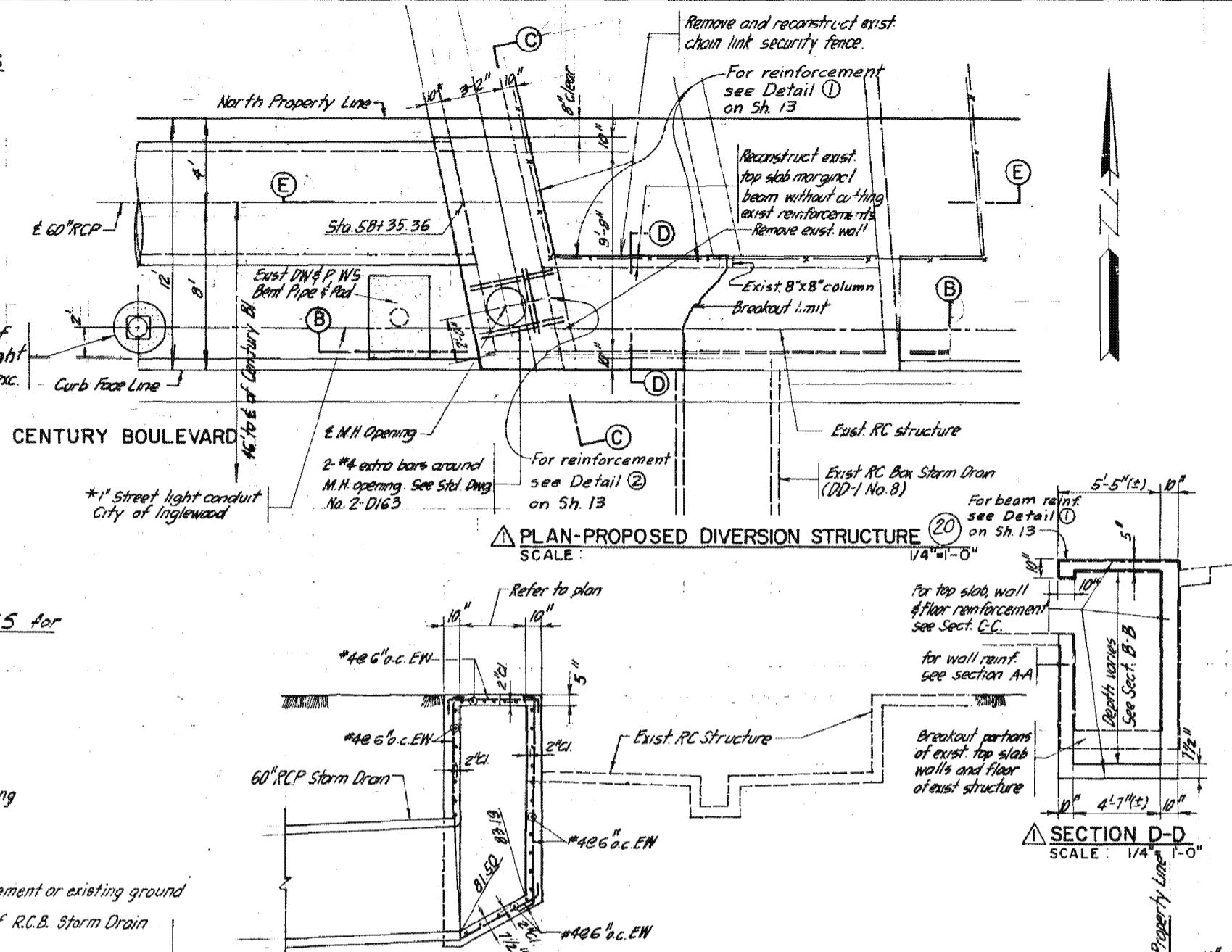


#### SECTION A-A



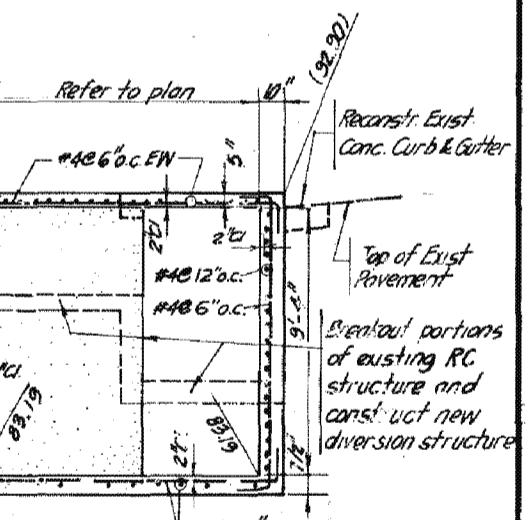
#### TYPICAL SECTION SHOWING PAY LINES FOR EXCAVATION OF R.C.B. NO SCALE

NO SCALE



#### REINFORCED CONCRETE BOX LOCATION SCHEDULE

BOX SECTION	STATION	
	FROM	TO
A	I+00	I+74.70
B	I+89.70	2+91.77
B	3+00	10+60
C	10+70	19+00
D	19+00	26+43
E	26+67	26+77
F	27+01	30+22.98
G	30+44.98	30+73.38
H	30+88.38	34+88
I	35+12	35+22
J	35+46	38+58
K	38+82	38+92
L	39+16	42+33
M	42+53	42+63
N	42+73	49+00
O	49+10	49+20
P	49+30	50+00
Q	50+00	51+30
R	51+30	55+31.52
S	55+51.52	56+07.52



#### 1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROJECT NO. 4401

INGLEWOOD

SINGLE R.C. BOX UNIT I

SCHEDULE & DETAILS

CITY OF INGLEWOOD  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

SUBMITTED BY:

William Maher  
ASSISTANT CITY ENGINEER  
R.C.E. 17167

APPROVED BY:

John [Signature]  
CITY ENGINEER  
R.C.E. 11237  
DATE: 1.3.74

RECOMMENDED BY:

John [Signature]  
DIVISION ENGINEER DESIGN  
DATE: 1.3.74

SCALE AS SHOWN

DATE: 1.3.74

NO. 364-4401-D611

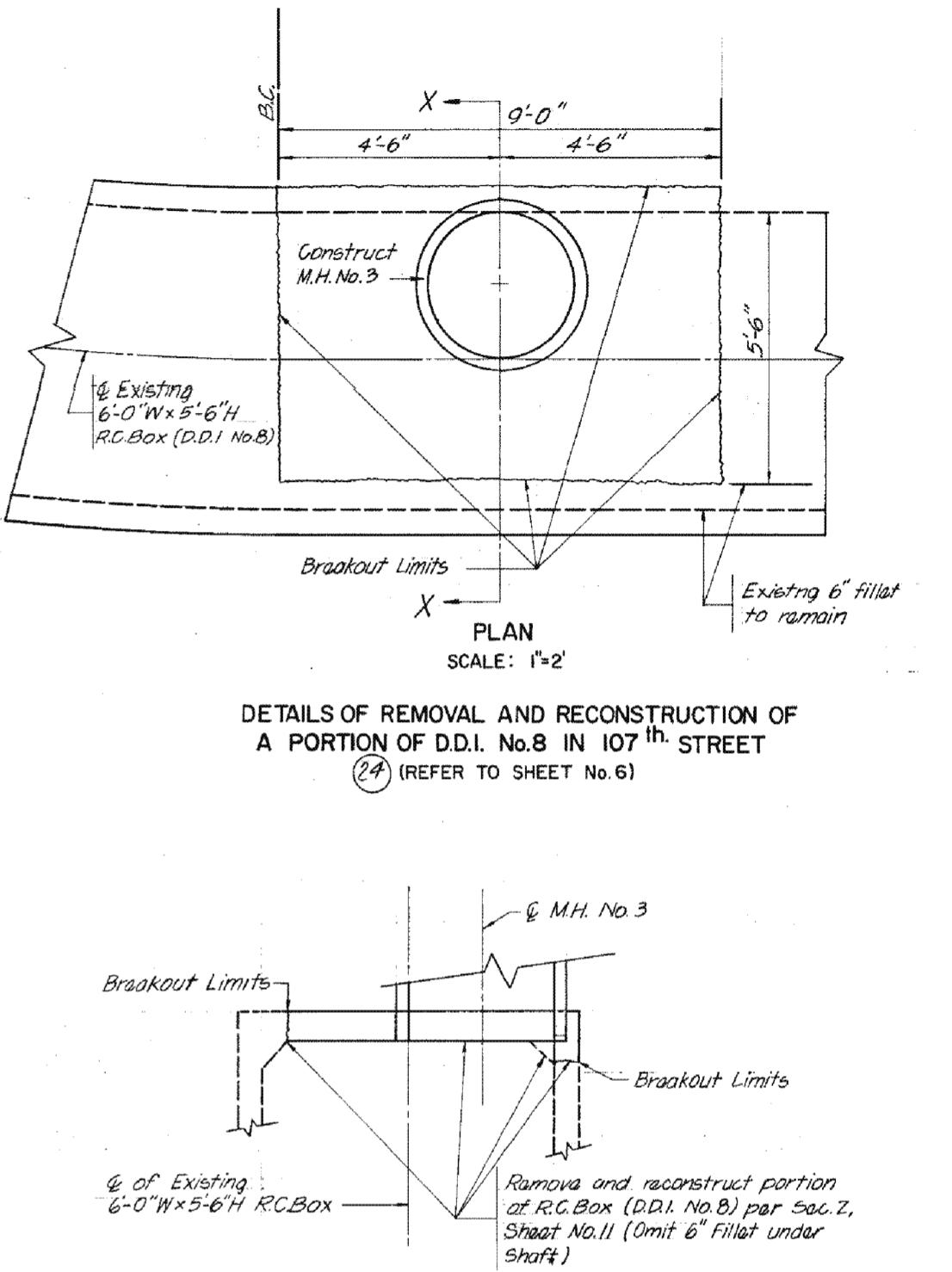
SHEET 31 OF 14

"AS BUILT" DRAWING

REVISIONS		
REV. NO.	DATE	DESCRIPTION

12-9-74  
Changes in Details for  
Diversion Structure

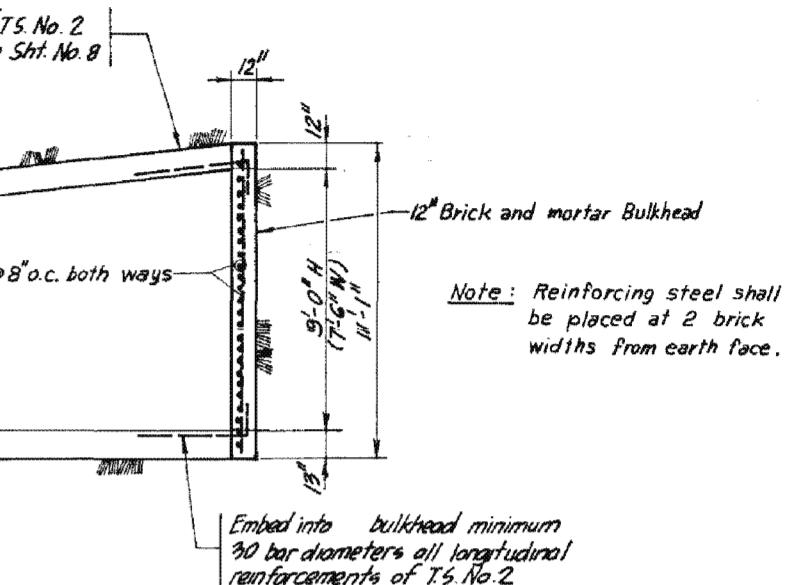
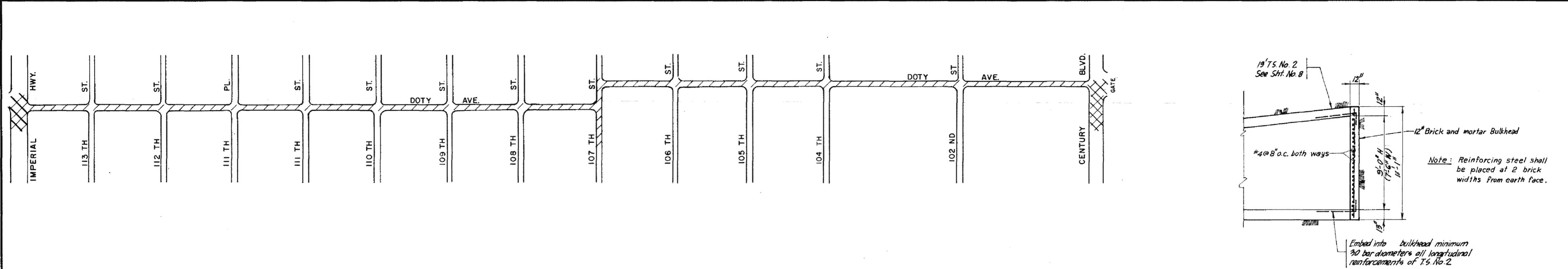
BOX SECTION	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
Design Cover (ft.)	4.2'	7.8'	8.8'	10.1'	13.0'	10.1'	12.3'	9.1'	11.0'	9.2'	12.0'	9.5'	10.5'	9.7'	11.8'	10.9'	12.9'	15.1'	16.7'	14.3'	13.0'	11.1'	8.9'	9.1'	9.7'
W Width	7'-0"	10'-0"	8'-0"	8'-0"	11'-0"	8'-0"	11'-0"	8'-0"	11'-0"	8'-0"	11'-0"	8'-0"	9'-0"	7'-0"	9'-0"	7'-0"	7'-0"	7'-0"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"	7'-6"
H Height	12'-0"	9'-0"	11'-0"	11'-0"	8'-0"	11'-0"	8'-0"	11'-0"	8'-0"	11'-0"	8'-0"	11'-0"	7'-0"	9'-0"	7'-0"	9'-0"	9'-0"	7'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"	9'-0"
T <sub>1</sub> Top Slab Thickness	6.50"	9.00"	8.25"	8.00"	12.50"	8.00"	12.00"	8.25"	11.00"	8.50"	11.75"	8.50"	9.00"	7.75"	9.75"	7.75"	8.50"	9.25"	12.00"	9.50"	9.00"	8.25"	7.75"	8.00"	8.25"
T <sub>2</sub> Side Wall Thickness	9.00"	8.00"	8.00"	8.00"	8.75"	8.00"	8.50"	8.00"	8.25"	8.00"	8.50"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"	8.00"
T <sub>3</sub> Bottom Slab Thickness	7.00"	10.00"	9.25"	9.25"	13.50"	9.25"	13.00"	9.25"	12.00"	9.50"	12.75"	9.75"	10.25"	8.75"	10.75"	8.75"	9.50"	10.25"	13.00"	10.50"	10.00"	9.25"	8.75"	8.75"	9.25"
B Bar No. & Spacing	#6@17"	#9@16"	#8@18"	#6@11"	#8@10"	#6@11"	#8@10"	#8@18"	#7@8"	#8@18"	#8@18"	#8@15"	#7@15"	#7@10"	#7@17"	#8@19"	#9@20"	#9@13"	#9@20"	#7@13"	#8@19"	#6@11"	#8@19"	#8@17"	
Bars Length, h	8'-1"	11'-1"	9'-1"	9'-1"	12'-25"	9'-1"	12'-2"	9'-1"	12'-15"	9'-1"	12'-2"	9'-1"	10'-1"	8'-1"	10'-1"	8'-1"	8'-1"	8'-1"	10'-25'	8'-7"	8'-7"	8'-7"	8'-7"	8'-7"	8'-7"
B <sub>1</sub> Bar No. & Spacing	#5@17"	#5@16"	#5@18"	#4@11"	#5@10"	#4@11"	#5@10"	#5@18"	#4@8"	#5@18"	#4@8"	#5@15"	#4@15"	#4@10"	#5@17"	#5@19"	#4@20"	#4@13"	#5@20"	#4@13"	#5@19"	#4@11"	#5@19"	#4@17"	
Bars Length, h	5'-0.5"	5'-11.5"	5'-1"	5'-2"	7'-1.5"	5'-2"	6'-10.5"	5'-2"	6'-9"	5'-2"	7'-1"	5'-2.5"	5'-9"	4'-5"	5'-7"	4'-8.5"	4'-7.5"	4'-0.5"	5'-5"	4'-10.5"	4'-11"	4'-10.5"	4'-11"	4'-10.5"	4'-5.5"
C Bar No. & Spacing	#4@11"	#4@12"	#4@12"	#4@12"	#4@13"	#4@12"	#4@12"	#4@11"	#4@12"	#4@12"	#4@11"	#4@14"	#4@14"	#4@14"	#4@14"	#4@14"	#4@13"	#4@14"	#4@14"	#4@14"	#4@14"	#4@14"	#4@13"	#4@13"	#4@14"
C Bars Horiz. Length, h	3'-5.5"	4'-2.5"	3'-8.5"	3'-8.5"	4'-6.5"	3'-8.5"	4'-6"	3'-8.5"	4'-6"	3'-8.5"	3'-11.5"	3'-5.5"	3'-11.5"	3'-5.5"	3'-5.5"	3'-5.5"	3'-5.5"	3'-5.5"	3'-0.5"	3'-7"	3'-7"	3'-7"	3'-7"	3'-7"	3'-7.0"
C Bars Vert. Length, v	11'-11.5"	9'-2"	11'-1.5"	11'-1"	8'-5.5"	11'-1"	8'-5"	11'-1.5"	8'-4"	11'-1.5"	8'-5"	11'-1.5"	7'-2"	9'-1"	7'-3"	9'-1"	9'-1.5"	9'-2.5"	7'-5"	9'-2.5"	9'-2"	9'-1.5"	9'-1"	9'-1.0"	9'-1.5"
C <sub>1</sub> Bar No. & Spacing	#5@11"	#5@12"	#6@12"	#6@12"	#5@13"	#6@12"	#5@12"	#5@11"	#5@11"	#6@12"	#5@12"	#5@11"	#4@11"	#5@14"	#5@14"	#5@14"	#5@14"	#5@14"	#4@13"	#5@14"	#5@14"	#5@13"	#5@13"	#5@14"	
C <sub>1</sub> Bars Horiz. Length, h	2'-2.5"	1'-10"	1'-10"	1'-9"	2'-0.5"	1'-9"	1'-11.5"	1'-9"	1'-10"	1'-10"	1'-11"	1'-9.5"	1'-6.5"	1'-6.5"	1'-8"	1'-6.5"	1'-7"	1'-7.5"	1'-9"	1'-8"	1'-8"	1'-7"	1'-6.5"	1'-6.5"	1'-7.0"
C <sub>1</sub> Bars Vert. Length, v	1'-7"	3'-5"	2'-1"	2'-0.5"	2'-11.5"	2'-0.5"	2'-11.5"	2'-0"	3'-1"	2'-1"	3'-0"	2'-0.5"	2'-6.5"	1'-9.5"	2'-11"	1'-9.5"	1'-10"	1'-10.5"	2'-2"	1'-11.5"	1'-11"	1'-10.5"	1'-11"	1'-10.5"	1'-11"
C <sub>2</sub> Bar No. & Spacing	#5@11"	#5@12"	#4@12"	#4@12"	#4@13"	#4@12"	#4@12"	#4@11"	#4@12"	#4@12"	#4@11"	#4@14"	#4@14"	#4@14"	#4@14"	#4@14"	#4@13"	#4@14"	#4@14"	#4@14"	#4@14"	#4@13"	#4@13"	#4@14"	
C <sub>2</sub> Bars Horiz. Length, h	3'-9"	4'-3.5"	3'-8.5"	3'-8.5"	4'-6.5"	3'-8.5"	4'-6"	3'-8.5"	4'-6"	3'-8.5"	3'-11.5"	3'-5.5"	3'-11.5"	3'-5.5"	3'-5.5"	3'-5.5"	3'-5.5"	3'-5.5"	4'-0.5"	3'-7"	3'-7"	3'-7"	3'-7"	3'-7"	3'-7.0"
C <sub>2</sub> Bars Vert. Length, v	2'-0"	2'-3"	2'-2.5"	2'-2.5"	2'-6.5"	2'-2.5"	2'-6"	2'-2.5"	2'-5"	2'-2.5"	2'-6"	2'-3"	2'-3.5"	2'-2"	2'-4"	2'-2"	2'-2.5"	2'-3.5"	2'-6"	2'-3.5"	2'-3"	2'-2.5"	2'-2"	2'-2.0"	2'-2.5"
C <sub>3</sub> Bar No. & Spacing	#5@11"	#4@12"	#6@12"	#6@12"	#4@13"	#6@12"	#4@12"	#4@11"	#4@11"	#6@12"	#4@12"	#5@11"	#4@11"	#5@14"	#4@14"	#5@14"	#5@14"	#5@14"	#4@13"	#5@14"	#5@14"	#5@13"	#5@13"	#5@14"	
C <sub>3</sub> Bars Horiz. Length, h	1'-8.5"	1'-6"	2'-1"	2'-1"	1'-11"	2'-1"	1'-10"	1'-10.5"	1'-8.5"	2'-0.5"	1'-10"	1'-11"	1'-6"	1'-7.5"	1'-7.5"	1'-7.5"	1'-8"	1'-8.5"	1'-8"	1'-9"	1'-8.5"	1'-8"	1'-7.5"	1'-7.5"	1'-8"
C <sub>3</sub> Bars Vert. Length, v	1'-3"	1'-11.5"	2'-0"	2'-0.5"	2'-6.5"	2'-0.5"	2'-7.5"	2'-0"	2'-9.5"	2'-0.5"	2'-9"	2'-0"	2'-4.5"	1'-9.5"	5'-7.5"	1'-9.5"	1'-10.5"	1'-11"	1'-10.5"	1'-11"	1'-10.5"	1'-10"	1'-10.5"	1'-10.5"	1'-10.5"
D Bar No. & Spacing	#5@9"	#4@18"	#4@9"	#4@9"	#4@18"	#4@9"	#4@18"	#4@9"	#4@18"	#4@9"	#4@18"	#4@9"	#4@18"	#4@9"	#4@18"	#4@9"	#4@17"	#4@18"	#4@17"	#4@17"	#4@18"	#4@18"	#4@17"	#4@17"	#4@17"
Bars Length, v	12'-10.5"	10'-4"	12'-2.5"	12'-2.5"	9'-11"	12'-2.5"	9'-10"	12'-2.5"	9'-8"	12'-3"	9'-9.5"	12'-3"	8'-4"	10'-1.5"	8'-5.5"	10'-1.5"	10'-3"	10'-4.5"	8'-10"	10'-5"	10'-4"	10'-2.5"	10'-1.5"	10'-1.5"	10'-2.5"
F Bar No. & Spacing	#7@17"	#8@11"	#9@19"	#9@19"	#9@11"	#9@19"	#9@11"	#8@14"	#9@12"	#8@14"	#8@14"	#9@16"	#7@13"	#9@15"	#7@13"	#9@20"	#9@18"	#9@12"	#9@16"	#8@14"	#7@12"	#9@20"	#9@20"	#9@20"	
Bars Length, h	8'-1"	11'-1"	9'-1"	9'-1"	12'-2.5"	9'-1"	12'-2"	9'-1"	12'-1.5"	9'-1"	12'-2"	9'-1"	10'-1"	8'-1"	10'-1"	8'-1"	8'-1"	8'-1"	10'-2.5"	8'-7"	8'-7"	8'-7"	8'-7"	8'-7"	8'-7"
F <sub>1</sub> Bar No. & Spacing	#5@17"	#4@11"	#5@19"	#5@19"	#5@11"	#5@19"	#5@11"	#4@14"	#5@12"	#4@14"	#4@9"	#4@14"	#5@16"	#4@13"	#5@15"	#4@13"	#5@20"	#4@18"	#4@12"	#4@16"	#4@14"	#4@12"	#5@20"	#5@20"	#5@20"
Bars Length, h	4'-11"	6'-0.5"	5'-3.5"	5'-3"	7'-1"	5'-3"	6'-9.5"	5'-0"	7'-15"	4'-11.5"	7'-1"	5'-0.5"	5'-11"	4'-9"	6'-0"	4'-8.5"	4'-9"	4'-6"	5'-9.5"	4'-5.5"	4'-11"	5'-1.5"	4'-11.5"	5'-0"	5'-1.5"
G Bar No. & Spacing	#4@11"	#4@12"	#4@12"	#4@12"	#4@13"	#4@12"	#4@12"	#4@11"	#4@12"	#4@12"	#4@11"	#4@12"	#4@11"	#4@12"	#4@11"	#4@12"	#4@14"	#4@14"	#4@14"	#4@14"	#4@13"	#4@13"	#4@14"		
Bars Length, h	3'-6"	5'-0"	4'-0"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	4'-6"	3'-6"	4'-6"	3'-6"	3'-6"	3'-6"	4'-6"	3'-9"	3'-9"	3'-9"	3'-9"	3'-9"	3'-9"
H Bar No. & Spacing	#5@11"		#4@12"	#4@12"	#4@13"	#4@12"	#4@12"	#4@11"	#4@12"	#4@12"	#4@11"	#4@12"	#4@11"	#4@12"	#4@11"	#4@12"	#4@14"	#4@14"	#4@14"	#4@13"	#4@14"	#4@14"	#4@13"	#4@14"	
Bars Length, h	3'-6"		4'-0"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	5'-6"	4'-0"	4'-6"	3'-6"	4'-6"	3'-6"	3'-6"	3'-6"	4'-6"	3'-9"	3'-9"	3'-9"	3'-9"	3'-9"	3'-9"
NUMBER OF LONGITUDINAL REINFORCEMENT #4 BARS																									



SECTION X-X  
SCALE: 1"=2'

OTE: Refer to Sheet 3 for Concrete Breakout Notes

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT  PROJECT NO. 440I INGLEWOOD LINE A UNIT I  SINGLE R.C. BOX SCHEDULE	
SUBMITTED BY:  <i>William J. Maher</i> ASSISTANT CITY ENGINEER      R.C.E. 17167		RECOMMENDED BY: <i>John Miller</i>	
APPROVED BY:  <i>William J. Maher</i> 1-31-74 CITY ENGINEER      R.C.E. 11237      DATE		DIVISION ENGINEER (DESIGN) SCALE      DATE AS SHOWN      SEPT 74      DWG. NO. 364-440I-D6.12 SHEET      12      OF      14	

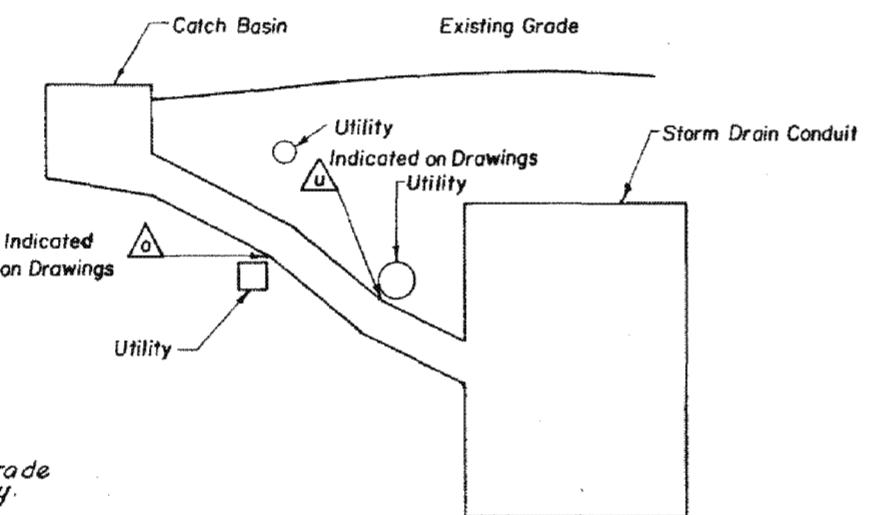


**BULKHEAD DETAIL (Refer to sheet No.8)**

SCALE: 1/4" = 1'-0"

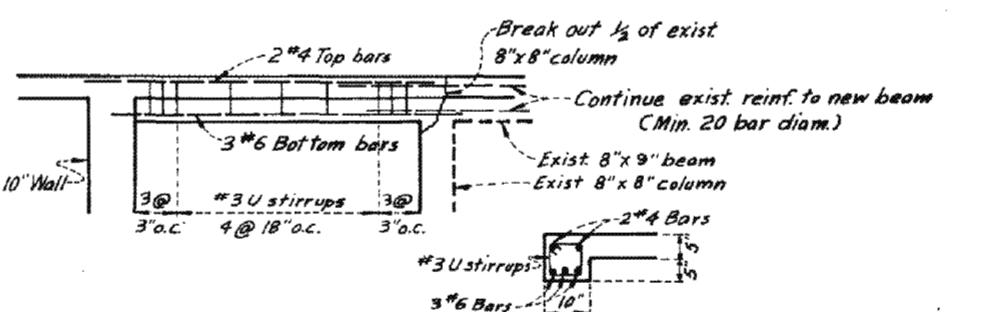
**NOTES:**

- The change in grade of the connector pipe may occur either over or under an existing utility. The utilities at which the grade change occur are shown on the project drawings. At locations where utility crossings are marked  $\triangle$  the connector pipe will break over the utility. At locations where the utility crossings are marked  $\square$  the connector pipe will break under the utility.
- On those connector pipes where change of grade is not indicated, it is assumed that the connector pipe can be laid on a straight grade from the catch basin to the storm drain without interference with utilities.
- Where connector pipe has a change of grade exceeding 1/10/FT or differs in diameter from that of existing pipe, use concrete collar per standard DWG 2-D393.
- The Contractor shall make exploratory excavation to determine the exact location and depth of utilities except sanitary sewers which are marked  $\triangle$  or  $\square$ . After the exact location of a utility has been determined, the grade and alignment of the connector pipe will be stated so as to clear the utility.



**TYPICAL CONNECTOR PIPE PROFILE**

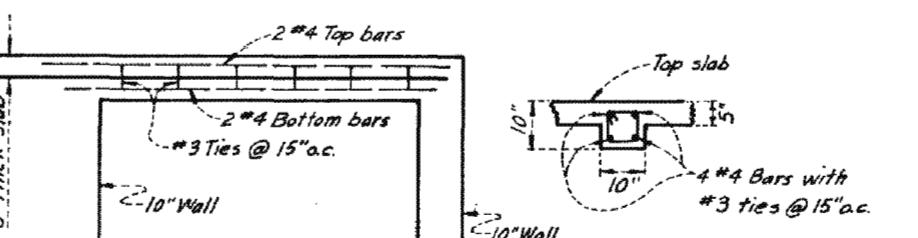
NO SCALE



**DETAIL 1**  
NOT TO SCALE

**Pavement Reconstruction Legend**

Existing Section	Reconstruction Section
3'A.C. over 6'A.B.	4'A.C. over 6'C.A.B.
2'A.C. over 4'Base	3'A.C. over 4'C.A.B.
6'A.C. over 8'A.B.	6'A.C. over 8'C.A.B.
5'A.C. over 12'A.B.	6'A.C. over 12'C.A.B.



**DETAIL 2**  
NOT TO SCALE



1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROJECT NO. 440I  
INGLEWOOD

RESURFACING PLAN UNIT 1

CITY OF INGLEWOOD  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

SUBMITTED BY:

William Maher  
ASSISTANT CITY ENGINEER R.C.E. 17167

APPROVED BY:

W. J. H. 1-31-74  
CITY ENGINEER R.C.E. 11237 DATE

RECOMMENDED BY  
DATE SEPT 74 SCALE AS SHOWN  
NO. 364-440I-D6.13  
DIVISION ENGINEER DESIGN  
SHEET 13 OF 14

INITIAL DATE

DESIGNED BY

DRAWN BY

CHECKED BY

SUPERVISED BY

PRODUCED BY

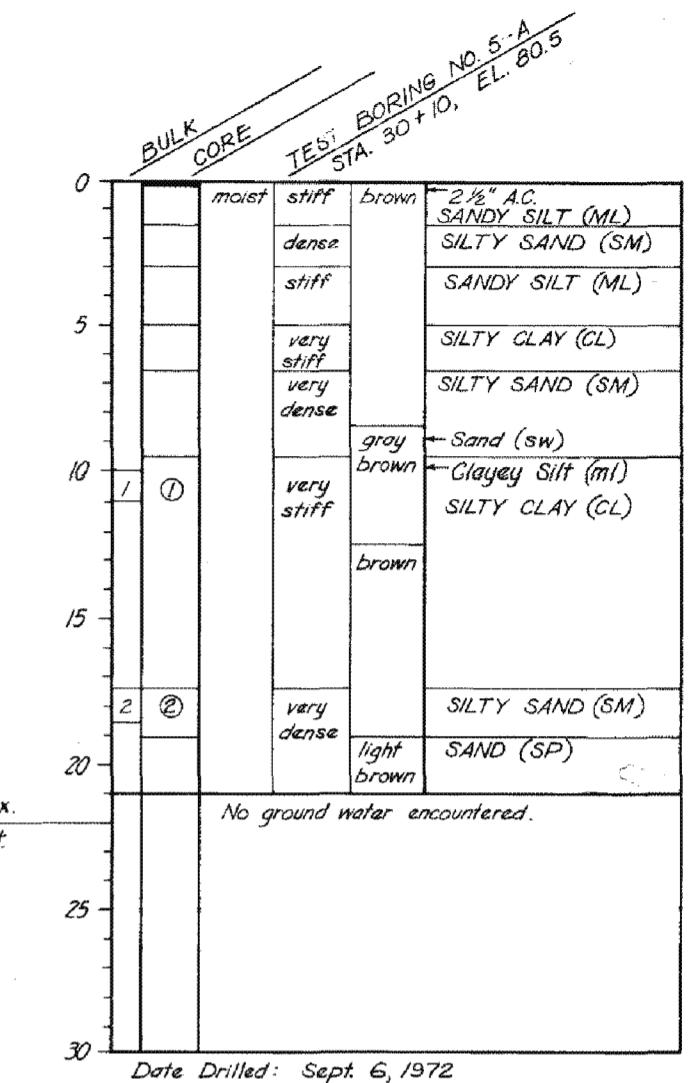
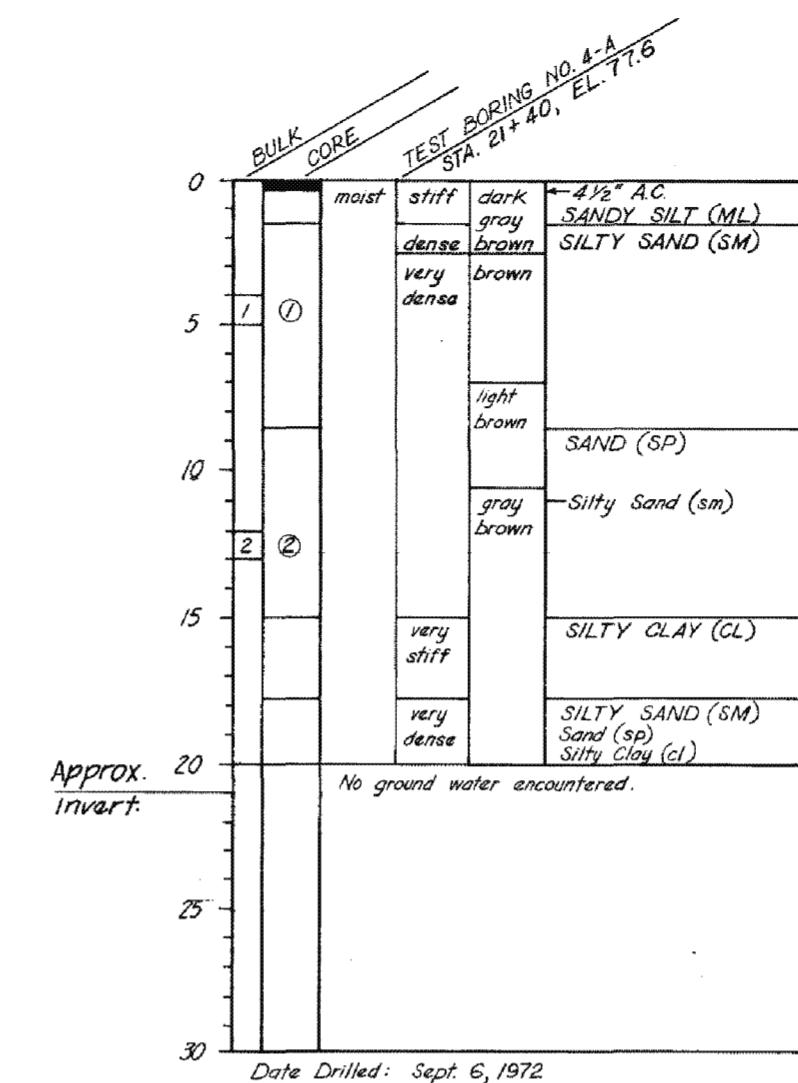
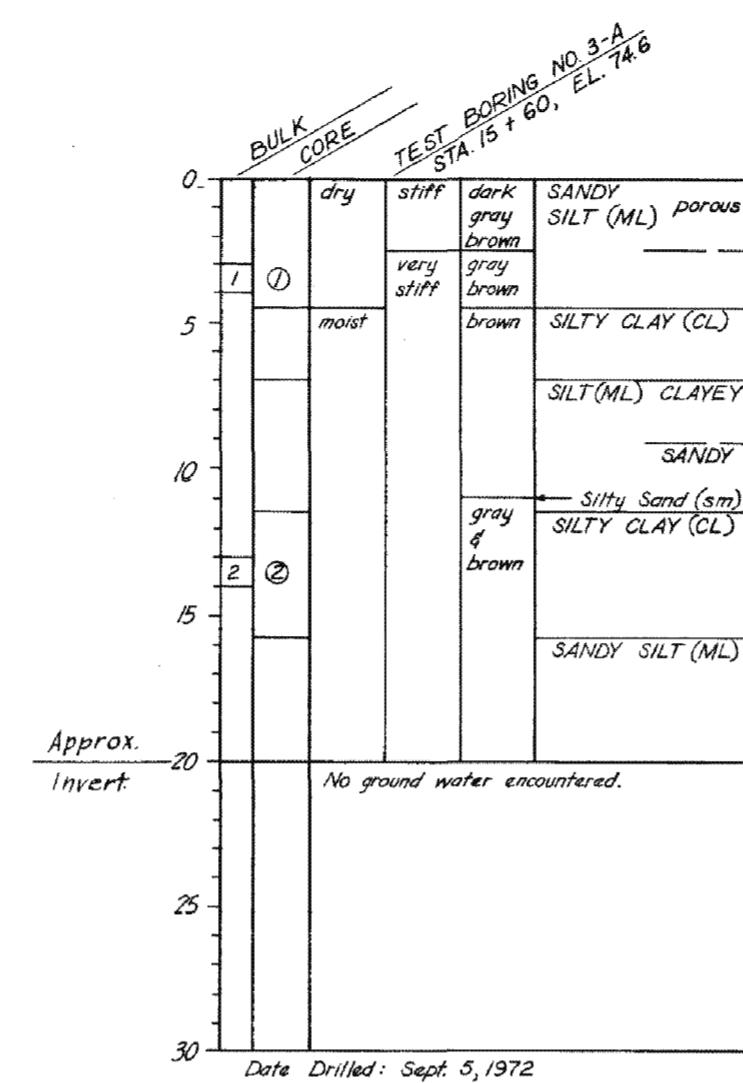
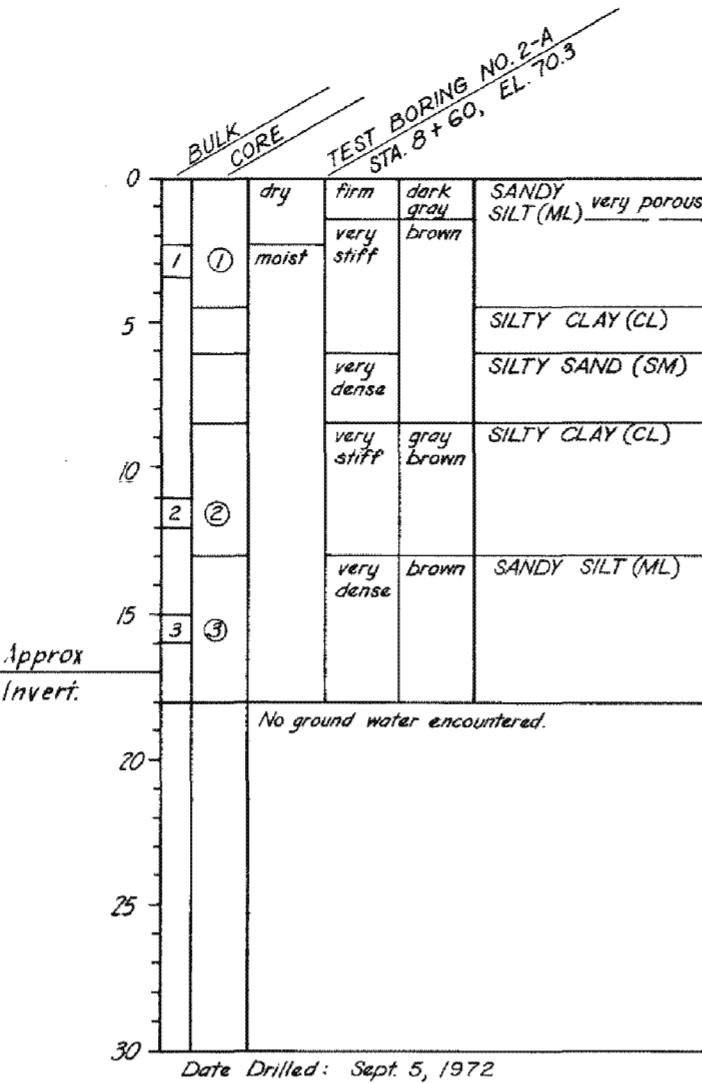
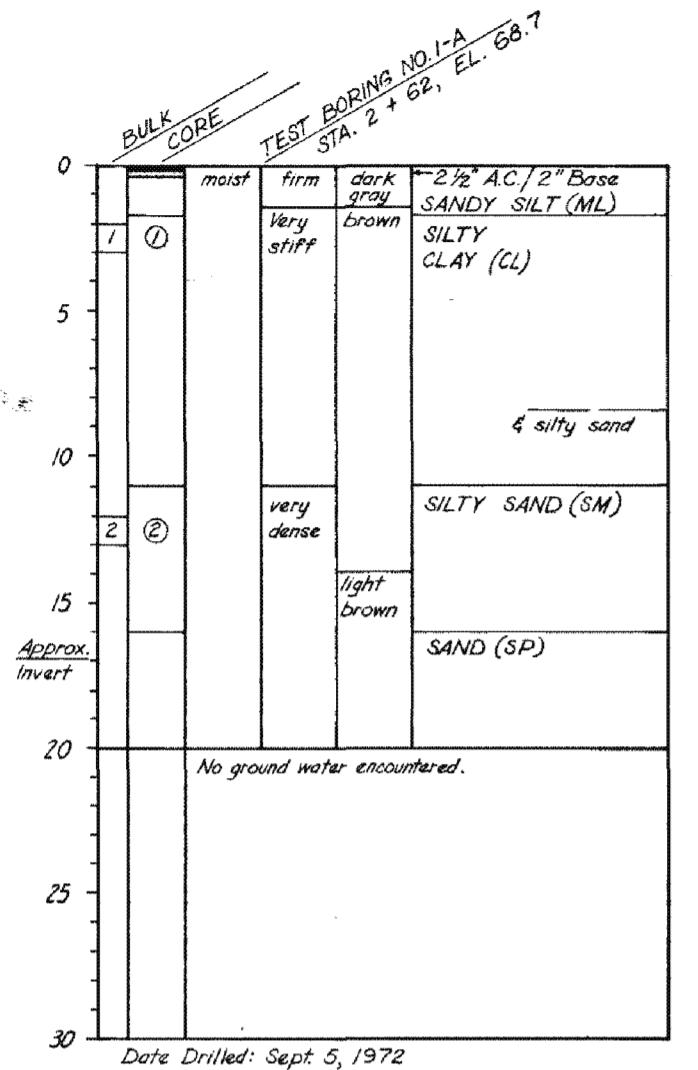
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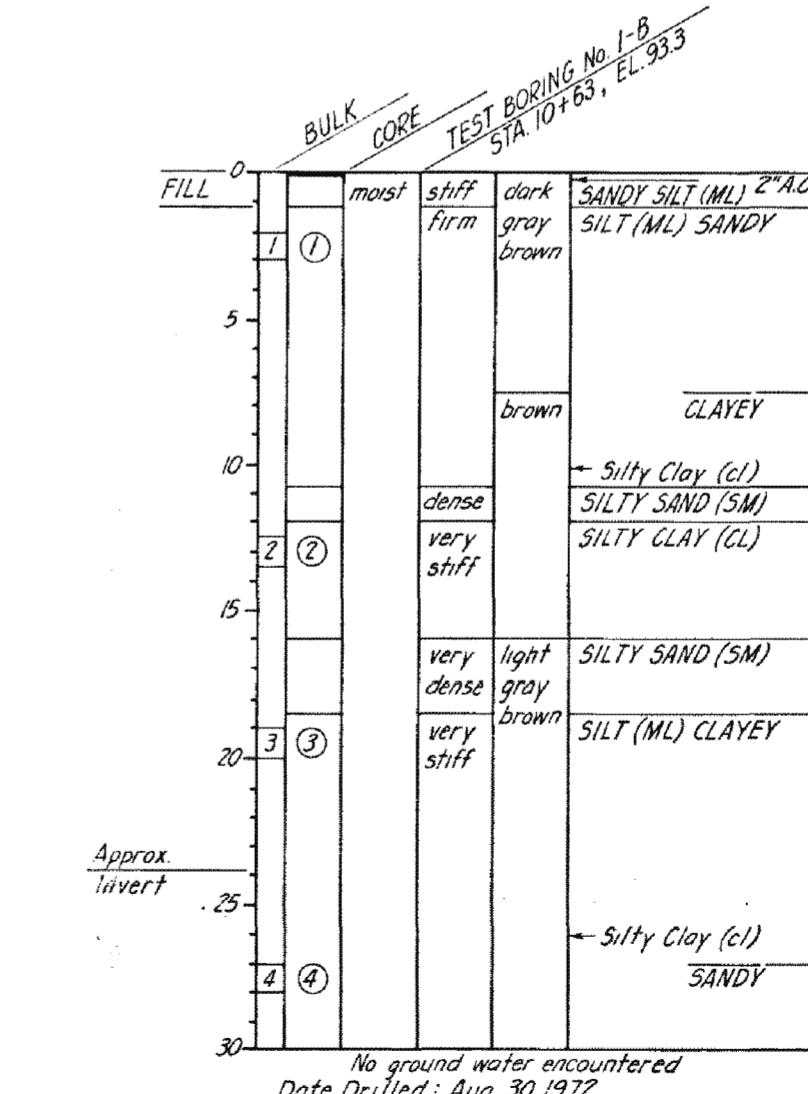
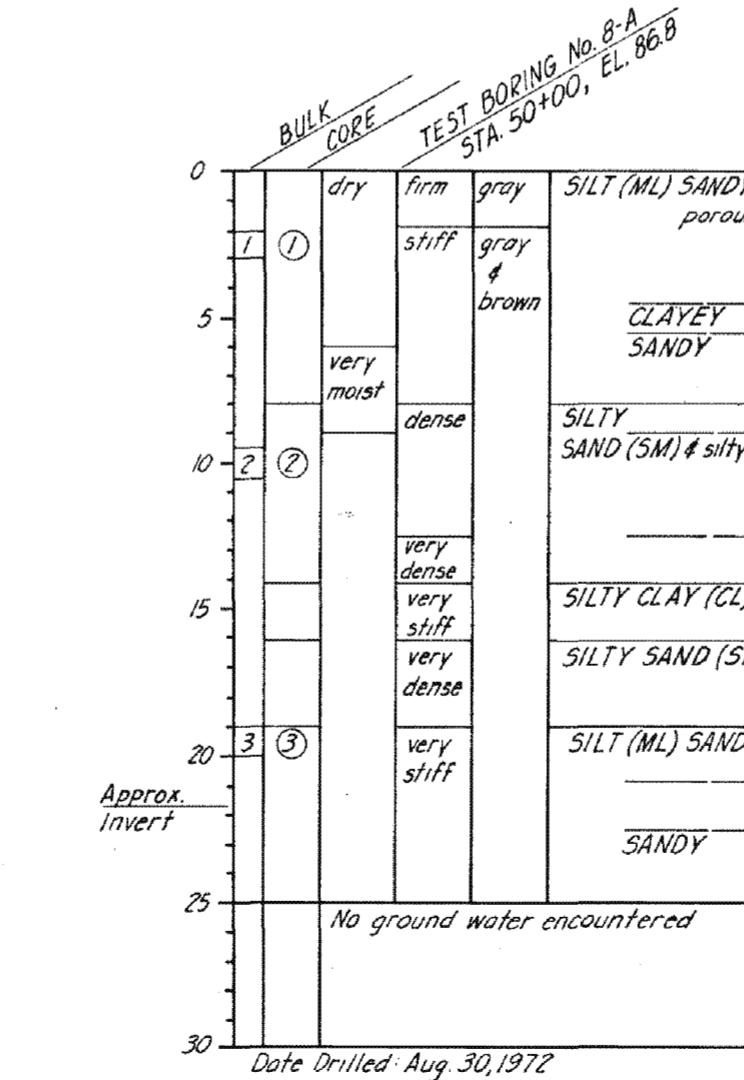
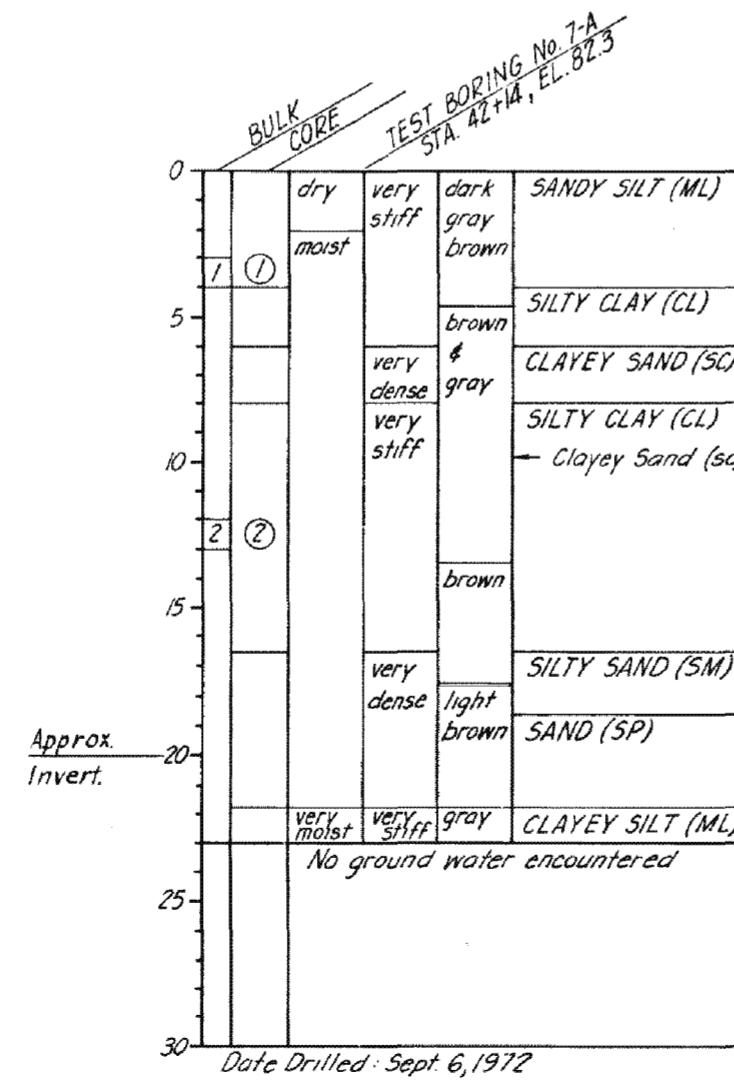
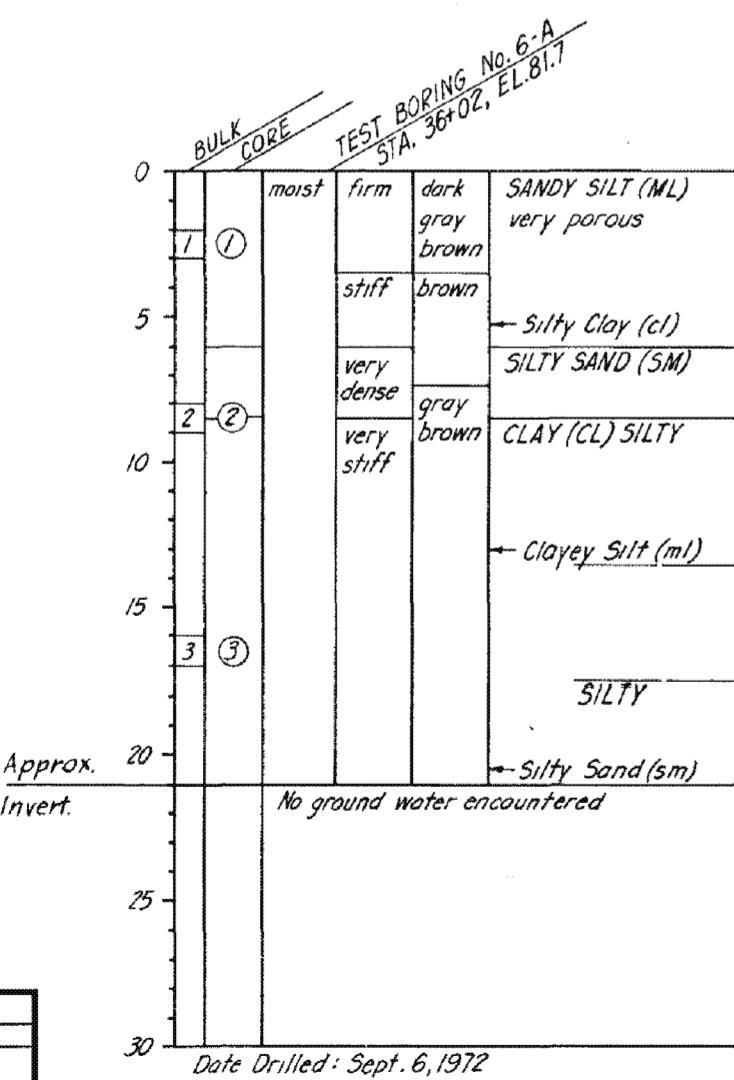
REVISIONS		
MK	DATE	DESCRIPTION

$\Delta$  12-9-74 Addition of Details

"AS BUILT" DRAWING



INITIAL DATE		
DRAWN BY		
CHECKED BY		
SUPERVISED BY		
PROJECT ENGR.		
REVISIONS		
MK	DATE	DESCRIPTION



- NOTES:**
1. Soil classification was made in accordance with the Unified Soil Classification System shown on Std. Dwg. No. 2-D413.
  2. Borings were drilled with an 18" diameter Truck-Mounted Rotary Bucket Auger.
  3. Approximate invert elevations shown above Supersedes Soils Report.

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION
SUBMITTED BY: <i>William Maher</i> ASSISTANT CITY ENGINEER RCE. 17167
APPROVED BY: <i>John J. Johnson</i> 1-31-74 CITY ENGINEER RCE. 11237 DATE



PD036463 1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROJECT NO. 440I INGLEWOOD LINE A UNIT I LOG OF BORINGS
RECOMMENDED BY: <i>N. Moline</i> DIVISION ENGINEER (DESIGN)
DATE SEPT 74 NO. 364-440I-D614
SHEET '4 OF 14

AS BUILT DRAWING

**LEGEND & ABBREVIATIONS**

PROPERTY LINE
CURB
GUTTER
SIDE INLET CATCH BASIN
EXISTING DRAINAGE STRUCTURES
GRATING TYPE CATCH BASIN
DRIVEWAY
LIMIT OF CONCRETE SURFACE
WALK
TRAFFIC SIGNAL
DEAD MAN
POWER, TELEPHONE OR GUY POLE
FIRE HYDRANT
ELECTROLIER
WATER & GAS METER
BENCH MARK
TEST BORING
TREE
TREES TO BE REPLACED BY CONTRACTOR
UNDER EXISTING UTILITY
OVER EXISTING UTILITY
TRAFFIC SIGNAL CONDUIT
TRANSITION STRUCTURE
MANHOLE
LOCAL DEPRESSION
REINFORCED CONCRETE PIPE
TEST BORING
JUNCTION STRUCTURE
CATCH BASIN
SANITARY SEWER
TEMPORARY BENCH MARKS
SOUTHERN CALIFORNIA GAS CO.
L.A. DEPT. OF WATER & POWER WATER SYST.
SOUTHERN CALIFORNIA WATER CO.
INGLEWOOD CITY WATER DEPT.
SOUTHERN CALIFORNIA EDISON CO.
PACIFIC TELEPHONE & TELEGRAPH CO.

**LOS ANGELES COUNTY FLOOD CONTROL DISTRICT**
**STANDARD DRAWINGS**

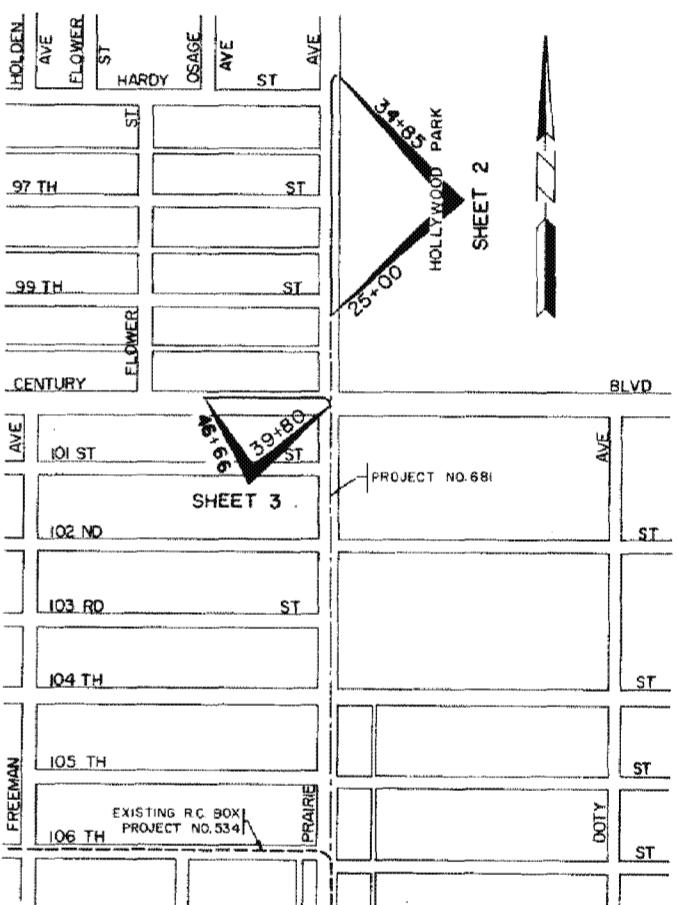
DRAWING NO.	TITLE
2-D88	LOCAL DEPRESSION NO.2
2-D96	STANDARD DROP STEP
2-D107	CONCRETE RINGS, REDUCER AND PIPE
2-D193	JUNCTION STRUCTURE NO.4
2-D156	MANHOLE FRAME AND COVER FOR CATCH BASINS
2-D163	CATCH BASIN NO.3 (W=10';14';21';28; ETC.)
2-D172	CATCH BASIN REINFORCEMENT
2-D173.1 TO .3	PIPE SUPPORTS ACROSS TRENCHES
2-D175	REMOVABLE PROTECTION BAR FOR CATCH BASINS
2-D177	PIPE BEDDING IN TRENCHES
2-D181	STANDARD NON-ROCKING MANHOLE FRAME AND COVER
2-D184	MANHOLE NO.2 (PIPES, 36" OR LARGER)
2-D213.1 & .2	"D" LOAD TABLE FOR DESIGN OF REINFORCED CONCRETE PIPE
2-D171	STANDARD A-305 REINFORCING BARS
2-D232	DETAIL OF CATCH BASIN OPENING
2-D250	REMODELING OF SANITARY SEWER HOUSE CONNECTIONS
2-D251	PROTECTION FOR MAIN LINE AND HOUSE CONNECTION SEWERS
2-D109	CATCH BASIN NO.6
2-D224	CONNECTION TO CATCH BASIN FOR PIPES 12" THROUGH 72"
2-D227	FRAME AND GRATING FOR CATCH BASINS
2-D264	ADJUSTABLE PROTECTION BAR STIRRUP
2-D393	CONCRETE COLLAR FOR PIPES 12" THROUGH 66"
2-D413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D170	CATCH BASIN NO.7
2-D399	CRITERIA FOR THE DESIGN OF SHORING FOR EXCAVATIONS
2-D400	SAMPLE SHEET FOR USE AS A GUIDE IN PREPARING CALCULATIONS FOR SHORING OF EXCAVATIONS
2-D113	MANHOLE NO.4
2-D112	JUNCTION STRUCTURE NO.2
2-D160	CATCH BASIN NO.1

**GENERAL NOTES**

- NUMBERS IN CIRCLES INDICATE ITEMS UNDER WHICH PAYMENT WILL BE MADE.
- ELEVATIONS SHOWN ARE IN FEET ABOVE THE U.S.G.S. MEAN SEA LEVEL DATUM.
- STATIONS SHOWN ON DRAWINGS ARE ALONG CENTER LINE OF CONDUIT OR ON A LINE NORMAL TO CENTER LINE OF CONDUIT.
- STATIONS AND INVERT ELEVATIONS OF PIPE INLETS SHOWN ON THE PROFILES ARE AT THE INSIDE FACE OF THE CONDUIT, UNLESS OTHERWISE SHOWN.
- ALL FIELD BOOK REFERENCES ARE TO CITY OF INGLEWOOD FIELD BOOKS, UNLESS OTHERWISE NOTED.
- ALL PIPE IN OPEN TRENCH SHALL BE BEDDED ACCORDING TO STANDARD DRAWING 2-D177, CASE III, UNLESS OTHERWISE SHOWN OR MODIFIED IN THE SPECIFICATIONS.
- PIPE CONNECTIONS TO STORM DRAIN SHALL CONFORM TO STANDARD DRAWING 2-D193, UNLESS OTHERWISE SHOWN.
- TIES FOR CATCH BASINS AS SHOWN ON THE DRAWINGS ARE FROM CURB RETURN TO CENTER LINE OF CATCH BASIN, UNLESS OTHERWISE SHOWN.
- LOCATIONS OF CATCH BASIN CONNECTOR PIPE JUNCTIONS WITH CATCH BASINS AS SHOWN ON THE DRAWINGS ARE SCHEMATIC. IT IS INTENDED THAT SUCH JUNCTIONS BE LOCATED AT THE DOWNSTREAM ENDS OF THE CATCH BASINS, UNLESS OTHERWISE SHOWN. IN ALL CASES THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER TO MEET FIELD CONDITIONS.
- MONOLITHIC CATCH BASIN CONNECTIONS SHALL BE CONSTRUCTED, WHERE APPLICABLE, PER STANDARD DRAWING 2-D224.
- "V<sub>i</sub>" IS THE DEPTH OF INLET OF CATCH BASINS IN SERIES MEASURED FROM TOP OF CURB TO INVERT OF CONNECTOR PIPE.
- ALL EXISTING SANITARY SEWERS SHOWN ON THE DRAWINGS ARE CITY OF INGLEWOOD SEWERS.
- EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
- WHERE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D173.1, .2 OR .3, UNLESS OTHERWISE INDICATED.
- LOCATIONS SHOWN ON THE PLANS FOR EXISTING SANITARY SEWER HOUSE CONNECTIONS ARE APPROXIMATE ONLY.
- SANITARY SEWER HOUSE CONNECTION RECONSTRUCTION AND RECONNECTION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D250, UNLESS OTHERWISE SHOWN.
- SANITARY SEWERS AND HOUSE CONNECTIONS CROSSING OVER THE STORM DRAIN TRENCH SHALL BE SUPPORTED IN ACCORDANCE WITH STANDARD DRAWINGS 2-D173.1 TO .3 AND ENCASED PER GENERAL NOTE I ON STANDARD DRAWING 2-D173.1.
- WHEN INDICATED ON THE DRAWINGS, SANITARY SEWERS AND HOUSE CONNECTIONS SHALL BE ENCASED OR BLANKETED IN ACCORDANCE WITH STANDARD DRAWING 2-D251.
- ALL RESURFACING, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED SHALL BE CONSTRUCTED AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS, UNLESS OTHERWISE NOTED.
- SOIL TEST BORINGS FOR THIS PROJECT WERE MADE 8-26-65 AND 8-27-65
- THE DEPTH AT THE UPSTREAM END OF CATCH BASINS 10 FEET OR MORE IN LENGTH SHALL BE CURB FACE PLUS 12 INCHES UNLESS OTHERWISE SHOWN.
- REFER TO SHEET 4 FOR TYPICAL CATCH BASIN CONNECTOR PIPE PROFILE.
- ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING PIPES, CULVERTS, OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE.
- THE OPENINGS AND TOP SLABS OF ALL SIDE INLET CATCH BASINS AND CATCH BASINS NO.6 AND 7 SHALL BE MODIFIED TO MEET THE REQUIREMENTS SHOWN ON STANDARD DRAWING 2-D232.
- WHERE REQUIRED BY STANDARD DRAWING 2-D213.1, CONCRETE BACKFILL SHALL BE USED AROUND CONNECTOR PIPES 36 INCHES OR LESS IN DIAMETER. CONCRETE BACKFILL FOR MAIN LINE PIPE SHALL BE USED ONLY WHEN DIRECTED BY THE ENGINEER.
- THE OPENING OF ALL SIDE INLET CATCH BASINS AND CATCH BASIN NO.6 THAT HAVE MODIFIED LOCAL DEPRESSIONS TO BE CURB FACE PLUS 1" IN LIEU OF 9".
- CONSTRUCT LOCAL DEPRESSION PER STANDARD DRAWING 2-D109 AND AS MODIFIED ON THE DRAWINGS FOR CATCH BASIN NO.6.

**INDEX TO DRAWINGS**

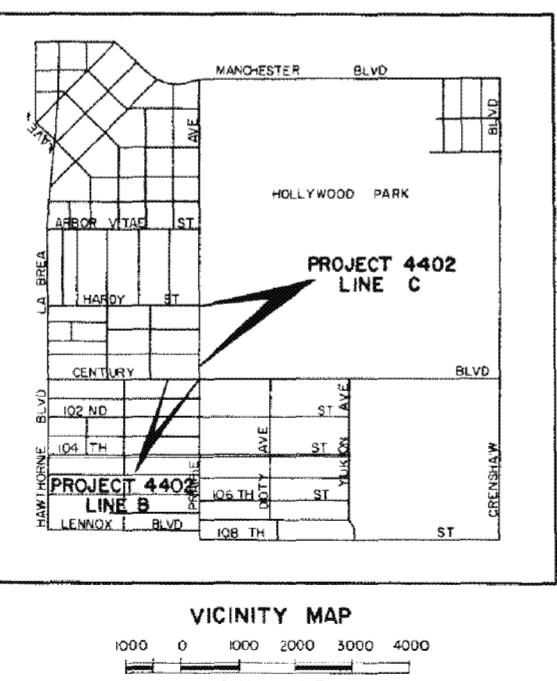
- SHEET NO.**
- LOCATION MAP GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, ABBREVIATIONS AND LEGEND.
  - LINE C, PLAN, PROFILE AND SECTION STA 25+00 TO STA 34+85
  - LINE B, PLAN, PROFILE AND SECTION STA 39+80 TO STA 46+66
  - LOG OF BORINGS AND RESURFACING PLAN.


**LOCATION MAP**

**NOTE CHANGE OF PROJECT LIMITS**  
Due to bond issue financing requirements,  
the upstream limit of Project 681, has been  
changed to Station 14+100. See DWG. NO.  
364-681-D23. The downstream limit of  
Project 4402 Unit 1, Line C, has been  
extended to meet the new upstream limit of  
Project 681, see DWG NO. 364-4402-D22.


**1964 STORM DRAIN BOND ISSUE**  
**LOS ANGELES COUNTY FLOOD CONTROL DISTRICT**
**PROJECT NO.4402, UNIT I**  
**INGLEWOOD**  
**LINE B&C**
**LOCATION MAP, GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, LEGEND AND ABBREVIATIONS.**

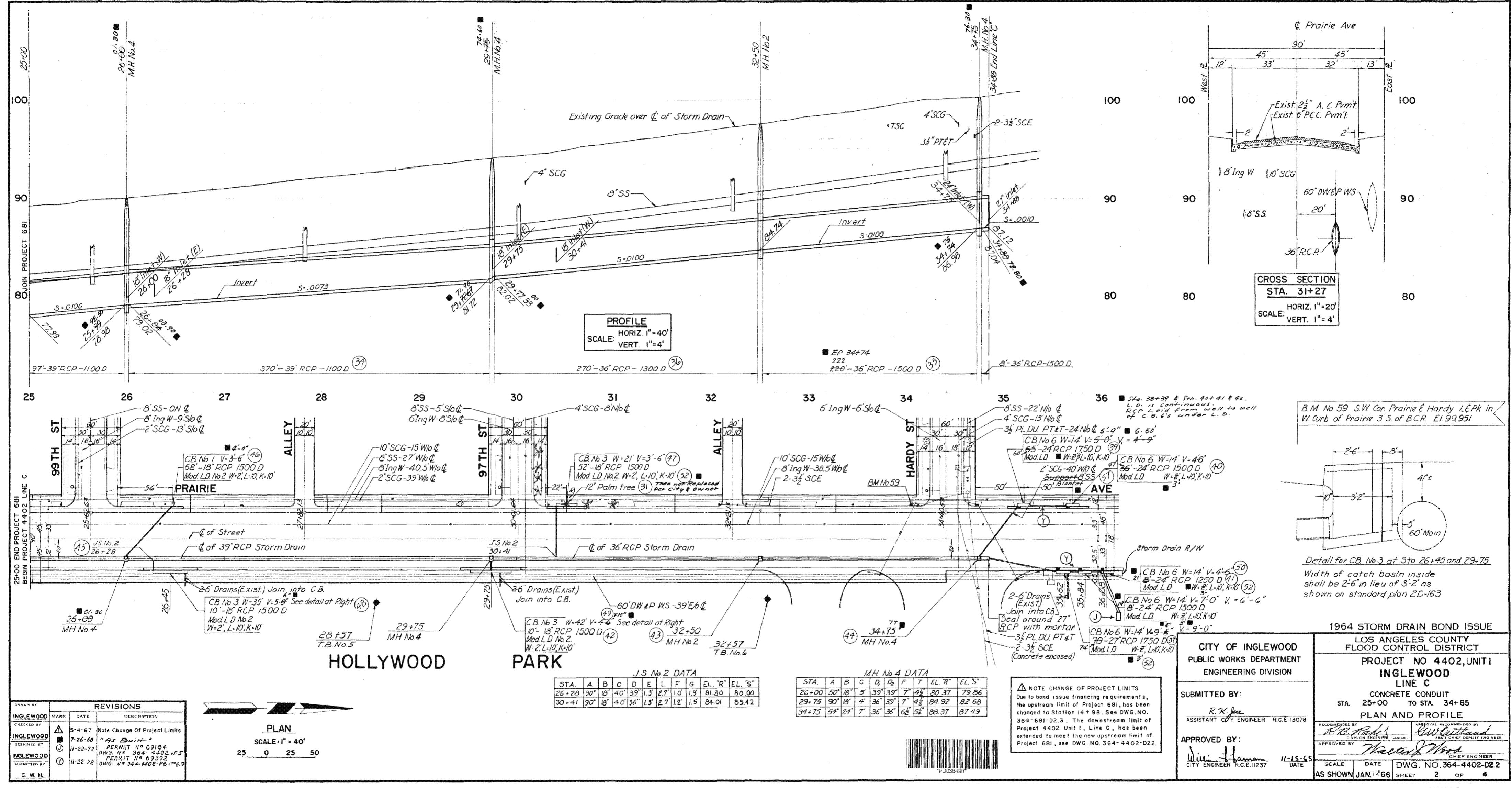
<b>CITY OF INGLEWOOD</b>	
PUBLIC WORKS DEPARTMENT	
ENGINEERING DIVISION	
SUBMITTED BY:	
R.K. [Signature] ASSISTANT CITY ENGINEER R.C.E. 13078	
APPROVED BY: Walter J. [Signature] CITY ENGINEER R.C.E. 11237 DATE 12-2-65	
SCALE	DATE
AS SHOWN	JAN. '66
DWG. NO. 364-4402-D2.1	
SHEET 1 OF 4	

**RECOMMENDED BY**  
**APPROVAL RECOMMENDED BY**  
**Walter J. [Signature]**  
**DIVISION ENGINEER (DESIGN)**  
**ASST. CHIEF DEPUTY ENGINEER**  
**APPROVED BY**  
**Walter J. [Signature]**  
**CHIEF ENGINEER**  
DATE 12-2-65  
CITY ENGINEER R.C.E. 11237  
AS SHOWN JAN. '66  
DWG. NO. 364-4402-D2.1  
SHEET 1 OF 4

**VICINITY MAP**  
1000 0 1000 2000 3000 4000  
GRAPHIC SCALE

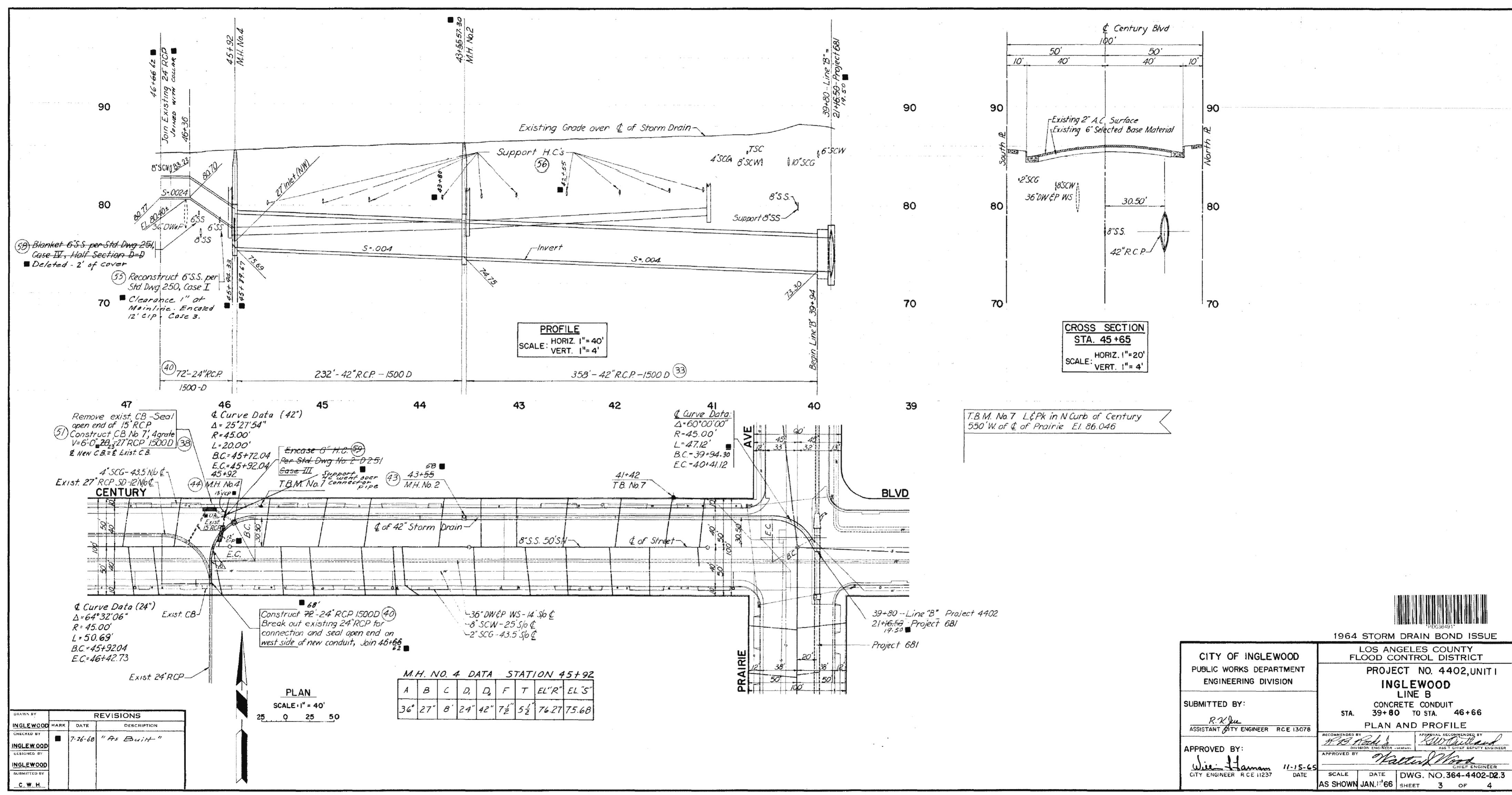
**"AS BUILT DWGS."**

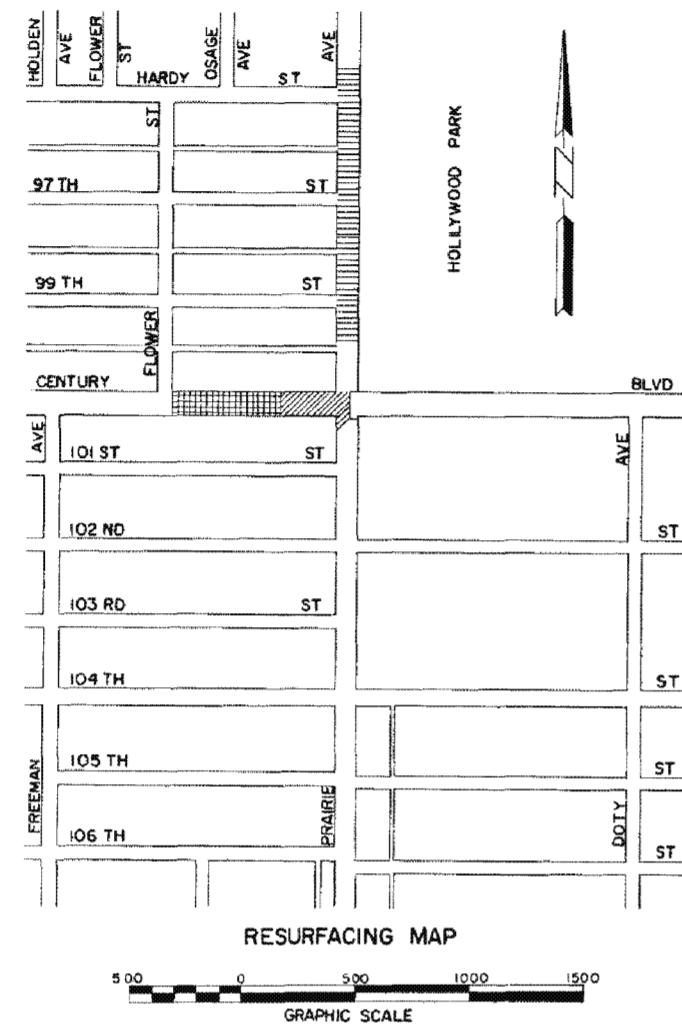
REVISIONS		
DRAWN BY	MARK	DATE
INGLEWOOD		DESCRIPTION
INGLEWOOD	5-4-67	Note Change of Project Limits
DESIGNED BY		
INGLEWOOD		
SUBMITTED BY		
C.W.H.		

**"AS BUILT" DRAWING**



**"AS BUILT" DRAWING**





EXISTING SURFACE

8" P.C.C. PAVEMENT ON 6"  
SELECTED BASE MATERIAL

2" A.C. SURFACE ON 6"  
SELECTED BASE MATERIAL

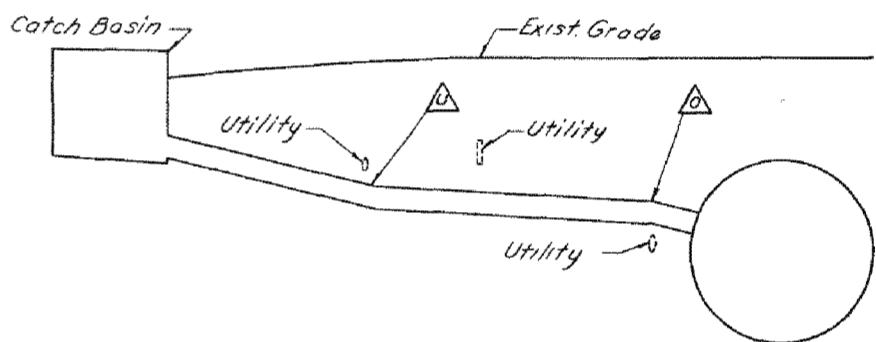
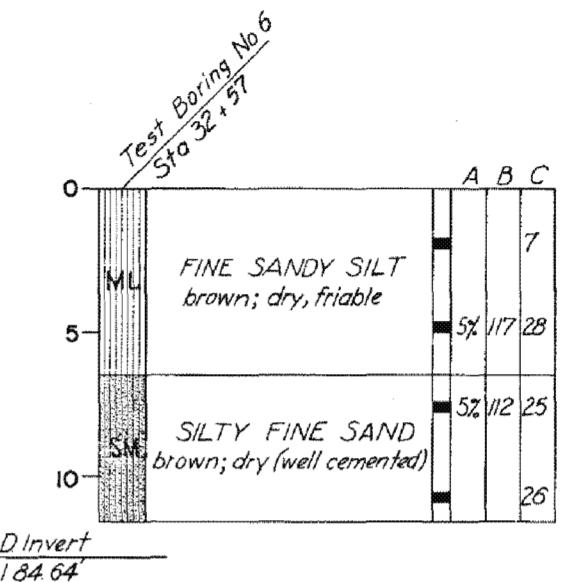
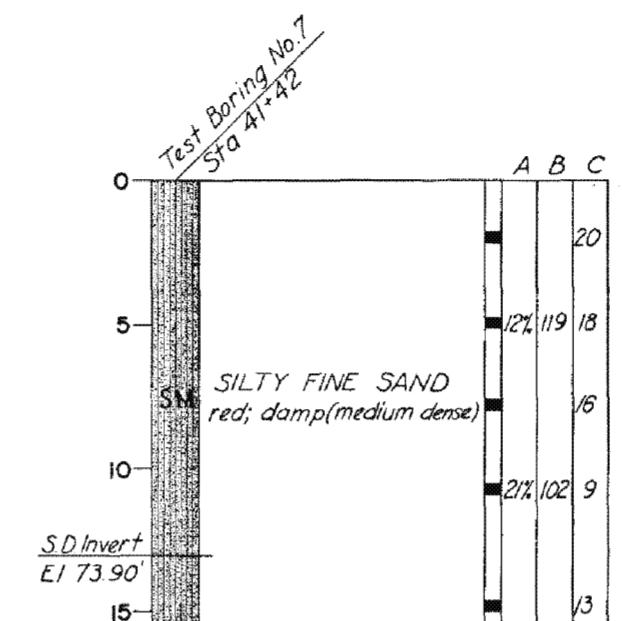
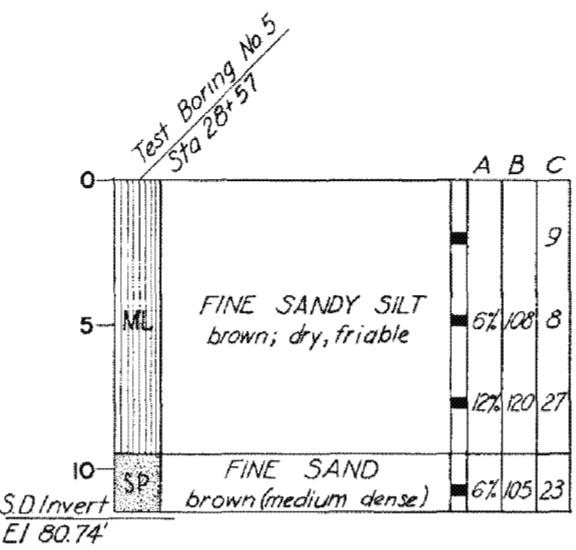
2" A.C. SURFACE ON 6"  
PORTLAND CEMENT CONC.

PROPOSED RESURFACING (30)

8" P.C.C. PAVEMENT ON 6"  
SELECTED BASE MATERIAL

3" A.C. SURFACE ON 6"  
SELECTED BASE MATERIAL

2" A.C. SURFACE ON 6"  
PORTLAND CEMENT CONC.



LEGEND AND NOTES:

SCALE: (VERTICAL) 1"=4'

A MOISTURE CONTENT IN PERCENTAGE

B DRY DENSITY IN LBS PER CUBIC FOOT

C STANDARD PENETRATION; NO. OF BLOWS PER FOOT

■ DEPTH AT WHICH UNDISTURBED SAMPLE WAS TAKEN

ALL BORINGS WERE COMPLETED 8-26-65 AND 8-27-65.

NO GROUND WATER OR CAVING WAS ENCOUNTERED IN ANY

BORING.

INVERT OF STORM DRAIN SHOWN ON THIS SHEET SUPERSEDES THAT SHOWN IN THE SOIL REPORT.

THE SOIL CLASSIFICATIONS SHOWN ARE IN ACCORDANCE WITH

THE UNIFIED SOIL CLASSIFICATION SYSTEM.

NOTES:

1. The change in grade of the connector pipe may occur either over or under an existing utility. The particular utility at which the change occurs is noted on the project drawings. At locations where utility crossings are marked o the connector pipe grade will break over the utility. At locations where utility crossings are marked u the connector pipe grade will break under the utility.

2. On those connector pipes where change in grade is not indicated, it is assumed that the connector pipe can be laid on a straight grade from the catch basin to the storm drain without interference with utilities.

3. Where connector pipe has a change of grade exceeding 10'/ft or differs in diameter from that of existing pipe, use concrete collar per std 2-D 393.

4. The Contractor shall make exploratory excavation to determine the exact location and depth of utilities which are marked o or u. After the exact location of a utility has been determined, the grade and alignment of the connector pipe will be staked so as to clear the utility.

TYPICAL CONNECTOR PIPE PROFILE  
NO SCALE

1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT

PROJECT NO. 4402, UNIT I

INGLEWOOD

LOG OF BORINGS, RESURFACING PLAN AND  
MISCELLANEOUS DETAILS

CITY OF INGLEWOOD  
PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

SUBMITTED BY:

R. K. Lee  
ASSISTANT CITY ENGINEER R.C.E. 13078

APPROVED BY:

Walter J. Wood  
CITY ENGINEER R.C.E. 11237

DATE 12-7-65

SCALE

DATE

DWG. NO. 364-4402-D24

AS SHOWN JAN 1966 SHEET 4 OF 4



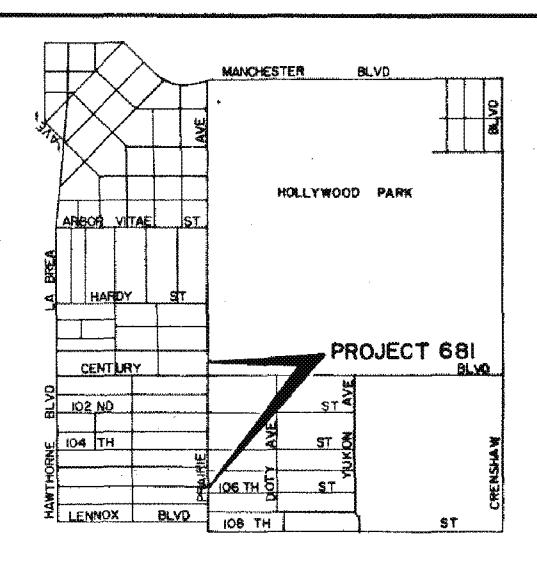
PD035492

"AS BUILT" DRAWING

REVISIONS		
DRAWN BY	MARK	DATE
INGLEWOOD		
INGLEWOOD		
INGLEWOOD		
C. W. H.		

## LEGEND &amp; ABBREVIATIONS

PROPERTY LINE
CURB
GUTTER
SIDE INLET CATCH BASIN
EXISTING DRAINAGE STRUCTURES
GRATING TYPE CATCH BASIN
DRIVEWAY
LIMIT OF CONCRETE SURFACE
WALK
TRAFFIC SIGNAL
DEAD MAN
POWER, TELEPHONE OR GUY POLE
FIRE HYDRANT
ELECTROLYTIC
WATER & GAS METER
BENCH MARK
TEST BORING
TREE
TREES TO BE REPLACED BY CONTRACTOR
UNDER EXISTING UTILITY
OVER EXISTING UTILITY
TRAFFIC SIGNAL CONDUIT
TRANSITION STRUCTURE
MANHOLE
LOCAL DEPRESSION
REINFORCED CONCRETE PIPE
TEST BORING
JUNCTION STRUCTURE
CATCH BASIN
SANITARY SEWER
TEMPORARY BENCH MARKS
SOUTHERN CALIFORNIA GAS CO.
L.A. DEPT. OF WATER & POWER WATER SYST. DW&PWS
SOUTHERN CALIFORNIA WATER CO.
INGLEWOOD CITY WATER DEPT.
SOUTHERN CALIFORNIA EDISON CO.
PACIFIC TELEPHONE & TELEGRAPH CO.



VICINITY MAP  
0 1000 2000 3000 4000  
GRAPHIC SCALE

## LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

## STANDARD DRAWINGS

DRAWING NO.	TITLE
2-D88	LOCAL DEPRESSION NO. 2
2-D96	STANDARD DROP STEP
2-D107	CONCRETE RINGS, REDUCER AND PIPE
2-D193	JUNCTION STRUCTURE NO. 4
2-D156	MANHOLE FRAME AND COVER FOR CATCH BASINS
2-D160	CATCH BASIN NO.1 (W=3'6")
2-D162	CATCH BASIN NO.2 (W=7')
2-D163	CATCH BASIN NO.3 (W=10'; 14'; 21'; 26'; ETC.)
2-D172	CATCH BASIN REINFORCEMENT
2-D173.1 TO .3	PIPE SUPPORTS ACROSS TRENCHES
2-D175	REMOVABLE PROTECTION BAR FOR CATCH BASINS
2-D177	PIPE BEDDING IN TRENCHES
2-D181	STANDARD NON-ROCKING MANHOLE FRAME AND COVER
2-D184	MANHOLE NO.2 (PIPES, 36" OR LARGER)
2-D188	TRANSITION STRUCTURE NO.3 (PIPE TO PIPE)
2-D213.1 & .2	"D" LOAD TABLE FOR DESIGN OF REINFORCED CONCRETE PIPE
2-D171	STANDARD A-305 REINFORCING BARS
2-D232	DETAIL OF CATCH BASIN OPENING
2-D250	REMODELING OF SANITARY SEWER HOUSE CONNECTIONS
2-D251	PROTECTION FOR MAIN LINE AND HOUSE CONNECTION SEWERS
2-D109	CATCH BASIN NO. 6
2-D224	CONNECTION TO CATCH BASIN FOR PIPES 12" THROUGH 72"
2-D227	FRAME AND GRATING FOR CATCH BASINS
2-D249.1 & .2	CATCH BASIN NO. 8
2-D264	ADJUSTABLE PROTECTION BAR STIRRUP
2-D393	CONCRETE COLLAR FOR PIPES 12" THROUGH 66"
2-D413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D399	CRITERIA FOR THE DESIGN OF SHORING FOR EXCAVATIONS
2-D400	SAMPLE SHEET FOR USE AS A GUIDE IN PREPARING CALCULATIONS FOR SHORING OF EXCAVATIONS
2-D113	MANHOLE NO. 4
2-D112	JUNCTION STRUCTURE NO. 2
2-D161	DETAIL OF ANGLE AND ANCHOR FOR CATCH BASINS.

## LOS ANGELES COUNTY ROAD DEPARTMENT

## STANDARD DRAWINGS

DRAWING NO.	TITLE
M57-39R	PARTIAL CONCRETE REPLACEMENT FOR CROSS GUTTERS AND SPANDRELS.
M57-45R	SPECIFICATIONS FOR REPAIRS OF CUTS IN CONCRETE PAVEMENT.

28. CONSTRUCT LOCAL DEPRESSION PER STANDARD DRAWING 2-D109 AS MODIFIED ON THE DRAWINGS FOR CATCH BASIN NO. 6.

■ "AS BUILT DWGS."

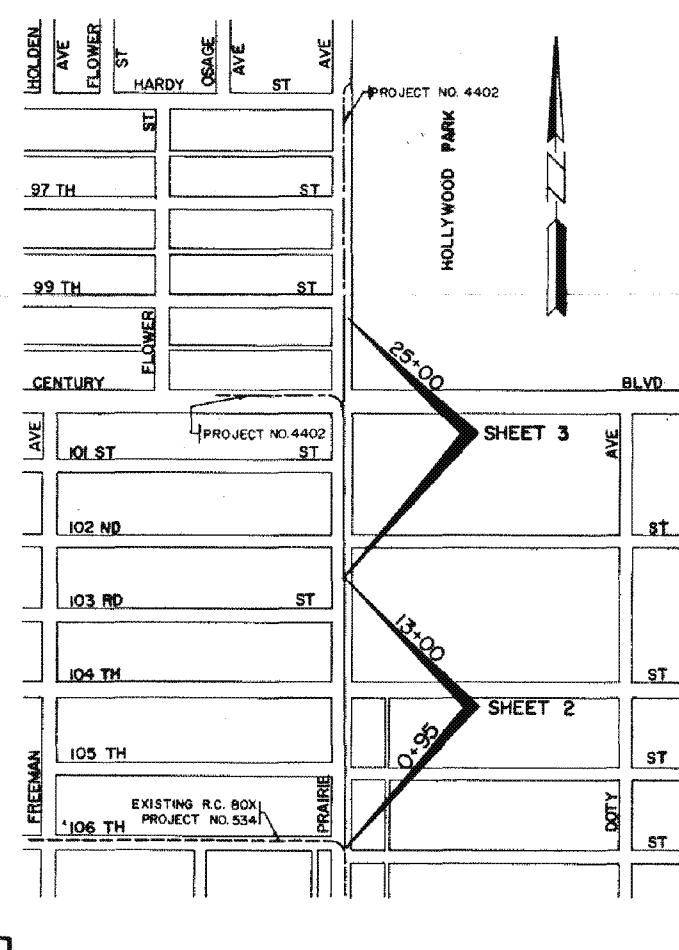
DRAWN BY	REVISIONS	
	MARK	DATE
INGLEWOOD		
CHECKED BY		
INGEWOOD	4-24-67	Net Change Of Project Limits
DESIGNED BY		
INGEWOOD		
SUBMITTED BY		
C.W.H.		

## GENERAL NOTES

- I. NUMBERS IN CIRCLES INDICATE ITEMS UNDER WHICH PAYMENT WILL BE MADE.
2. ELEVATIONS SHOWN ARE IN FEET ABOVE THE U.S.G.S. MEAN SEA LEVEL DATUM.
3. STATIONS SHOWN ON DRAWINGS ARE ALONG CENTER LINE OF CONDUIT OR ON A LINE NORMAL TO CENTER LINE OF CONDUIT.
4. STATIONS AND INVERT ELEVATIONS OF PIPE INLETS SHOWN ON THE PROFILES ARE AT THE INSIDE FACE OF THE CONDUIT, UNLESS OTHERWISE SHOWN.
5. ALL FIELD BOOK REFERENCES ARE TO CITY OF INGLEWOOD FIELD BOOKS, UNLESS OTHERWISE NOTED.
6. ALL PIPE IN OPEN TRENCH SHALL BE BEDDED ACCORDING TO STANDARD DRAWING 2-D 177, CASE III, UNLESS OTHERWISE SHOWN OR MODIFIED IN THE SPECIFICATIONS.
7. PIPE CONNECTIONS TO STORM DRAIN SHALL CONFORM TO STANDARD DRAWING 2-D 193, UNLESS OTHERWISE SHOWN.
8. TIES FOR CATCH BASINS AS SHOWN ON THE DRAWINGS ARE FROM CURB RETURN TO CENTER LINE OF CATCH BASIN, UNLESS OTHERWISE SHOWN.
9. LOCATIONS OF CATCH BASIN CONNECTOR PIPE JUNCTIONS WITH CATCH BASINS AS SHOWN ON THE DRAWINGS ARE SCHEMATIC. IT IS INTENDED THAT SUCH JUNCTIONS BE LOCATED AT THE DOWNSTREAM ENDS OF THE CATCH BASINS, UNLESS OTHERWISE SHOWN. IN ALL CASES THE EXACT LOCATIONS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER TO MEET FIELD CONDITIONS.
10. MONOLITHIC CATCH BASIN CONNECTIONS SHALL BE CONSTRUCTED, WHERE APPLICABLE, PER STANDARD DRAWING 2-D 224.
11. "V;" IS THE DEPTH OF INLET OF CATCH BASINS IN SERIES MEASURED FROM TOP OF CURB TO INVERT OF CONNECTOR PIPE.
12. ALL EXISTING SANITARY SEWERS SHOWN ON THE DRAWINGS ARE CITY OF INGLEWOOD SEWERS.
13. EXISTING UTILITIES SHALL BE MAINTAINED IN PLACE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED.
14. WHERE UTILITIES ARE INDICATED ON THE DRAWINGS TO BE SUPPORTED, SAID SUPPORTS SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D 173.1, .2 OR .3, UNLESS OTHERWISE INDICATED.
15. LOCATIONS SHOWN ON THE PLANS FOR EXISTING SANITARY SEWER HOUSE CONNECTIONS ARE APPROXIMATE ONLY.
16. SANITARY SEWER HOUSE CONNECTION RECONSTRUCTION AND RECONNECTION SHALL BE IN ACCORDANCE WITH STANDARD DRAWING 2-D 250, UNLESS OTHERWISE SHOWN.
17. SANITARY SEWERS AND HOUSE CONNECTIONS CROSSING OVER THE STORM DRAIN TRENCH SHALL BE SUPPORTED IN ACCORDANCE WITH STANDARD DRAWINGS 2-D173.1 TO .3 AND ENCASED PER GENERAL NOTE I ON STANDARD DRAWING 2-D 173.1.
18. WHEN INDICATED ON THE DRAWINGS, SANITARY SEWERS AND HOUSE CONNECTIONS SHALL BE ENCASED OR BLANKETED IN ACCORDANCE WITH STANDARD DRAWING 2-D 251.
19. ALL RESURFACING, CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS AND OTHER EXISTING IMPROVEMENTS TO BE RECONSTRUCTED SHALL BE CONSTRUCTED AT THE SAME ELEVATION AND LOCATION AS THE EXISTING IMPROVEMENTS, UNLESS OTHERWISE NOTED.
20. SOIL TEST BORINGS FOR THIS PROJECT WERE MADE 8-26-65.
21. UTILITIES DESIGNATED BY THE SYMBOL \* WILL BE ABANDONED IN PLACE AND THE OWNER WILL INSTALL A NEW SECTION OF THE AFFECTED UTILITY AT A LOCATION IN CLOSE PROXIMITY TO, BUT WHICH DOES NOT PHYSICALLY INTERFERE WITH, THE PROPOSED STORM DRAIN CONDUIT AND APPURTENANT STRUCTURES.
22. THE DEPTH AT THE UPSTREAM END OF CATCH BASINS 10 FEET OR MORE IN LENGTH SHALL BE CURB FACE PLUS 12 INCHES UNLESS OTHERWISE SHOWN.
23. REFER TO SHEET 4 FOR TYPICAL CATCH BASIN CONNECTOR PIPE PROFILE.
24. ALL OPENINGS RESULTING FROM THE CUTTING OR PARTIAL REMOVAL OF EXISTING PIPES, CULVERTS, OR SIMILAR STRUCTURES SHALL BE SEALED WITH 8 INCHES OF BRICK AND MORTAR OR 6 INCHES OF CONCRETE.
25. THE OPENINGS AND TOP SLABS OF ALL SIDE INLET CATCH BASINS AND CATCH BASIN NO. 6 SHALL BE MODIFIED TO MEET THE REQUIREMENTS ON STANDARD DRAWING 2-D 232 EXCEPT AS NOTED.
26. WHERE REQUIRED BY STANDARD DRAWING 2-D 213.1, CONCRETE BACKFILL SHALL BE USED AROUND CONNECTOR PIPES 36 INCHES OR LESS IN DIAMETER. CONCRETE BACKFILL FOR MAIN LINE PIPE SHALL BE USED ONLY WHEN DIRECTED BY THE ENGINEER.
27. THE OPENING OF ALL SIDE INLET CATCH BASINS AND CATCH BASIN NO. 6 THAT HAVE MODIFIED LOCAL DEPRESSIONS TO BE CURB FACE PLUS 1" IN LIEU OF 9".

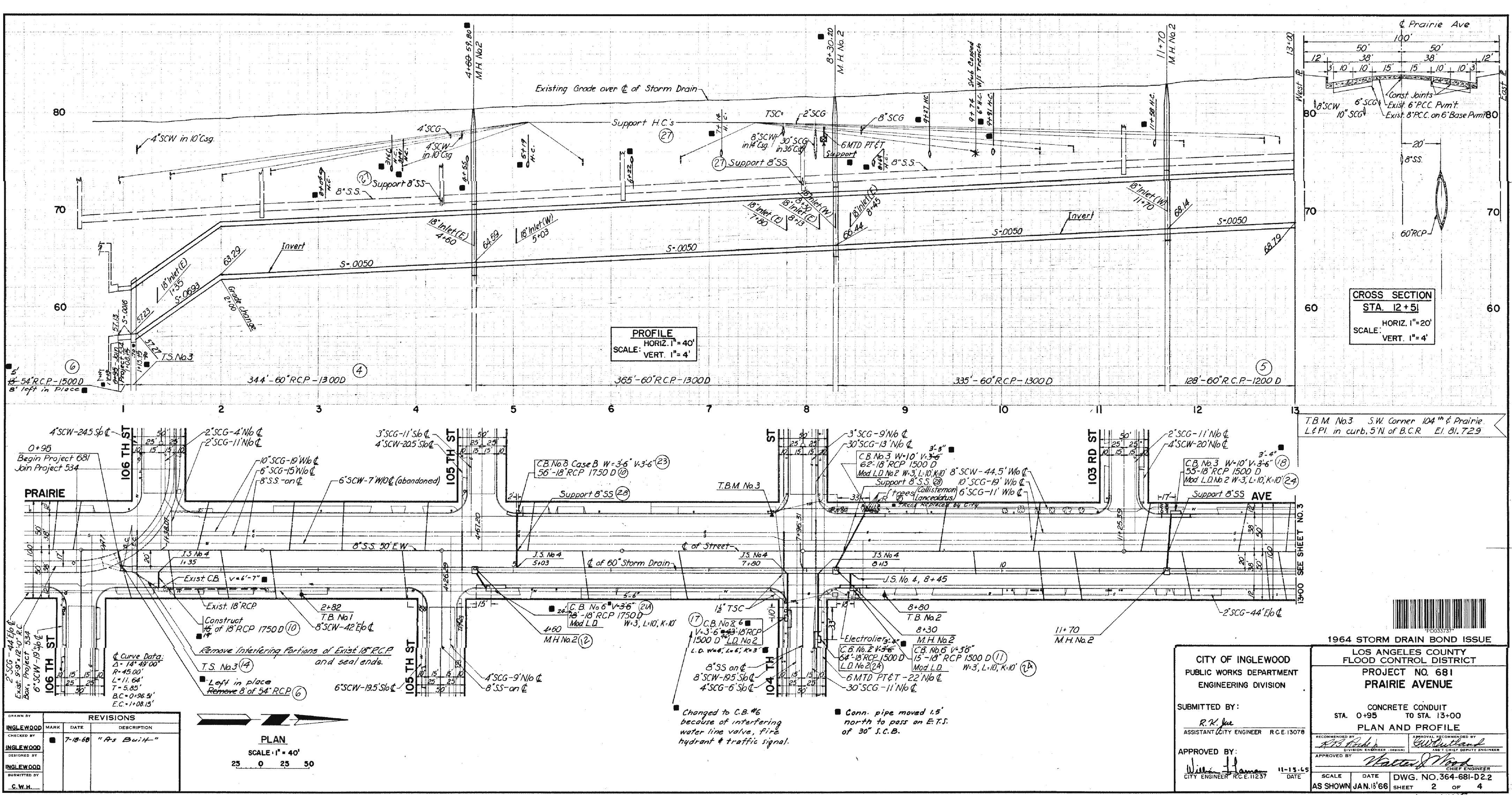
## INDEX TO DRAWINGS

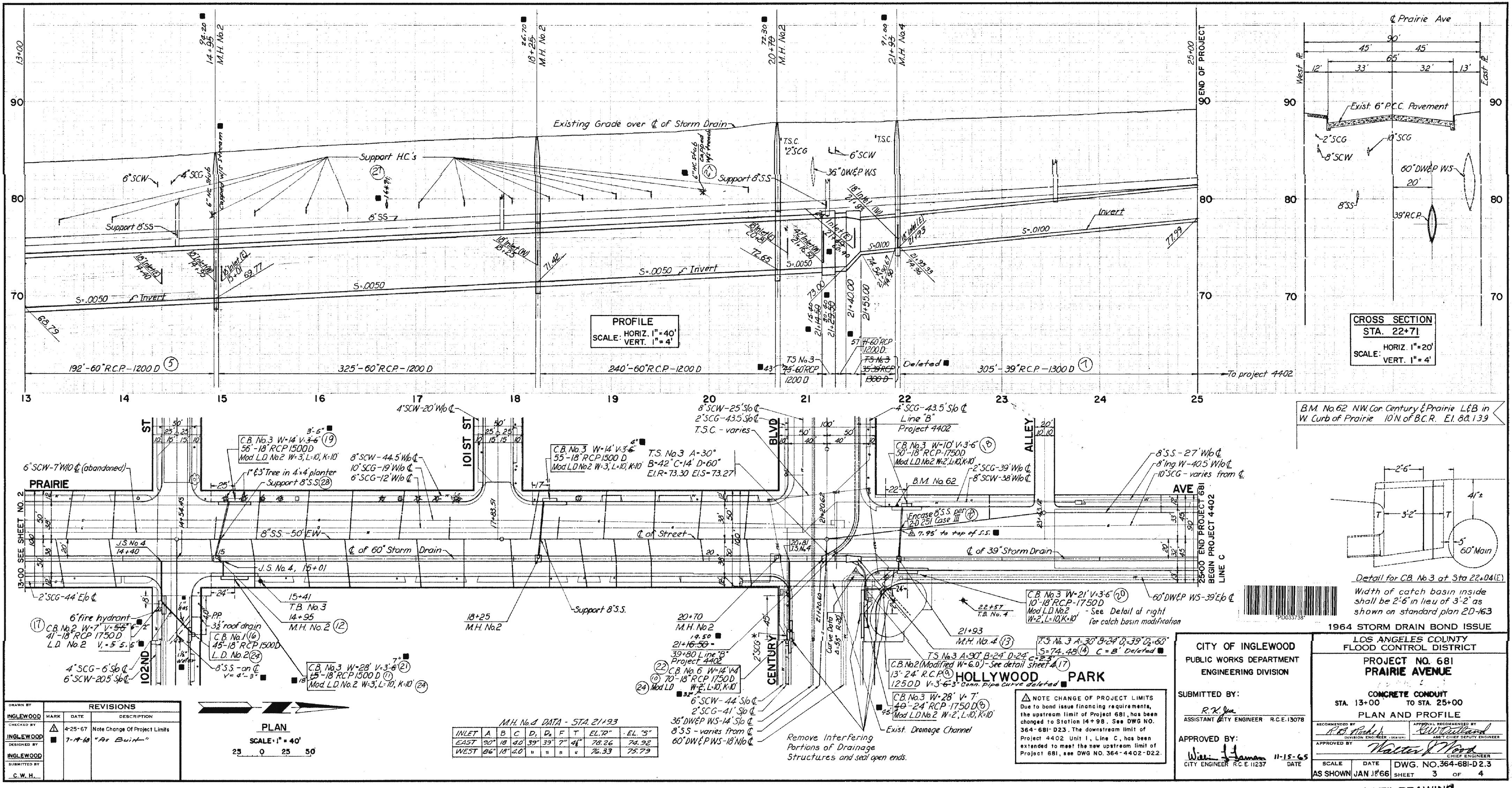
SHEET NO.	TITLE
1.	LOCATION MAP, GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, ABBREVIATIONS AND LEGEND.
2.	PLAN, PROFILE AND SECTION STA 0+95 TO STA 13+00
3.	PLAN, PROFILE AND SECTION STA 13+00 TO STA 25+00
4.	LOG OF BORINGS & RESURFACING PLAN

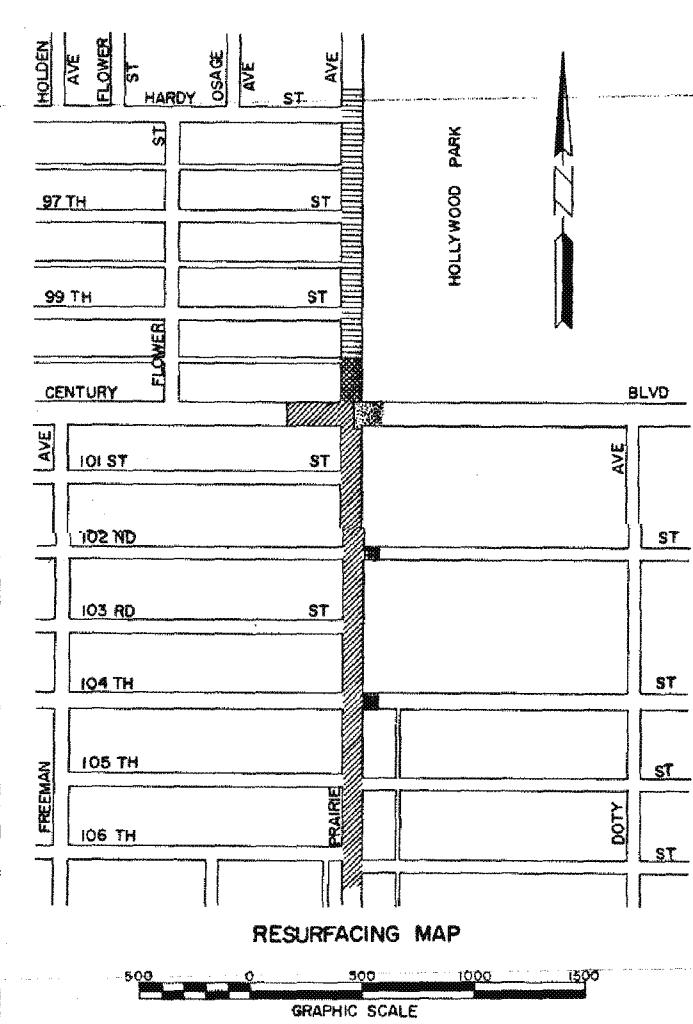


CITY OF INGLEWOOD		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
PUBLIC WORKS DEPARTMENT		PROJECT NO. 681	
ENGINEERING DIVISION		PRAIRIE AVENUE	
SUBMITTED BY:			
R.K. [Signature]			
ASSISTANT CITY ENGINEER R.C.E.13078		APPROVED BY:	
RECOMMENDED BY: [Signature]		APPROVED BY: [Signature]	
DIVISION ENGINEER [Signature]		CITY ENGINEER R.C.E.11237	
APPROVED BY: [Signature]		APPROVED BY: [Signature]	
SCALE	DATE	SCALE	DATE
AS SHOWN JAN 1966	1 OF 4	DWG. NO. 364-681-D2.1	AS SHOWN JAN 1966

"AS BUILT" DRAWING







**EXISTING SURFACE**

- 8" R.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL
- 2½" A.C. SURFACE ON 6" PORTLAND CEMENT CONC.
- 3" A.C. SURFACE ON 12" SELECTED BASE MATERIAL
- 6" PORTLAND CEMENT CONCRETE

**PROPOSED RESURFACING**

- 8" P.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL
- 2½" A.C. SURFACE ON 6" PORTLAND CEMENT CONC.
- 4" A.C. SURFACE ON 12" SELECTED BASE MATERIAL
- 6" PORTLAND CEMENT CONCRETE

