

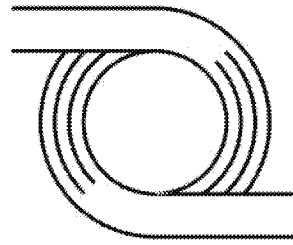
Appendix Q

Hydrology Data

Inglewood Basketball and
Entertainment Center Low
Impact Development (LID)
Report

AECOM

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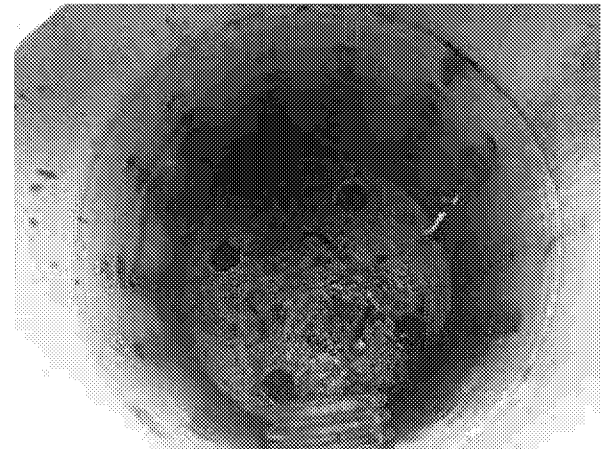
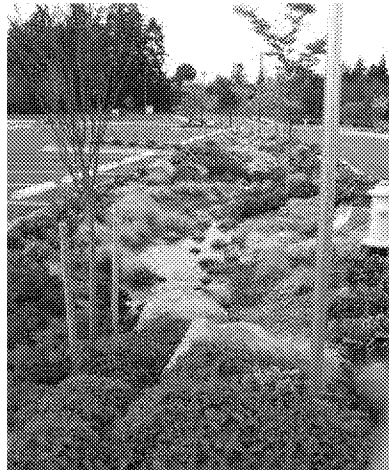


D & D ENGINEERING, INC.

INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER LOW IMPACT DEVELOPMENT (LID) REPORT

May 2, 2019

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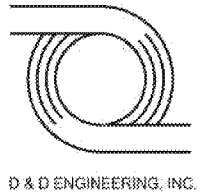


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I. Introduction

The purpose of this report is to outline and describe the proposed Low Impact Development (LID) strategies and Best Management Practices (BMPs) necessary to adequately reduce the hydrological and environmental impact of developing the proposed Inglewood Basketball and Entertainment Center (IBEC) project, to comply with the requirements of LID Ordinance and LID Standard Manual¹. Additionally, this report will determine the storm water quality design volume (SWQDV) calculated from the 85th percentile, 24-hour rain event that is required to be treated. Finally, this report will also discuss the methodology used to arrive at these conclusions, the infrastructure necessary to support it and the operations and maintenance procedures required to maintain the system effective over time.

II. Project Description

The Inglewood Basketball and Entertainment Center (IBEC) Project 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 parcel is located to the southwest of the intersection, and the third piece is southeast of Century and Doty intersection. 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 site bound by Century Blvd. on the North, Prairie Avenue on the West, Doty Avenue on the East and 103th Street on the South. The second site includes proposed parking structure over an approximately 5.5-acre parcel, not contiguous to the main project site, just west of Prairie Avenue. The third site includes a proposed parking structure and a hotel over an approximately 5-acre parcel, 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 IBEC project is a mixed-use project that includes a multi-purpose sport arena with auxiliary structures including retail, office buildings, restaurants, hotel, parking structures and plaza areas. The project consists of 71,000 sq. ft. of office space, 48,000 sq. ft. of retail and food service space, 85,000 sq. ft. of practice facilities, 25,000 sq. ft. of Sports Medicine Clinic, 15,000 sq. ft. of Community Space, an 18,000-fixed seat arena with an additional 500 temporary seats, a parking structure and substantial surface parking.

a. Existing Conditions

The existing site over the proposed main project site currently contains commercial buildings, a hotel, a fast-food restaurant and significant portions of vacant land. The existing site over the proposed parking structure, surface parking and a hotel consists of five parcels that are currently all vacant. The existing site over the proposed parking structure west of Prairie Avenue site consists of thirty parcels that are currently all vacant.

Preliminary geotechnical investigations indicate that infiltration is infeasible for the site. The native soil characteristics are generally draining poorly and mostly heavily clayey or silty with an infiltration rate less than the LA County minimum for infiltration of 0.3 in/hr. Refer to the geotechnical report and recommendations, *Appendix A — Excerpt from Geotechnical Report*, for a summary of geotechnical findings.

b. Proposed Conditions

The proposed project seeks to develop the site into a mixed-use development composed of three general sites. The main site is considered the event area and includes a multi-purpose sports arena, retail/commercial buildings, a parking structure, and outdoor plaza. The east site proposes a hotel and parking structure, while the west site

¹ (County of Los Angeles Department of Public Works, 2014)

proposes a parking structure. Due to these improvements, it is estimated that approximately 90% of the project site will be covered by impervious surfaces.

III. Low Impact Development (LID) Stormwater Quality Control Measures

The Low Impact Development (LID) plan is intended to mitigate the hydrological and environmental stresses imposed on the site due to its proposed development. As the site's development typically increases impervious level, so does the stormwater runoff volume and the amount of environmental pollutant it produces. The goal of the LID plan is to mitigate these factors by both reducing the volume of stormwater and potential pollutants in stormwater runoff to the most reasonable extent possible. This strategy may be accomplished by implementing a variety of Best Management Practices (BMPs) stormwater quality control measures designed to handle the frequent, smaller storm event, or the initial volume of stormwater run-off from a larger storm event (referred as first flush). This study will focus on and follow the procedures for selecting and implementing stormwater quality measures, as recommended in the Los Angeles County Department of Public Works (LACDPW) Low Impact Development Standards Manual.

a. Los Angeles County Design Guidelines

The focus of the design criteria for stormwater control measures is the construction and implementation of stormwater quality control measures that meet stormwater runoff requirements in terms of on-site retention and pollutant removal. The project must design and implement stormwater quality control measures that can handle the SWQDv. Any surplus storm run-off must be diverted around the stormwater quality control measures to prevent overloading. The Los Angeles County Department of Public Works Low Impact Development Standards Manual categorized stormwater control quality measures into the following types listed in level of priority:

1. Retention based BMPs (bioretention, infiltration basin, drywells, capture and reuse cisterns, green roof)
2. Biofiltration BMPs (biofiltration)
3. Vegetation-based BMPs (stormwater planters, vegetated swales, tree-well filter, etc.)
4. Treatment-based BMPs (Extended detention basin, constructed wetlands, wet pond, sand filters, proprietary devices)

Systems in a lower priority level may only be used if higher priority measures are deemed to be technically infeasible as set forth in the county's standards manual. Due to the properties of the native soils and the tendency to percolate well, this study will focus on retention-based BMPs.

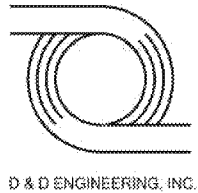
b. Proposed Low Impact Development (LID) System

The proposed Low Impact Development (LID) system will utilize a combination of county standard bio-filtration and/or stormwater planters to treat the SWQDv from the 85th percentile, 24-hour storm. This will be accomplished through directing runoff from drainage areas to onsite bio-filtration and stormwater planters currently proposed as part of the site hydrology study.

The proposed bio-filtration systems are designed to capture site runoff from roof drains and/or surface flow, treat the runoff through biological reactions within the planter soil media, and discharge at a rate intended to mimic pre-developed conditions. Refer to the specific system configurations, *Figure 3 – Site Specific Bio-Filtration Details*, for bio-filtration system configurations at their given locations. Sizing and capacity analysis of the proposed conventional bio-filtration systems will be calculated by following the design guidelines defined through the State of California Los Angeles Regional Water Quality Control Board. It is anticipated that the city of Inglewood will apply directly to the water board for approval. Once approval is granted to the city of Inglewood, only city approval is required for continuation.

IV. Hydromodification Analysis

As outlined in Section 8.2 of the Los Angeles County Department of Public Works Low Impact Development Standards Manual, projects may be exempt from implementation of hydromodification control measures where assessments



of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to beneficial uses of natural drainage systems are unlikely. Since the proposed project site will discharge through a storm drain system into the concrete Dominguez Channel, the project is exempt from Hydromodification Control Measures.

V. Site Design BMPs

a. Site Design

Current water quality requirements are based on treating a specific volume of stormwater run-off from the project site (SWQDv). The design storm from which the SWQDv is calculated is defined as the greater of:

- ∞ The 0.75-inch, 24-hour rain event, or
- ∞ The 85th percentile, 24-hour rain event as determine by the Los Angeles County 85th percentile precipitation isohyetal map

The volume of stormwater run-off that must be retained at a project site is calculated using MODRAT. In this case, the SWQDv volume from the 85th percentile, 24-hour rain event will be utilized. LACDPW developed a hydrologic calculator (HydroCalc) that completes the full MODRAT calculation process and produce the SWQDv volumes and flow rates for single subareas. This report will utilize the results from HydroCalc as a means of determining the stormwater quality design volumes (SWQDv). The proposed site was divided into drainage sub-areas, based on the proposed site grading and proposed drainage patterns. Refer to the Conceptual Low Impact Development Exhibit, *Figure 2 – Conceptual Low Impact Development (LID) Exhibit*, for the definition of the drainage sub areas. The following table, Table 1 - Post-Development Conditions, summarizes the results of the study and required treating volumes SWQDv for each subarea.

TABLE 1 - POST-DEVELOPMENT CONDITIONS AND BMP SUFFICIENCY SUMMARY

Inglewood Basketball and Entertainment Center

Drainage Subarea				BMP Sufficiency Summary			
	Area (sf)	Q _{pm} (cfs)	SWQDv x 1.5 (cf)	Bio-Filtration System	Required (sf)	Provided (sf)	Sufficient
A	55,094	0.3687	6,251	Biofiltration/ Stormwater Planter	2,500	2,600	Yes
B	168,409	0.8625	18,122	Biofiltration/ Stormwater Planter	7,249	7,300	Yes
CD	712,655	3.8106	81,434	Biofiltration/ Stormwater Planter	32,573	33,000	Yes
E	136,207	1.0662	15,122	Biofiltration/ Stormwater Planter	6,049	6,100	Yes
F	105,106	0.8028	10,950	Biofiltration/ Stormwater Planter	4,380	4,500	Yes
Totals	1,101,446	7.8659	120,855				

Refer to *Appendix B – Site Design Calculations for each subarea HydroCalc worksheets.*

Refer to *Appendix C – Sizing Calculations for each Bio-Filtration System calculation.*

b. BMP Selection

All drainage areas, as listed in the table above, discharge via roof drains or surface flow to bio-filtration/stormwater planters located on the surface. Refer to the conceptual low Impact Development (LID) Exhibit, *Figure 2 – Conceptual Low Impact Development (LID) Exhibit*, for stormwater distribution.

Refer to the calculation sheets in *Appendix C – Bio-Filtration Sizing Calculations*, for detailed calculations demonstrating the capacity of each proposed bio-filtration system.

VI. Summary and Conclusion

To summarize, the proposed low impact development (LID) system stormwater quality control measures and structural source measures are adequately designed and sized to accomplish the following:

- ∞ Capture and mitigate the SQWDv volume from the 85th percentile, 24-hour storm;
- ∞ Bio-filtration of captured volume by bio-filtration through a combination of standard bio-filtration and stormwater planters
- ∞ Prevent pollutants from contacting stormwater run-off and/or prevent discharge of contaminated stormwater run-off to stormdrain system

Based on the calculations and conclusions presented in this report, the proposed LID stormwater quality control measures will retain on-site through bio-filtration and will mitigate the required SWQDv volumes as defined by the Los Angeles County Department of Public Works Low Impact Development Standards Manual.

VII. References

County of Los Angeles Department of Public Works. (2014). *Low Impact Development Standards Manual*. Los Angeles.

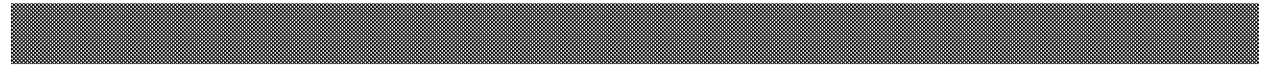
FIGURES

Figure 1 — Vicinity Map

Figure 2 — Conceptual Low Impact Development (LID)

Figure 3 — Site Specific Bio-Filtration Details

Figure 1



Vicinity Map



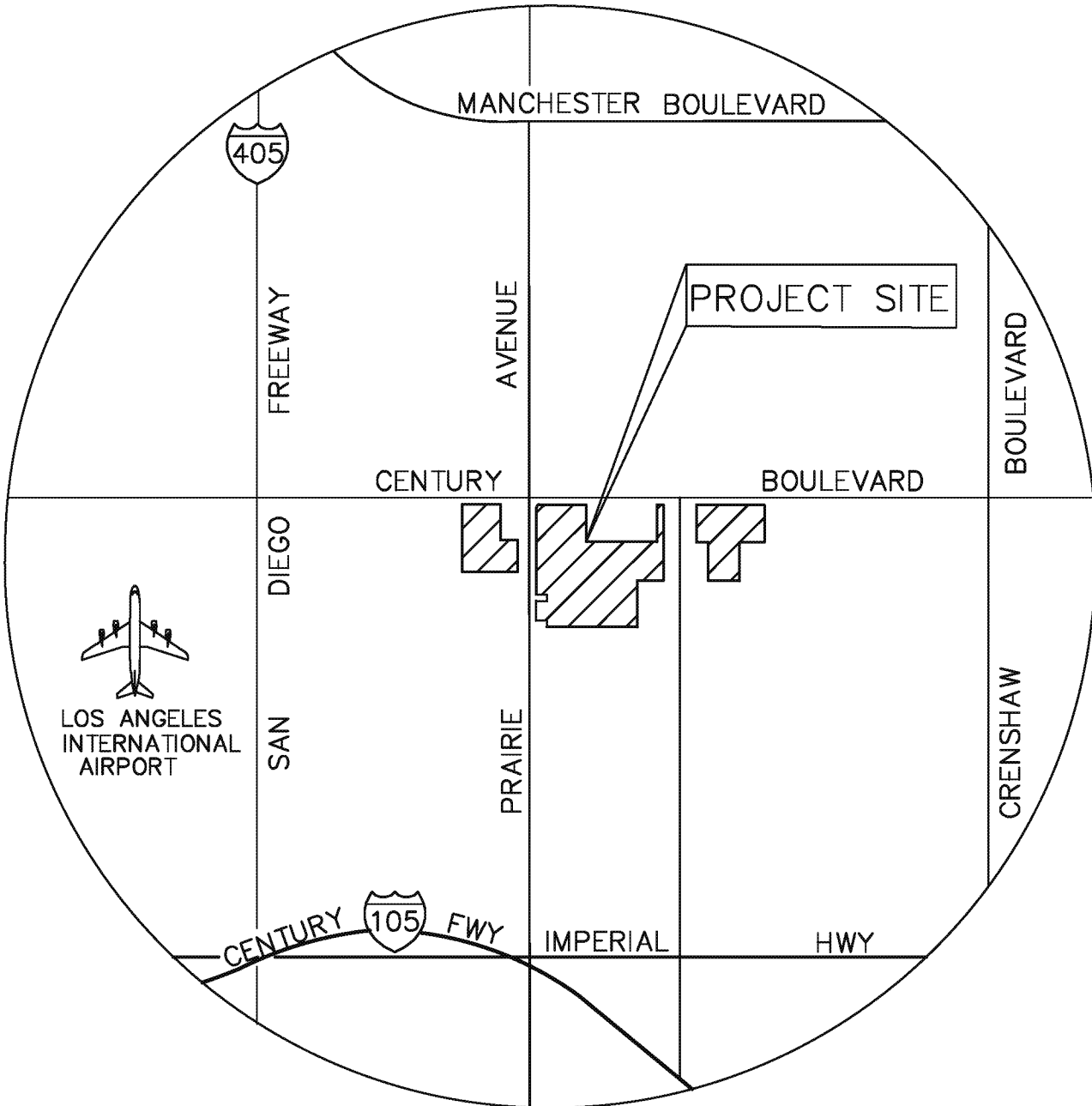
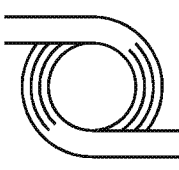


FIGURE 1

 <p>D & D ENGINEERING, INC. 8901 S. LA CIENEGA BLVD, SUITE 106 INGLEWOOD, CA 90301 Phone: 424-351-6800</p>	<p>INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER</p>		<p>SCALE: AS SHOWN</p>
	<p>VICINITY MAP</p>		<p>DATE: 05/01/19</p>
			<p>SHT NO.: 01 OF 01</p>

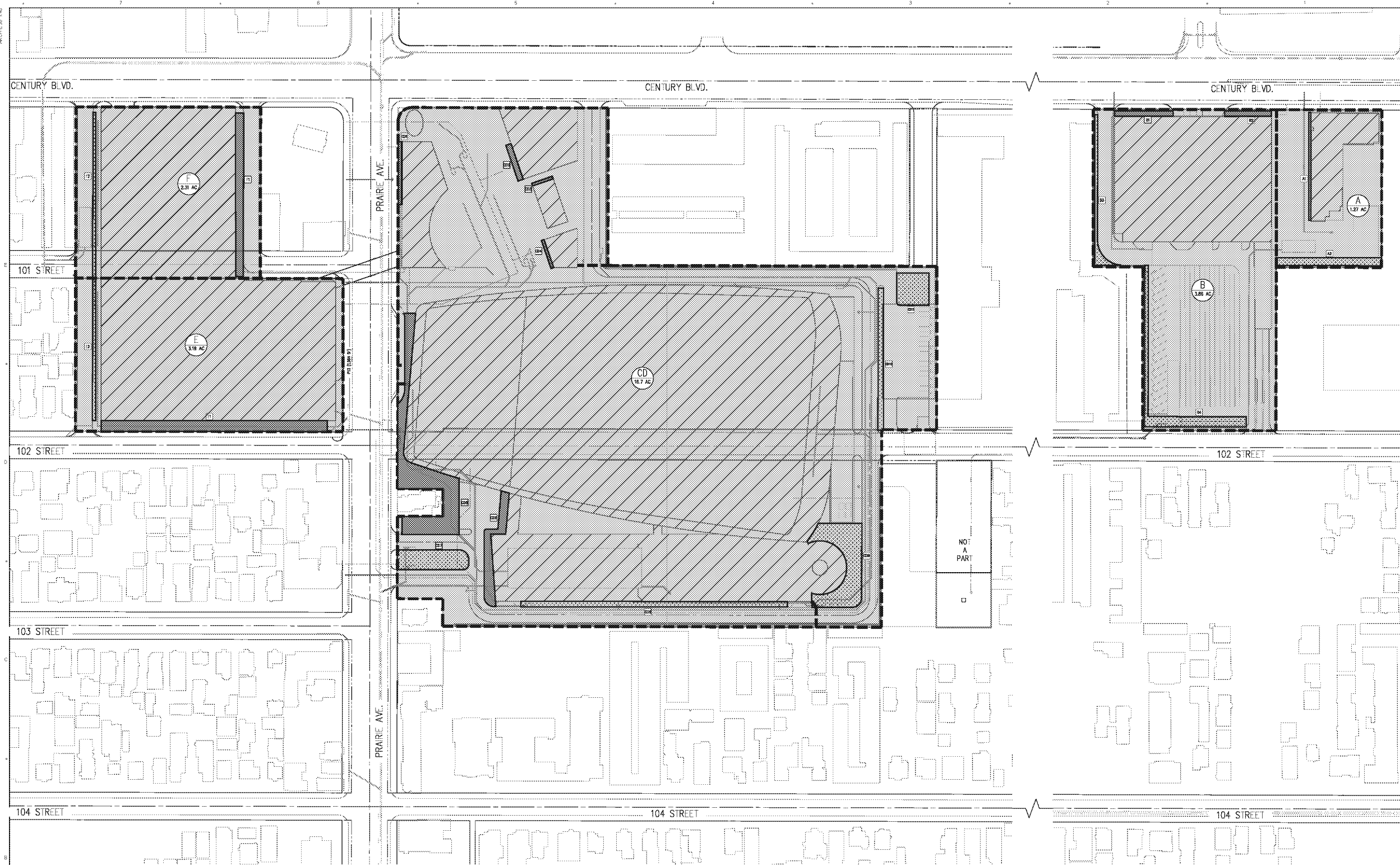
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Figure 2



Conceptual Low Impact Development (LID)





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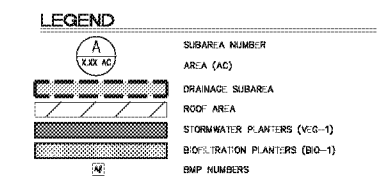
KEY PLAN

PROJECT NUMBER
17031-100

SHEET TITLE
Conceptual Low Impact
Development (LID) Exhibit

SHEET NUMBER
C-302A

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- LOW IMPACT DEVELOPMENT NOTES:**
1. INSTALLATION DEEMED TECHNICALLY INFEASIBLE PER GEOTECHNICAL INVESTIGATIONS.
 2. BIO-FILTRATION BMPs ARE SUGGESTED AS THE PROPOSED LID MEASURE FOR LOS ANGELES COUNTY GUIDELINES.
 3. LOCATION, FOOTPRINT AND TYPE OF BIO-FILTRATION SYSTEM SHOWN ON PLAN IS CONCEPTUAL AND FOR COORDINATION PURPOSES ONLY.

BMP SUMMARY TABLE

DRAINAGE SUBAREA	AREA (SF)	AREA (AC)	BMP TYPE PROVIDED	BMP SIZE REQUIRED	BMP SIZE PROVIDED	BMP NUMBER(S)
A	55,094	1.27	BIOFILTRATION/STORMWATER PLANTERS	2500 SF	2600 SF	A1, A2
B	168,409	3.86	BIOFILTRATION/STORMWATER PLANTERS	7249 SF	7300 SF	B1, B2, B3, B4
CD	712,655	16.7	BIOFILTRATION/STORMWATER PLANTERS	32573 SF	33000 SF	CD1 - CD11
E	136,207	3.19	BIOFILTRATION/STORMWATER PLANTERS	6049 SF	6100 SF	E1, E2
F	105,106	2.31	BIOFILTRATION/STORMWATER PLANTERS	4380 SF	4500 SF	F1, F2

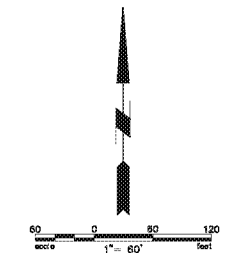
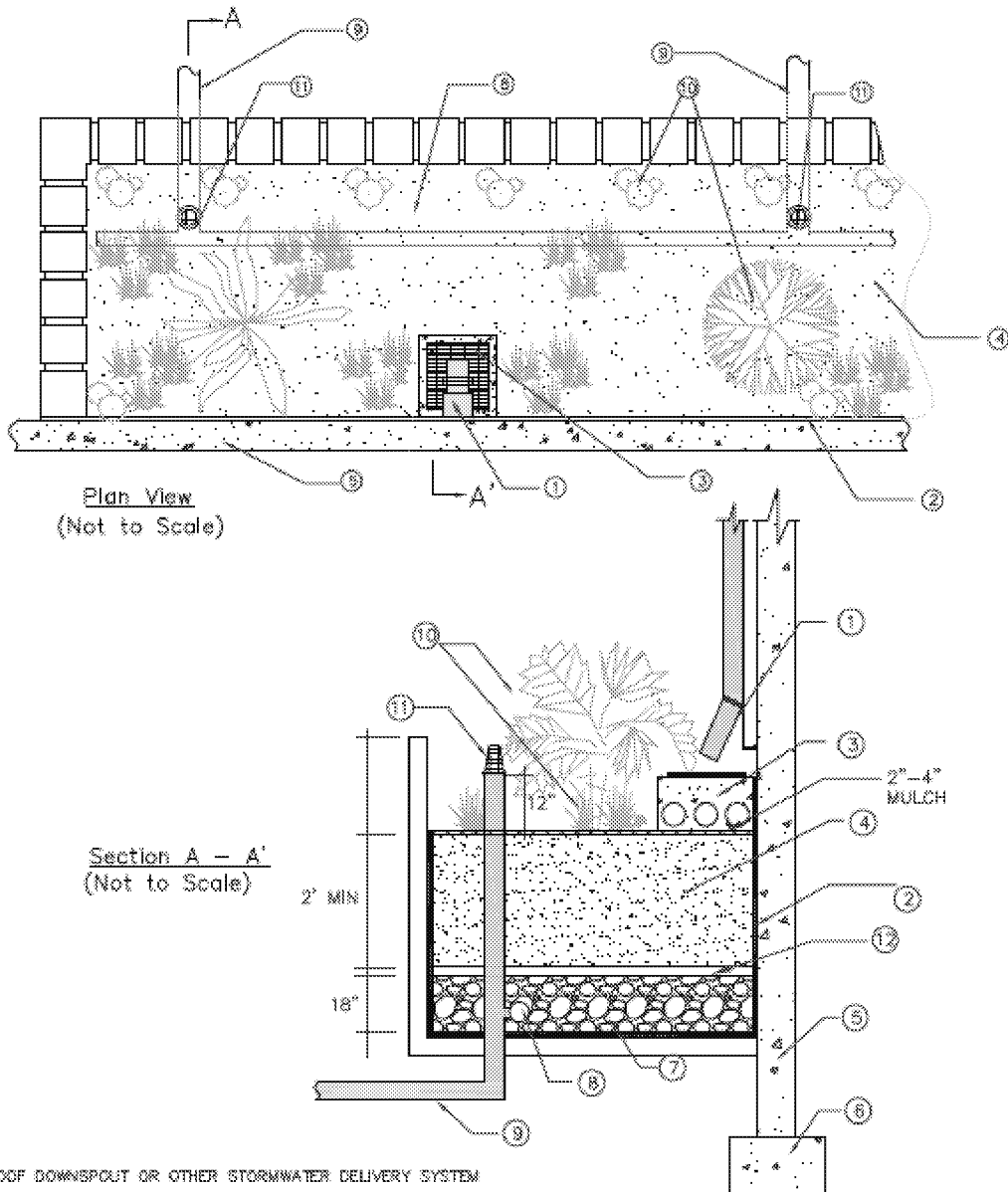


Figure 3



Site Specific Bio-Filtration Details





NOTES:

- ① ROOF DOWNSPOUT OR OTHER STORMWATER DELIVERY SYSTEM
- ② WATERPROOF BARRIER
- ③ SHALLOW ENERGY DISSIPATOR BASIN DISPERSES FLOW AT SOIL SURFACE
- ④ SOIL MIX (SEE PLANTING MEDIA SECTION)
- ⑤ BUILDING
- ⑥ FOUNDATION. INSTALL FOUNDATION DRAINS AS NEEDED
- ⑦ GRAVEL BEDDING (SEE UNDERDRAIN)
- ⑧ PERFORATED PIPE SHALL RUN ENTIRE LENGTH OF PLANTER
- ⑨ CONNECTION TO DOWNSTREAM CONVEYANCE SYSTEM
- ⑩ PLANTS
- ⑪ SET OVERFLOW 3" BELOW THE TOP OF THE PLANTER
- ⑫ OPTIONAL CHOKING GRAVEL LAYER

Figure E-9. Stormwater Planter Schematic

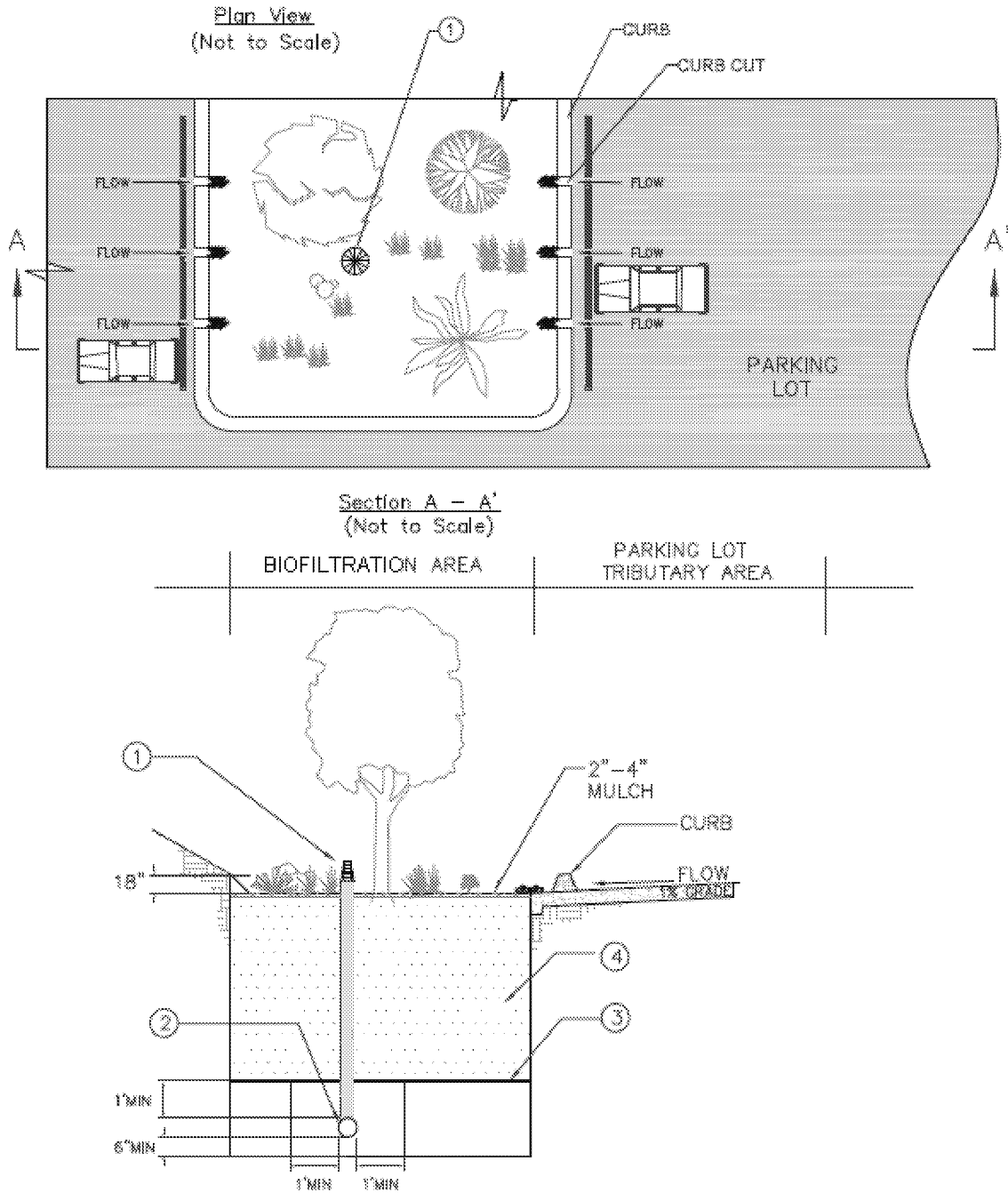
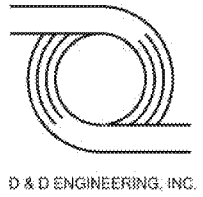


Figure E-7. Biofiltration Area Schematic



Appendix A



Excerpt from Geotechnical Report

5.11.1 Flexible Pavement Thicknesses

The following flexible pavement thicknesses for Traffic Index (TI) values of 5, 6 and 7 may be used:

Table 8 – Minimum Flexible (AC) Pavement Thicknesses

Traffic Index (TI)	Pavement Section (feet)	
	Asphaltic Concrete	Aggregate Base
4 to 5	0.3	0.55
6 to 7	0.4	0.65
7 to 8	0.5	0.75

5.11.2 Concrete Flatwork / Hardscape and Sidewalks

For PCC pavements in pedestrian areas, a pavement section of 4 inches PCC over 6 inches of aggregate base is typical for the kinds of soils to be expected at the site.

It should be noted that the above recommendations apply to parking lot, driveway and street areas only. Loading docks and trash enclosures should be paved with PCC pavement. We recommend that the section consist of a minimum of 6 inches of reinforced Portland cement concrete over 4 inches of Caltrans Class 2 Base with a minimum R-value of 78. The aggregate base should be compacted to at least 95 percent of the maximum dry density per ASTM D-1557 over unyielding subgrade.

5.12 INFILTRATION FEASIBILITY

Preliminary percolation tests were conducted at five (5) selected locations at the site (P-1 through P-5). The results of percolation testing are summarized in Appendix D.

Based on the results, infiltration rates for the soils in the upper 10 feet ranged from 0.32 to 3.52 in/hr. The test results represent a sampling of the upper materials which consist of variable and predominately clayey and silty sands. The upper value may be due to localized presence of more granular soils at the particular test location (P-2).

However, as discussed in this report, the subsurface native soils at the site consist predominately of clayey soils with estimated infiltration rates lower than 0.3 in/hr and with few or no connectivity to permeable soil horizons of adequate thickness. Moreover, the underlying, predominately clayey soils have never experienced saturation and have been found to exhibit more compressibility when inundated; therefore any infiltration of water into the subsurface soils, particularly within the areas to be occupied by permanent structures, is highly discouraged from a foundation performance stand-point. Given these constraints, infiltration practices might not be feasible at the site.



Appendix B



Post-Development Hydrological Conditions



Peak Flow Hydrologic Analysis

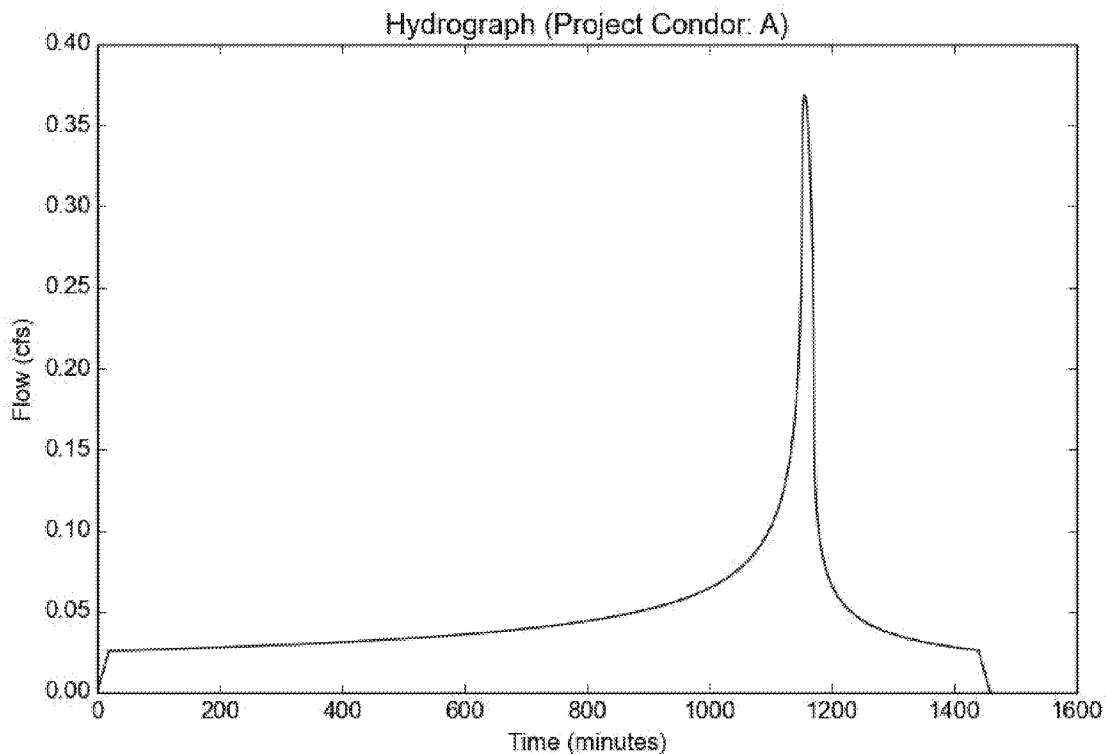
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	A
Area (ac)	1.27
Flow Path Length (ft)	370.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.96
Soil Type	13
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.3345
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.868
Time of Concentration (min)	19.0
Clear Peak Flow Rate (cfs)	0.3687
Burned Peak Flow Rate (cfs)	0.3687
24-Hr Clear Runoff Volume (ac-ft)	0.0957
24-Hr Clear Runoff Volume (cu-ft)	4166.9399



Peak Flow Hydrologic Analysis

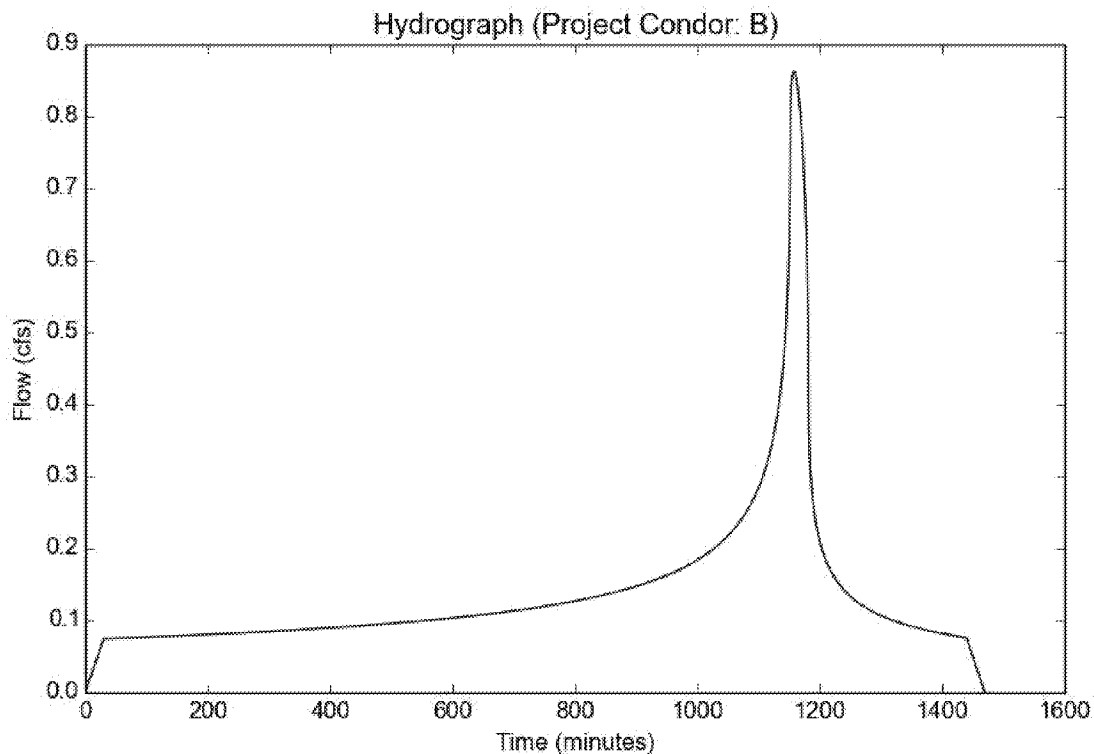
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	B
Area (ac)	3.86
Flow Path Length (ft)	700.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.91
Soil Type	13
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.2699
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.828
Time of Concentration (min)	30.0
Clear Peak Flow Rate (cfs)	0.8625
Burned Peak Flow Rate (cfs)	0.8625
24-Hr Clear Runoff Volume (ac-ft)	0.2773
24-Hr Clear Runoff Volume (cu-ft)	12081.3211



Peak Flow Hydrologic Analysis

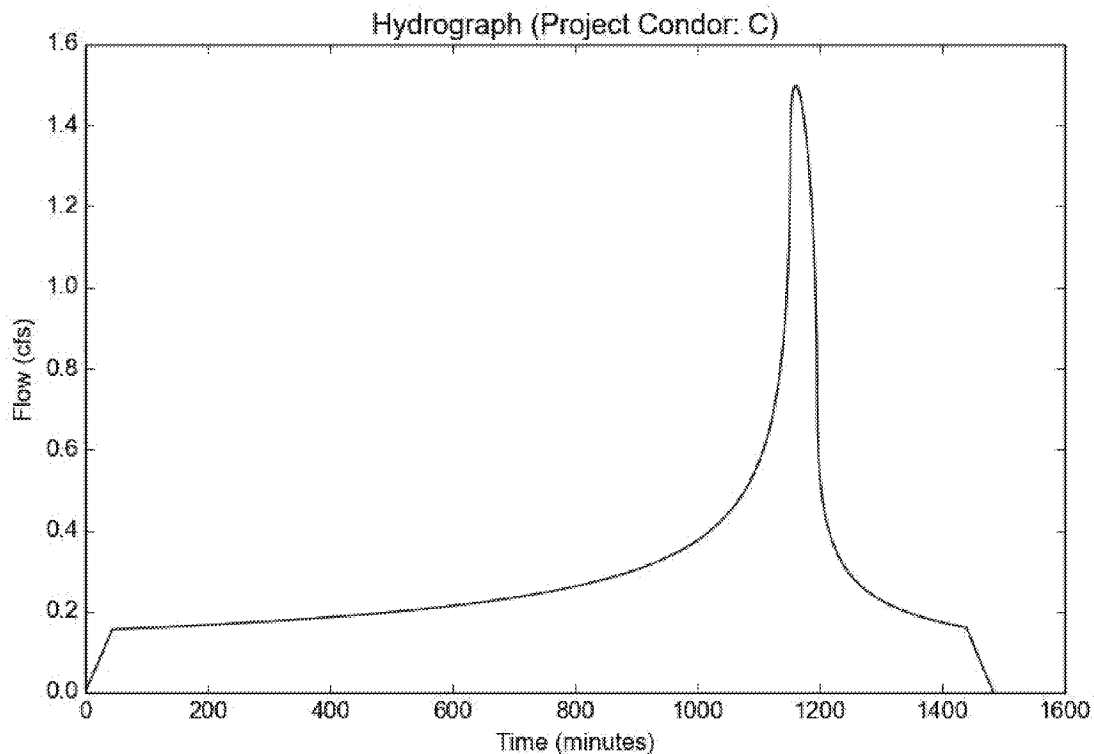
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	C
Area (ac)	7.73
Flow Path Length (ft)	1050.0
Flow Path Slope (vft/hft)	0.004
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.95
Soil Type	16
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.2254
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.86
Time of Concentration (min)	44.0
Clear Peak Flow Rate (cfs)	1.4985
Burned Peak Flow Rate (cfs)	1.4985
24-Hr Clear Runoff Volume (ac-ft)	0.5769
24-Hr Clear Runoff Volume (cu-ft)	25129.3103



Peak Flow Hydrologic Analysis

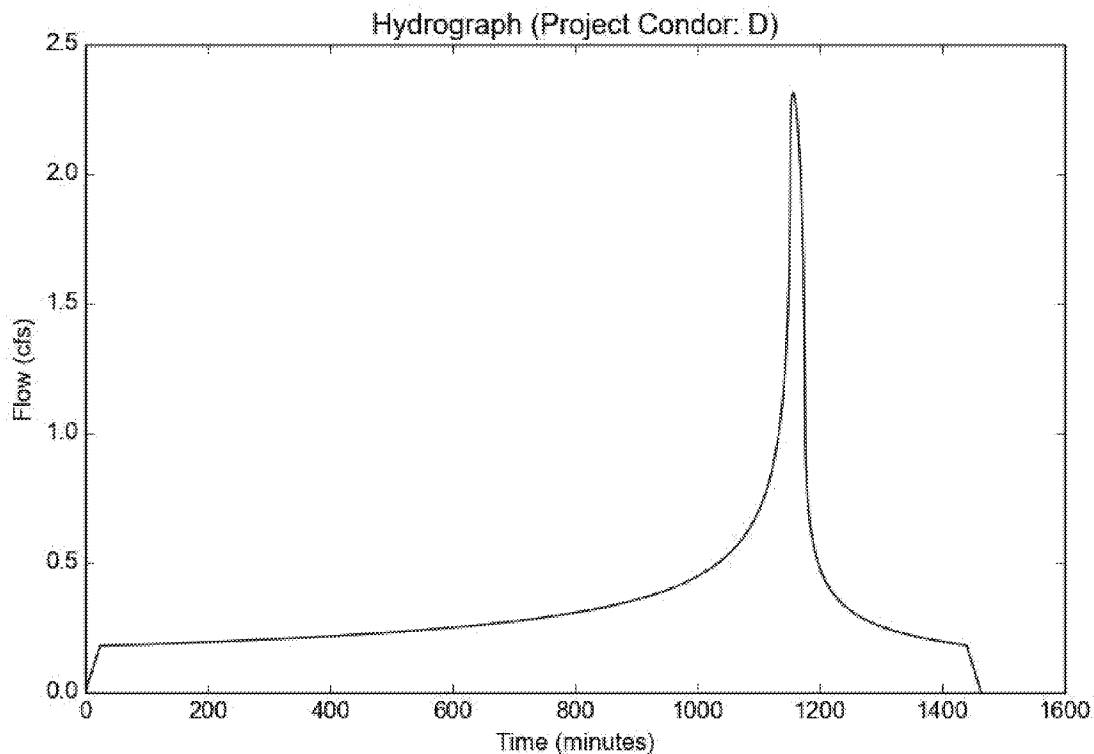
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	D
Area (ac)	8.97
Flow Path Length (ft)	490.0
Flow Path Slope (vft/hft)	0.008
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.95
Soil Type	16
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.2997
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.86
Time of Concentration (min)	24.0
Clear Peak Flow Rate (cfs)	2.3121
Burned Peak Flow Rate (cfs)	2.3121
24-Hr Clear Runoff Volume (ac-ft)	0.6694
24-Hr Clear Runoff Volume (cu-ft)	29159.8894



Peak Flow Hydrologic Analysis

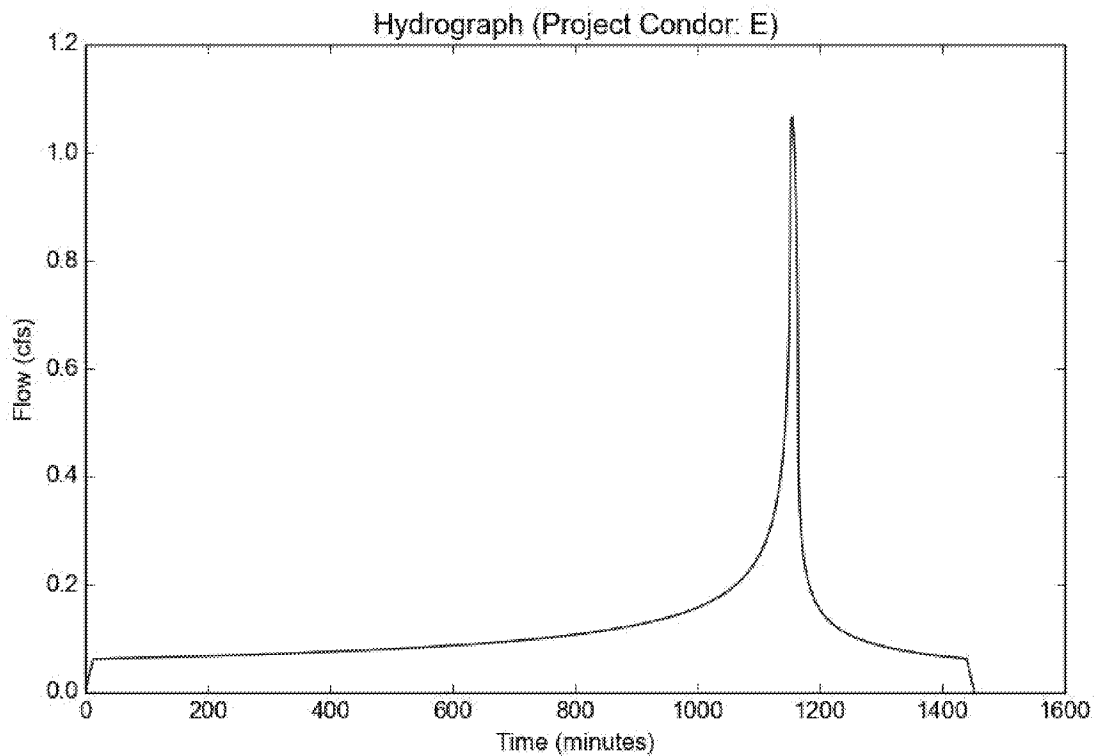
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	E
Area (ac)	3.19
Flow Path Length (ft)	190.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.92
Soil Type	16
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.3998
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.836
Time of Concentration (min)	13.0
Clear Peak Flow Rate (cfs)	1.0662
Burned Peak Flow Rate (cfs)	1.0662
24-Hr Clear Runoff Volume (ac-ft)	0.2314
24-Hr Clear Runoff Volume (cu-ft)	10080.6767



Peak Flow Hydrologic Analysis

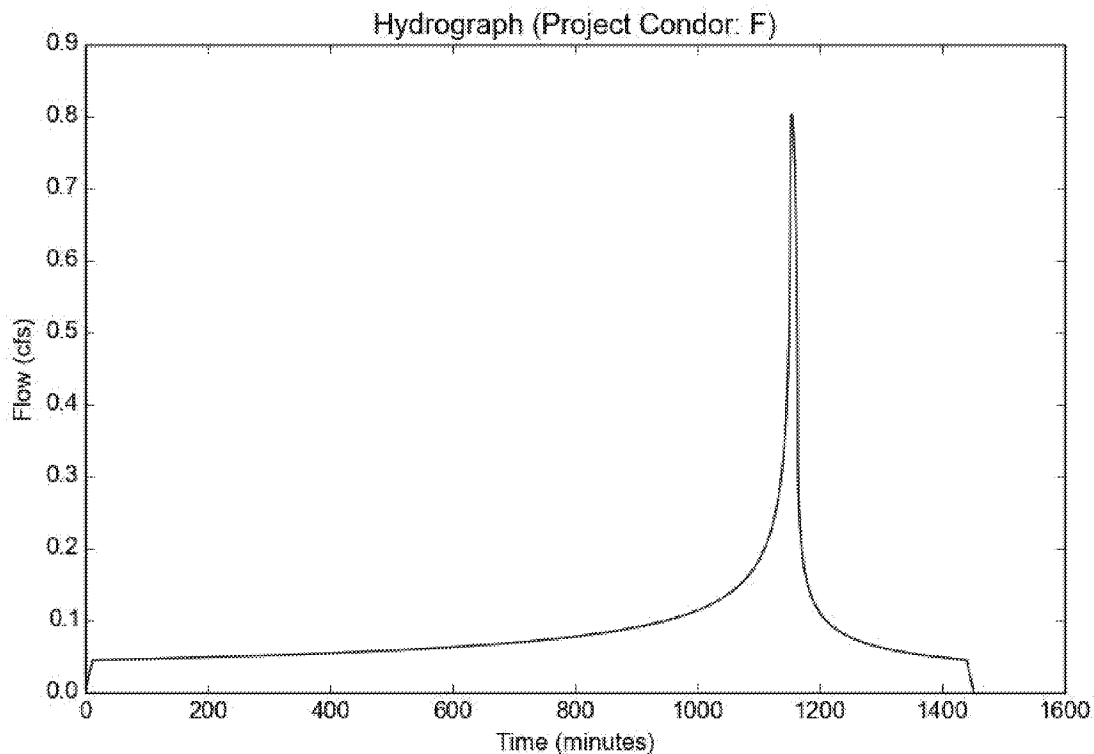
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Version: HydroCalc 1.0.3

Input Parameters

Project Name	Project Condor
Subarea ID	F
Area (ac)	2.31
Flow Path Length (ft)	180.0
Flow Path Slope (vft/hft)	0.01
85th Percentile Rainfall Depth (in)	1.05
Percent Impervious	0.92
Soil Type	16
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.05
Peak Intensity (in/hr)	0.4151
Undeveloped Runoff Coefficient (Cu)	0.1138
Developed Runoff Coefficient (Cd)	0.8371
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	0.8028
Burned Peak Flow Rate (cfs)	0.8028
24-Hr Clear Runoff Volume (ac-ft)	0.1676
24-Hr Clear Runoff Volume (cu-ft)	7300.0099



Appendix C



Bio-Filtration Sizing Calculations



**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA PLANTER
A A1, A2

Site area:	1.27	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	4167	cf
V _{design} = V _m * 1.5	6251	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	2,500	sf

$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time
d_p = Ponding Depth
A_{min} = Minimum Area Required

**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA

PLANTER

B

B1, B2, B3, B4

Site area:	3.86	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	12081	cf
V _{design} = V _m * 1.5	18122	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	7,249	sf

$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time

d_p = Ponding Depth

A_{min} = Minimum Area Required

**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA

PLANTER

C

CD1-CD11

Site area:	7.73	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	25129	cf
V _{design} = V _m * 1.5	37694	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	15,077	sf

$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time

d_p = Ponding Depth

A_{min} = Minimum Area Required

**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA

PLANTER

D

CD1-CD11

Site area:	8.97	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	29160	cf
V _{design} = V _m * 1.5	43740	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	17,496	sf

$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time

d_p = Ponding Depth

A_{min} = Minimum Area Required

**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA PLANTER
E E1, E2

Site area:	3.19	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	10081	cf
V _{design} = V _m * 1.5	15122	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	6,049	sf

$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time
d_p = Ponding Depth
A_{min} = Minimum Area Required

**IBEC PROJECT
INGLEWOOD, CA
LID CALCULATIONS**

DRAINAGE AREA PLANTER
F F1, F2

Site area:	2.31	ac
Impervious	0.95	%
85th Percentile:	1.05	in
Volume (V _m):	7300	cf
V _{design} = V _m * 1.5	10950	cf

Note: For Flow Through Planters

$$V_{design} = 1.5 * V_m$$

Sizing		Units
K _{sat}	12	in/hour
FS	2	-
K _{sat,des} = (K _{sat} /FS)	6	in/hour
T	3	hrs
d _p	12	in
A _{min} =	4,380	sf

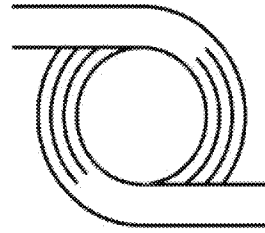
$$A_{min} = \frac{V_{design}}{\frac{T * K_{sat,des} + d_p}{12}}$$

T= Drawdown Time
d_p = Ponding Depth
A_{min} = Minimum Area Required

Inglewood Basketball and
Entertainment Center
Preliminary Hydrology
Report

AECOM

**WILSON
MEANY**



D & D ENGINEERING, INC.

INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER PRELIMINARY HYDROLOGY REPORT

May 1, 2019

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



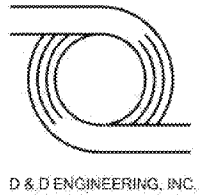


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IV. Project Description 5
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VI. Post Development runoff 5
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Table 1 — Allowable Runoff, Existing and Proposed Flows

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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 Inglewood Basketball and Entertainment Center (IBEC) Project 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

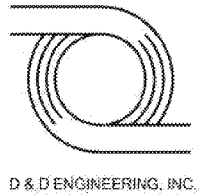
IBEC Project is comprised of three sites located near the intersection of Century Boulevard and Prairie Avenue in the city of Inglewood. The first and main project site is located to the southeast of the intersection, the second is located to the southwest of the intersection, and the third site is further 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 101st Street runoff of 2.8 cfs to Project 4402 Line B and portion south of 101st 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

IBEC Project 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, 48,000 sq. ft. of retail and food services space, a 150-room hotel, 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-fixed seat arena with an additional 500 temporary seats, a parking structures and 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 the main site and No.13 for the hotel and eastern parking site) and are shown in [Appendix C](#) and [Appendix D](#).

VI. POST DEVELOPMENT RUNOFF AND BASIN ROUTING

IBEC Project 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 west 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 east parking structure and hotel 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](#)- Pre-Development Runoff Calculations and [Appendix D](#) – Post-Development Runoff Calculations, 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 100,800 cu.ft. volume is estimated. A similar detention facility will be required for the hotel and eastern parking site with a combined detention of approximately 8,900 cu. ft volume and for northerly portion of the west 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 5.52 cfs and with the southerly parking structure peak runoff of 8.78 cfs, the total discharge to project # 681 of 14.30 cfs will not exceed the allowable flow rate of 14.32 cfs. The east parking structure and hotel site and northerly portion of the west parking structure detention facilities will have maximum outfall rates of 5.11 cfs and 1.96 cfs, respectfully.

Summary of allowable flow rates and project contributing flow rates table from all detention facilities can be found in *Appendix D Post-Development Runoff Calculations and Figure 5- Proposed Onsite Runoff Detention to Existing Storm Drain Lines.*

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)	6.36 (Sub-area A6)	41.63 (Sub-areas A3, A4 & A5)	11.29 (Sub-areas A1 & A2)	59.28
Proposed Onsite 50-year Flow into Pipeline (HydroCalc, Figure 5) *	1.96 (Sub-area A6 detention outfall)	14.30 (Sub-areas A3 & A4 detention outfall & A5)	5.11 (Sub-areas A1 & A2 detention outfall)	21.37
LACDPW Allowable Flow Rates (Appendix B)	2.31	14.32	5.13	21.76

*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 west parking structure for Project 681 is approximately 14.30 cfs and the LACDPW allowable limit is 14.32 cfs.
- ∞ The design outfall from the northerly portion of the west parking structure facility for Project 4402, Line C is approximately 1.96 cfs and the LACDPW allowable limit is 2.31 cfs.
- ∞ The design outfall from the east parking structure and hotel detention facilities for DDI #8 is approximately 5.11 cfs and the LACDPW allowable limit is 5.13 cfs.

In summary, Project Condor will discharge 1.96 cfs and 14.30 cfs to Project 4402 & 681 and 5.11 cfs to DDI # 8, all discharge rates being within the allowable limits of 2.31cfs, 14.32 cfs and 5.13 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

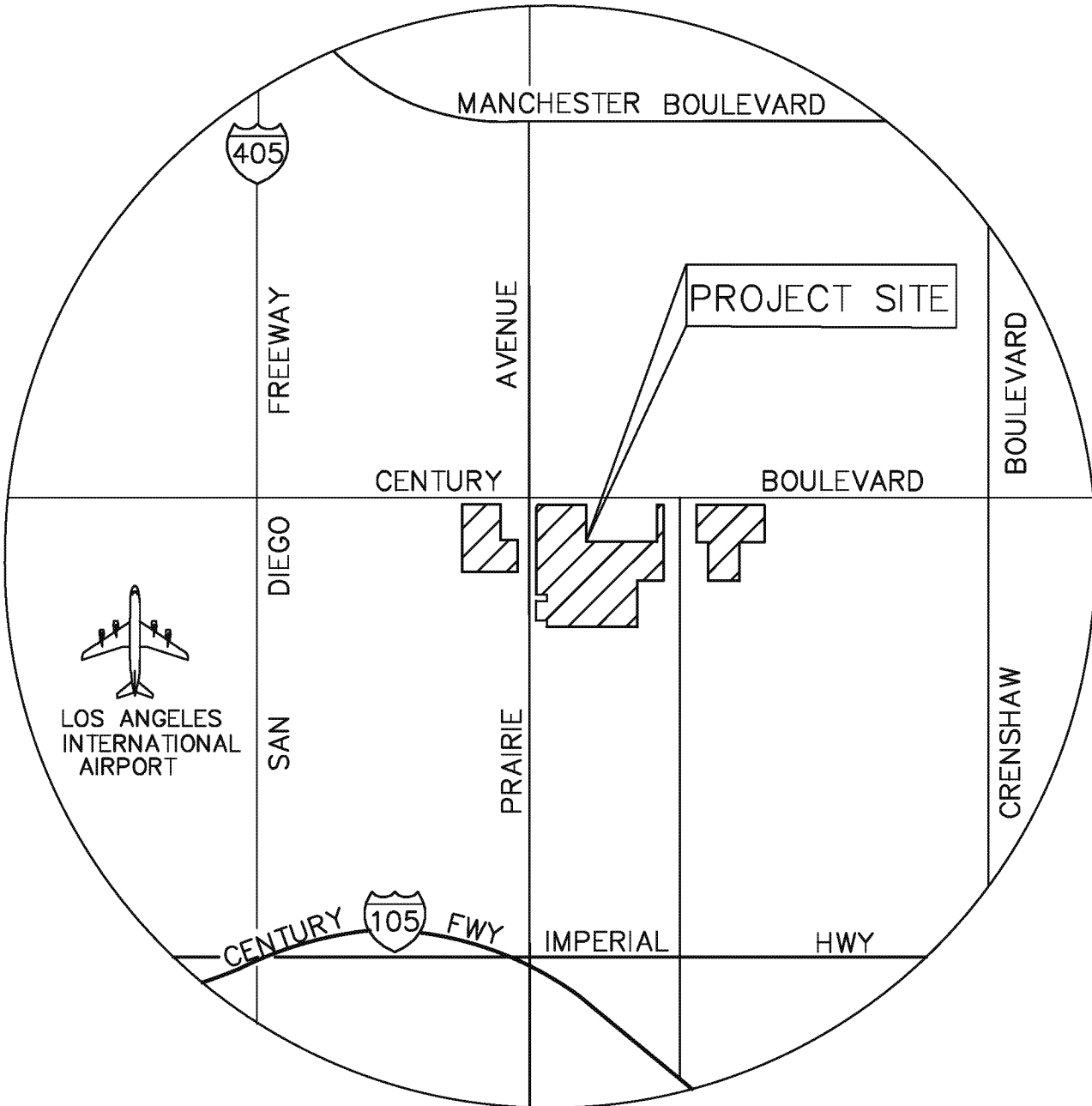
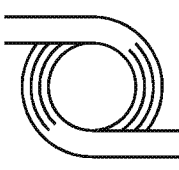


FIGURE 1

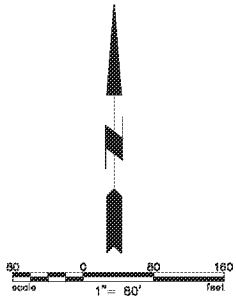
 <p>D & D ENGINEERING, INC. 8901 S. LA CIENEGA BLVD, SUITE 106 INGLEWOOD, CA 90301 Phone: 424-351-6800</p>	<p>INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER</p>		<p>SCALE: AS SHOWN</p>
	<p>VICINITY MAP</p>		<p>DATE: 05/01/19</p>
			<p>SHT NO.: 01 OF 01</p>

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 Last Opened: May 01, 2019 - 4:42pm by: Boris



LEGEND

- ■ ■ ■ ■ PROJECT STUDY LIMITS
- ▨ ▨ ▨ ▨ ▨ EXISTING STORM DRAIN LINES
- ▧ ▧ ▧ ▧ ▧ EXISTING CITY OF INGLEWOOD STORM DRAIN LINE



D & D ENGINEERING, INC.
6801 S. LA CENESA BLVD, SUITE 100
INGLEWOOD, CA 90312
Phone: 424-951-6600

INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER

EXISTING STORM DRAINS

SCALE: 1" = 80'
DATE: 04/29/19
SHEET NO.: 1 OF 1

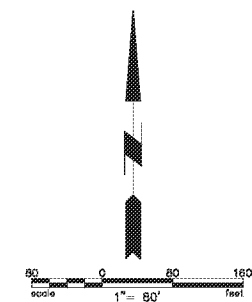
FIGURE 2



SUBAREA	ACREAGE	SOIL TYPE	LENGTH	SLOPE	Q ₂₅
A1	10.7	16	865'	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	18	427'	0.005	4.8 cfs
A5	2.2	18	600'	0.003	2.6 cfs
TOTAL	27.5	----	----	----	32.1 cfs

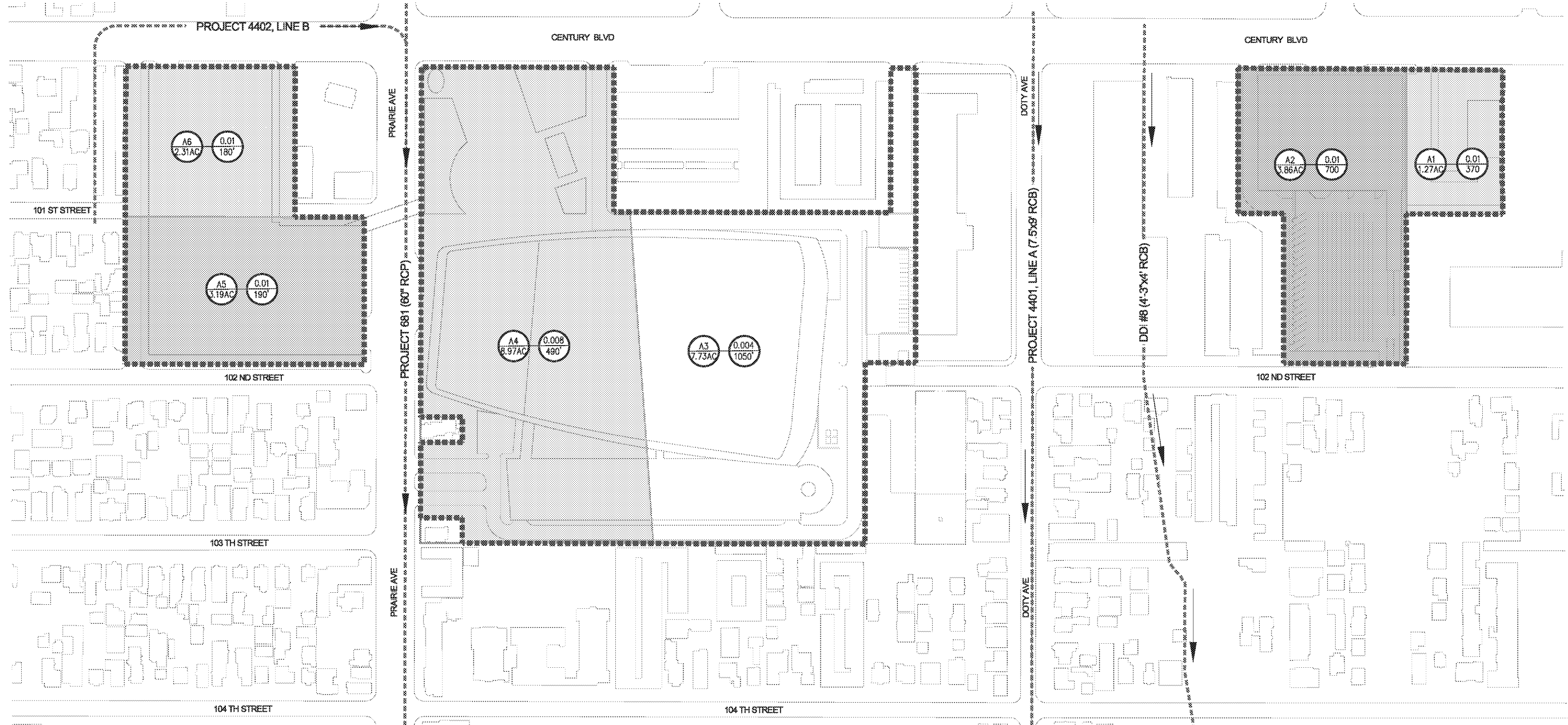
LEGEND

- PROJECT STUDY LIMITS
- EXISTING STORM DRAIN LINES
- AREA ACRES
- DRAINAGE SUBAREA



D & D ENGINEERING, INC. 6801 S. LA CENEDRA BLVD, SUITE 100 INGLEWOOD, CA 90331 Phone: 424-951-6800	INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER
	PRE-DEVELOPMENT HYDROLOGY MAP
SCALE: 1" = 80' DATE: 04/29/19 SHEET NO.: 1 OF 1	

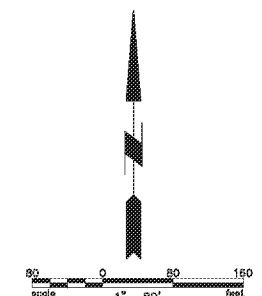
FIGURE 3



SUBAREA	ACREAGE [AC.]	LENGTH [FT.]	S. OPE	C_{dr}
A1	1.3	370'	0.010	3.22 cfs
A2	3.9	700'	0.010	8.07 cfs
A3	7.7	1050'	0.004	13.08 cfs
A4	9.0	490'	0.008	19.79 cfs
A5	3.2	190'	0.010	8.78 cfs
A6	2.3	180'	0.010	6.36 cfs
TOTAL	27.4			59.28 cfs

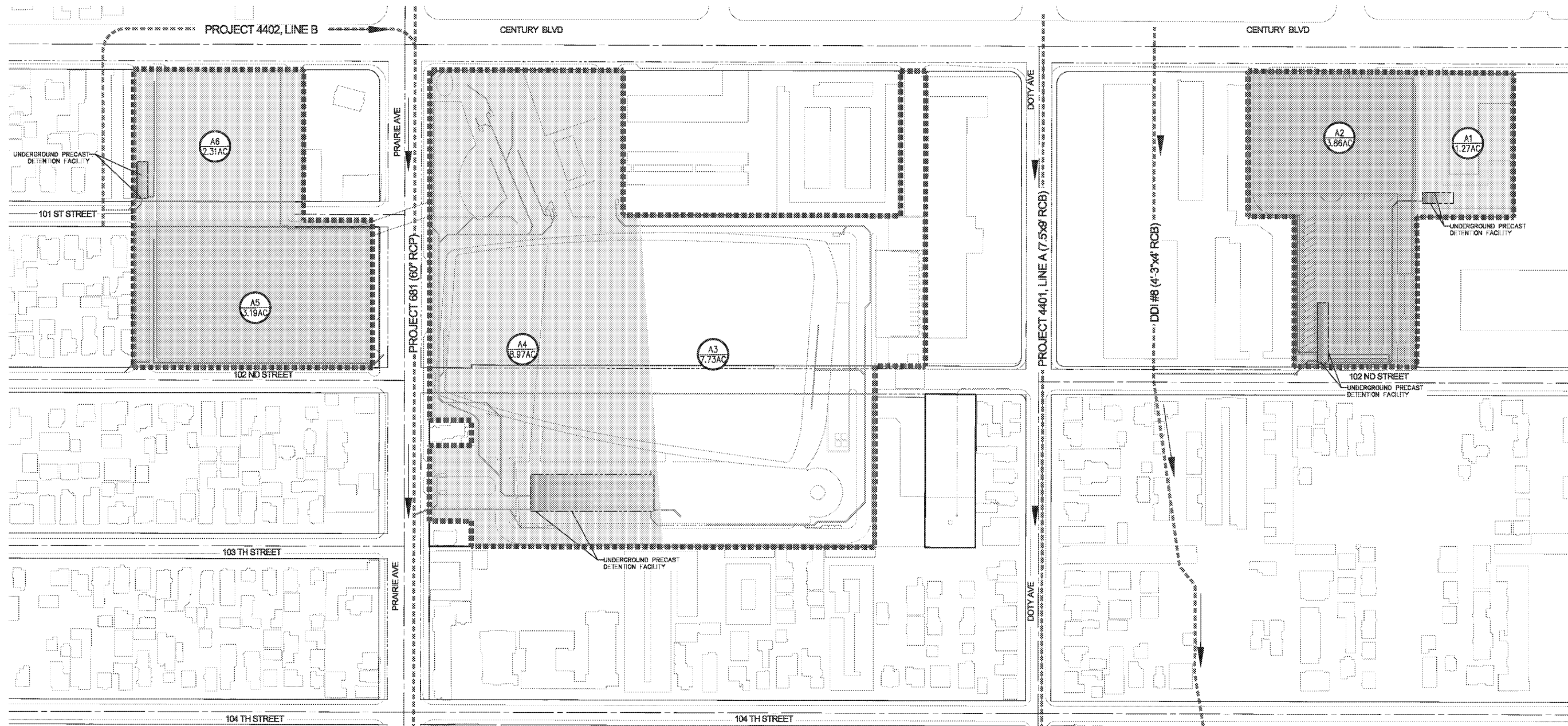
LEGEND

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



<p>D & D ENGINEERING, INC. 6801 S. LA CENESA BLVD, SUITE 100 INGLEWOOD, CA 90312 Phone: 424-351-6800</p>	<p>INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER</p> <p>POST-DEVELOPMENT HYDROLOGY MAP</p>	<p>SCALE: 1" = 80'</p> <p>DATE: 04/29/19</p> <p>SHEET NO.:</p>
	<p>1 OF 1</p>	

FIGURE 4



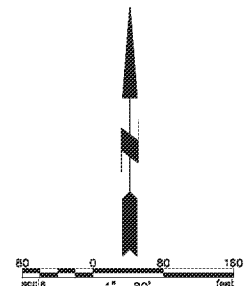
SUBAREA	ACREAGE [AC.]	LENGTH [FT.]	SLOPE	Q ₁₀
A1	1.3	370'	0.010	3.22 cfs
A2	3.9	700'	0.010	8.07 cfs
A3	7.7	1050'	0.004	13.06 cfs
A4	9.0	490'	0.008	19.79 cfs
A5	3.2	190'	0.010	8.78 cfs
A6	2.3	180'	0.010	6.36 cfs
TOTAL	27.4	---	---	59.28 cfs

EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE [CFS/AC.]	TOTAL ALLOWABLE DISCHARGE TO EXISTING LINE [CFS]	PROPOSED Q ₁₀ FLOW [CFS]	REQUIRED FLOW TO BE MITIGATED WITH STORAGE [CFS]	STORAGE PROVIDED [C']	OUTFLOW [CFS]	NOTE
PROJECT DDI #8	A1 & A2	1.00	5.13	11.29	6.16	8800	5.11	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	1.00	2.31	6.36	4.05	5300	1.96	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	0.72	14.32	41.63	27.31	100800	14.30	SUFFICIENT SD CAPACITY

* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 5.52 CFS AND DRAINAGE AREA A5 RUNOFF OF 8.78 CFS.

LEGEND

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



D & D ENGINEERING, INC.
 6801 S. LA CENESA BLVD, SUITE 100
 INGLEWOOD, CA 90301
 Phone: 424-351-6800

FIGURE 5

INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER

PROPOSED ONSITE RUNOFF DISTRIBUTION TO EXISTING STORM DRAIN LINES

SCALE: 1" = 80'
 DATE: 04/29/19
 SHEET NO.: 1 OF 1



Appendix A

Off-Site Hydrology and LACDOW Information Request Summary

Figure 2 — Existing Storm Drains




Offsite Tributary Area Map for Project 4402 & 681

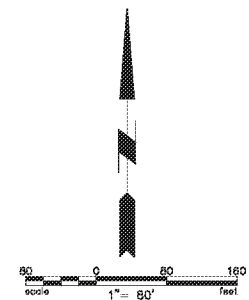
Offsite Tributary Area Map for Project DDI #8

Information Request Summary



LEGEND

-  PROJECT STUDY LIMITS
-  EXISTING STORM DRAIN LINES
-  EXISTING CITY OF INGLEWOOD STORM DRAIN LINE




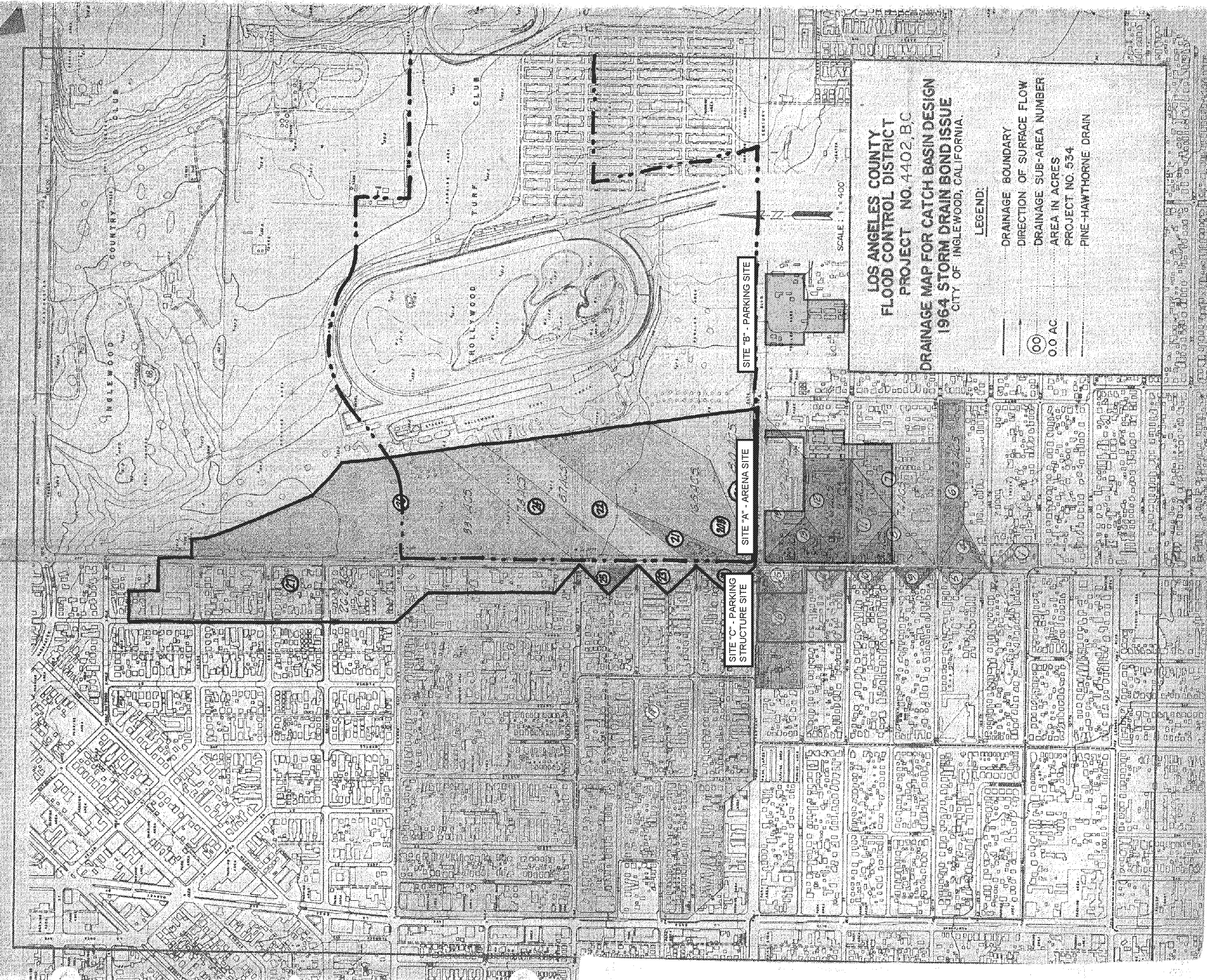
 <p>D & D ENGINEERING, INC. 6801 S. LA CENESA BLVD, SUITE 100 INGLEWOOD, CA 90312 Phone: 424-951-6800</p>	INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER						
	EXISTING STORM DRAINS	<table border="1"> <tr> <td>SCALE:</td> <td>1" = 60'</td> </tr> <tr> <td>DATE:</td> <td>04/29/19</td> </tr> <tr> <td>SHT NO.:</td> <td>1 OF 1</td> </tr> </table>	SCALE:	1" = 60'	DATE:	04/29/19	SHT NO.:
SCALE:	1" = 60'						
DATE:	04/29/19						
SHT NO.:	1 OF 1						

FIGURE 2



LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT
PROJECT NO. 4402, BC
DRAINAGE MAP FOR CATCH BASIN DESIGN
1964 STORM DRAIN BOND ISSUE
CITY OF INGLEWOOD, CALIFORNIA.

SCALE: 1" = 400'
LEGEND:
--- DRAINAGE BOUNDARY
--- DIRECTION OF SURFACE FLOW
--- DRAINAGE SUB-AREA NUMBER
--- AREA IN ACRES
--- PROJECT NO. 534
--- PINE-HAWTHORNE DRAIN

SITE "B" - PARKING SITE

SITE "A" - ARENA SITE

SITE "C" - PARKING
STRUCTURE SITE

00
0.0 AC



HYDROLOGY MAP
PROJECT UNIT
INTER-DEAN LINE # A (ASSUMING
LINE 8 ALL
NOT BE BOUND)
SCALE 1" = 400' (ELEVATED TO
SEE UP INTER-
FLOW AT DDT'S)
(P. 10/11)

SITE 'B' - PARKING SITE

SITE 'A' - ARENA SITE

INGLEWOOD COUNTRY CLUB

HOLLYWOOD

EXIST. 40'
FRONT SETBACK



Public Service that works
Issued By: [Signature]
Date: 10/18/17

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

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN DIVISION - HYDRAULIC ANALYSIS UNIT

INFORMATION REQUEST SUMMARY

INFORMATION REQUESTED BY

*Requester's Name: Boris Tantchev
 Company: D & D Engineering, Inc.
 *Phone Number: 8182-653-8666 Fax Number: 424-393-4122
 *Email: BTantchev@DandDEngineeringInc.com

LOS ANGELES COUNTY
DEPARTMENT OF PUBLIC WORKS
DESIGN DIVISION
Hydraulic Analysis Unit
OFFICIAL RECORD DEPARTMENT
Issued By: [Signature]
Date: 10/18/17

Method of Contact: Walk-in Phone Fax Email Prelim. MG. No. Date: 10/18/17

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.
 * Allowable Discharge into Project 681 is limited to 0.72 cfs/acre
Reason on Project No 534 Hydrology.

INFORMATION PROVIDED BY: Ambrose C Ajaelo PE

Date: 10/26/2017

INFORMATION REVIEWED BY: George Aintablian

Date: 9/26/2018

Print

Save a Copy



Appendix B

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

34° 00' 00"

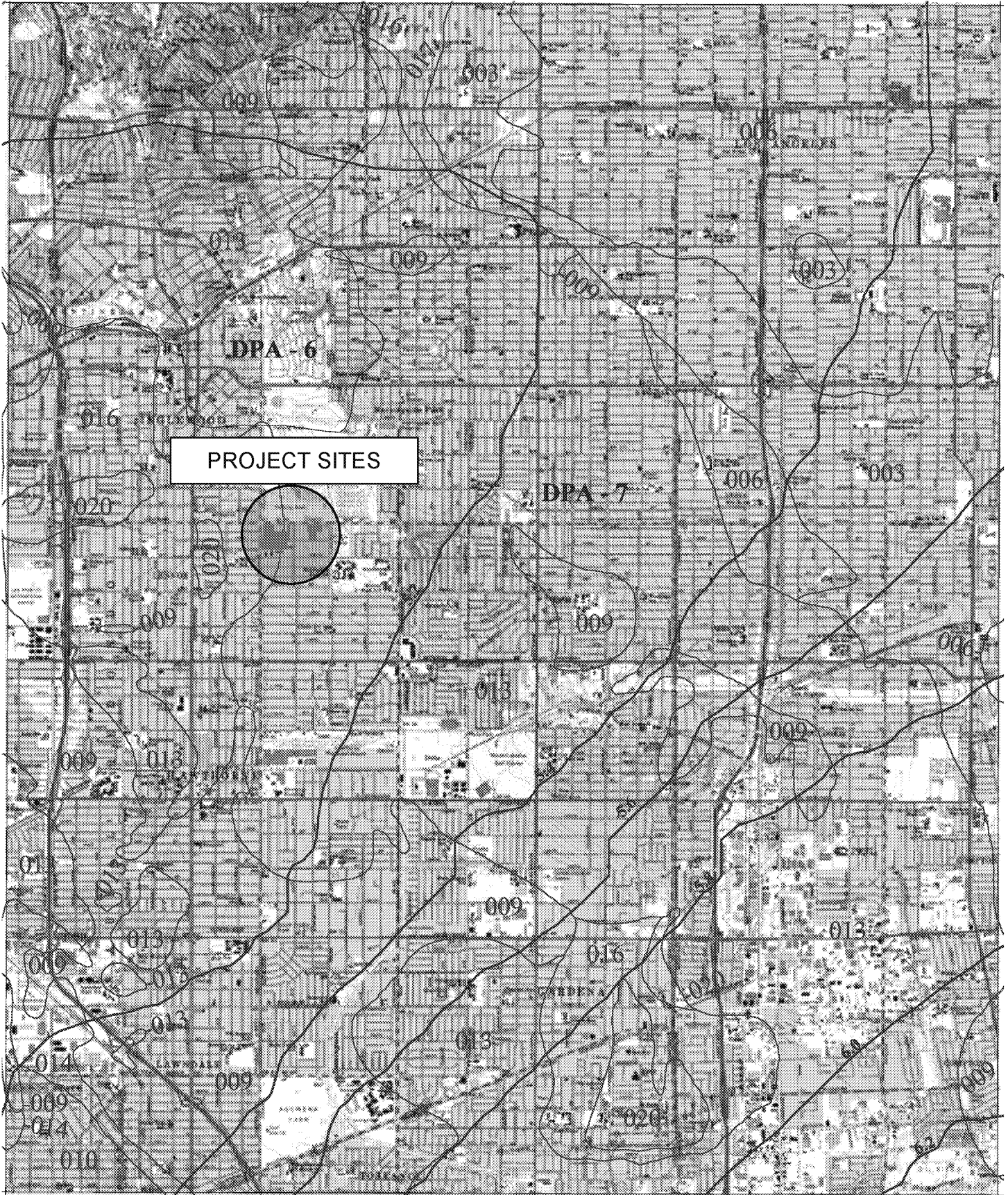
HOLLYWOOD 1-H1.18

-118° 22' 30"

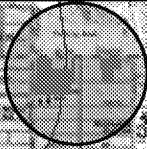
VENICE 1-H1.7

SOUTH GATE 1-H1.9

-118° 15' 00"

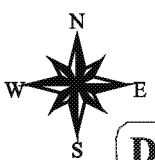


PROJECT SITES



TORRANCE 1-H1.4

33° 52' 30"



016

SOIL CLASSIFICATION AREA

7.2

INCHES OF RAINFALL

DPA - 6

DEBRIS POTENTIAL AREA

1 0 1 2 Miles

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

INGLEWOOD 50-YEAR 24-HOUR ISOHYET

1-H1.8





Appendix C

Pre-Development Runoff Calculations

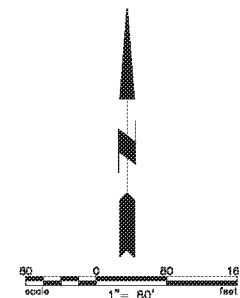
*Figure 3 — Pre-Development Hydrology Map
Sub-areas HydroCalc Worksheets*



SUBAREA	ACREAGE	SOIL TYPE	LENGTH	SLOPE	Q ₂₅
A1	10.7	16	865'	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	18	427'	0.005	4.8 cfs
A5	2.2	18	600'	0.003	2.6 cfs
TOTAL	27.5	----	----	----	32.1 cfs

LEGEND

- PROJECT STUDY LIMITS
- EXISTING STORM DRAIN LINES
- AREA ACRES
- DRAINAGE SUBAREA



<p>D & D ENGINEERING, INC. 6801 S. LA CENESA BLVD, SUITE 100 INGLEWOOD, CA 90312 Phone: 424-951-6800</p>	<p>INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER</p> <p>PRE-DEVELOPMENT HYDROLOGY MAP</p>		<p>SCALE: 1" = 80'</p> <p>DATE: 04/29/19</p> <p>SHEET NO.:</p>
			<p>1 OF 1</p>

FIGURE 3

Peak Flow Hydrologic Analysis

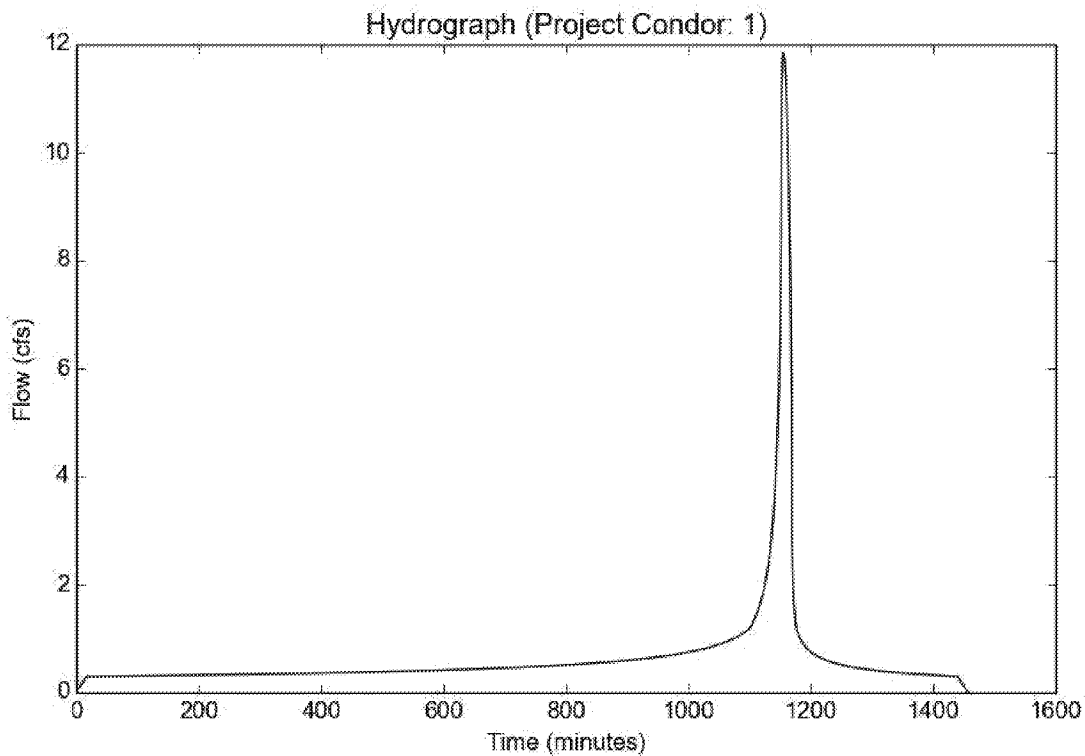
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual Hydrocalc/EIR/Project Condor Existing Drainage Area Report.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	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

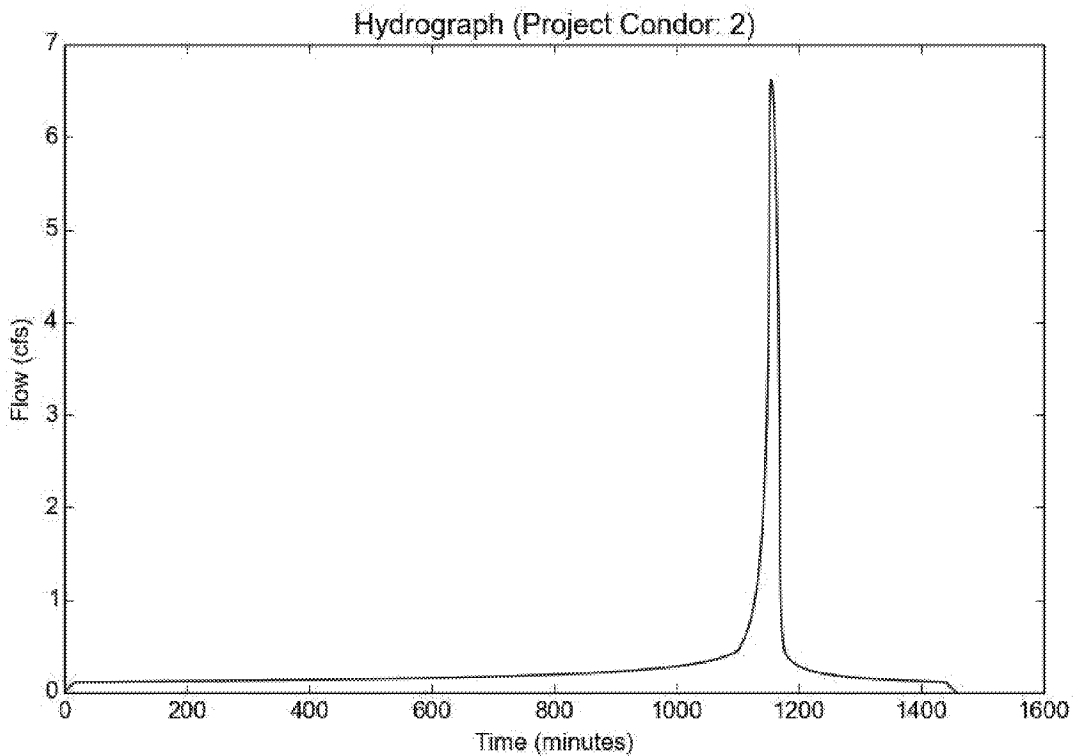
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual Hydrocalc/EIR/Project Condor Existing Drainage Area Report.pdf
Version: HydroCalc 1.0.2

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



Peak Flow Hydrologic Analysis

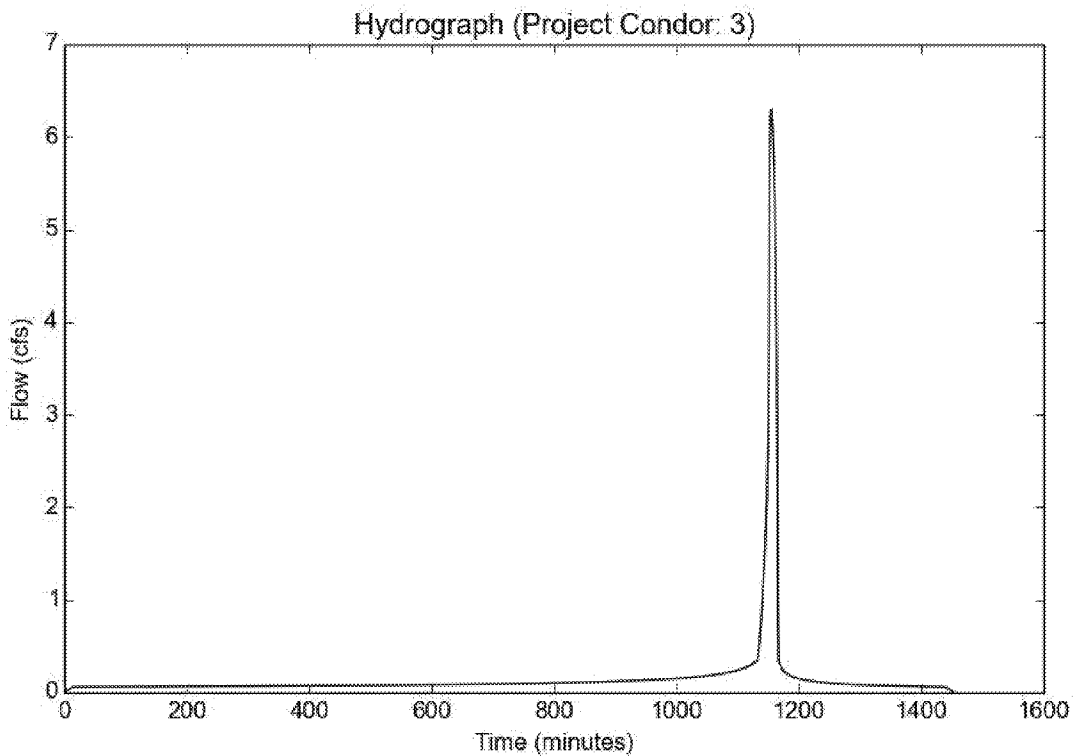
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual Hydrocalc/EIR/Project Condor Existing Drainage Area Report.pdf
Version: HydroCalc 1.0.2

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



Peak Flow Hydrologic Analysis

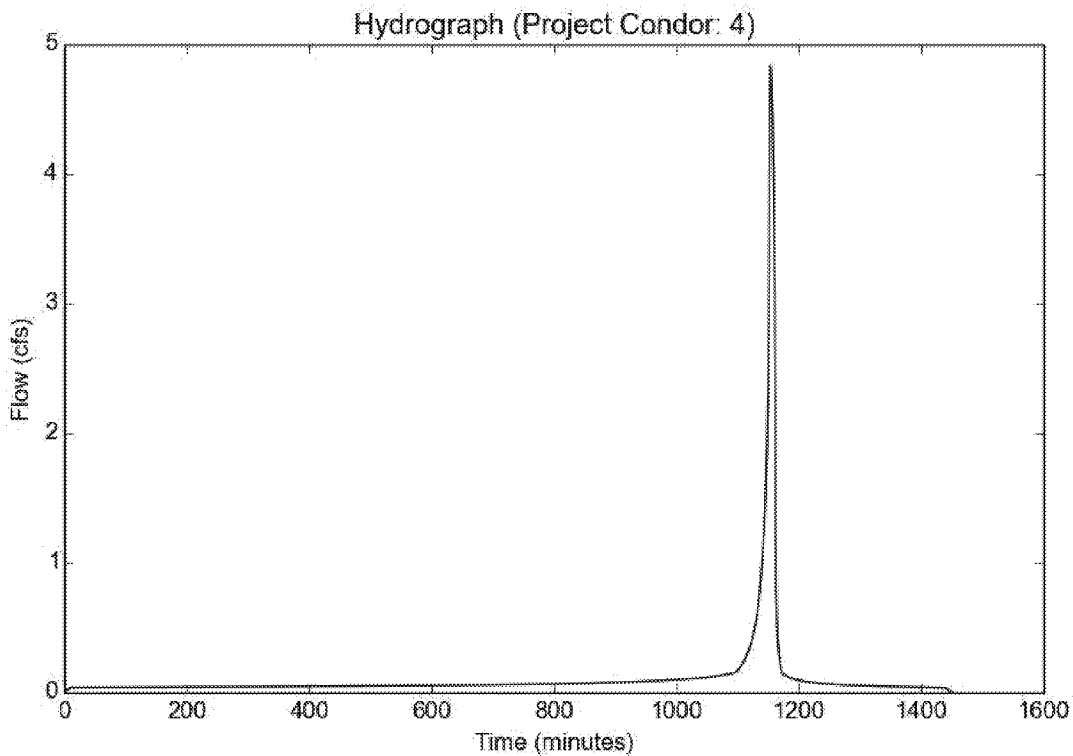
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual Hydrocalc/EIR/Project Condor Existing Drainage Area Report.pdf
Version: HydroCalc 1.0.2

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



Peak Flow Hydrologic Analysis

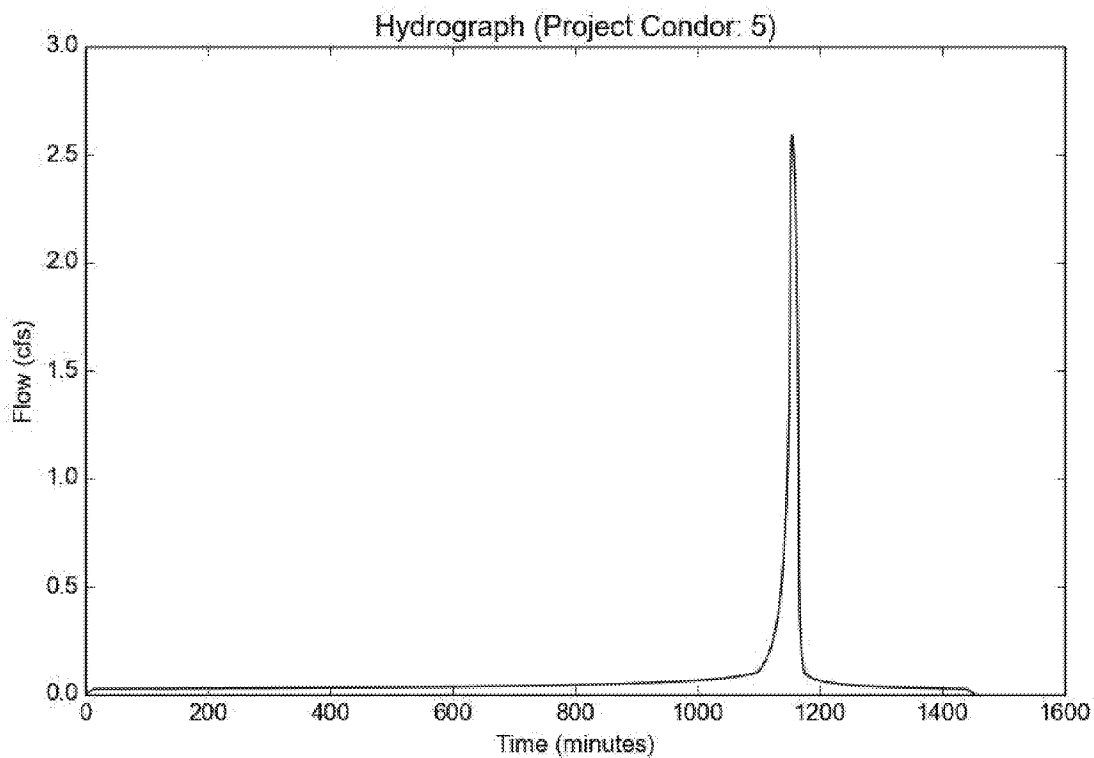
File location: M:/17001/Eng/17001/Hm/Hydrology/Conceptual Hydrocalc/EIR/Project Condor Existing Drainage Area Report.pdf
Version: HydroCalc 1.0.2

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





Appendix D

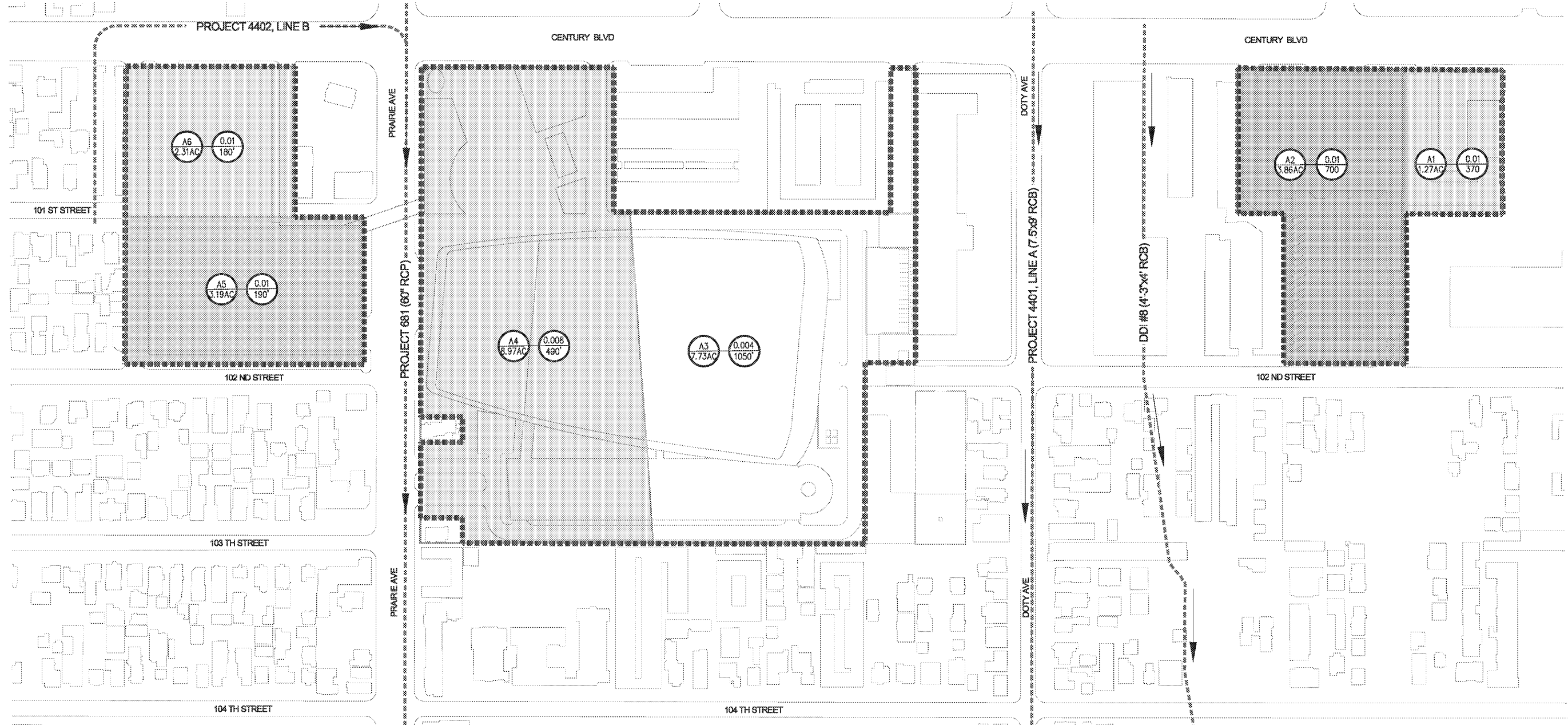
Post-Development Runoff Calculations and Basin Routing

Figure 4 — Post-Development Hydrology Map

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

Sub-Areas HydroCalc Worksheets

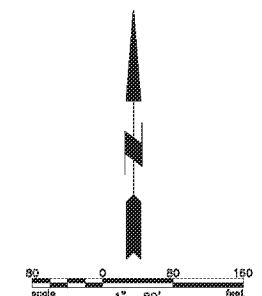
Summary of Post-Development Runoff Distribution to Existing Storm Drain Systems



SUBAREA	ACREAGE [AC.]	LENGTH [FT.]	S. OPE	Q ₁₀
A1	1.3	370'	0.010	3.22 cfs
A2	3.9	700'	0.010	8.07 cfs
A3	7.7	1050'	0.004	13.08 cfs
A4	9.0	490'	0.008	19.79 cfs
A5	3.2	190'	0.010	8.78 cfs
A6	2.3	180'	0.010	6.36 cfs
TOTAL	27.4			59.28 cfs

LEGEND

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



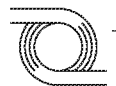
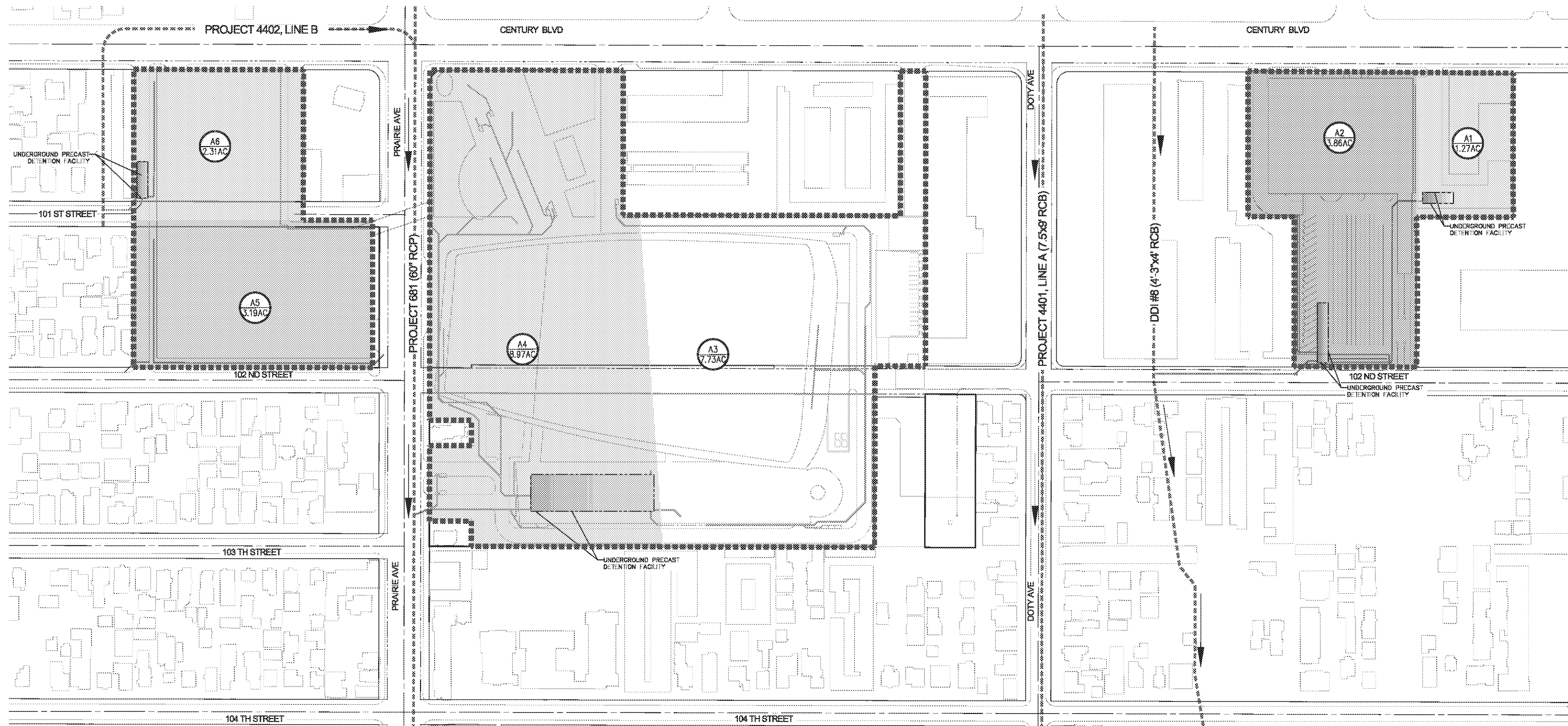
 <p>D & D ENGINEERING, INC. 6801 S. LA CENESA BLVD, SUITE 100 INGLEWOOD, CA 90312 Phone: 424-351-6800</p>	<p>INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER</p> <p>POST-DEVELOPMENT HYDROLOGY MAP</p>	<p>SCALE: 1" = 80'</p> <p>DATE: 04/29/19</p> <p>SHEET NO.:</p>
	<p>1 OF 1</p>	

FIGURE 4



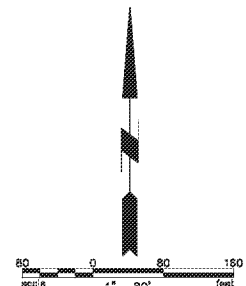
SUBAREA	ACREAGE [AC.]	LENGTH [FT.]	SLOPE	Q ₁₀
A1	1.3	370'	0.010	3.22 cfs
A2	3.9	700'	0.010	8.07 cfs
A3	7.7	1050'	0.004	13.06 cfs
A4	9.0	490'	0.008	19.79 cfs
A5	3.2	190'	0.010	8.78 cfs
A6	2.3	180'	0.010	6.36 cfs
TOTAL	27.4	---	---	59.28 cfs

EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE [CFS/AC.]	TOTAL ALLOWABLE DISCHARGE TO EXISTING LINE [CFS]	PROPOSED Q ₁₀ FLOW [CFS]	REQUIRED FLOW TO BE MITIGATED WITH STORAGE [CFS]	STORAGE PROVIDED [C']	OUTFLOW [CFS]	NOTE
PROJECT DDI #8	A1 & A2	1.00	5.13	11.29	6.16	8800	5.11	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	1.00	2.31	6.36	4.05	5300	1.96	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	0.72	14.32	41.63	27.31	100800	14.30	SUFFICIENT SD CAPACITY

* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 5.52 CFS AND DRAINAGE AREA A5 RUNOFF OF 8.78 CFS.

LEGEND

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



D & D ENGINEERING, INC.
 6801 S. LA CENIZA BLVD, SUITE 100
 INGLEWOOD, CA 90301
 Phone: 424-351-6800

FIGURE 5

INGLEWOOD BASKETBALL AND ENTERTAINMENT CENTER

PROPOSED ONSITE RUNOFF DISTRIBUTION TO EXISTING STORM DRAIN LINES

SCALE: 1" = 80'
 DATE: 04/29/19
 SHEET NO.: 1 OF 1

Peak Flow Hydrologic Analysis

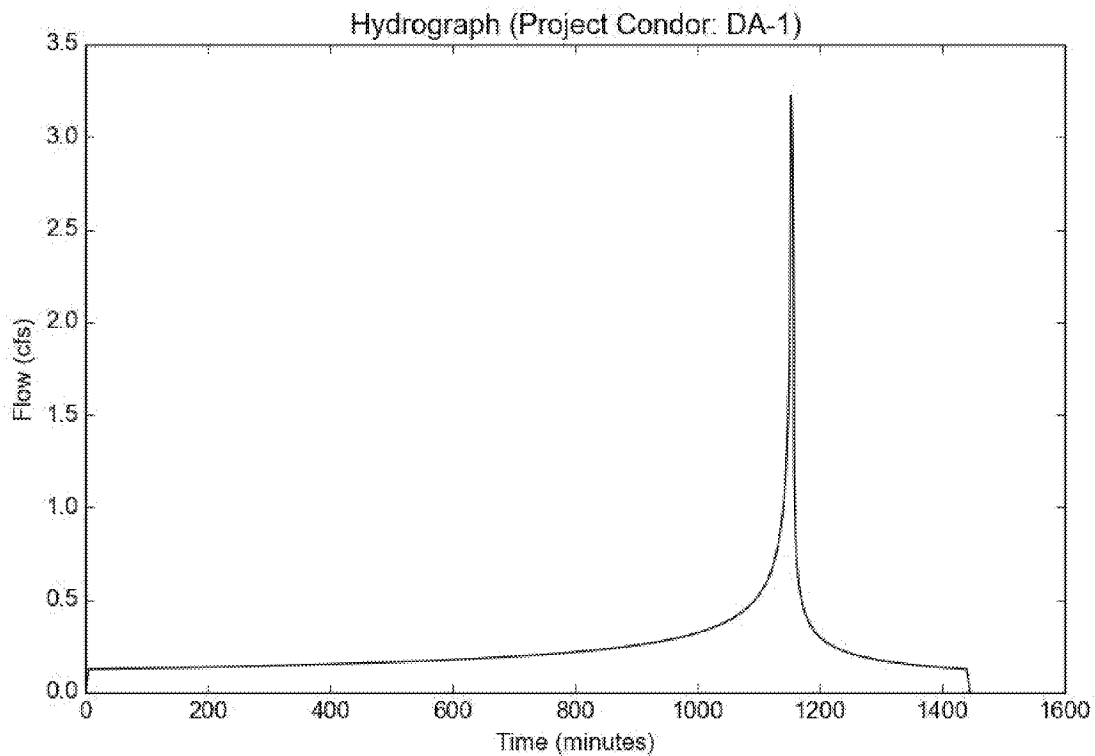
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-1
Area (ac)	1.27
Flow Path Length (ft)	370.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.96
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)	2.8203
Undeveloped Runoff Coefficient (Cu)	0.9139
Developed Runoff Coefficient (Cd)	0.9
Time of Concentration (min)	6.0
Clear Peak Flow Rate (cfs)	3.2236
Burned Peak Flow Rate (cfs)	3.2236
24-Hr Clear Runoff Volume (ac-ft)	0.4707
24-Hr Clear Runoff Volume (cu-ft)	20505.3648



Peak Flow Hydrologic Analysis

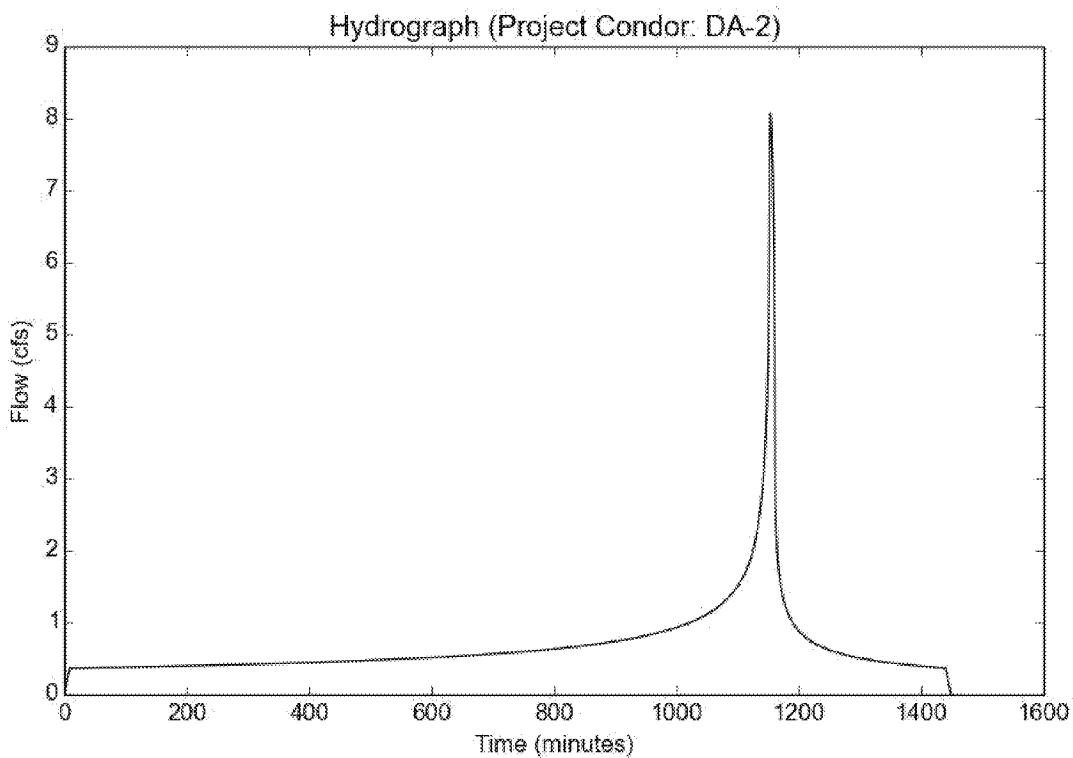
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-2
Area (ac)	3.86
Flow Path Length (ft)	700.0
Flow Path Slope (vft/hft)	0.01
50-yr Rainfall Depth (in)	5.15
Percent Impervious	0.91
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)	0.8972
Time of Concentration (min)	9.0
Clear Peak Flow Rate (cfs)	8.0724
Burned Peak Flow Rate (cfs)	8.0724
24-Hr Clear Runoff Volume (ac-ft)	1.3709
24-Hr Clear Runoff Volume (cu-ft)	59716.2134



Peak Flow Hydrologic Analysis

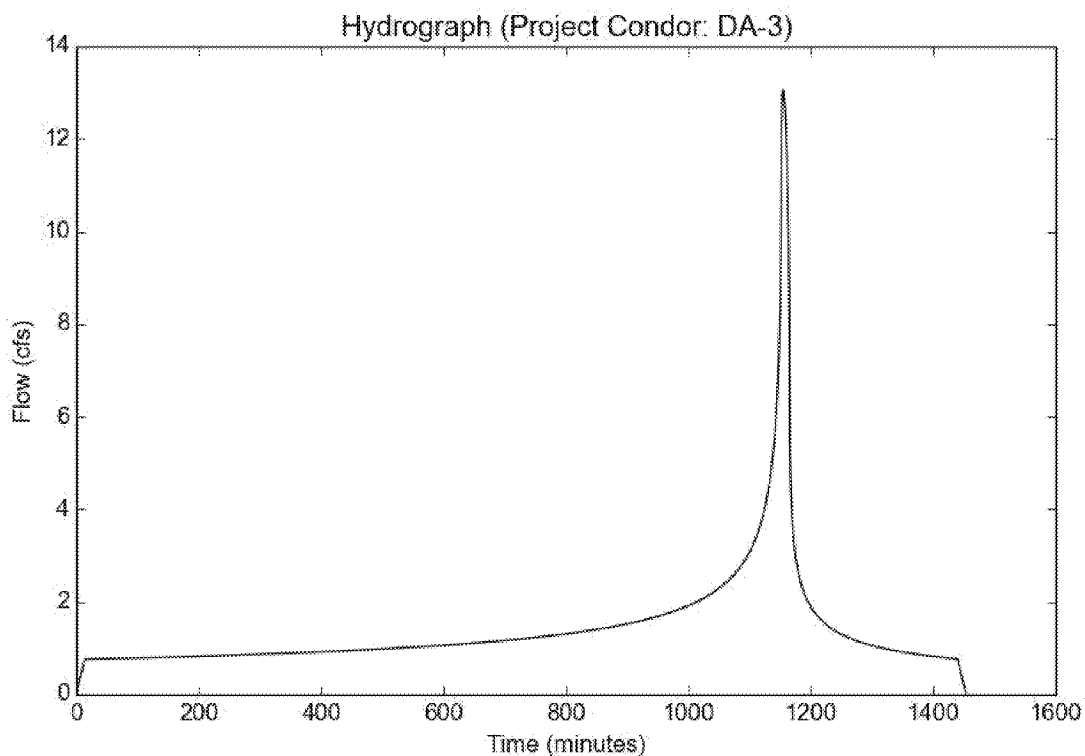
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-3
Area (ac)	7.73
Flow Path Length (ft)	1050.0
Flow Path Slope (vft/hft)	0.004
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)	1.8939
Undeveloped Runoff Coefficient (Cu)	0.7404
Developed Runoff Coefficient (Cd)	0.892
Time of Concentration (min)	14.0
Clear Peak Flow Rate (cfs)	13.0587
Burned Peak Flow Rate (cfs)	13.0587
24-Hr Clear Runoff Volume (ac-ft)	2.8429
24-Hr Clear Runoff Volume (cu-ft)	123834.7286



Peak Flow Hydrologic Analysis

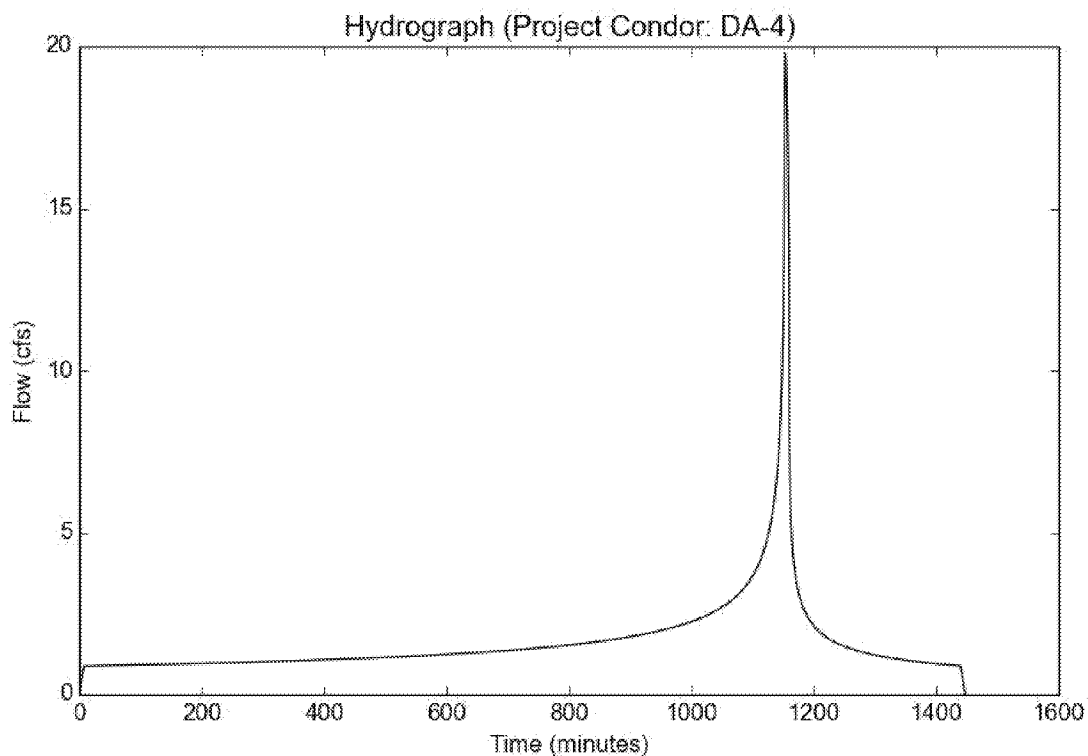
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-4
Area (ac)	8.97
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)	19.7859
Burned Peak Flow Rate (cfs)	19.7859
24-Hr Clear Runoff Volume (ac-ft)	3.2991
24-Hr Clear Runoff Volume (cu-ft)	143708.9552



Peak Flow Hydrologic Analysis

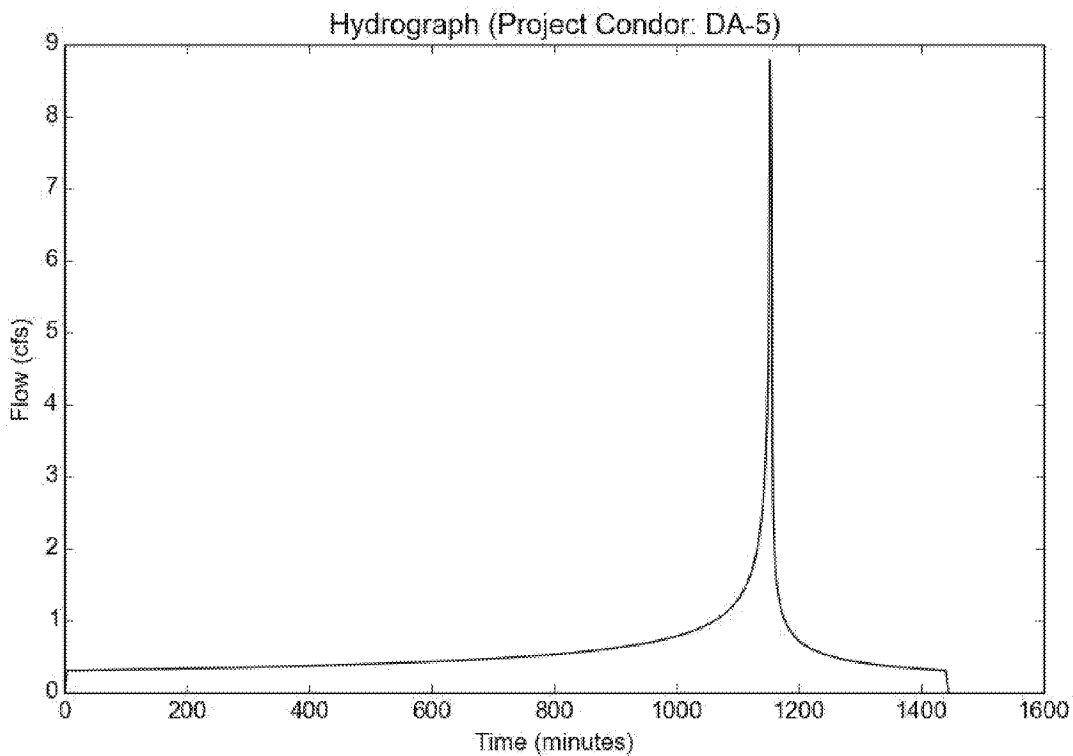
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-5
Area (ac)	3.19
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)	8.7848
Burned Peak Flow Rate (cfs)	8.7848
24-Hr Clear Runoff Volume (ac-ft)	1.1441
24-Hr Clear Runoff Volume (cu-ft)	49837.1138



Peak Flow Hydrologic Analysis

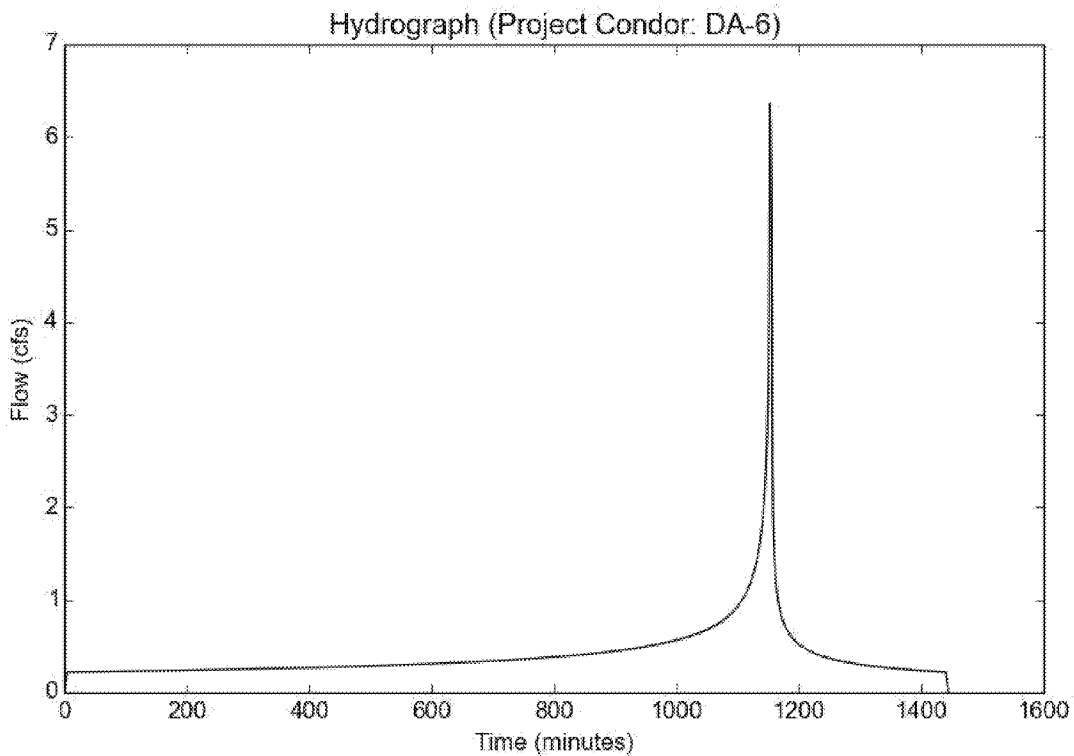
File location: M:/17001/Admin/17001-100/Reports/03_Third round fo the reports March 2019/Hydrology/Calculations/Project Condor Proposed Drainage
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Project Condor
Subarea ID	DA-6
Area (ac)	2.31
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)	6.3614
Burned Peak Flow Rate (cfs)	6.3614
24-Hr Clear Runoff Volume (ac-ft)	0.8285
24-Hr Clear Runoff Volume (cu-ft)	36088.9445



EXISTING STORM DRAIN LINE	CONTRIBUTING ON-SITE DRAINAGE AREA	ALLOWABLE DISCHARGE TO EXISTING LINE [CFS/AC.]	TOTAL ALLOWABLE DISCHARGE TO EXISTING LINE [CFS]	PROPOSED Q ₅₀ FLOW [CFS]	REQUIRED FLOW TO BE MITIGATED WITH STORAGE [CFS]	STORAGE PROVIDED [CF]	OUTFLOW [CFS]	NOTE
PROJECT DDI #8	A1 & A2	1.00	5.13	11.29	6.16	8900	5.11	SUFFICIENT SD CAPACITY
PROJECT 4402 LINE C	A6	1.00	2.31	6.36	4.05	5300	1.96	SUFFICIENT SD CAPACITY
PROJECT 681	A3, A4 & A5	0.72	14.32	41.63	27.31	100800	14.30	SUFFICIENT SD CAPACITY

* TOTAL RUNOFF FROM DRAINAGE AREAS A3 & A4 DETENTION FACILITY OUTFALL OF 5.52 CFS AND DRAINAGE AREA A5 RUNOFF OF 8.78 CFS.



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

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	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.	S.C.G.
L.A. DEPT. OF WATER & POWER WATER SYST. - DW&PWS	
SOUTHERN CALIFORNIA WATER CO.	S.C.W.
INGLEWOOD CITY WATER DEPT.	ING. W.
SOUTHERN CALIFORNIA EDISON CO.	S.C.E.
PACIFIC TELEPHONE & TELEGRAPH CO.	P.T.&T.

**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

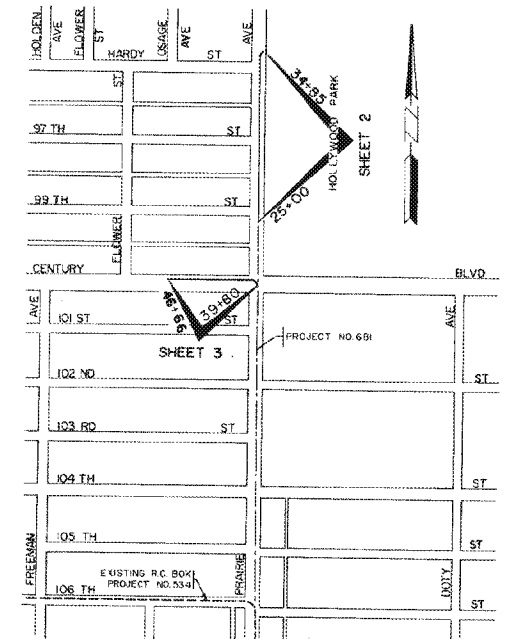
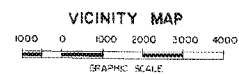
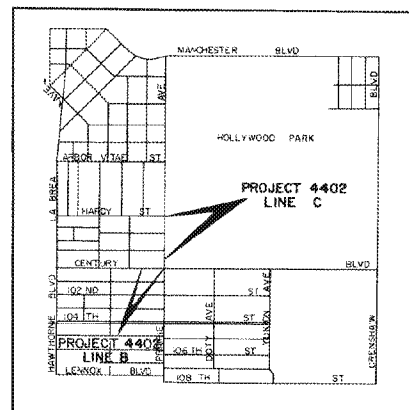
- NUMBERS IN CIRCLES INDICATE ITEMS UNDER WHICH PAYMENT WILL BE MADE.
- ELEVATIONS SHOWN ARE IN FEET ABOVE THE U.S.G.S. MEAN SEA LEVEL DATUM.
- STATIONS SHOWN ON DRAWINGS ARE ALONG CENTER LINE OF CONDUIT OR ON A LINE NORMAL TO CENTER LINE OF CONDUIT.
- STATIONS AND INVERT ELEVATIONS OF PIPE INLETS SHOWN 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_i" 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 1 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.	TITLE
1.	LOCATION MAP, GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, ABBREVIATIONS AND LEGEND.
2.	LINE C, PLAN, PROFILE AND SECTION STA25+00 TO STA34+85
3.	LINE B, PLAN, PROFILE AND SECTION STA39+80 TO STA46+66
4.	LOG OF BORINGS AND RESURFACING PLAN.

**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



NOTE CHANGE OF PROJECT LIMITS
Due to bond issue financing requirements, the upstream limit of Project 681, has been changed to Station 14+98. 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.

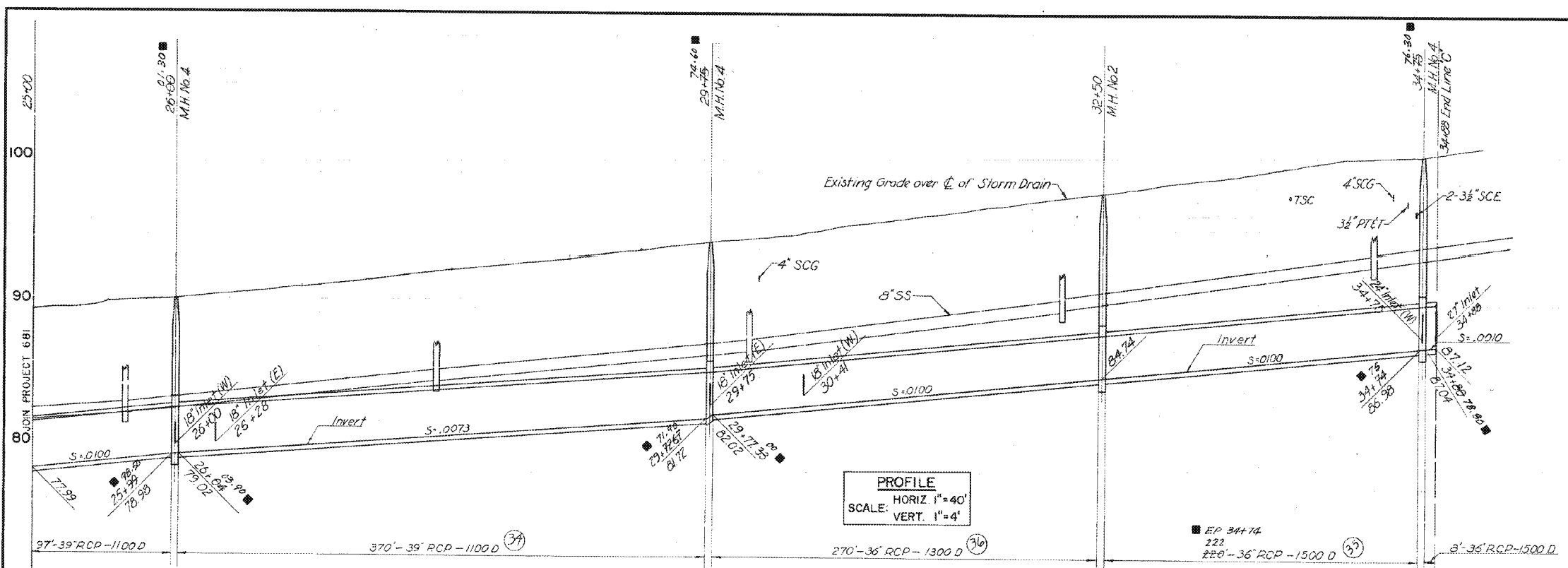


DATE	REVISIONS
5-4-67	Note Change of Project Limits

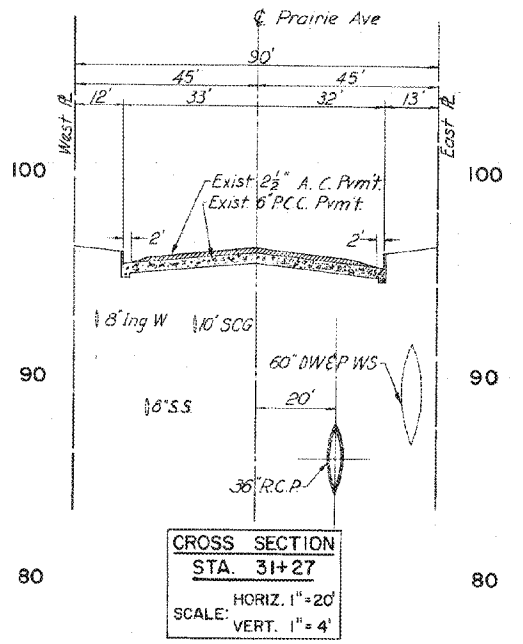
"AS BUILT DWGS."

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION SUBMITTED BY: <i>R.K. Lee</i> ASSISTANT CITY ENGINEER R.C.E. 13078	1964 STORM DRAIN BOND ISSUE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROJECT NO. 4402, UNIT 1 INGLEWOOD LINE B & C LOCATION MAP, GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, LEGEND AND ABBREVIATIONS.
	RECOMMENDED BY: <i>R.K. Lee</i> APPROVED BY: <i>William J. Hannon</i> 12-2-65 CITY ENGINEER R.C.E. 11257 DATE
SCALE: AS SHOWN DATE: JAN. '66 SHEET: 1 OF 4	DWG. NO. 364-4402-D21 SHEET 1 OF 4

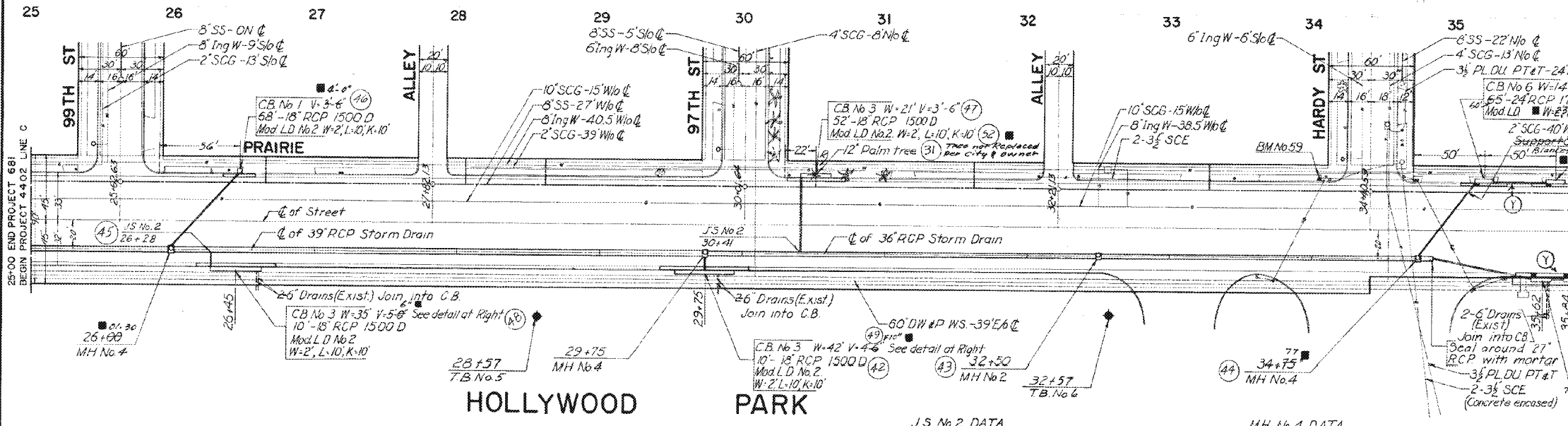
"AS BUILT" DRAWING



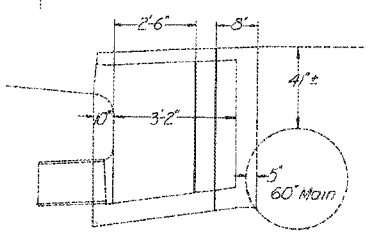
PROFILE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



CROSS SECTION
STA. 31+27
SCALE: HORIZ. 1"=20'
VERT. 1"=4'



B.M. No 59 SW Cor Prairie & Hardy L&PK in W Curb of Prairie 3'S of B.C.R. E199951



Detail for CB No.3 at Sta 26+45 and 29+75.
Width of catch basin inside shall be 2'-6" in lieu of 3'-2" as shown on standard plan 2D-163

J.S. No. 2 DATA

STA.	A	B	C	D	E	F	G	EL. "R"	EL. "S"
26+28	30	18	4.0	39	1.9	2.7	1.9	81.80	80.00
30+41	90	18	4.0	36	1.9	2.7	1.9	84.01	83.42

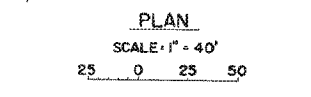
M.H. No. 4 DATA

STA.	A	B	C	D	E	F	G	EL. "R"	EL. "S"
26+00	50	18	5	39	39	7	48	80.37	79.86
29+75	90	18	4	36	39	7	48	84.92	82.68
34+75	54	24	7	36	36	6	52	83.37	87.49

NOTE CHANGE OF PROJECT LIMITS
Due to bond issue financing requirements, the upstream limit of Project 681, has been changed to Station 14+98. See DWG. NO. 364-681-32.3. 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.

REVISIONS

MARK	DATE	DESCRIPTION
1	5-4-87	Note Change Of Project Limits
2	7-26-88	"As Built"
3	11-22-78	PERMIT N° 69104 DWG. N° 364-4402-F5
4	11-22-72	PERMIT N° 69392 DWG. N° 364-4402-F6, 176, 9



1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT
PROJECT NO 4402, UNIT 1
INGLEWOOD
LINE C
CONCRETE CONDUIT
STA. 25+00 TO STA. 34+85
PLAN AND PROFILE

SUBMITTED BY:
R.K. Lee
ASSISTANT CITY ENGINEER R.C.E. 13078

APPROVED BY:
W. J. Haman
CITY ENGINEER R.C.E. 11237

11-15-65
DATE

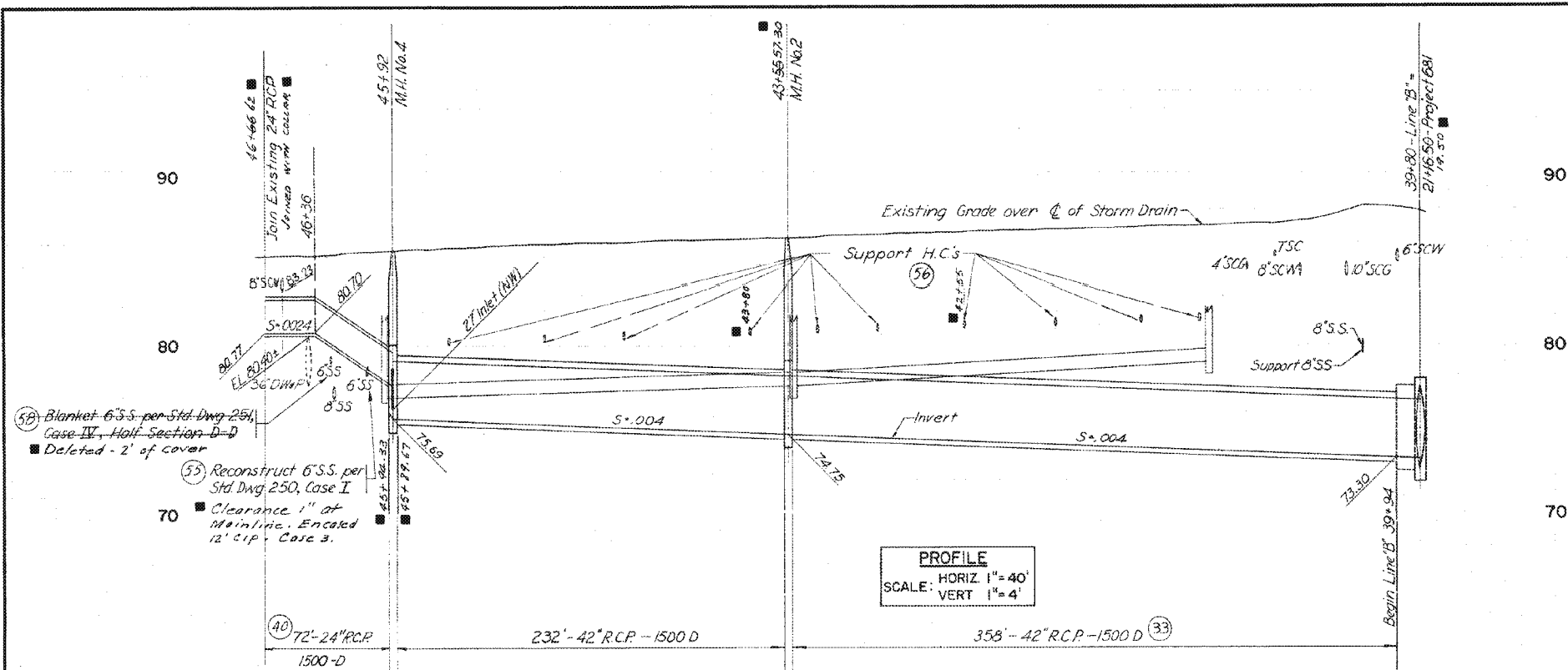
RECOMMENDED BY:
R. C. Cook
DIVISION ENGINEER DESIGN

APPROVAL AUTHORIZED BY:
C. W. Leland
ASST. CHIEF DEPT. ENGINEER

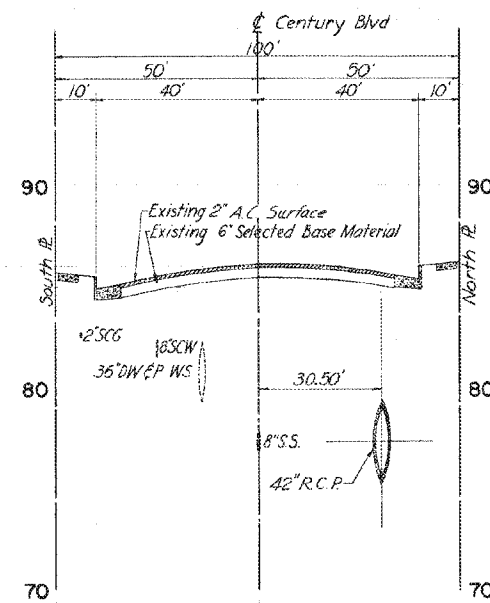
APPROVED BY:
Thacker Wood
CHIEF ENGINEER

SCALE: AS SHOWN
DATE: JAN. 1966
DWG. NO. 364-4402-D22
SHEET 2 OF 4

"AS BUILT" DRAWING

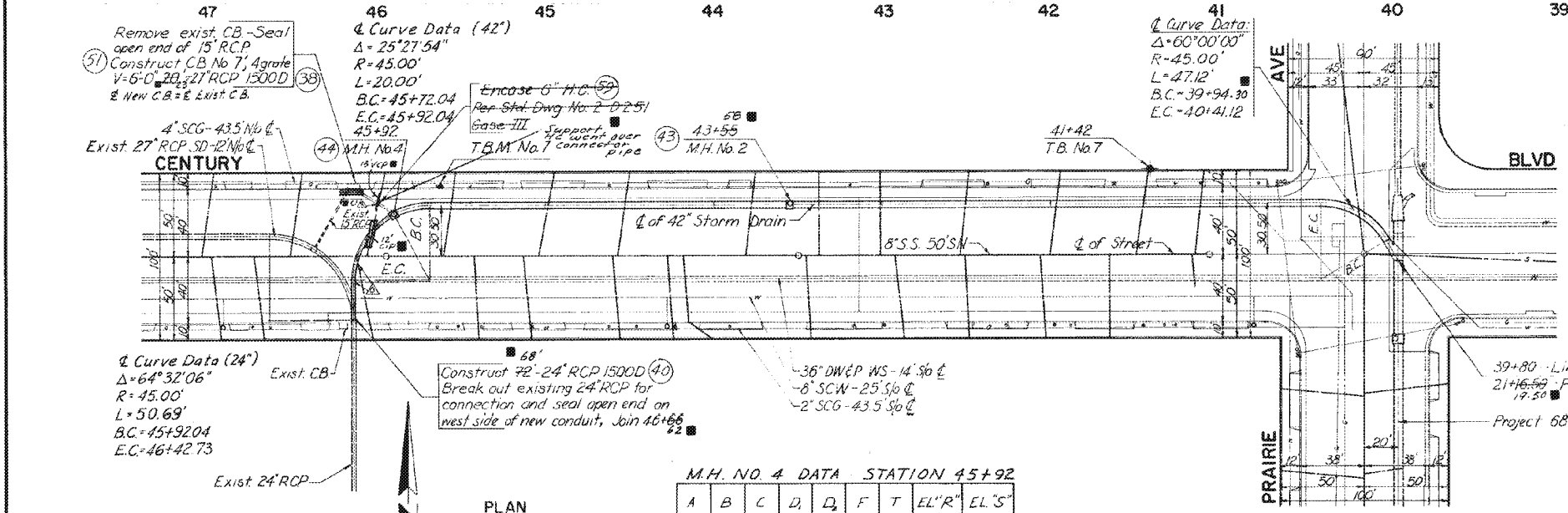


PROFILE
SCALE: HORIZ. 1"=40'
VERT. 1"=4'



CROSS SECTION
STA. 45+65
SCALE: HORIZ. 1"=20'
VERT. 1"=4'

T.B.M. No. 7 L&PK in N Curb of Century
550' W of \bar{C} of Prairie El. 86.046



PLAN
SCALE: 1"=40'

M.H. NO. 4 DATA STATION 45+92

A	B	C	D	D ₁	F	T	EL "R"	EL "S"
36"	27"	8"	24"	42"	7 1/2"	5 1/2"	76.27	75.68

INGLEWOOD	MARK	DATE	DESCRIPTION
INGLEWOOD	7-16-68		"As Built"

1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT

PROJECT NO. 4402, UNIT I
INGLEWOOD
LINE B
CONCRETE CONDUIT
STA. 39+80 TO STA. 46+66

PLAN AND PROFILE

SUBMITTED BY:
R. K. Lee
ASSISTANT CITY ENGINEER RCE 13078

APPROVED BY:
W. H. Haman
CITY ENGINEER RCE 11237

DATE: 11-15-65

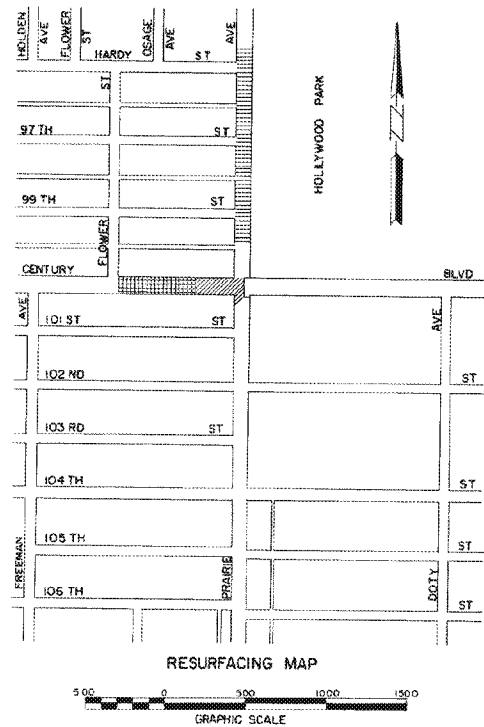
RECOMMENDED BY:
M. H. [Signature]
DIVISION ENGINEER

APPROVAL RECOMMENDED BY:
[Signature]
ASST. CHIEF CITY ENGINEER

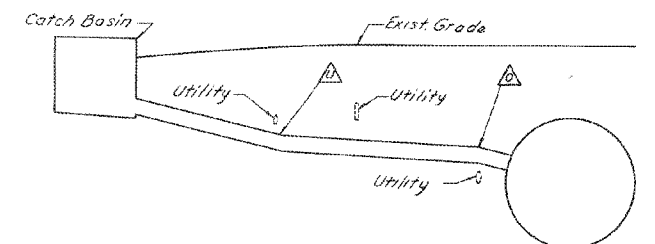
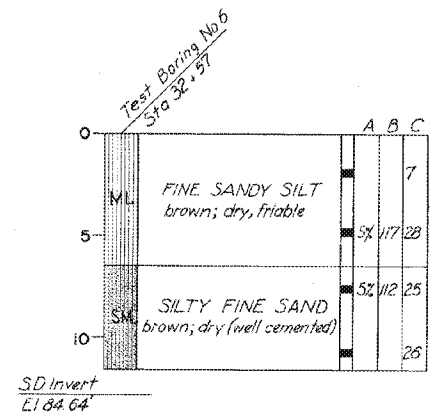
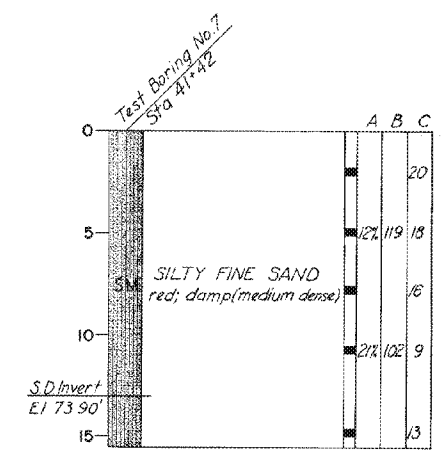
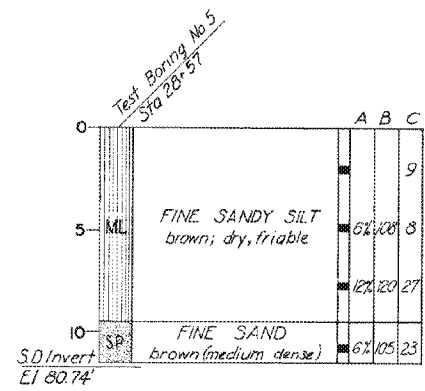
SCALE: AS SHOWN
DATE: JAN. 1 '66

DWG. NO. 364-4402-02.3
SHEET 3 OF 4

"AS BUILT" DRAWING



EXISTING SURFACE		PROPOSED RESURFACING (30)	
6" P.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL		6" P.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL	
2" A. C. SURFACE ON 6" SELECTED BASE MATERIAL		3" A. C. SURFACE ON 6" SELECTED BASE MATERIAL	
2 1/2" A. C. SURFACE ON 6" PORTLAND CEMENT CONC.		2 1/2" 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:

- 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 with a triangle, the connector pipe grade will break over the utility. At locations where utility crossings are marked with a circle, the connector pipe grade will break under the utility.
- 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.
- Where connector pipe has a change of grade exceeding 10ft or differs in diameter from that of existing pipe, use concrete collar per std 2-D 393.
- The Contractor shall make exploratory excavation to determine the exact location and depth of utilities which are marked with a triangle or a circle. 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

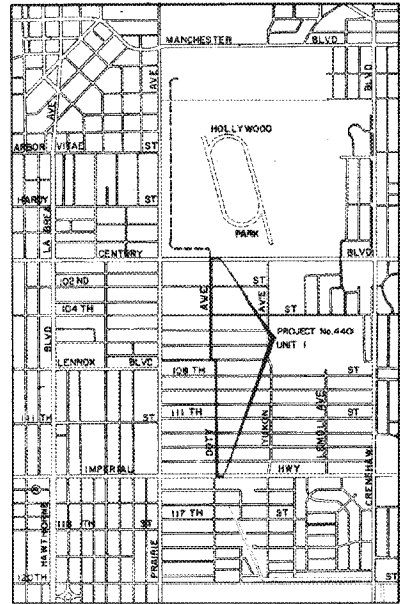
REVISIONS			
NO.	MARK	DATE	DESCRIPTION

1964 STORM DRAIN BOND ISSUE

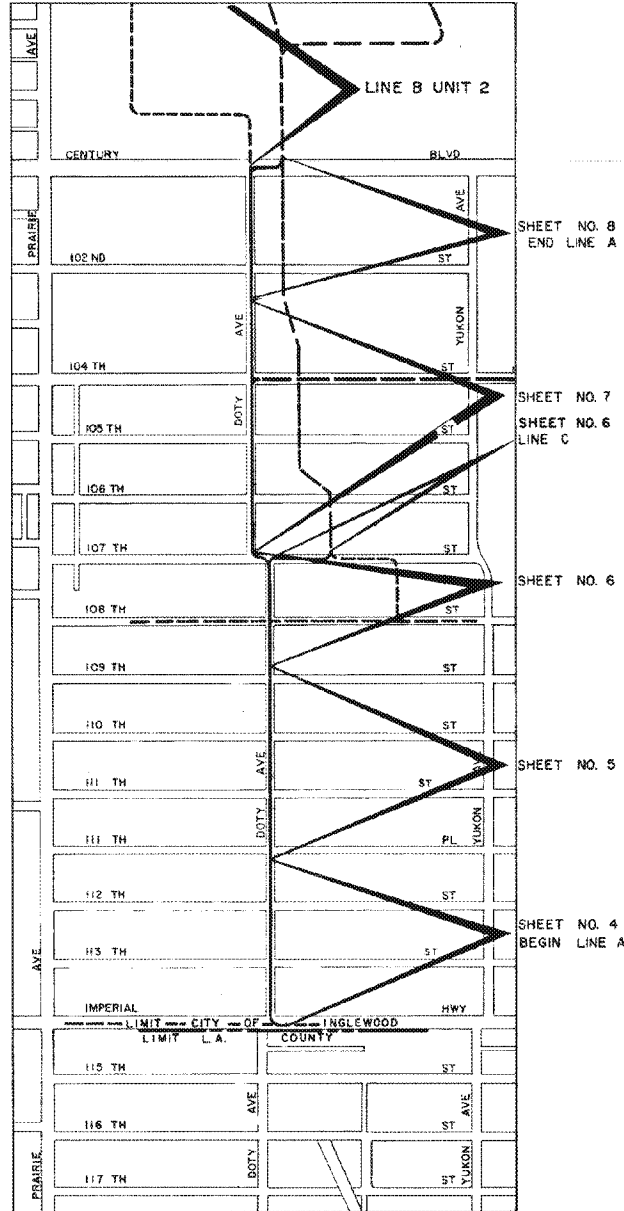
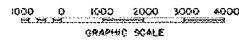
CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
	PROJECT NO. 4402, UNIT I INGLEWOOD
SUBMITTED BY: <i>R. K. Lee</i> ASSISTANT CITY ENGINEER R.C.E. 13078	LOG OF BORINGS, RESURFACING PLAN AND MISCELLANEOUS DETAILS
APPROVED BY: <i>Walter J. Wood</i> CITY ENGINEER R.C.E. 11237	APPROVAL RECOMMENDED BY: <i>Walter J. Wood</i> ASSISTANT CHIEF DEPUTY ENGINEER
DATE: 12-2-65	APPROVED BY: <i>Walter J. Wood</i> CHIEF ENGINEER
SCALE: AS SHOWN	DATE: JAN 13 '66
DWG. NO. 364-4402-024	SHEET 4 OF 4



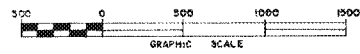
"AS BUILT" DRAWING



VICINITY MAP



LOCATION MAP



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

■ "AS BUILT" DWGS.

LEGEND

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

REVISIONS			
MARK	DATE	DESCRIPTION	

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		1964 STORM DRAIN BOND ISSUE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
SUBMITTED BY: <i>William Mahor</i> ASSISTANT CITY ENGINEER RCE 17167		PROJECT NO. 4401 INGLEWOOD LINES A AND C UNIT I VICINITY MAP, LOCATION MAP AND INDEX TO DRAWINGS	
APPROVED BY: <i>W. C. ...</i> CITY ENGINEER RCE 11237		RECOMMENDED BY: <i>...</i> DIVISION ENGINEER (DESIGN)	
DATE: 1-21-74		SCALE: AS SHOWN	
DWG. NO. 364-440I-D8.1		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. "V₁" IS THE DEPTH OF INLET OF CATCH BASINS IN SERIES MEASURED FROM TOP OF CURB TO INVERT OF CONNECTOR PIPE. "V₂" 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.

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 13 FOR TYPICAL CATCH BASIN CONNECTOR PIPE PROFILE.
23. STREET RESURFACING PLANS ARE SHOWN ON SHEET 13.
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 11 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 RADIALY) 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

REVISIONS			
MARK	DATE	DESCRIPTION	

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
SUBMITTED BY: <i>William M. Baker</i> ASSISTANT CITY ENGINEER R.C.E. 17167		PROJECT NO. 4401 INGLEWOOD LINES A AND C UNIT I GENERAL NOTES & STRUCTURAL NOTES	
APPROVED BY: <i>William M. Baker</i> CITY ENGINEER R.C.E. 11237 DATE 1-3-74		RECOMMENDED BY: <i>R. G. Smith</i> DIVISION ENGINEER (DESIGN)	
SCALE	DATE	DWG. NO.	SHEET
AS SHOWN	Sept 74	364-4401-D6.2	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.
BURRIED 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-D88	LOCAL DEPRESSION NO.2
2-D96	STANDARD DROP STEP
2-D104	MANHOLE NO.3
2-D107	CONCRETE RINGS, REDUCER AND PIPE FOR MANHOLE SHAFT
2-D156	MANHOLE FRAME AND COVER FOR CATCH BASINS
2-D157	CATCH BASIN REINFORCEMENT FOR ROUND MANHOLES
2-D160	CATCH BASIN NO.1
2-D162	CATCH BASIN NO.2
2-D171	STANDARD A-615 REINFORCING BARS
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-D184	MANHOLE NO.2
2-D189	JUNCTION STRUCTURE NO.1
2-D191	JUNCTION STRUCTURE NO.3
2-D193	JUNCTION STRUCTURE NO.4
2-D224	CONNECTION TO CATCH BASIN FOR PIPES 12" THROUGH 72"
2-D232	DETAIL OF CATCH BASIN OPENING
2-D235	TRANSITION STRUCTURE NO.1
2-D239	TRANSITION STRUCTURE NO.2
2-D250	REMODELING OF SANITARY SEWER HOUSE CONNECTIONS
2-D251	PROTECTION FOR MAIN LINE AND HOUSE CONNECTION SEWERS
2-D264	ADJUSTABLE PROTECTION BAR STIRRUP
2-D393	CONCRETE COLLAR FOR PIPES 12" THROUGH 66"
2-D466	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-D413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D465	ADDITIONAL REINFORCEMENT FOR JACKED R.C. BOX
2-D431	"D" LOAD TABLE FOR DESIGN OF ASBESTOS CEMENT PIPE
2-D461	MODIFICATIONS FOR SIDE OPENING CATCH BASINS
2-D472	STANDARD 24 INCH MANHOLE FRAME AND COVER
2-D476	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
M57-39R	PARTIAL CONCRETE REPLACEMENT FOR CROSS GUTTER AND SPANDRELS
32-01	TYPICAL SIDEWALK DETAILS
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

LOS ANGELES COUNTY ROAD DEPARTMENT
STANDARD DRAWINGS

LOS ANGELES COUNTY SANITATION DISTRICT
STANDARD DRAWINGS

DRAWING NO.	TITLE
G-1	STANDARD CURB & GUTTER AND STANDARD CROSS GUTTER
G-2	STANDARD ALLEY INTERSECTION
G-4	STANDARD DRIVEWAY APPROACH

CITY OF INGLEWOOD
STANDARD DRAWINGS

- 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.
- 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.
- 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.
- THE USE OF GUIDE RAILS, SLABS, CRADLES, ETC. WILL BE SUBJECT TO WRITTEN APPROVAL BY THE ENGINEER.

STRUCTURAL NOTES CONT'D.

- 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.
- AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C₂, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT.
- IN ALL SECTIONS LAP C AND C₂ BARS, THE VERTICAL LENGTH OF C AND C₂ BARS HAS BEEN CALCULATED FOR A FOUR-INCH STARTER WALL. IF THE HEIGHT OF STARTER IS VARIED, THE VERTICAL LENGTH OF THE C AND C₂ 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.
- IF WALL THICKNESS IS SIX INCHES, PLACE REINFORCEMENT AT THE CENTERLINE OF THE WALL.
- CONCRETE QUANTITIES ARE BASED ON A SIX BY SIX INCH FILLET AND STEEL QUANTITIES DO NOT INCLUDE ANY OPTIONAL SPLICES.
- 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.
- CONCRETE BREAKOUT NOTES:
 - 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.
 - 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.

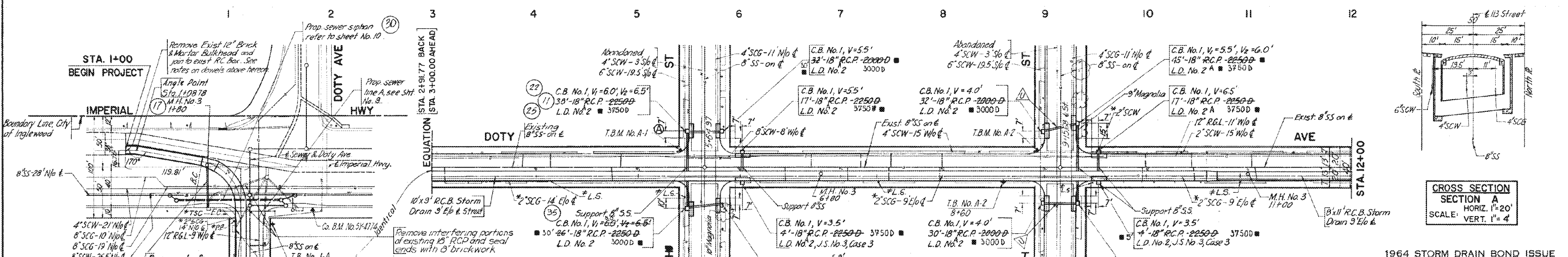
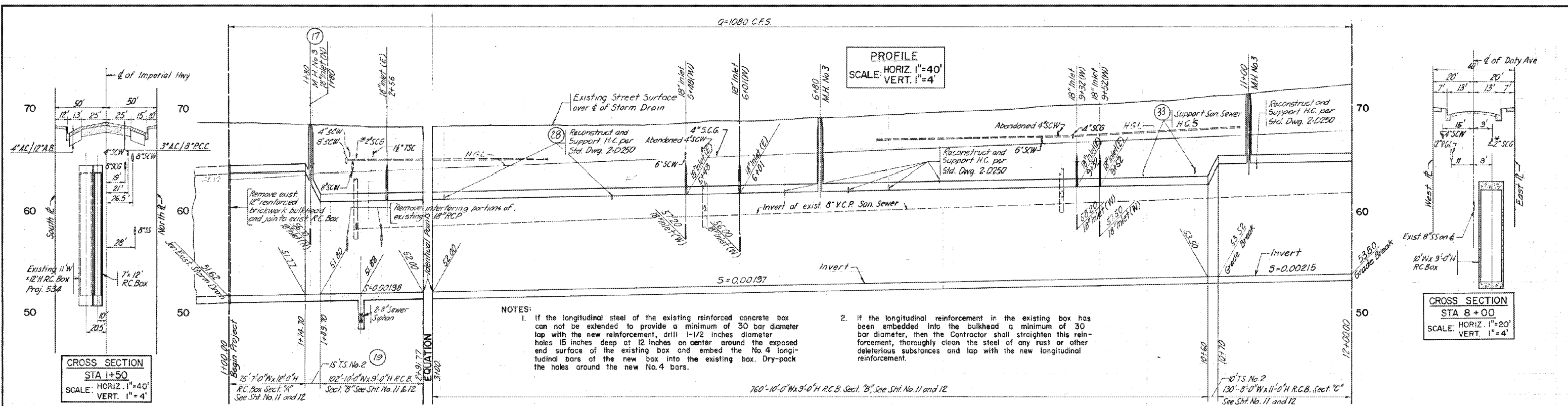


1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
SUBMITTED BY: <i>William J. Mohr</i> ASSISTANT CITY ENGINEER R.C.E. 17167		PROJECT NO. 4401 INGLEWOOD LINES A, AND C UNIT I LEGEND AND ABBREVIATION, STANDARD DRAWINGS, AND STRUCTURAL NOTES	
APPROVED BY: <i>William J. Mohr</i> CITY ENGINEER R.C.E. 11237		RECOMMENDED BY: <i>[Signature]</i> DIVISION ENGINEER (DESIGN)	
SCALE AS SHOWN	DATE 1-31-74	DWG. NO. 364-4401-D63	SHEET 3 OF 14

REVISIONS			
NO.	DATE	DESCRIPTION	BY

"AS BUILT" DRAWING



NOTES:

- If the longitudinal steel of the existing reinforced concrete box can not be extended to provide a minimum of 30 bar diameter lap with the new reinforcement, drill 1-1/2 inches diameter holes 15 inches deep at 12 inches on center around the exposed end surface of the existing box and embed the No. 4 longitudinal bars of the new box into the existing box. Dry-pack the holes around the new No. 4 bars.
- If the longitudinal reinforcement in the existing box has been embedded into the bulkhead a minimum of 30 bar diameter, then the Contractor shall straighten this reinforcement, thoroughly clean the steel of any rust or other deleterious substances and lap with the new longitudinal reinforcement.

CURVE DATA
 $A=80'01.14'$ $B.C.=1+79.70$
 $R=45.00$ $EC=2+37.54$
 $L=62.84$ $T=37.77$

REVISIONS

MARK	DATE	DESCRIPTION
10-2-80	As Built	

PLAN
SCALE: 1"=40'
25 0 25 50

LINE A

PLAN
SCALE: 1"=40'
25 0 25 50

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

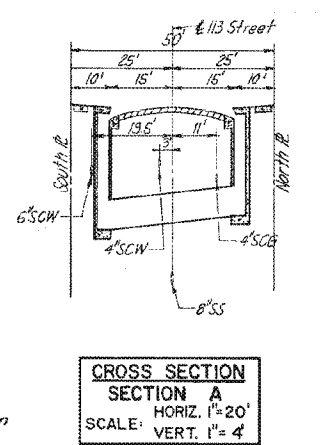
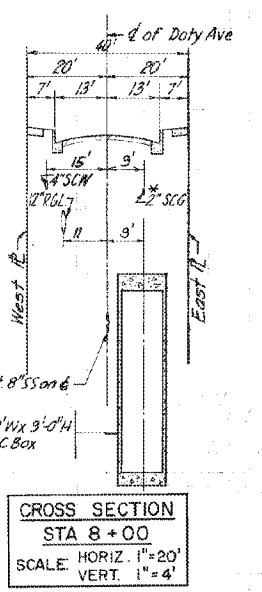
PROJECT NO. 4401
INGLEWOOD
LINE A UNIT I
CONCRETE CONDUIT
STA. 1+00 TO STA. 12+00
PLAN AND PROFILE

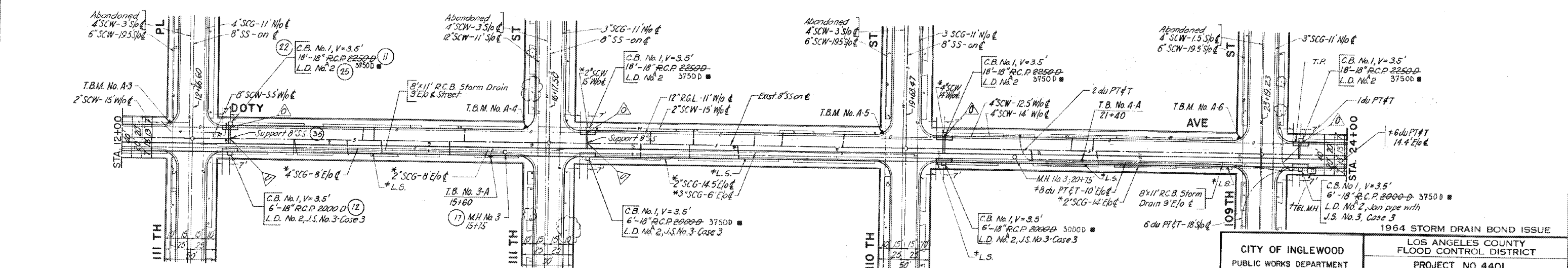
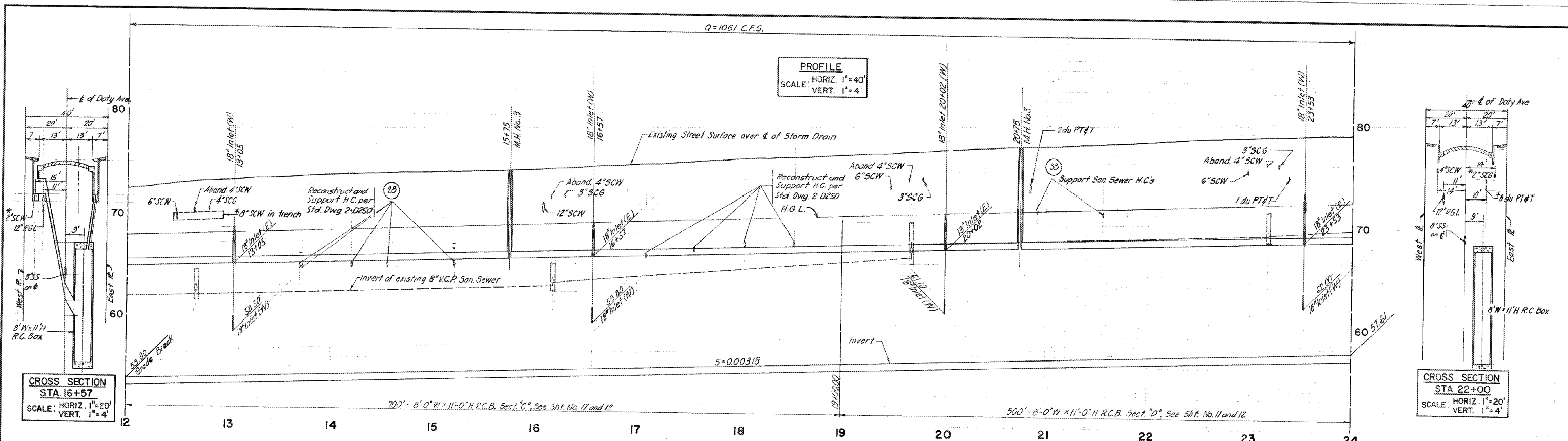
APPROVED BY:
CITY ENGINEER

DATE: 74

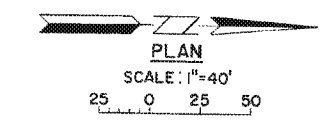
DWG. NO. 364-4401-D6.4
SHEET 4 OF 14

1964 STORM DRAIN BOND ISSUE
LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT





REVISIONS		
MARK	DATE	DESCRIPTION
1	10-2-80	As Built



T.B.M. No. A-3 L&PK in curb return S/W cor. of Doty Ave and 111th Pl. 7' N/o B.C.R. El. 70.420

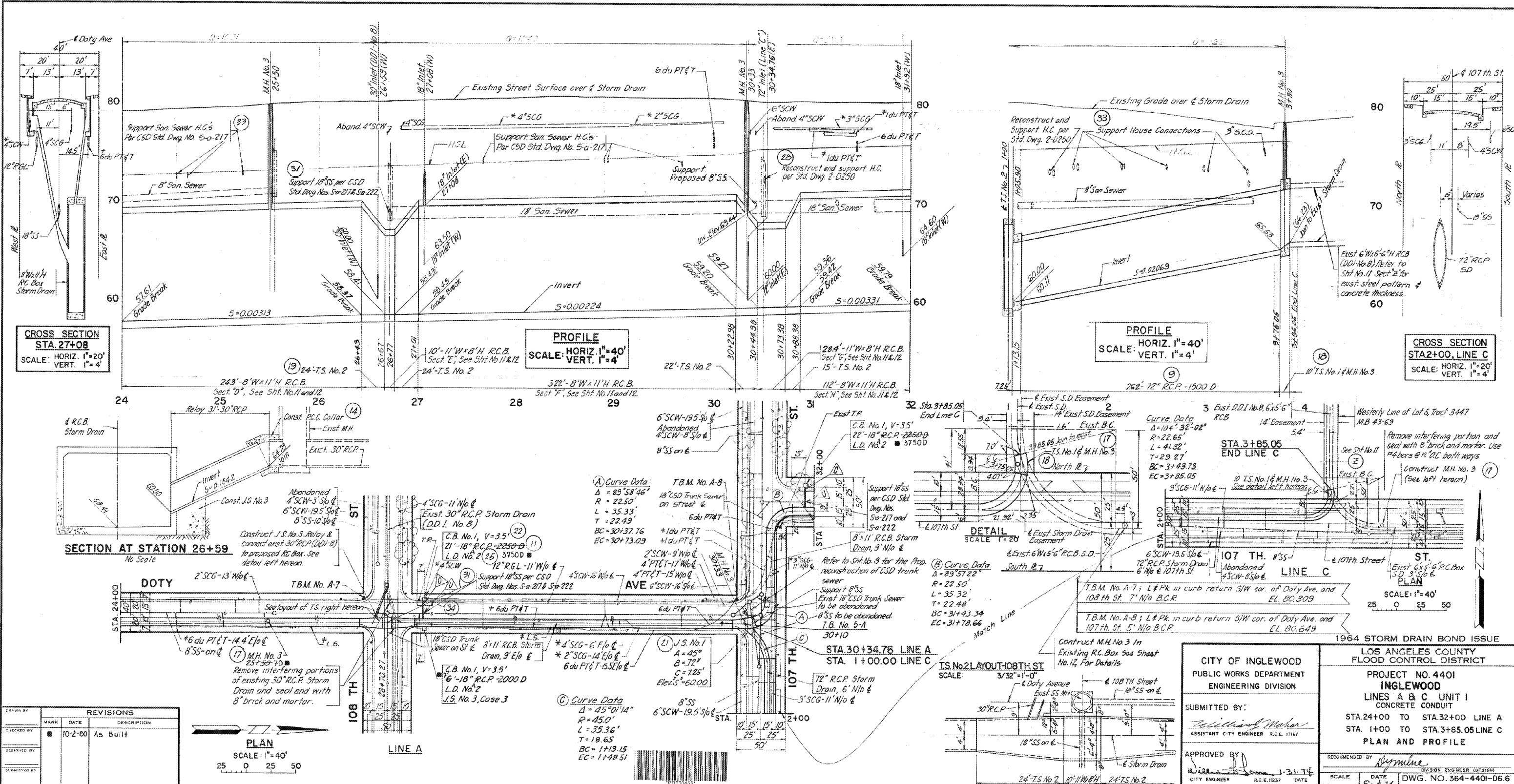
T.B.M. No. A-4 L&PK in curb return S/W cor. of Doty Ave and 111th St. 7' N/o B.C.R. El. 74.868

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

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	PROJECT NO. 4401 INGLEWOOD LINE A UNIT I CONCRETE CONDUIT STA. 12+00 TO STA. 24+00 PLAN AND PROFILE
	SUBMITTED BY: <i>William M. Mahan</i> ASSISTANT CITY ENGINEER R.C.E. 17167
	APPROVED BY: <i>William J. ...</i> CITY ENGINEER R.C.E. 11837
RECOMMENDED BY: <i>...</i> DIVISION ENGINEER (DESIGN)	SCALE AS SHOWN: Sept 74 DATE: Sept 74 DWG. NO. 364-4401-D6.5 SHEET 5 OF 14

"AS BUILT" DRAWING



CROSS SECTION
STA. 27+08
 SCALE: HORIZ. 1"=20'
 VERT. 1"=4'

PROFILE
 SCALE: HORIZ. 1"=40'
 VERT. 1"=4'

PROFILE
 SCALE: HORIZ. 1"=40'
 VERT. 1"=4'

CROSS SECTION
STA. 2+00, LINE C
 SCALE: HORIZ. 1"=20'
 VERT. 1"=4'

SECTION AT STATION 26+59
 No Scale

DETAIL
 SCALE 1"=20'

PLAN
 SCALE 1"=40'

REVISIONS	
MARK	DESCRIPTION
10-2-00	As Built

PLAN
 SCALE: 1"=40'
 25 0 25 50

CITY OF INGLEWOOD
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION

SUBMITTED BY:
William Maher
 ASSISTANT CITY ENGINEER R.C.E. 17167

APPROVED BY:
[Signature]
 CITY ENGINEER R.C.E. 10237 DATE 1-31-74

1964 STORM DRAIN BOND ISSUE

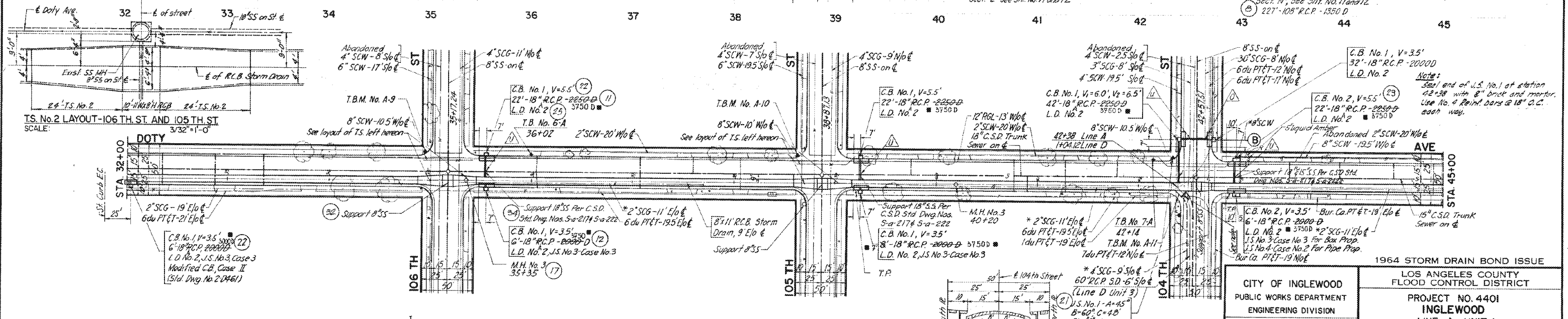
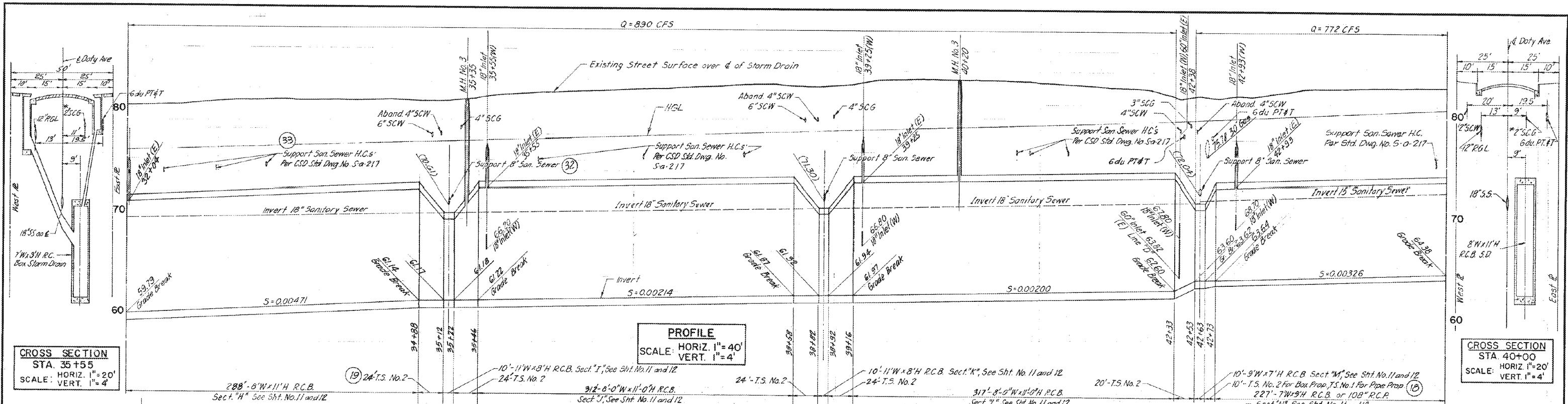
LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT

PROJECT NO. 4401
INGLEWOOD
LINE A & C UNIT I
CONCRETE CONDUIT
 STA. 24+00 TO STA. 32+00 LINE A
 STA. 1+00 TO STA. 3+85.05 LINE C
PLAN AND PROFILE

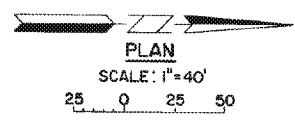
RECOMMENDED BY:
[Signature]
 DIVISION ENGINEER (UPON)

SCALE AS SHOWN DATE 1-31-74 DWG. NO. 364-4401-06.6 SHEET 6 OF 14

"AS BUILT" DRAWING



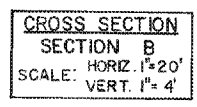
REVISIONS			
MARK	DATE	DESCRIPTION	
15-2-80		As Built	



T.B.M. No. A-9; L&P.K. in curb return S/W cor. Doty Ave. and 106th St. 6" N/O B.C.R. El. 80.967

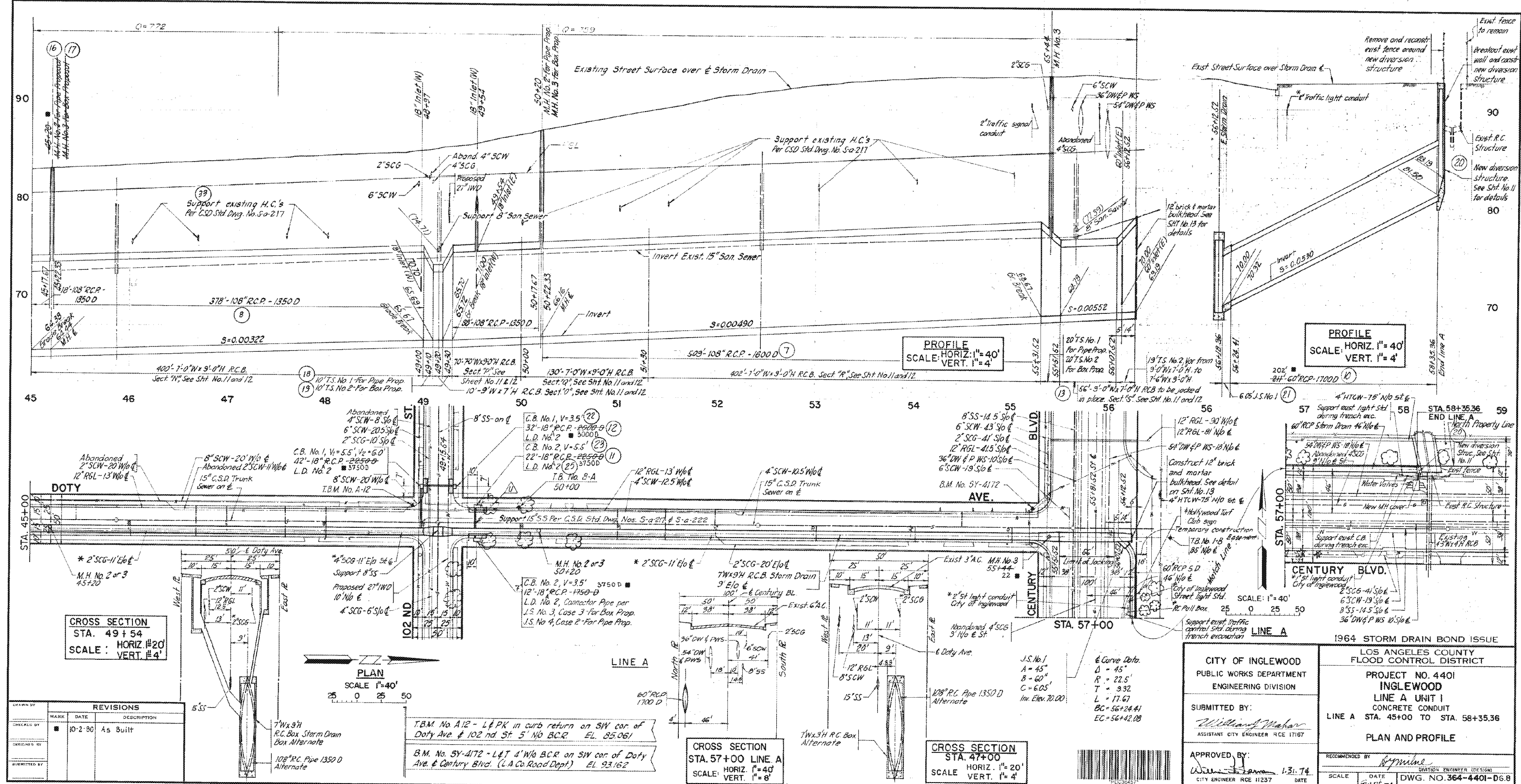
T.B.M. No. A-10; L&P.K. in curb return S/W cor. Doty Ave. and 105th St. 6" N/O B.C.R. El. 82.681

T.B.M. No. A-11; L&P.K. in curb return S/W cor. Doty Ave. and 104th St. El. 81.825



CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION SUBMITTED BY: <i>William M. Mader</i> ASSISTANT CITY ENGINEER RCE 17167 APPROVED BY: <i>W. J. ...</i> CITY ENGINEER RCE 11237	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROJECT NO. 4401 INGLEWOOD LINE A UNIT I CONCRETE CONDUIT STA. 32+00 TO STA. 45+00 PLAN AND PROFILE
	RECOMMENDED BY: <i>W. J. ...</i> DIVISION ENGINEER (DESIGN) SCALE: AS SHOWN DATE: Sept. 74 DWG. NO. 364-4401-D6.7 SHEET 7 OF 14

"AS BUILT" DRAWING



CROSS SECTION
 STA. 49+54
 SCALE: HORIZ. 1"=40'
 VERT. 1"=4'

PLAN
 SCALE: 1"=40'

CROSS SECTION
 STA. 57+00 LINE A
 SCALE: HORIZ. 1"=40'
 VERT. 1"=8'

CROSS SECTION
 STA. 47+00
 SCALE: HORIZ. 1"=20'
 VERT. 1"=4'

PROFILE
 SCALE: HORIZ. 1"=40'
 VERT. 1"=4'

CROSS SECTION
 STA. 57+00
 SCALE: 1"=40'

REVISIONS	
MARK	DESCRIPTION
1	As Built

T.B.M. No. A12 - L&T PK in curb return on SW cor of Doty Ave. & 102nd St. 5' N/O B.C.R. EL. 85.061
 B.M. No. 5Y-4172 - L&T 4' W/O B.C.R. on SW cor of Doty Ave. & Century Blvd. (L.A. Co. Road Dept.) EL. 93.162

J.S. No. 1
 A = 45'
 B = 60'
 C = 605'
 L = 17.67
 BC = 56+24.41
 EC = 56+42.08

CITY OF INGLEWOOD
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION

SUBMITTED BY:
William Mahan
 ASSISTANT CITY ENGINEER RCE 17167

APPROVED BY:
William Mahan
 CITY ENGINEER RCE 11237

1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY
 FLOOD CONTROL DISTRICT

PROJECT NO. 4401
INGLEWOOD
 LINE A UNIT I
 CONCRETE CONDUIT
 LINE A STA. 45+00 TO STA. 58+35.36

PLAN AND PROFILE

RECOMMENDED BY: *Rymine*
 DIVISION ENGINEER (DESIGN)

SCALE: AS SHOWN DATE: 5/21/74 DWG. NO. 364-4401-D6.8 SHEET 8 OF 14

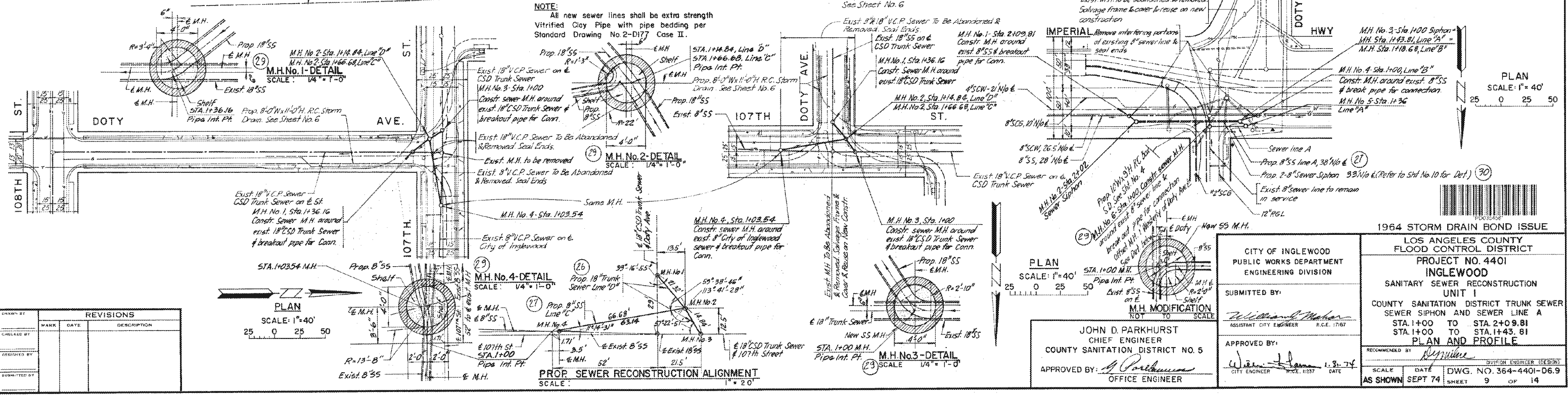
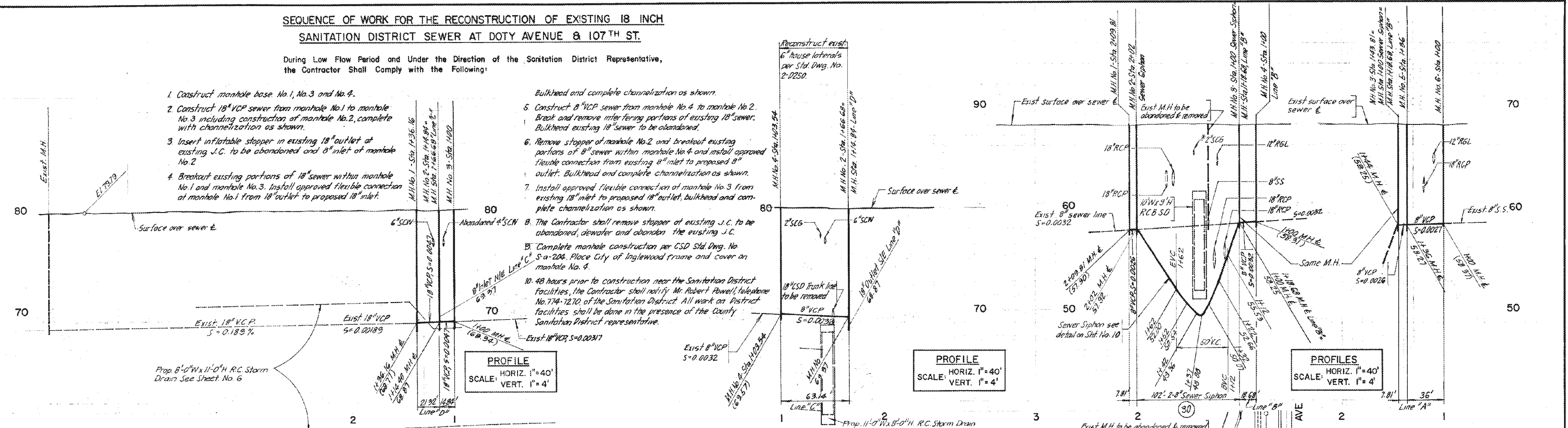
"AS BUILT" DRAWING

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

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

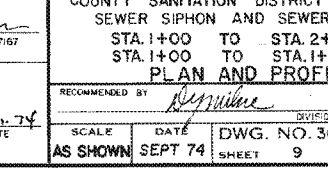
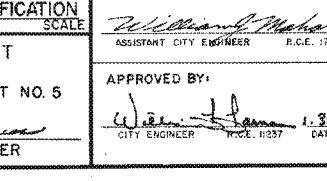
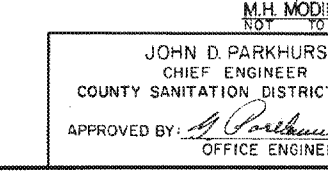
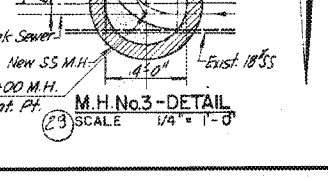
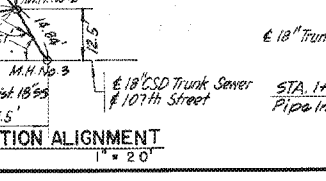
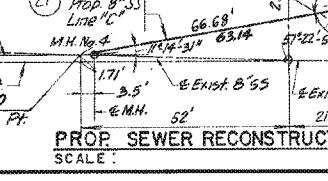
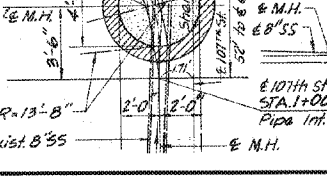
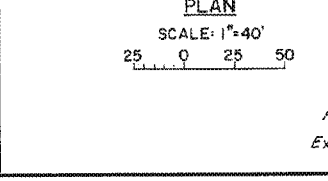
1. Construct manhole base No. 1, No. 3 and No. 4.
2. Construct 18" VCP sewer from manhole No. 1 to manhole No. 3 including construction of manhole No. 2, complete with channelization as shown.
3. Insert inflatable stopper in existing 18" outlet at existing J.C. to be abandoned and 8" inlet of manhole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

5. Construct 8" VCP sewer from manhole No. 4 to manhole No. 2. Break and remove interfering portions of existing 18" sewer. Bulkhead existing 18" sewer to be abandoned.
6. Remove stopper of manhole No. 2 and breakout existing portions of 8" sewer within manhole No. 4 and install approved flexible connection from existing 8" inlet to proposed 8" outlet. Bulkhead and complete channelization as shown.
7. Install approved flexible connection of manhole No. 3 from existing 18" inlet to proposed 18" outlet, bulkhead and complete channelization as shown.
8. The Contractor shall remove stopper of existing J.C. to be abandoned, dewater and abandon the existing J.C.
9. Complete manhole construction per CSD Std. Dwg. No. S-a-204. Place City of Inglewood frame and cover on manhole No. 4.
10. 48 hours prior to construction near the Sanitation District facilities, the Contractor shall notify Mr. Robert Powell, telephone No. 774-7270, of the Sanitation District. All work on District facilities shall be done in the presence of the County Sanitation District representative.



REVISIONS			
MARK	DATE	DESCRIPTION	

DRAWN BY	
CHECKED BY	
DESIGNED BY	
SUBMITTED BY	

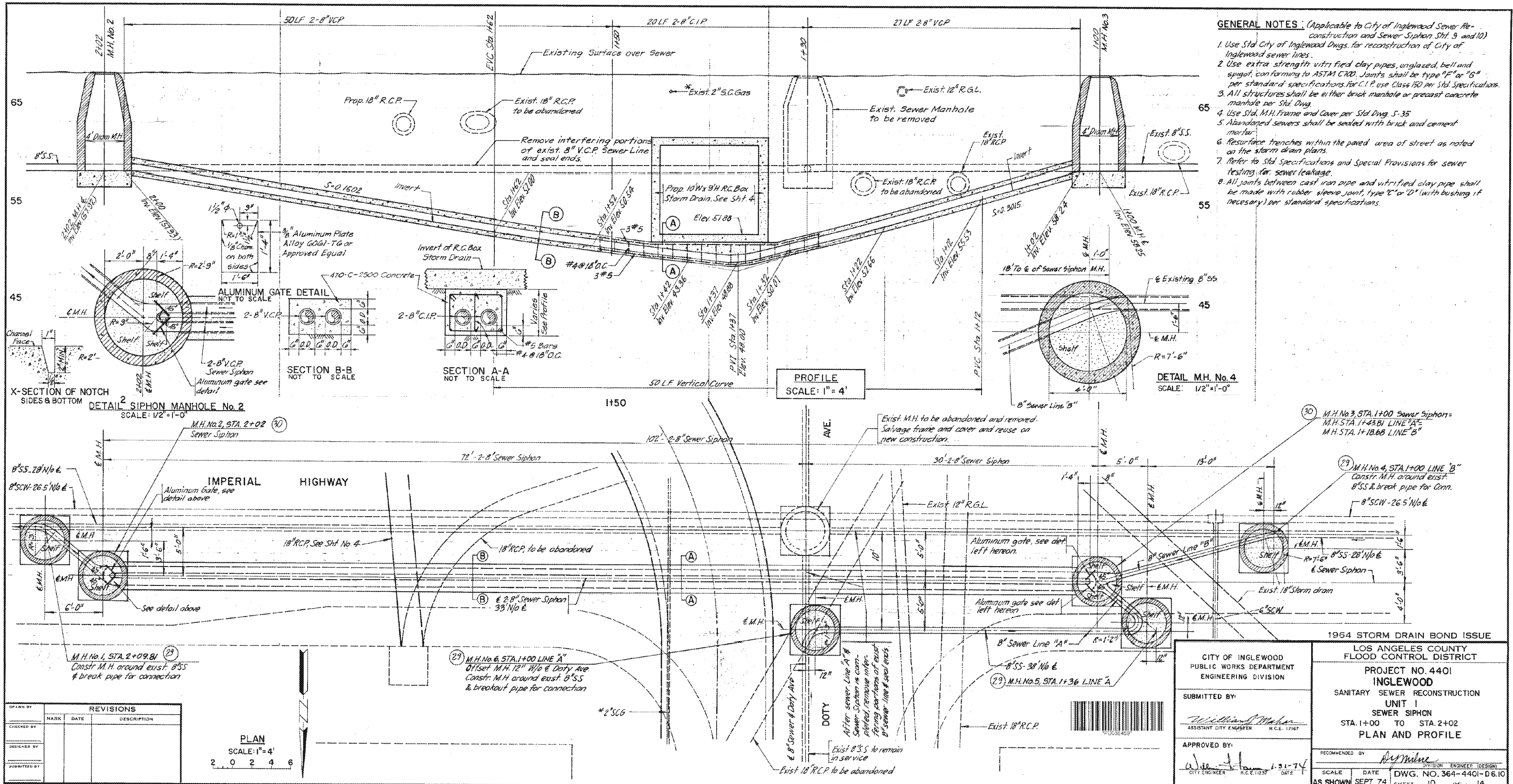


NOTE:
All new sewer lines shall be extra strength Vitrified Clay Pipe with pipe bedding per Standard Drawing No. 2-D177 Case II.

PLAN
SCALE: 1" = 40'
25 0 25 50

APPROVED BY:
JOHN D. PARKHURST
CHIEF ENGINEER
COUNTY SANITATION DISTRICT NO. 5
OFFICE ENGINEER

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION SUBMITTED BY: <i>William Maher</i> ASSISTANT CITY ENGINEER R.C.E.: 7167 APPROVED BY: <i>William Maher</i> CITY ENGINEER R.C.E.: 1137 DATE: 1.31.74	1964 STORM DRAIN BOND ISSUE
	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT PROJECT NO. 4401 INGLEWOOD SANITARY SEWER RECONSTRUCTION UNIT I COUNTY SANITATION DISTRICT TRUNK SEWER SEWER SIPHON AND SEWER LINE A STA. 1+00 TO STA. 2+09.81 STA. 1+00 TO STA. 1+43.81 PLAN AND PROFILE



- GENERAL NOTES:** (Applicable to City of Inglewood Sewer Reconstruction and Sewer Siphon Sht. 9 and 10)
1. Use Std. City of Inglewood Dwg. for reconstruction of City of Inglewood sewer lines.
 2. Use extra strength vitrified clay pipes, unglazed, bell and spigot, conforming to ASTM C700. Joints shall be type "F" or "G" per standard specifications for C.I.P. use Class 150 per Std. Specifications.
 3. All structures shall be either brick manhole or precast concrete manhole per Std. Dwg.
 4. Use Std. M.H. Frame and Cover per Std. Dwg. S-35
 5. Abandoned sewers shall be sealed with brick and cement mortar.
 6. Resurface trenches within the paved area of street as noted on the storm drain plans.
 7. Refer to Std. Specifications and Special Provisions for sewer testing for sewer leakage.
 8. All joints between cast iron pipe and vitrified clay pipe shall be made with rubber sleeve joint, type "C" or "D" (with bushing if necessary) per standard specifications.

REVISIONS		
MARK	DATE	DESCRIPTION

PLAN
SCALE: 1" = 4'
2 0 2 4 6

1964 STORM DRAIN BOND ISSUE

LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT

PROJECT NO. 4401
INGLEWOOD
SANITARY SEWER RECONSTRUCTION
UNIT I
SEWER SIPHON
STA. 1+00 TO STA. 2+02
PLAN AND PROFILE

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

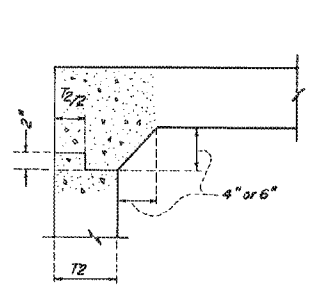
SUBMITTED BY:
William Maher
ASSISTANT CITY ENGINEER R.C.E. 17167

APPROVED BY:
William Maher 1-31-74
CITY ENGINEER R.C.E. 11237 DATE

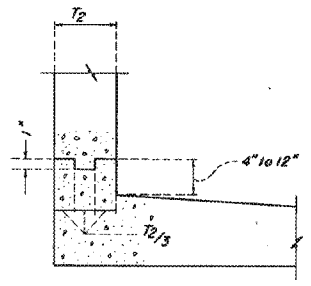
RECOMMENDED BY:
R. J. Miller
ENGINEER (DESIGN)

SCALE: AS SHOWN DATE: DWG. NO. 364-4401-D-6.10 SHEET 10 OF 14

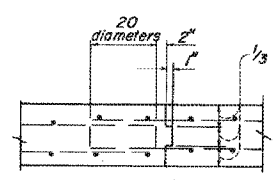
"AS BUILT" DRAWING



TOP OF WALL

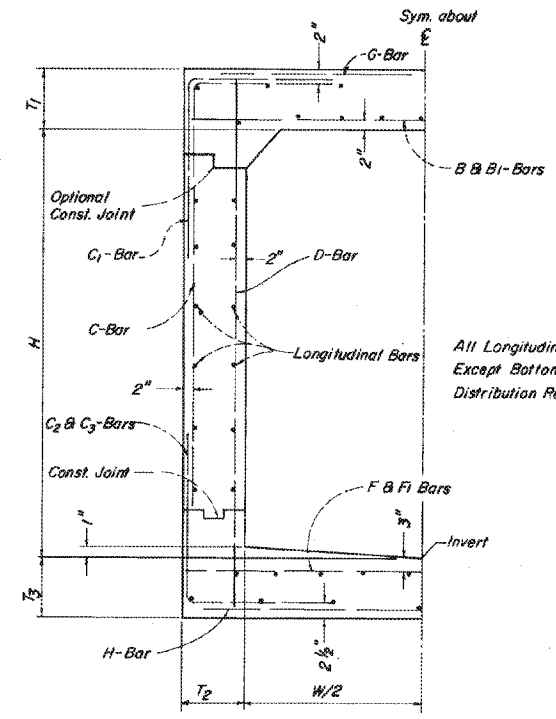


BASE OF WALL



TRANSVERSE JOINT
CONSTRUCTION JOINT DETAILS
NO SCALE

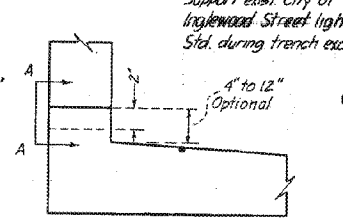
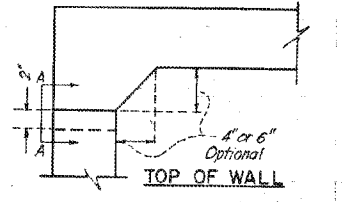
DESIGN DATA:
LIVE LOAD:
 H20-S16-44 unless otherwise noted
DEAD LOAD:
 Earth load per Marston's formula: $W=120$ PCF
 $K_u = K_v = 0.150$
 B_d = Outside width of box plus 3 feet
 Side earth $W=40$ PSF per foot of depth
 Internal water pressure: 62.4 p.s.f. per foot of depth
 Weight of Concrete: 150 p.c.f.
ALLOWABLE STRESSES:
 $f'_c = 4000$ p.s.i. at 28 days
 $f'_c = 1800$ p.s.i.
 $f_s = 24,000$ p.s.i.
 $n = 8$
 shear and bond stresses per A.C.I. 318-63



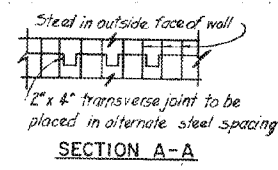
TYPICAL R.C. BOX SECTION
NO SCALE

All Longitudinal Bar Spacing 18" c.-c.,
 Except Bottom Face of Top Slab with
 Distribution Reinforcement.

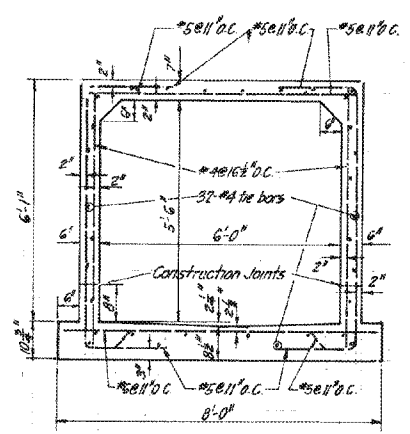
CONSTRUCTION JOINT DETAILS
 FOR BOXES JACKED IN PLACE



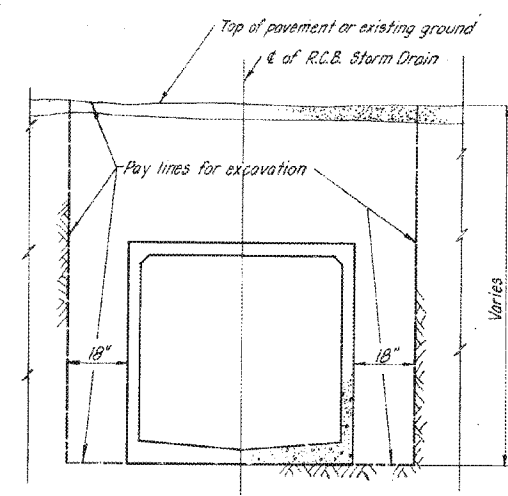
TOP OF WALL
 BASE OF WALL
 Refer to Std. Dwg. No. 2-D465 for
 additional steel details



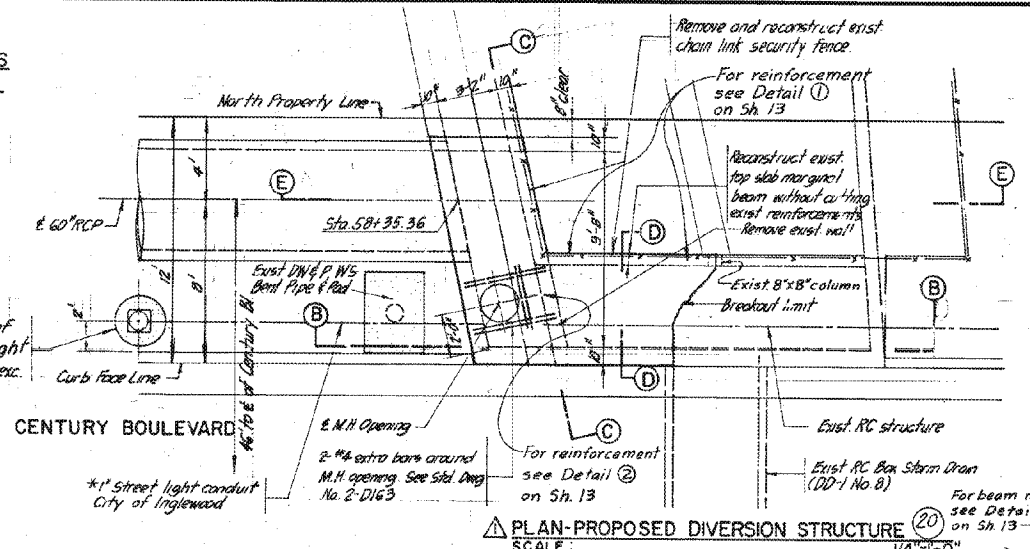
SECTION A-A



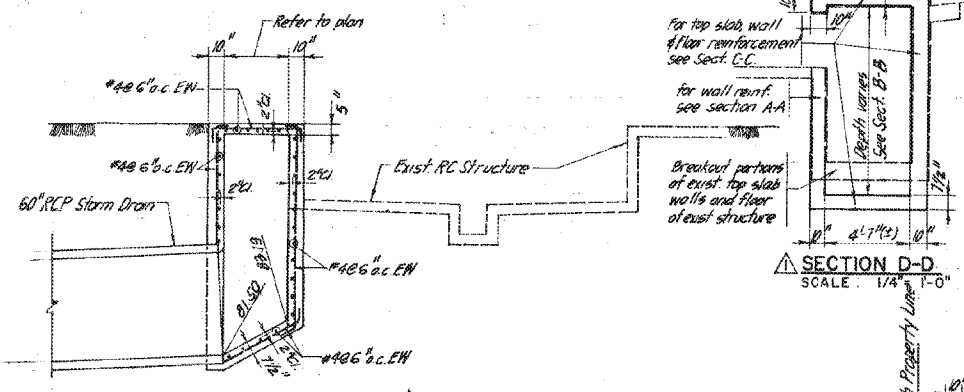
SECTION Z (Refer to Sheet No. 6)
 SCALE: 1/2" = 1'-0"



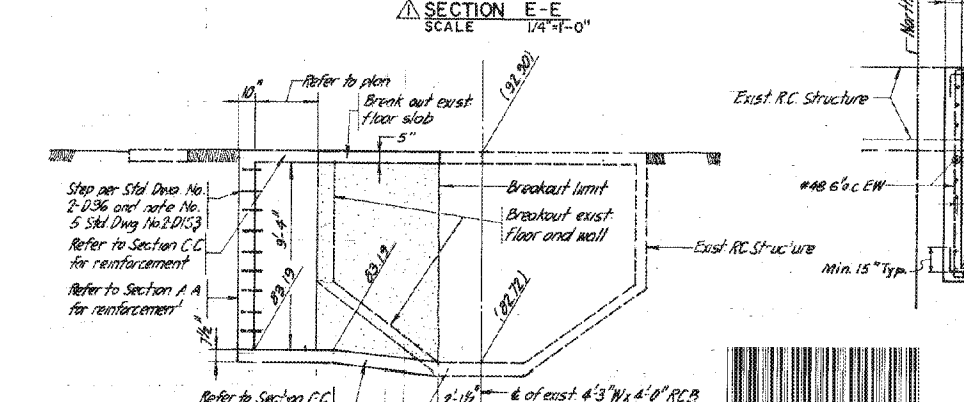
TYPICAL SECTION SHOWING PAY LINES
 FOR EXCAVATION OF R.C.B.
 NO SCALE



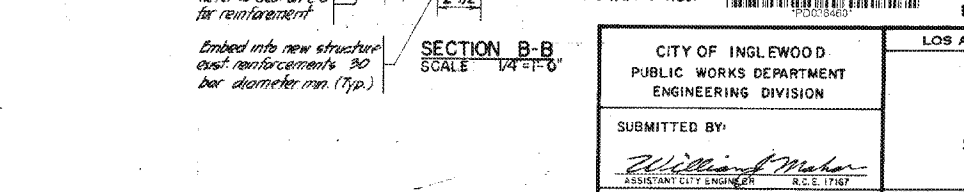
PLAN-PROPOSED DIVERSION STRUCTURE
 SCALE: 1/4" = 1'-0"



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



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



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

REINFORCED CONCRETE
 BOX LOCATION SCHEDULE

SECTION	LINE A	
	FROM	TO
A	1+00	1+74.70
B	1+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

CITY OF INGLEWOOD
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

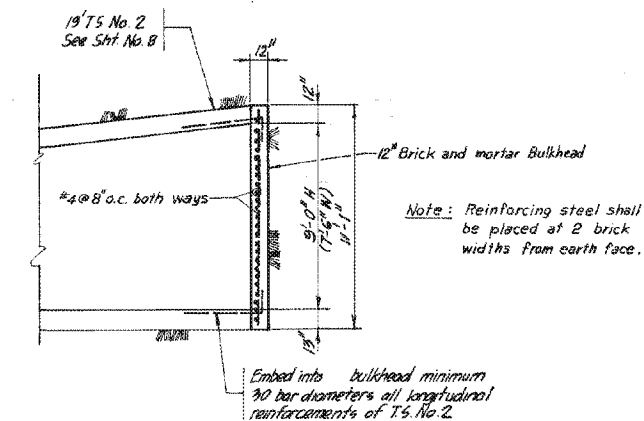
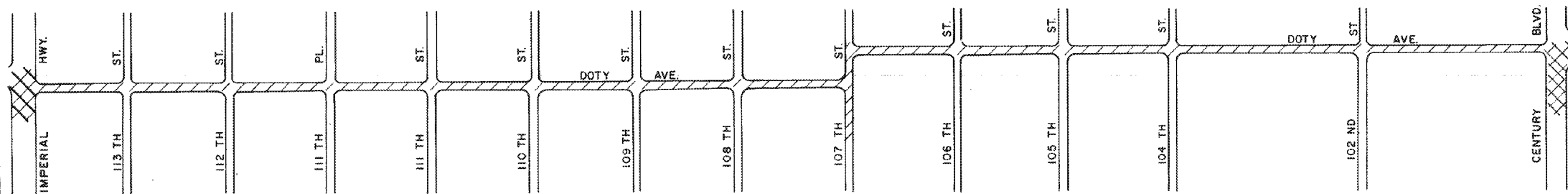
PROJECT NO 4401
 INGLEWOOD
 SINGLE R.C. BOX UNIT I
 SCHEDULE & DETAILS

SUBMITTED BY: *William M. ...*
 ASSISTANT CITY ENGINEER R.C.E. 17167

APPROVED BY: *W. ...*
 CITY ENGINEER R.C.E. 1237 DATE: 3.1.74

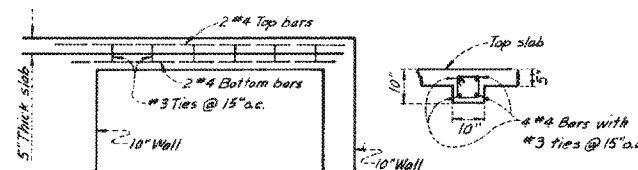
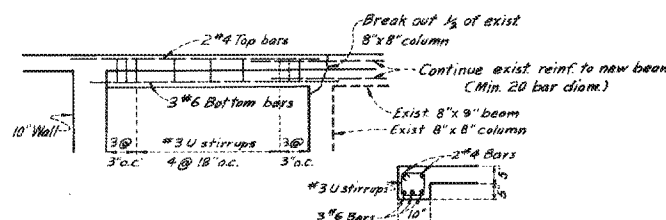
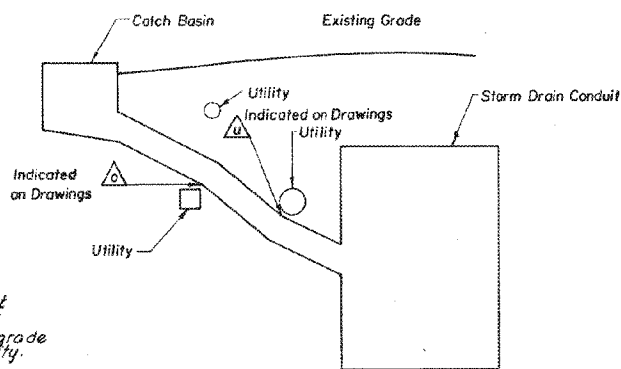
RECOMMENDED BY: *...*
 DIVISION ENGINEER DESIGN

DATE: 2.20.74 SCALE AS SHOWN
 NO. 364-4401-D6.11 SHEET 11 OF 14



NOTES:

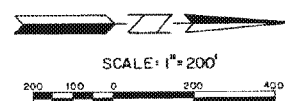
- The change in grade of the connector pipe may occur either over or under an existing utility. The utilities at which the grade change occur are shown on the project drawings. At locations where utility crossings are marked Δ the connector pipe will break over the utility. At locations where the utility crossings are marked Δ 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-D-393.
- The Contractor shall make exploratory excavation to determine the exact location and depth of utilities except sanitary sewers which are marked Δ or Δ . 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.



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.

TYPICAL CONNECTOR PIPE PROFILE
NO SCALE



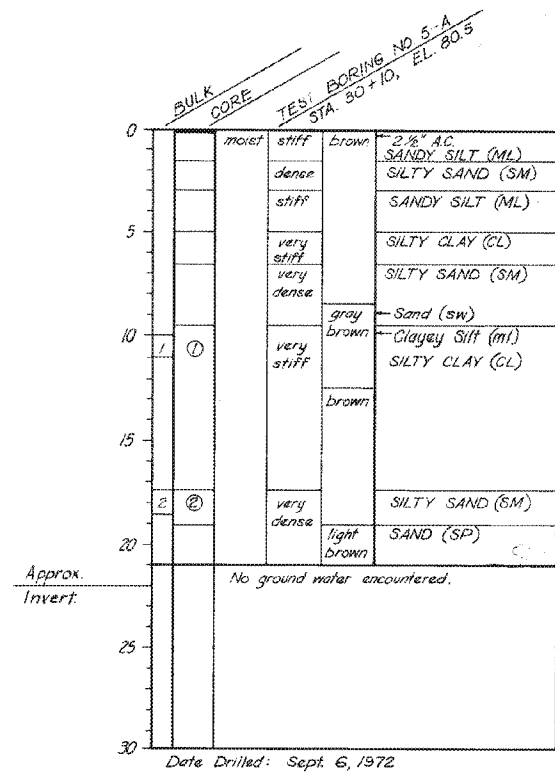
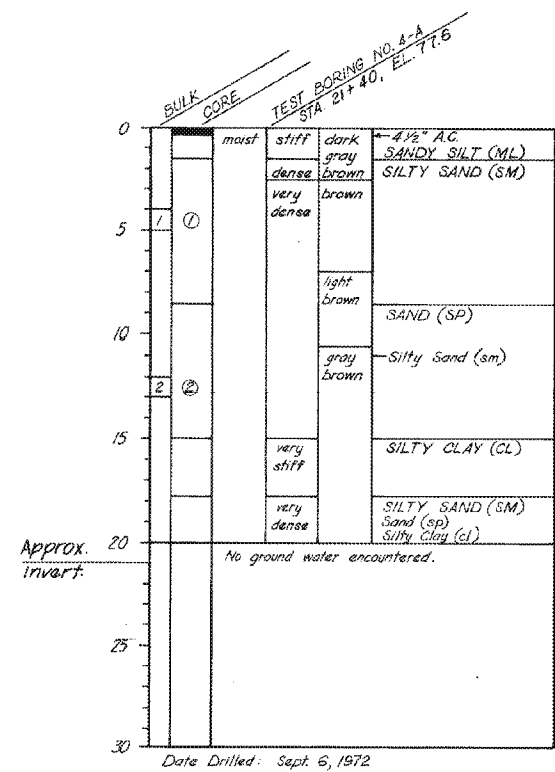
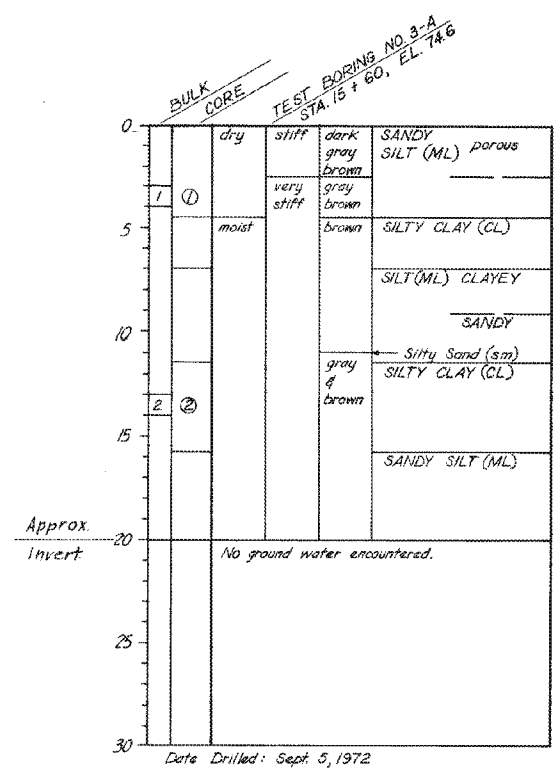
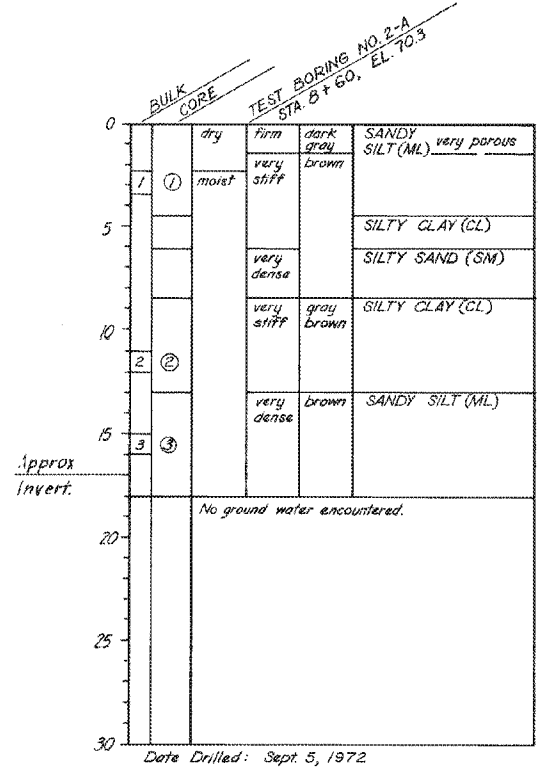
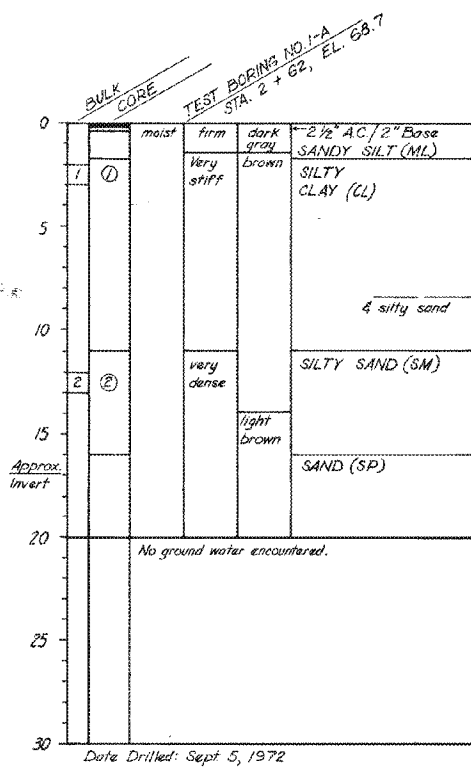
NO.	DATE	DESCRIPTION
1	12-9-74	Addition of Details



1964 STORM DRAIN BOND ISSUE

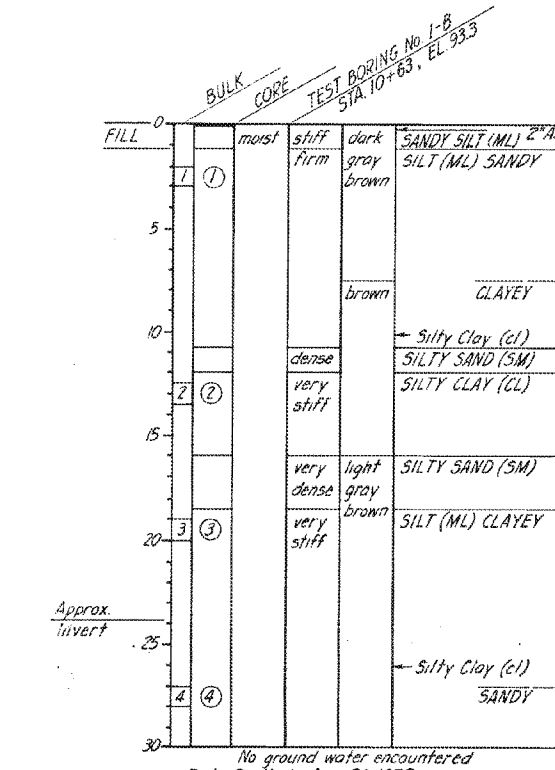
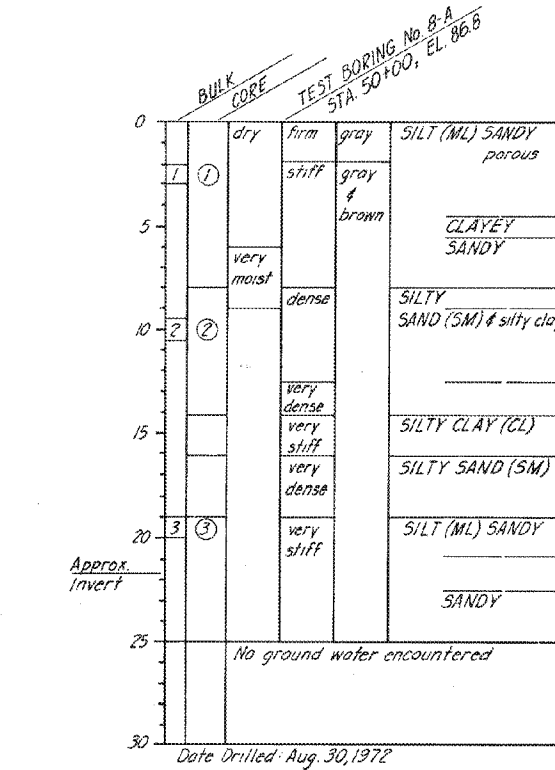
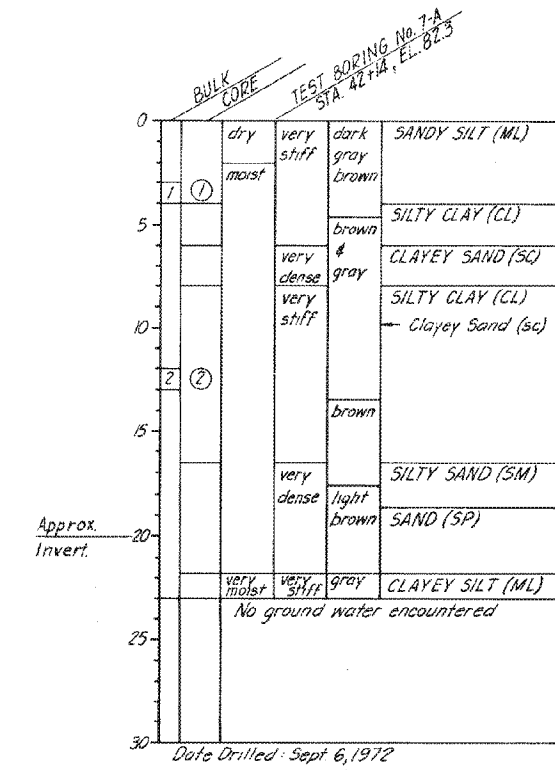
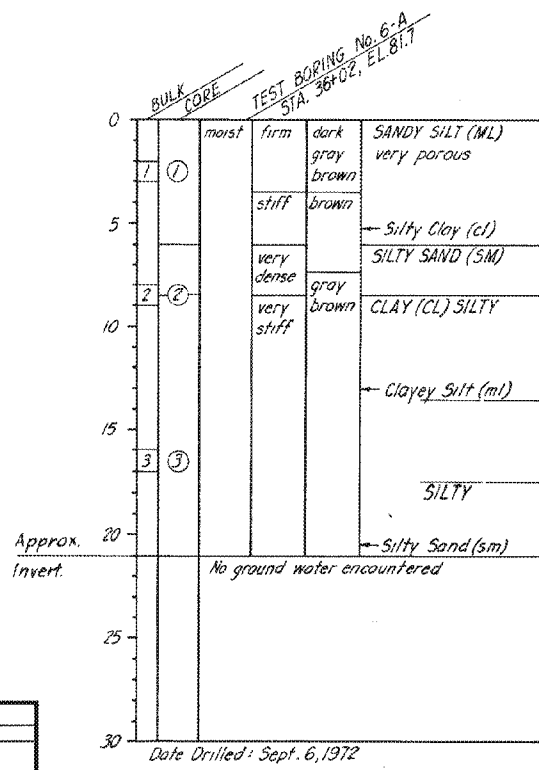
CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
SUBMITTED BY: <i>William M. Mohr</i> ASSISTANT CITY ENGINEER R.C.E.T. 1142		PROJECT NO. 4401 INGLEWOOD RESURFACING PLAN UNIT 1	
APPROVED BY: <i>W. J. Ham</i> 1-31-74 CITY ENGINEER R.C.E.T. 1157		RECOMMENDED BY: <i>R. J. Milne</i> DIVISION ENGINEER (DESIGN)	DATE: SEPT 74 SCALE AS SHOWN NO. 364-4401-D6 13 SHEET 13 OF 14

"NO FAULT" DRAWING



NOTES:

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



REVISIONS		
MK	DATE	DESCRIPTION

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SUBMITTED BY:
William Mahon
ASSISTANT CITY ENGINEER R.C.E. 17167

APPROVED BY:
John J. ...
CITY ENGINEER R.C.E. 11237 DATE



1964 STORM DRAIN BOND ISSUE

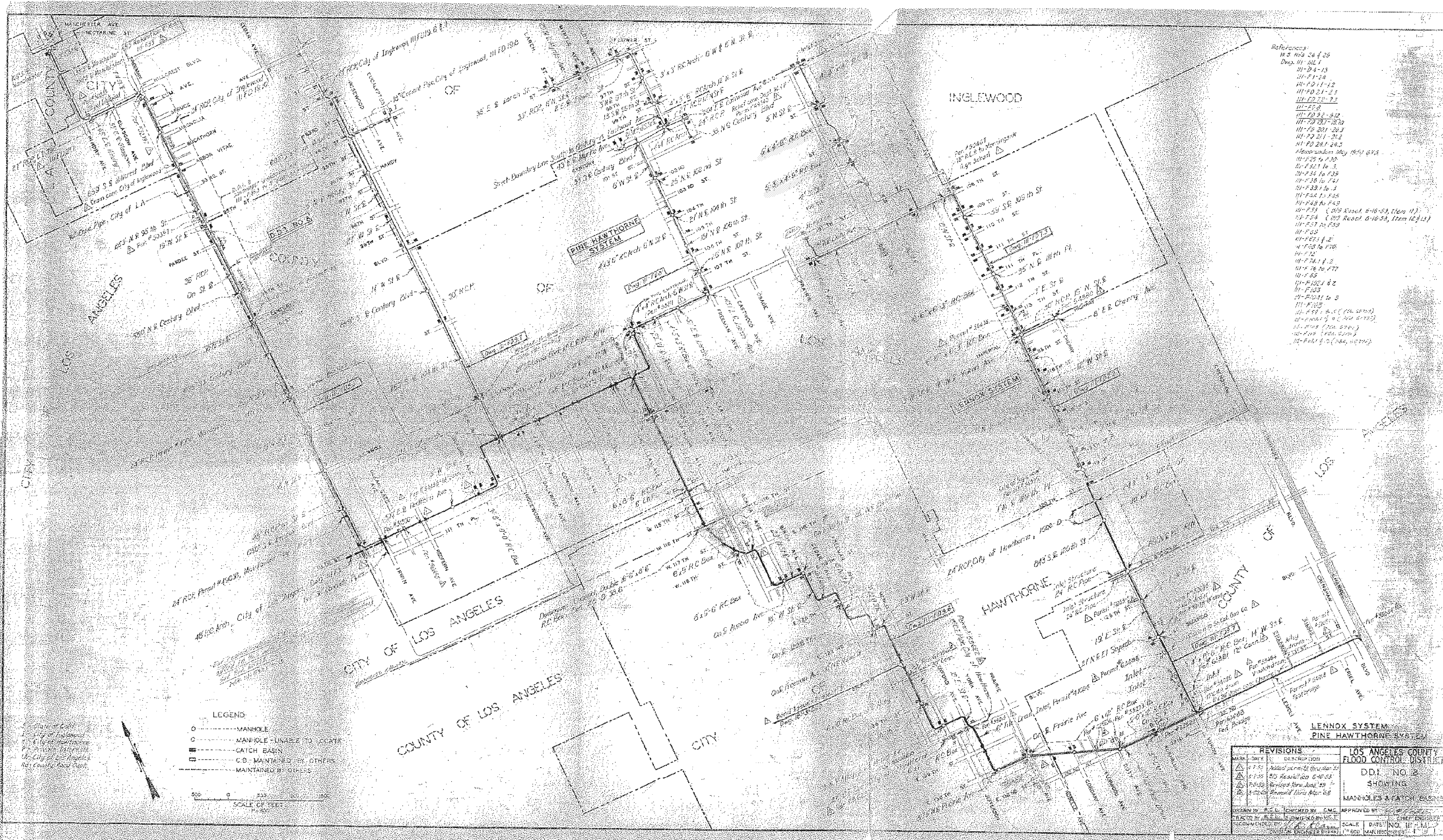
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

PROJECT NO. 4401
INGLEWOOD
LINE A UNIT I
LOG OF BORINGS

RECOMMENDED BY: *Myrtle* DATE SEPT 74 SCALE AS SHOWN
DIVISION ENGINEER (DESIGN) NO. 364-4401-D614

SHEET 4 OF 14

"AS BUILT" DRAWING



- References:
- 11-2-24-25
 - 11-2-24-1
 - 11-2-24-13
 - 11-2-24-14
 - 11-2-24-11-12
 - 11-2-24-1-23
 - 11-2-24-1-24
 - 11-2-24-1-25
 - 11-2-24-1-26
 - 11-2-24-1-27
 - 11-2-24-1-28
 - 11-2-24-1-29
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 - 11-2-24-1-34
 - 11-2-24-1-35
 - 11-2-24-1-36
 - 11-2-24-1-37
 - 11-2-24-1-38
 - 11-2-24-1-39
 - 11-2-24-1-40
 - 11-2-24-1-41
 - 11-2-24-1-42
 - 11-2-24-1-43
 - 11-2-24-1-44
 - 11-2-24-1-45
 - 11-2-24-1-46
 - 11-2-24-1-47
 - 11-2-24-1-48
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 - 11-2-24-1-66
 - 11-2-24-1-67
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 - 11-2-24-1-70
 - 11-2-24-1-71
 - 11-2-24-1-72
 - 11-2-24-1-73
 - 11-2-24-1-74
 - 11-2-24-1-75
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 - 11-2-24-1-79
 - 11-2-24-1-80
 - 11-2-24-1-81
 - 11-2-24-1-82
 - 11-2-24-1-83
 - 11-2-24-1-84
 - 11-2-24-1-85
 - 11-2-24-1-86
 - 11-2-24-1-87
 - 11-2-24-1-88
 - 11-2-24-1-89
 - 11-2-24-1-90
 - 11-2-24-1-91
 - 11-2-24-1-92
 - 11-2-24-1-93
 - 11-2-24-1-94
 - 11-2-24-1-95
 - 11-2-24-1-96
 - 11-2-24-1-97
 - 11-2-24-1-98
 - 11-2-24-1-99
 - 11-2-24-1-100

LEGEND

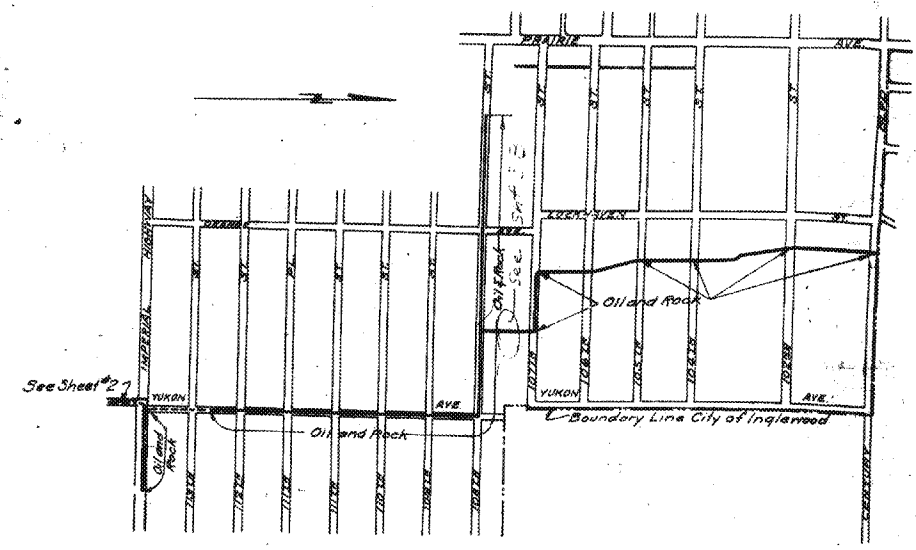
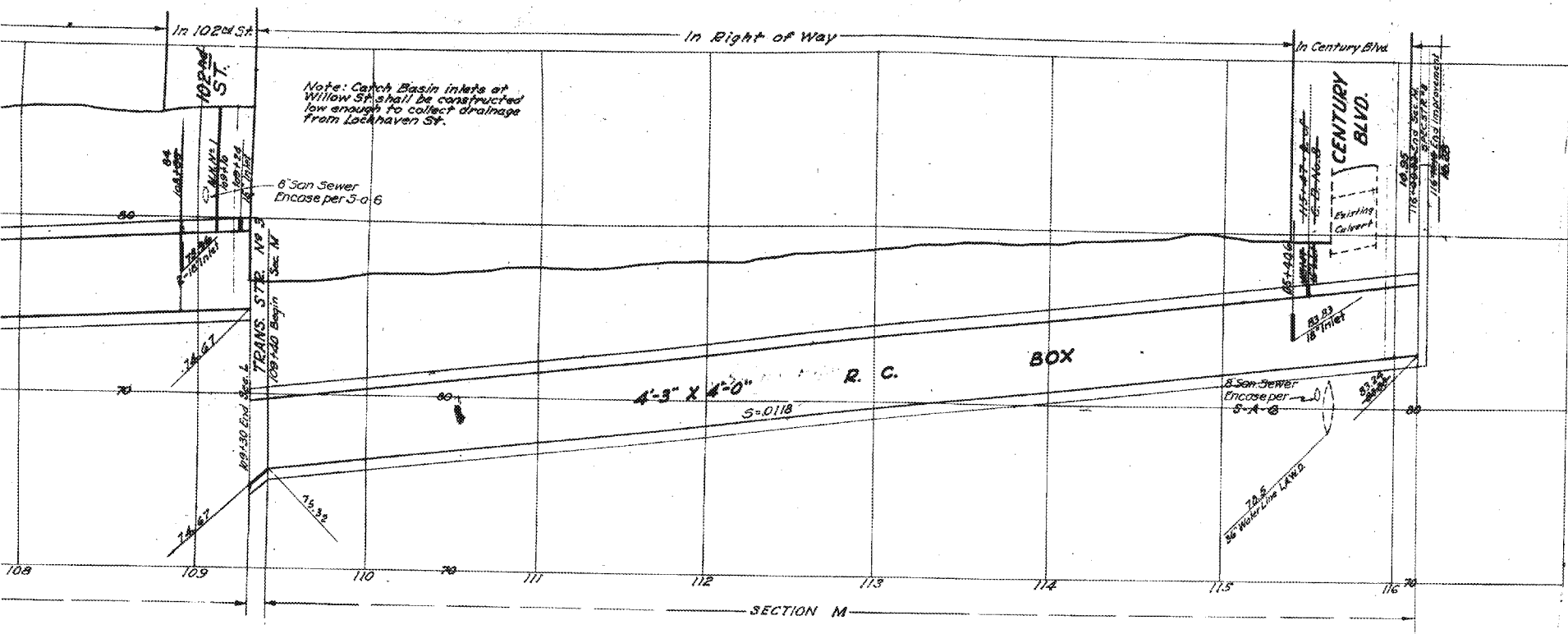
- MANHOLE
- MANHOLE - UNABLE TO LOCATE
- CATCH BASIN
- C.B. - MAINTAINED BY OTHERS
- MAINTAINED BY OTHERS

500 0 500 1000 1500
SCALE OF FEET

REVISIONS		DESCRIPTION
NO.	DATE	
1	7-1-57	Added permit to open man 25
2	7-1-57	RD Resubmit 6-16-57
3	7-1-57	Revised here June 59
4	7-1-57	Revised here Mar 58

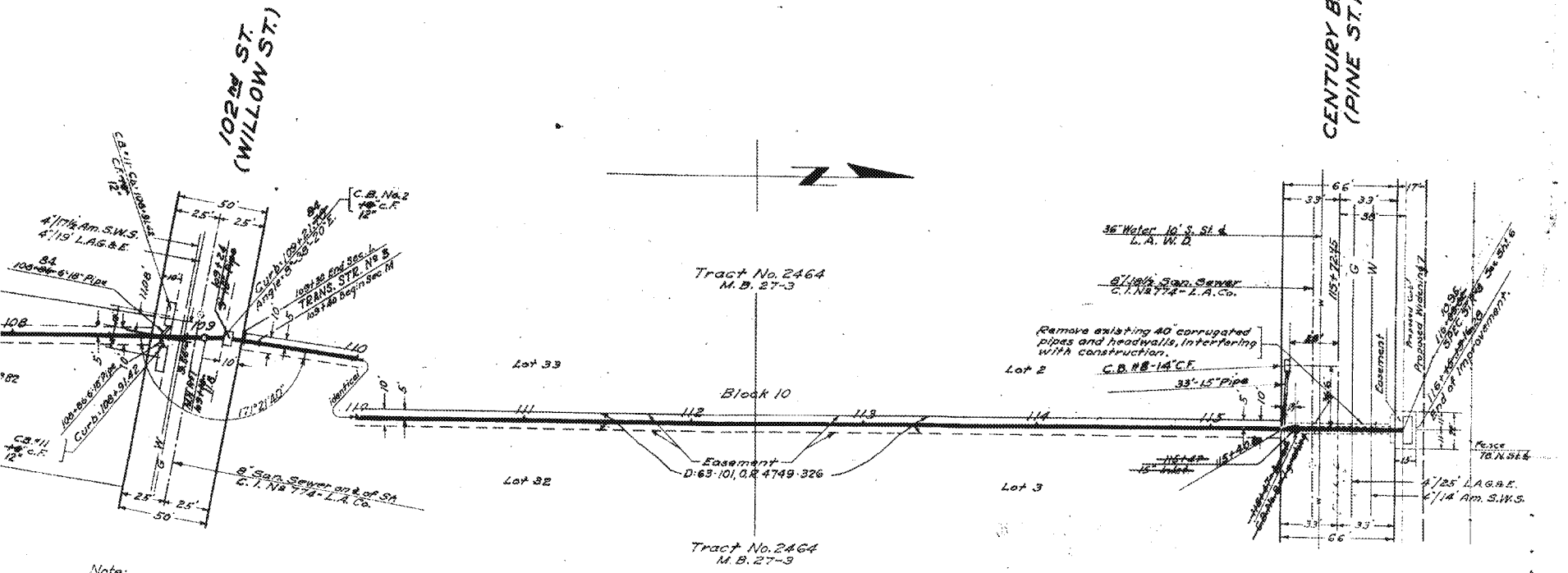
DRAWN BY: P.C.C. CHECKED BY: C.M.C. APPROVED BY: [Signature]
 RECOMMENDED BY: [Signature] DATE: [Date] NO. [Number]
 SCALE: 1"=500' MARK: [Mark]

LOS ANGELES COUNTY
FLOOD CONTROL DISTRICT
DDI NO. 3
SHOWING
MANHOLES & CATCH BASINS



KEY MAP
SHOWING DRAINS AND RESURFACING

111-FD 73



Note:
Elevations for top of curb to be determined in field, making top of curb at catch basins 4\"/>

NOTES:

- Elevations are in feet above U.S.G.S. or mean Sea Level Datum.
- Stations of inlets and junctions refer to the intersections of the center lines of the inlets with the center line of the main drain.
- Elevations of all inlets except catch basin inlets into box sections refer to the flow lines of the inlets produced on their gradients to the vertical plane thru the center line of the main drain. Elevations of catch basin inlets into box sections refer to the intersections of the flow lines of these inlets with the inside wall of the box section.
- For details of all standard structures see Standard Plans.
- All pipe not otherwise specified shall be plain cement pipe.
- All stubs to be one length of pipe with ends sealed with 2\"/>
- Catch basins shall be built with a curb face of 10\"/>
- Sanitary sewers crossing over or with a clearance of 150 feet or less under Storm Drain, shall be constructed or reconstructed as shown on Standard D: 58.
- All reinforced concrete structures shall be of Class 'A-1' Concrete.
- Weep holes 3/4\"/>

LENOX
DRAINAGE SYSTEM
OF THE COUNTY OF LOS ANGELES CALIF.
PLAN AND SPECIFICATIONS OF
YUKON AVENUE LINE
108TH. ST. BRANCH
IMPERIAL HWY. BRANCH

SHEET 3 OF 10 SHEETS

SCALE: VERT. 1\"/>

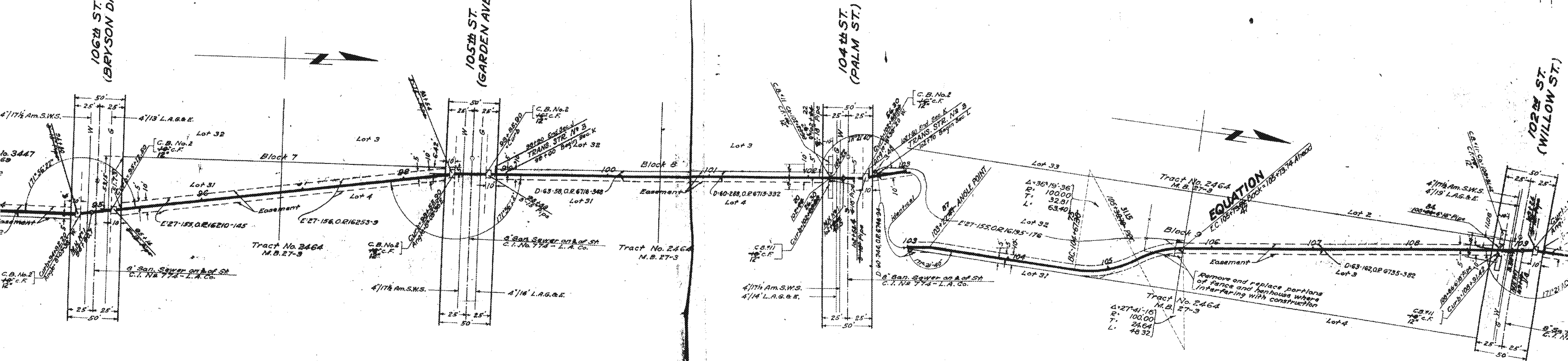
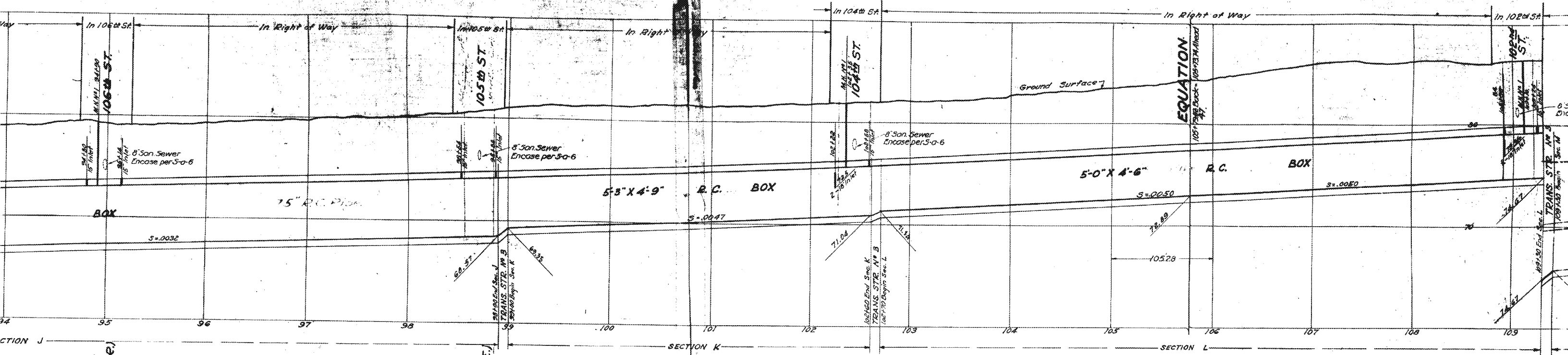
ALFRED JONES COUNTY SURVEYOR

RECOMMENDED: *Edmund* CHIEF DEPUTY APPROVED: *Alfred Jones* COUNTY SURVEYOR

Corrected as constructed by A.W. Lynn 8-7-42
Checked by L.O. Lanphere 8-14-42

REFERENCE		DESIGNED	J.H. Hartley
F. B.	228		
L. B.	289		
Yukon Ave. Line	Revised 4-7-37	TRACED	A.C. Glenn
	7-23-38		
	10-31-38	CHECKED	J.R. Rice

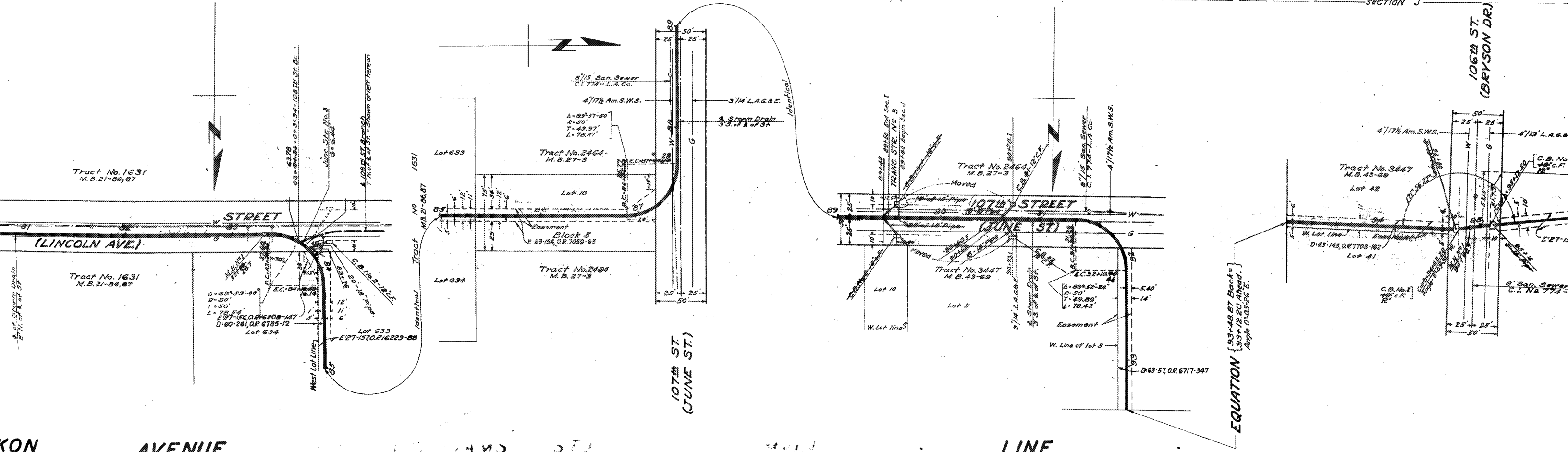
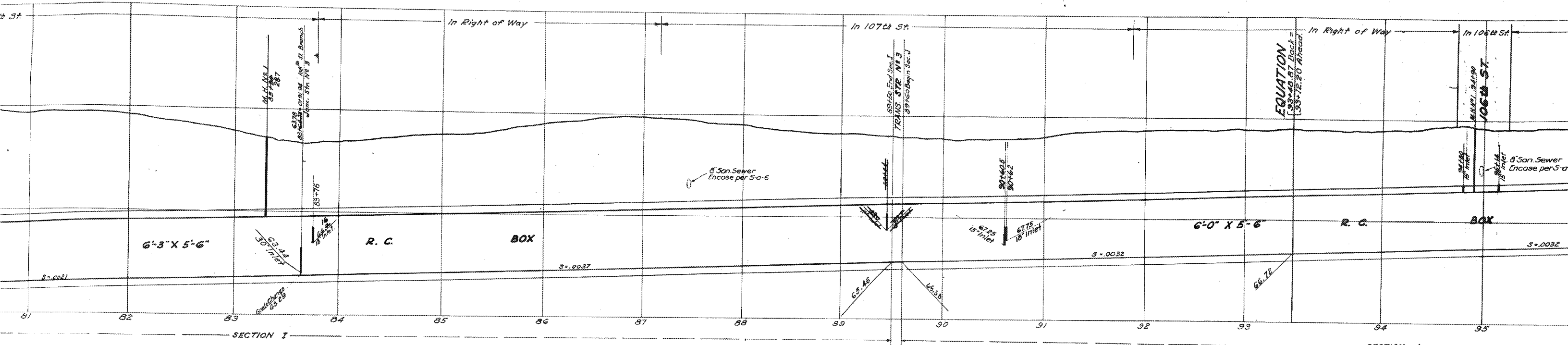
F1



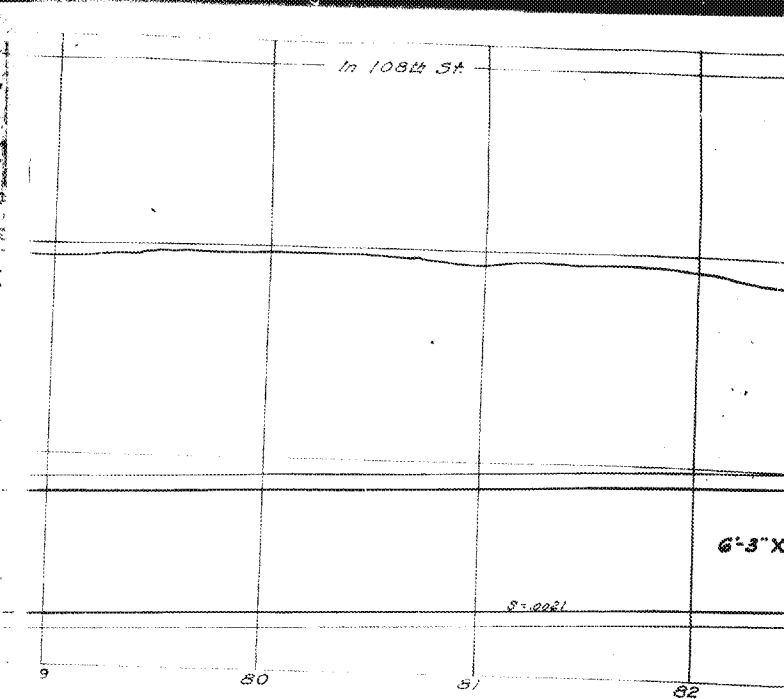
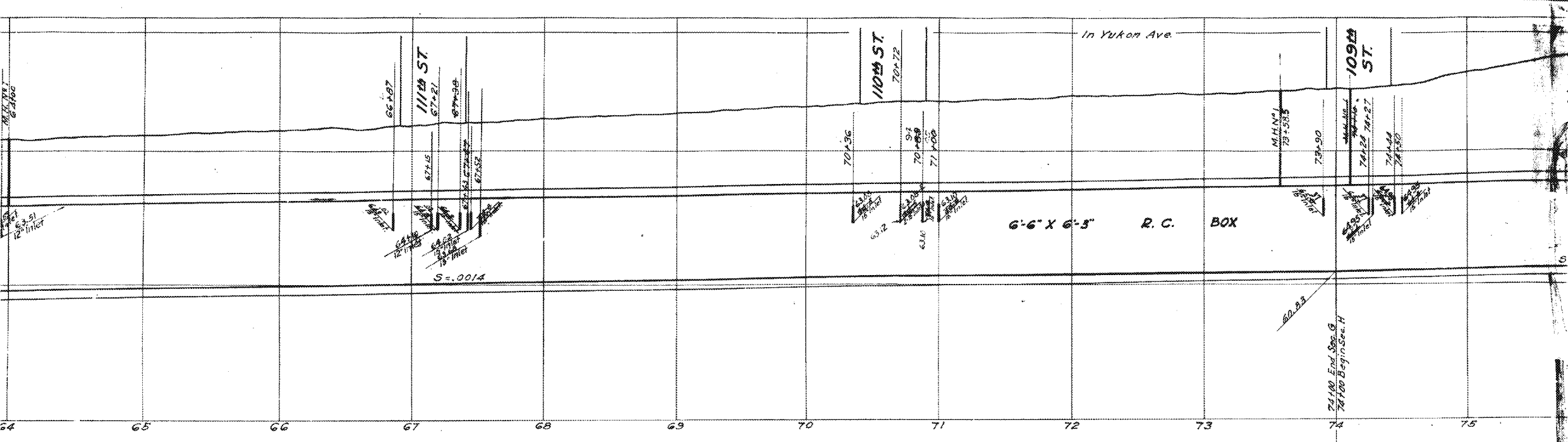
Note:
Elevations for top of curb at catch basins
to be determined in field, making top of curb
4' higher than crown of street.

Note:
Elevations for top of curb to
in field, making top of curb
4' higher than crown of st

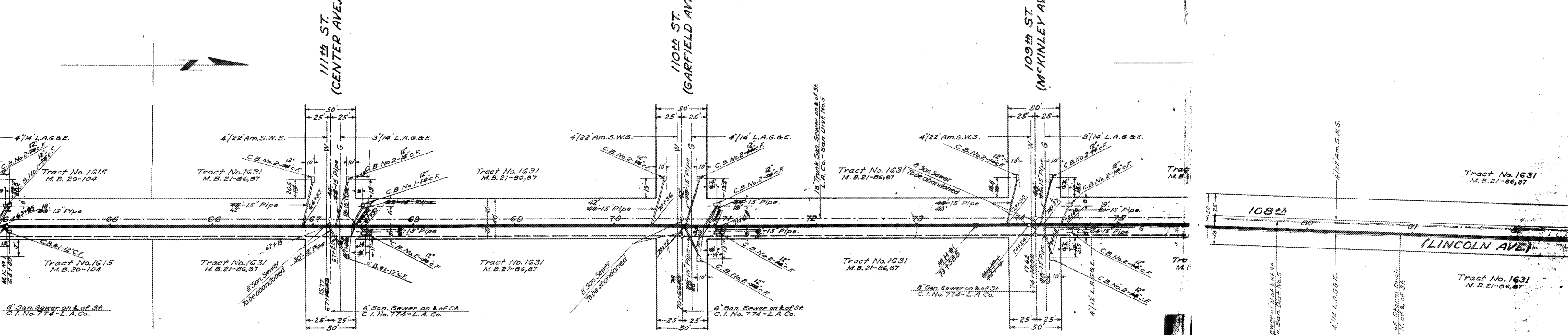
YUKON AVENUE



KON AVENUE EQUATION STREET LINE



SECTION G



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

AVE

F4

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	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.	S.C.G.
L.A. DEPT. OF WATER & POWER WATER SYSD. DWG. PWS	PWS
SOUTHERN CALIFORNIA WATER CO.	S.C.W.
INGLEWOOD CITY WATER DEPT.	ING. W.
SOUTHERN CALIFORNIA EDISON CO.	S.C.E.
PACIFIC TELEPHONE & TELEGRAPH CO.	P.T. & T.

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

STANDARD DRAWINGS

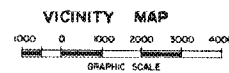
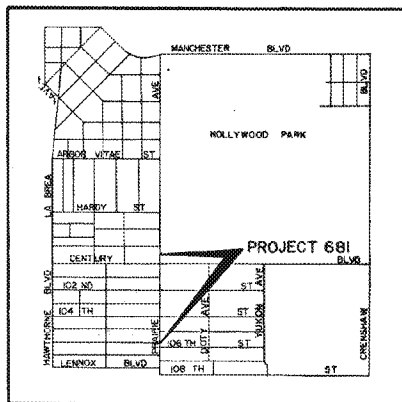
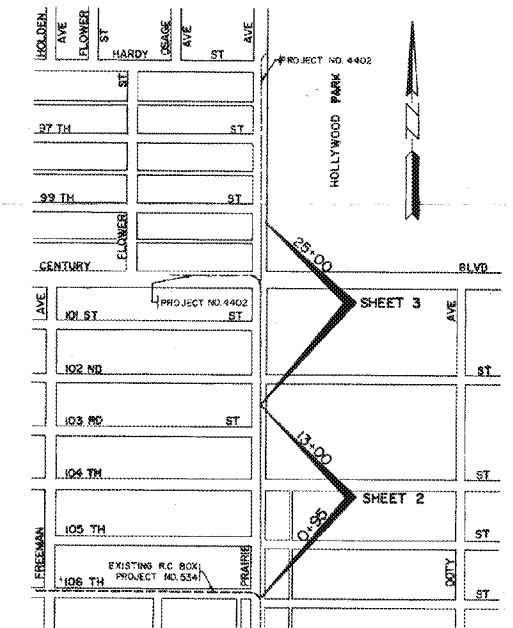
DRAWING NO.	TITLE
2-D 88	LOCAL DEPRESSION NO. 2
2-D 96	STANDARD DROP STEP
2-D 107	CONCRETE RINGS, REDUCER AND PIPE
2-D 193	JUNCTION STRUCTURE NO. 4
2-D 156	MANHOLE FRAME AND COVER FOR CATCH BASINS
2-D 180	CATCH BASIN NO. 1 (W=3'6")
2-D 162	CATCH BASIN NO. 2 (W=7')
2-D 163	CATCH BASIN NO. 3 (W=10'; 14'; 21'; 28'; ETC.)
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 181	STANDARD NON-ROCKING MANHOLE FRAME AND COVER
2-D 184	MANHOLE NO. 2 (PIPES, 36" OR LARGER)
2-D 188	TRANSITION STRUCTURE NO. 3 (PIPE TO PIPE)
2-D 213.1 & 2	"D" LOAD TABLE FOR DESIGN OF REINFORCED CONCRETE PIPE
2-D 171	STANDARD A-305 REINFORCING BARS
2-D 232	DETAIL OF CATCH BASIN OPENING
2-D 250	REMODELING OF SANITARY SEWER HOUSE CONNECTIONS
2-D 251	PROTECTION FOR MAIN LINE AND HOUSE CONNECTION SEWERS
2-D 109	CATCH BASIN NO. 6
2-D 224	CONNECTION TO CATCH BASIN FOR PIPES 12" THROUGH 72"
2-D 227	FRAME AND GRATING FOR CATCH BASINS
2-D 249.1 & 2	CATCH BASIN NO. 8
2-D 264	ADJUSTABLE PROTECTION BAR STIRRUP
2-D 393	CONCRETE COLLAR FOR PIPES 12" THROUGH 66"
2-D 413	UNIFIED SOIL CLASSIFICATION SYSTEM
2-D 399	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 113	MANHOLE NO. 4
2-D 112	JUNCTION STRUCTURE NO. 2
2-D 161	DETAIL OF ANGLE AND ANCHOR FOR CATCH BASINS.

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-D 177, CASE III, UNLESS OTHERWISE SHOWN OR MODIFIED IN THE SPECIFICATIONS.
- PIPE CONNECTIONS TO STORM DRAIN SHALL CONFORM TO STANDARD DRAWING 2-D 193, 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-D 224.
- "V_i" 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-D 173.1, .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-D 250, UNLESS OTHERWISE SHOWN.
- SANITARY SEWERS AND HOUSE CONNECTIONS CROSSING OVER THE STORM DRAIN TRENCH SHALL BE SUPPORTED IN ACCORDANCE WITH STANDARD DRAWINGS 2-D 173.1 TO 3 AND ENCASED PER GENERAL NOTE 1 ON STANDARD DRAWING 2-D 173.1.
- WHEN INDICATED ON THE DRAWINGS, SANITARY SEWERS AND HOUSE CONNECTIONS SHALL BE ENCASED OR BLANKETED IN ACCORDANCE WITH STANDARD DRAWING 2-D 251.
- 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.
- 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.
- 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 BASIN NO. 8 SHALL BE MODIFIED TO MEET THE REQUIREMENTS ON STANDARD DRAWING 2-D 232 EXCEPT AS NOTED.
- 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.
- 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 28+00
4.	LOG OF BORINGS & RESURFACING PLAN



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-D 109 AND AS MODIFIED ON THE DRAWINGS FOR CATCH BASIN NO. 6.

"AS BUILT DWGS."

MARK	DATE	DESCRIPTION
Δ	4-24-67	Note Change Of Project Limits

NOTE CHANGE OF PROJECT LIMITS
 Due to bond issue financing requirements, the upstream limit of Project 681, has been changed to Station 14+98. See DWG. NO. 364-681-D2.3. 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-D2.2.



1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD
 PUBLIC WORKS DEPARTMENT
 ENGINEERING DIVISION

SUBMITTED BY:
R. K. Lee
 ASSISTANT CITY ENGINEER R.C.E. 13078

APPROVED BY:
Walter J. Moore 11-15-65
 CITY ENGINEER R.C.E. 11237

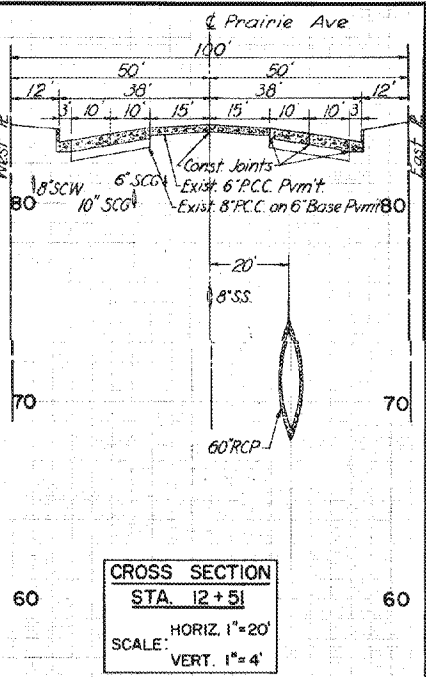
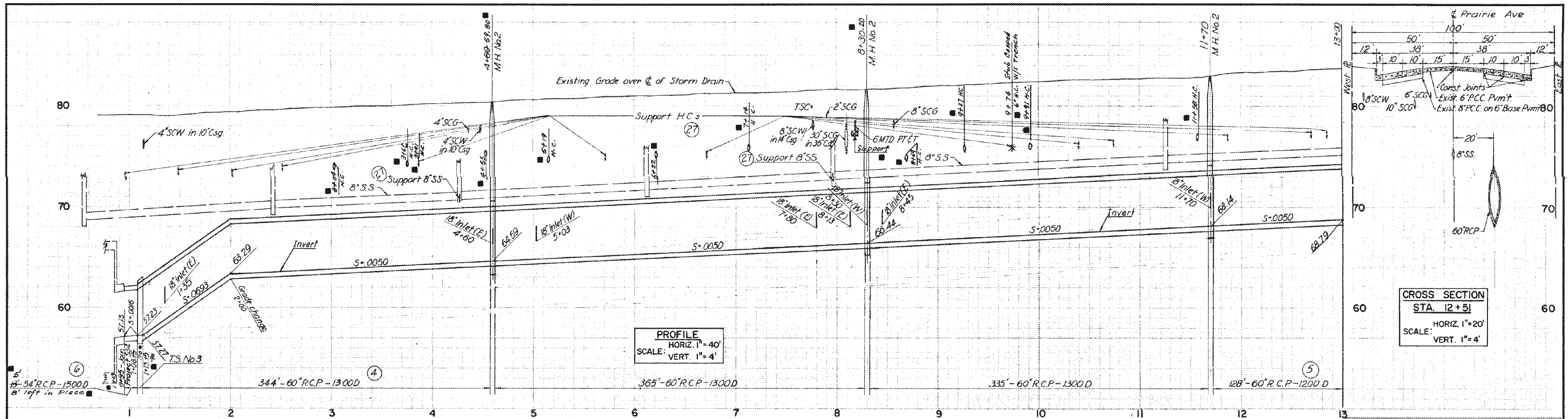
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
PROJECT NO. 681
PRAIRIE AVENUE

LOCATION MAP, GENERAL NOTES, INDEX TO DRAWINGS, STANDARD DRAWINGS, LEGEND AND ABBREVIATIONS.

APPROVED BY:
Walter J. Moore
 CHIEF ENGINEER

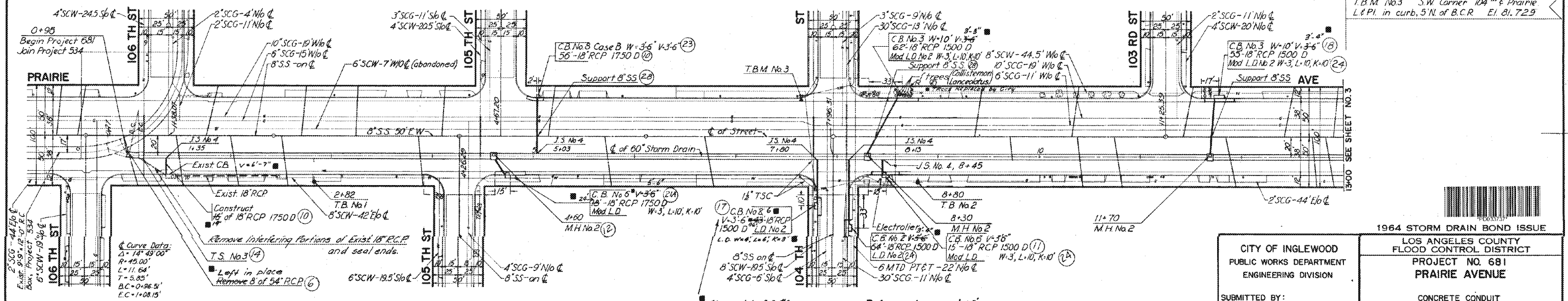
SCALE: AS SHOWN
 DATE: JAN 1968
 DWG. NO. 364-681-D2.1
 SHEET 1 OF 4

"AS BUILT" DRAWING



PROFILE
 HORIZ. 1" = 40'
 SCALE: VERT. 1" = 4'

CROSS SECTION
 STA. 12+51
 HORIZ. 1" = 20'
 SCALE: VERT. 1" = 4'



Curve Data:
 Δ = 14° 49' 00"
 R = 45.00'
 L = 11.64'
 T = 5.85'
 B.C. = 0+96.51'
 E.C. = 1+08.15'

PLAN
 SCALE: 1" = 40'
 25 0 25 50

REVISIONS			
MARK	DATE	DESCRIPTION	
1	7-18-68	"As Built"	

Changed to C.B. #6 because of interfering water line valve, fire hydrant & traffic signal.

Conn. pipe moved 4.5' north to pass on E.T.S. of 30" S.C.B.

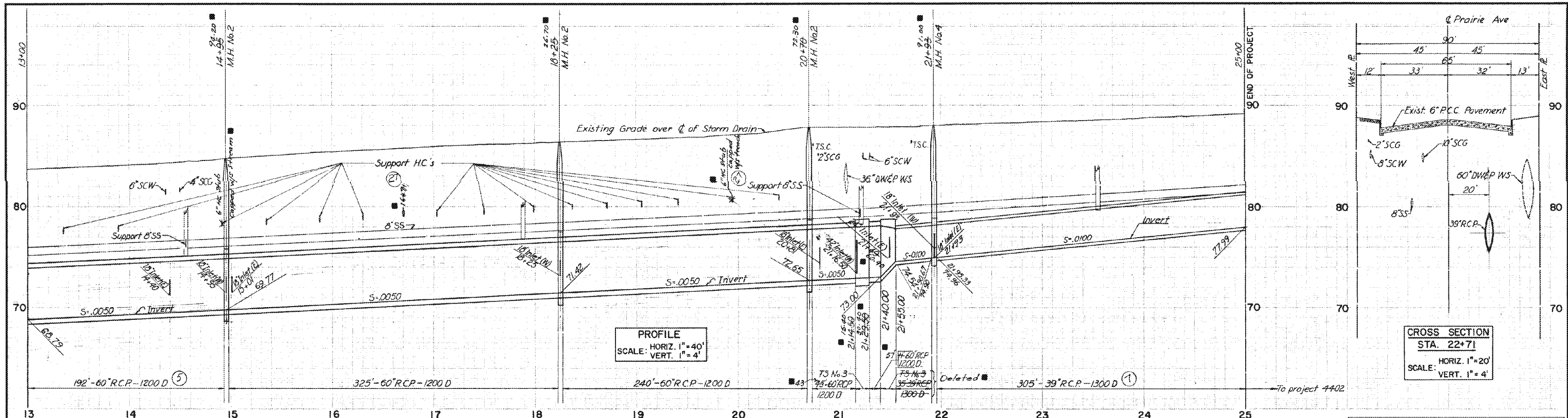
T.B.M. No. 3 SW Corner 104th & Prairie
 L & P.I. in curb, 5' N. of B.C.R. E.I. 81.729

SEE SHEET NO. 3

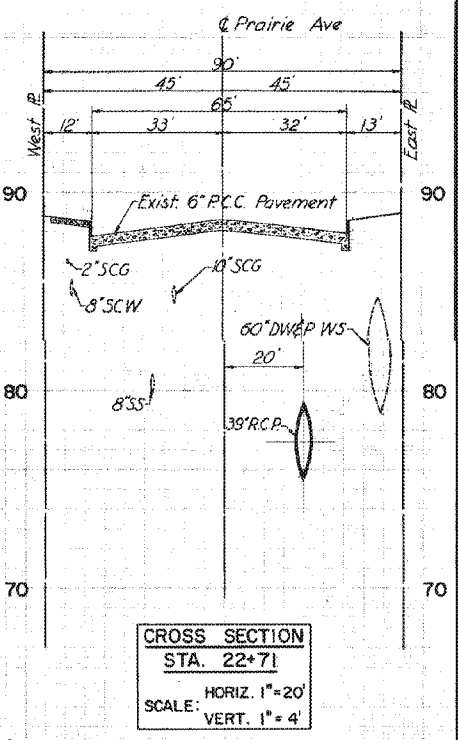
1964 STORM DRAIN BOND ISSUE

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION	LOS ANGELES COUNTY FLOOD CONTROL DISTRICT
	PROJECT NO. 681 PRAIRIE AVENUE
SUBMITTED BY: R.K. Jue ASSISTANT CITY ENGINEER R.C.E. 13078	CONCRETE CONDUIT STA. 0+95 TO STA. 13+00 PLAN AND PROFILE
APPROVED BY: [Signature] CITY ENGINEER R.C.E. 11237	APPROVAL RECOMMENDED BY: [Signature] DIVISION ENGINEER (JUNIOR) APPROVED BY: [Signature] ASST. CHIEF DEPUTY ENGINEER
DATE: 11-13-65	SCALE: AS SHOWN DATE: JAN. '66 DWG. NO. 364-681-D2.2 SHEET 2 OF 4

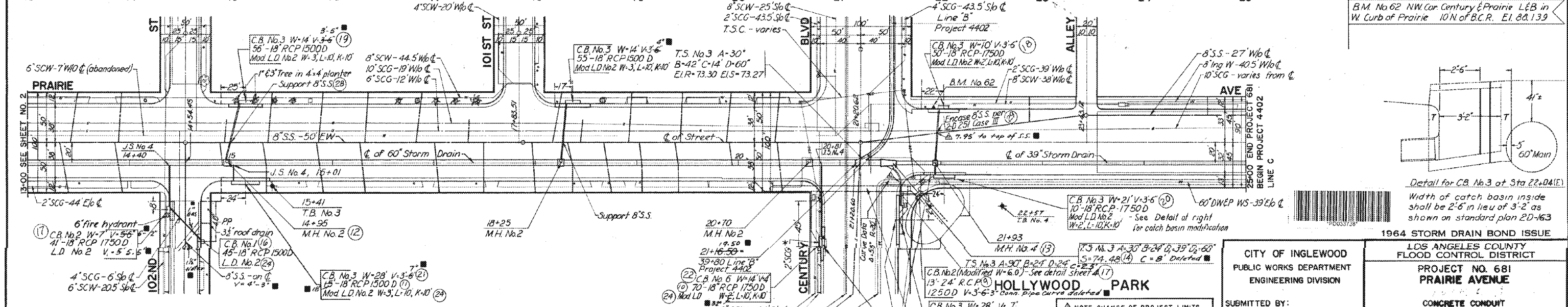
"AS BUILT" DRAWING



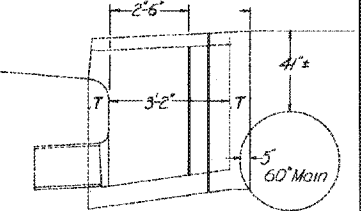
PROFILE
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



CROSS SECTION
STA. 22+71
SCALE: HORIZ. 1" = 20'
VERT. 1" = 4'



B.M. No. 62 NW Cor Century & Prairie L&B in W. Curb of Prairie 10' N of B.C.R. E.I. 88.139



Detail for C.B. No. 3 at Sta. 22+04.15
Width of catch basin inside shall be 2'-6" in lieu of 3'-2" as shown on standard plan 2D-163

MARK	DATE	DESCRIPTION
1	9-25-67	Note Change of Project Limits
2	7-7-68	"As Built"

PLAN
SCALE: 1" = 40'
0 25 50

M.H. No. 4 DATA - STA. 21+93

INLET	A	B	C	D	D ₁	F	T	EL. 70"	EL. 5"
EAST	90"	18"	40"	39"	39"	7"	4"	78.26	74.92
WEST	86"	18"	20"	11"	11"	11"	11"	76.33	75.79

NOTE CHANGE OF PROJECT LIMITS
Due to bond issue financing requirements, the upstream limit of Project 681, has been changed to Station 14+98. 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.

CITY OF INGLEWOOD
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

PROJECT NO. 681
PRAIRIE AVENUE

CONCRETE CONDUIT
STA. 13+00 TO STA. 25+00

PLAN AND PROFILE

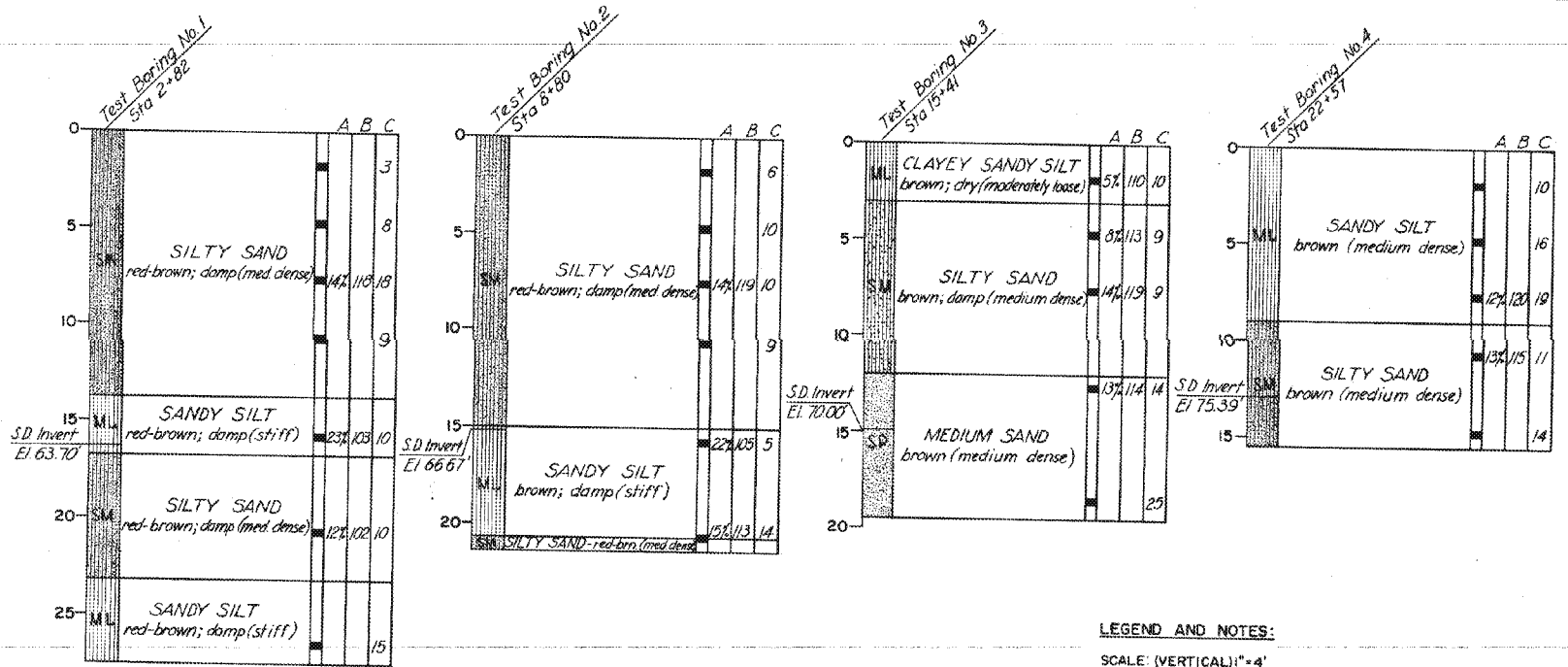
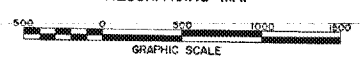
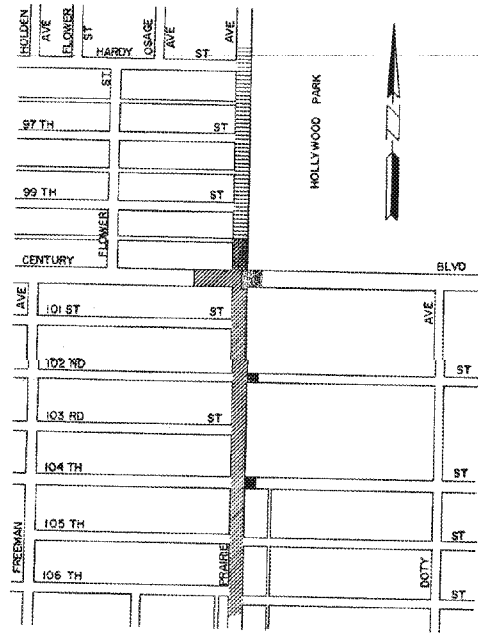
SUBMITTED BY: R.K. Jee
ASSISTANT CITY ENGINEER R.C.E. 13078

APPROVED BY: [Signature]
CITY ENGINEER R.C.E. 11237

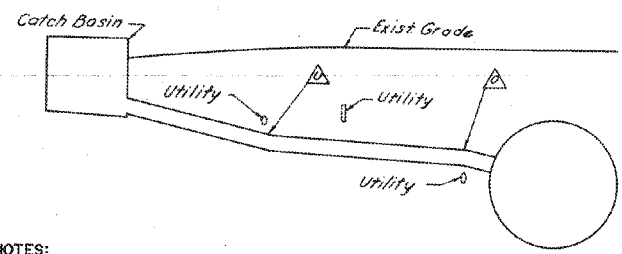
DATE: 11-15-65

SCALE: AS SHOWN
DATE: JAN 1966
DWG. NO. 364-681-D2.3
SHEET 3 OF 4

"AS BUILT" DRAWING



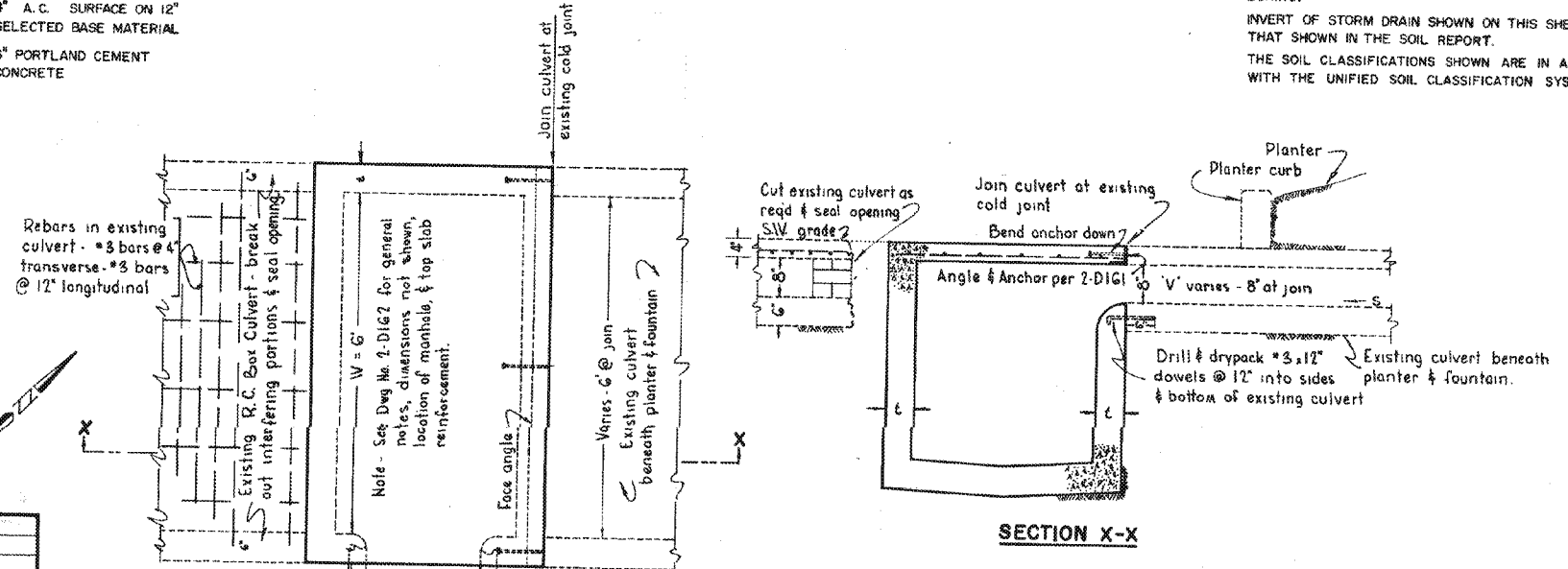
TYPICAL CONNECTOR PIPE PROFILE
NO SCALE



EXISTING SURFACE	PROPOSED RESURFACING (1)
8" P.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL	8" P.C.C. PAVEMENT ON 6" SELECTED BASE MATERIAL
2 1/2" A.C. SURFACE ON 6" PORTLAND CEMENT CONC.	2 1/2" A.C. SURFACE ON 6" PORTLAND CEMENT CONC.
3" A.C. SURFACE ON 12" SELECTED BASE MATERIAL	4" A.C. SURFACE ON 12" SELECTED BASE MATERIAL
6" PORTLAND CEMENT CONCRETE	6" PORTLAND CEMENT CONCRETE

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.
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:**
- 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 Δ the connector pipe grade will break over the utility. At locations where utility crossings are marked ∇ the connector pipe grade will break under the utility.
 - 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.
 - 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-D393
 - The contractor shall make exploratory excavations to determine the exact location and depth of utilities, which are marked Δ or ∇ . 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.



SECTION X-X
DETAIL OF CATCH BASIN NO. 2 (MODIFIED)
AT STA 21+78 (EAST)
Scale 3/4"=1'

MARK	DATE	DESCRIPTION
1	7-15-68	"AS BUILT"

CITY OF INGLEWOOD PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION		LOS ANGELES COUNTY FLOOD CONTROL DISTRICT	
SUBMITTED BY: R.K. [Signature] ASSISTANT CITY ENGINEER R.C.E. 13076		PROJECT NO. 681 PRAIRIE AVENUE	
APPROVED BY: [Signature] CITY ENGINEER R.C.E. 11237		LOG OF BORINGS, RESURFACING PLAN AND MISCELLANEOUS DETAILS	
RECOMMENDED BY: [Signature] CITY ENGINEER		APPROVAL RECOMMENDED BY: [Signature] PART CHIEF DEPUTY ENGINEER	
SCALE	DATE	DWG. NO.	SHEET
AS SHOWN	JAN. 1966	364-681-D2.4	4 OF 4

"AS BUILT" DRAWING