EXHIBIT "14"

Final Report

Supplemental Characterization of Los Angeles County Storm Drains

Environmentally Beneficial Project #1

Pursuant to Joint Water Pollution Control Plant Consent Decree 92 0061 RG (JRx)

SANITATION DISTRICTS OF LOS ANGELES COUNTY

July 2007

FINAL REPORT

RECOMMENDATIONS FOR RANKING LOS ANGELES COUNTY STORM DRAINS FOR DIVERSION OR ALTERNATIVE TREATMENT

An Environmentally Beneficial Project conducted by
the Joint Outfall System of the County Sanitation Districts of Los Angeles County in
compliance with Consent Decree No. 92 0061 RG (JRx)

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1. Background

Consent Decree No. 92 0061 RG (JRx) mandated full secondary treatment of the effluent from the Joint Water Pollution Control Plant (JWPCP) by December 31, 2002. Section XIII.B.3 of the Consent Decree contains a provision for depositing $1,000,000 into an account to fund "an environmentally beneficial project" if full secondary treatment was not fully attained six months earlier in July 2002. The JWPCP was not operating in full secondary mode at that time, but instead met the compliance date of December 31, 2002. Accordingly, as required by the Consent Decree, the Districts (District No. 2 on behalf of the Joint Outfall System[1]) deposited $1,000,000 into an account to fund an environmentally beneficial project.

After careful consideration, the Districts proposed funding a number of important environmental projects that would benefit not only the region served by the Joint Outfall System (JOS), which serves approximately 4.7 million people in 73 cities and unincorporated areas of Los Angeles County, but also areas outside the JOS within the Los Angeles Basin. The Parties to the Consent Decree approved of eight projects to constitute the environmentally beneficial project in late 2003. This project, a supplemental characterization of Los Angeles County storm drains, is one of those eight projects. In compliance with reporting requirements in the consent decree, biannual progress reports have been furnished to the Parties for the life of this project. This report constitutes the final report for this project.

1.1. Rationale for conducting the project

On December 13, 2001, the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) issued a National Pollutant Discharge Elimination Permit (NPDES Permit) for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, Except the City of Long Beach. The Order, No. 07-182, required the permittees to conduct a study to investigate the possible diversion of dry-weather discharges into the sewerage system or the use of "alternative treatment" control BMPs (Best Management Practices) to treat urban runoff from their jurisdictions. The final product of this effort was to develop priority lists of drains for potential diversion or alternate treatment, for submission to the Regional Board Executive Officer by July 1, 2003. As a result, the County of Los Angeles Department of Public Works (Public Works) Watershed Management Division, in consultation with others, authored a study entitled Dry-weather Discharge Treatment Feasibility Study (Treatment Feasibility Study, Appendix A), which evaluated discharges to the water bodies within the permit jurisdiction that were also on the list of impaired waters per Section 303(d) of the Clean Water Act. To expedite the study, the authors relied on existing available data from various sources. Drains with observed flow of at least 0.05 cubic feet per second (cfs) were considered candidates. The priority rankings in the

[1] Ownership and operation of the Joint Outfall System is proportionally shared among the signatory parties to the amended Joint Outfall Agreement effective July 1, 1995. These parties include County Sanitation Districts of Los Angeles County Nos. 1, 2, 3, 5, 8, 15, 16, 17, 18, 19, 21, 22, 23, 28, 29, and 34, and South Bay Cities Sanitation District of Los Angeles County.

Treatment Feasibility Study were based on calculations of the pollutant loadings from the drains. In most cases, these calculations were based on only one water quality measurement and one flow measurement. Additionally, the study authors considered diversion to the sanitary sewer system to be the default preferred option and alternative treatment was only recommended in the case where diversion to the sewer was not feasible.

Total Maximum Daily Loads (TMDLs) have been prepared, or are being prepared, for many of the pollutant-water body combinations addressed in the Treatment Feasibility Study. Many of these TMDLs identify Municipal Separate Storm Sewer System (MS4) discharges as a potential source of some of the impairments. Additionally, in recent years, California voters have approved funds for water quality projects, and diversions of dry-weather urban runoff to the sewer system are being increasingly proposed as a method to achieve water quality standards. Thus, while the Treatment Feasibility Study was designed to identify the priority drains for potential public funding, because limited data were used to develop the rankings, the prioritization presented in the Treatment Feasibility Study needs a refinement before its recommendations are used. The Districts proposed to conduct a supplemental characterization of the identified drains and to refine the priority rankings where necessary to ensure that available funding for diversion projects and available sewer capacity are used to the greatest public benefit.

1.2. Setting

Within Los Angeles County, the storm water systems and the sanitary wastewater systems are operated separately. The storm water and dry-weather urban runoff generated in southern Los Angeles County (south of the San Gabriel and Santa Susana Mountains) is routed through the MS4 that is owned and operated in parts by the Los Angeles County Flood Control District, the City of Los Angeles, and the local municipalities (Figure 1). The MS4 discharges utilize the inland surface waters within the region to convey stormwater and urban runoff flows to the ocean. The wastewater in the western portion of this area is collected by the local sanitary sewer systems for treatment by the City of Los Angeles, City of Burbank, or the Las Virgenes Municipal Water District. The wastewater collected in the eastern portion of this area is routed to the Districts' Joint Outfall System (Figure 2). The JOS is an interconnected network of sewers, pumping plants, and wastewater treatment facilities. Wastewater collected into this system is treated at one of six upstream Water Reclamation Plants (WRPs) or the JWPCP. The wastewater treated at the WRPs receives tertiary treatment and is reclaimed for beneficial reuse or is discharged to inland surface waters. All of the solids removed during the wastewater process at all of the WRPs in the JOS are centrally processed at the JWPCP. The wastewater treated at the JWPCP receives secondary treatment followed by ocean disposal through an outfall tunnel. As a general rule, the Districts do not accept urban runoff flows in sewers tributary to the WRPs due to the potential impact on the Districts' ability to meet discharge limitations, nor do the Districts accept storm water flows to any sewer due to the potential to cause overflow conditions.[2] Figure 3 shows the Districts' sewers that are tributary to the JWPCP.

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[2] The Districts' Diversion Policy is included in Appendix B.

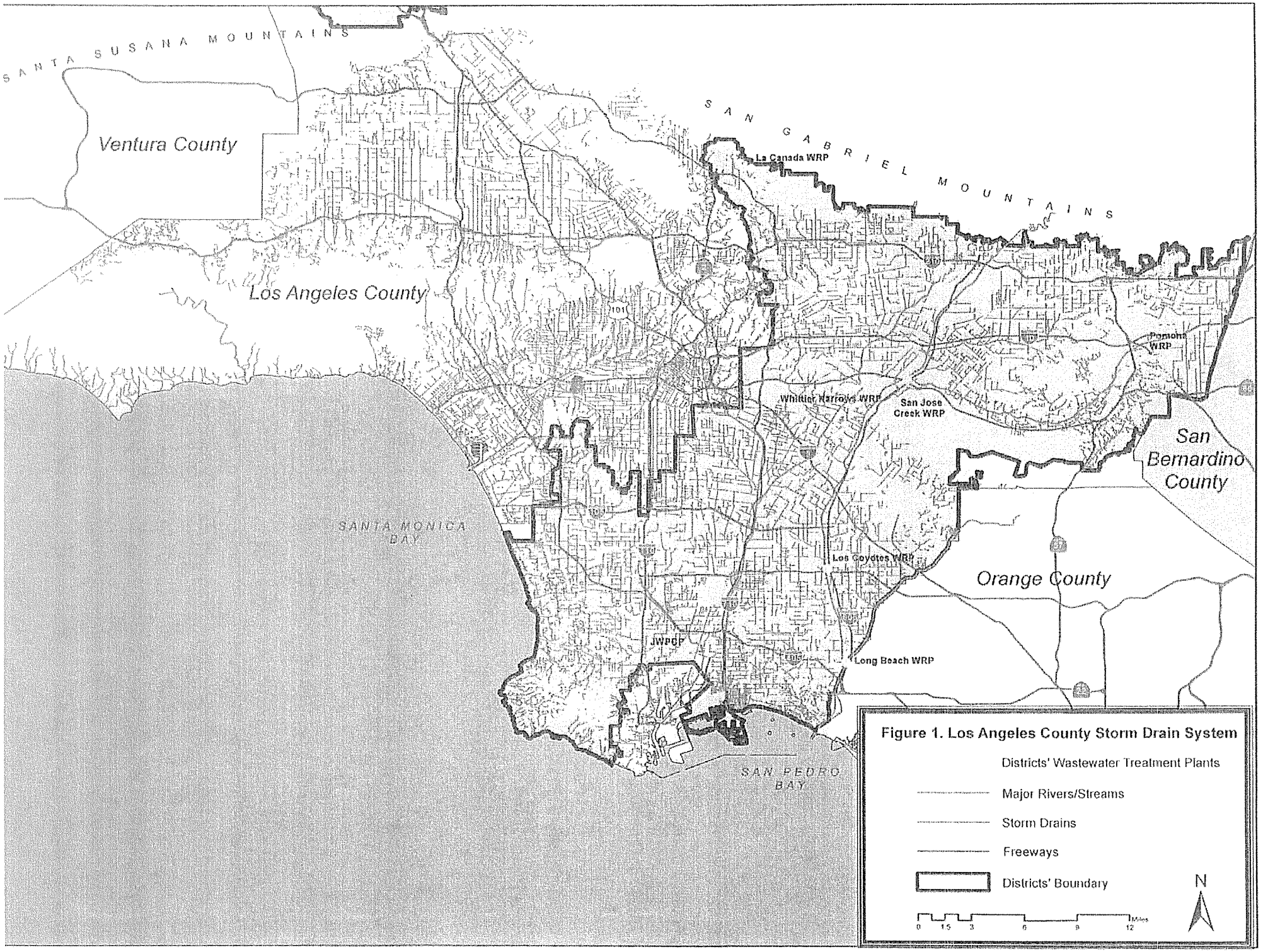
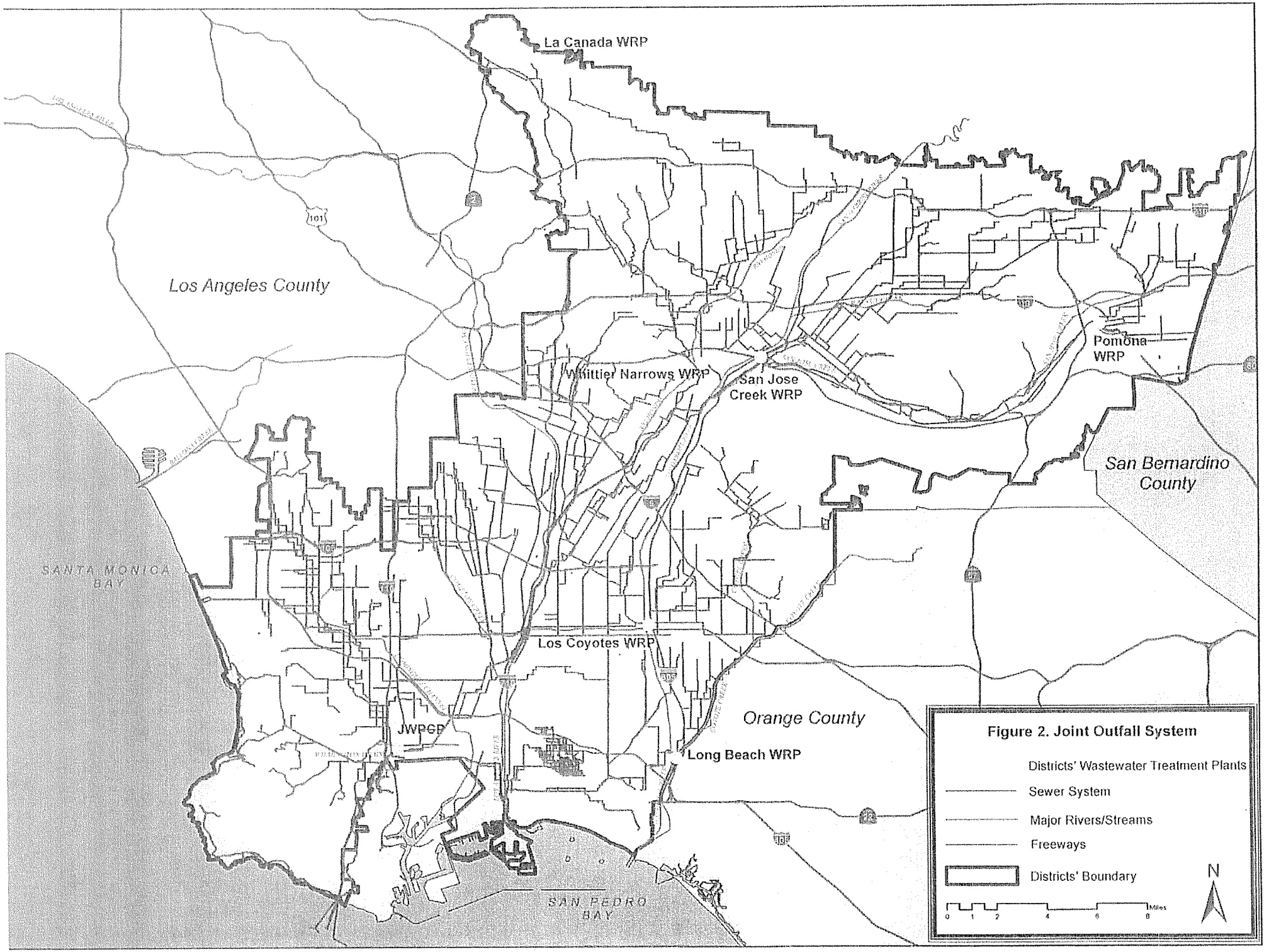
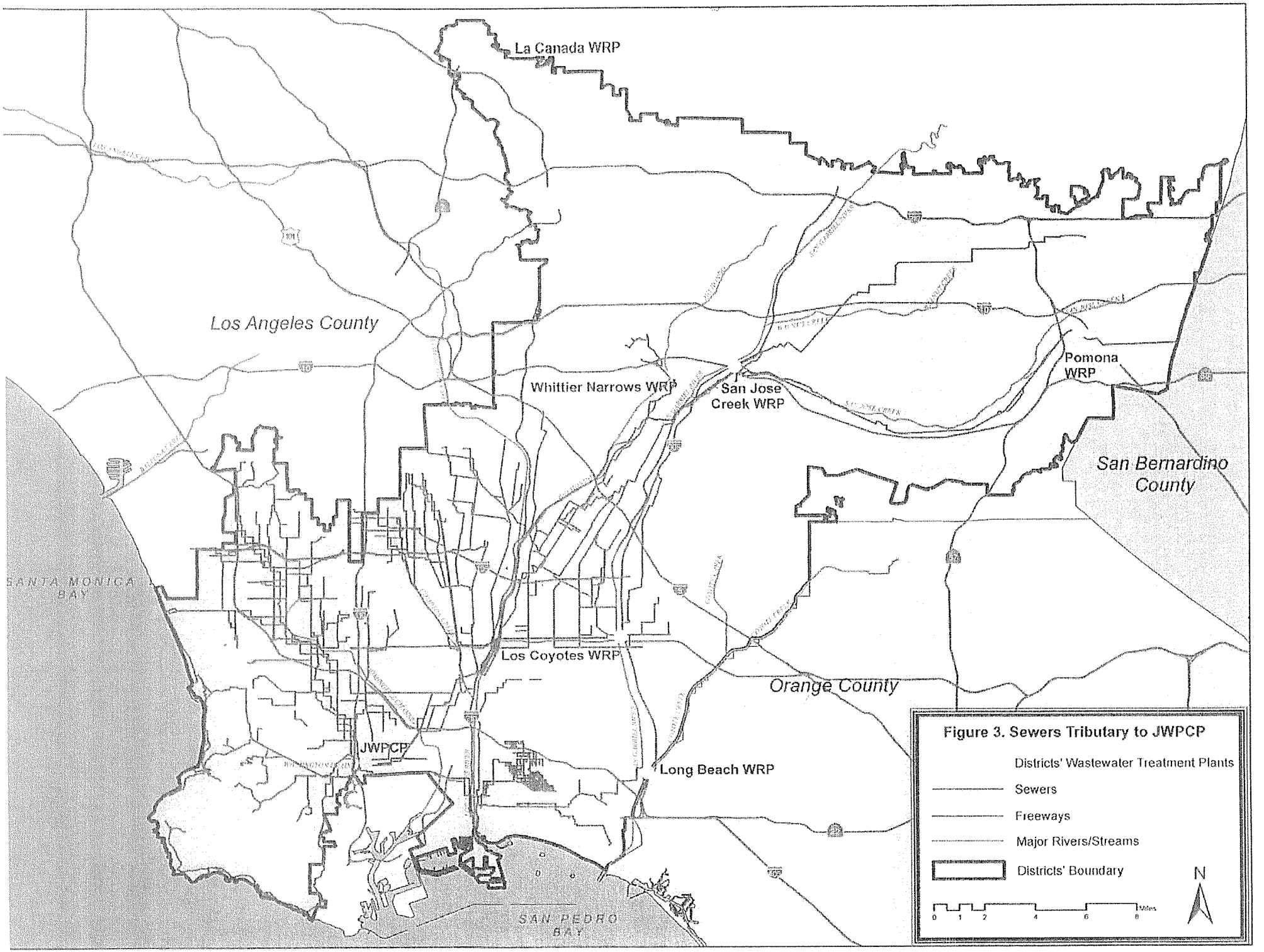


Figure 1. Los Angeles County Storm Drain System


La Canada WRP
Los Angeles County
Whittier Narrows WRP
San Jose Creek WRP
Pomona WRP
San Bernardino County
SANTA MONICA BAY
Los Coyotes WRP
JWPCP
Orange County
Long Beach WRP
SAN PEDRO BAY
Figure 2. Joint Outfall System
Districts' Wastewater Treatment Plants
Sewer System
Major Rivers/Streams
Freeways
Districts' Boundary
N
0 1 2 4 6 8 Miles


La Canada WRP
Los Angeles County
Whittier Narrows WRP
San Jose Creek WRP
Pomona WRP
San Bernardino County
SANTA MONICA BAY
Los Coyotes WRP
Orange County
JWPCP
Long Beach WRP
SAN PEDRO BAY
Figure 3. Sewers Tributary to JWPCP
Districts' Wastewater Treatment Plants
Sewers
Freeways
Major Rivers/Streams
Districts' Boundary
N
0 1 2 4 6 8 Miles

2. Methods

2.1. Candidate Drain Selection

The Treatment Feasibility Study ranked 111 storm drains for diversion or alternative treatment countywide. Fifty of those drains were within the Districts' service area. Six of those drains were tributary to the Santa Monica Bay and were evaluated as part of a previous study by the Districts (Final Report for Supplemental Environmental Project No. 1, December 2002), so this study aimed to evaluate the 44 remaining drains. Districts' staff collected the source data from the Treatment Feasibility Study from Public Works, made field observations of each drain, and collected additional water quality and flow data from the flowing drains. Preliminary conclusions from this initial effort indicated that many of the drains identified in the Treatment Feasibility Study were either not suitable for diversion[3] or were smaller and carrying less flow/pollutants than other drains which were not identified in the study. These findings were reviewed with Public Works staff, and it was agreed that the methodology of this study would be modified and that an expanded candidate list of closed-conduit storm drains would be considered. The drains discharging to Compton Creek, Coyote Creek, Dominguez Channel, Los Angeles River, Rio Hondo, San Gabriel River, San Jose Creek, Walnut Creek, and Wilmington Drain with the largest tributary areas were provided by Public Works staff. From these lists, Districts' staff selected drains that contributed to impairments over the widest geographical area (i.e., drains whose flow infiltrates into the ground at the outlet of the drain were not selected). Field observations were made of the newly selected drains and two sets of flow measurements and water quality samples were collected, where possible. Table 1 lists these candidate drains and the drain identification numbers used throughout this document, presented by water body, in order from upstream to downstream. Figure 4 shows the locations of the drains monitored for this study and Appendix C contains field photos of the drain outlets and aerial photos of each location to aid in locating and identifying drains in the field. Table 1, Figure 4, and Appendix C include all 55 of the drains monitored for this study, including drains monitored before and after the revisions to the candidate list.

2.2. Flow Measurements

The flow rates for the drains were estimated at the time of sampling, where possible. Flow rates were estimated using direct measurement, or by using well established open channel flow calculations. Direct measurement, or recording the time required to fill a container of known volume, was the preferred method when the flow could be directed to a container. The other methods were employed as site conditions dictated.

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[3] Open channels, such as the Compton Creek, were identified as not suitable for wholesale diversion based on statements from Regional Board staff that treatment is expected to happen before drains daylight to open channel receiving waters.

Table 1 – Study Drain Locations

River	Reprioritization Study ID	Drain Description	Field Station Identifier (if marked)	Treatment Feasibility Study ID	Public Works Drain Designation
Compton Creek	**D090**	Daylight of Compton Creek at Main Street and 108th Street			Project. 635
	D089	North side of Compton Creek at Towne Avenue			Project 489
	D085	North side of Compton Creek at Avalon Boulevard			Project 73 - Unit 2
	D084	East side of Compton Creek at 122nd Street			Hooper Ave Drain System
	D091	East side of Compton Creek at the railroad crossing			Project 73 - Unit 1
	D088	East side of Compton Creek, south of Greenleaf Boulevard			Glen Ave Drainage System
	D087	Daylight of East Fork of Compton Creek			Project 6
Coyote Creek	**D075**	West side of Coyote Creek at Rosecrans Avenue			Project 1111
	D074	West side of Coyote Creek at Shoemaker Avenue			Project 3001 Line B
	D077	Daylight of Project 21, Line A (at Grayland Avenue and South Street in Artesia)		SGR-02	Project 21 Line A
Dominguez Channel	**D070**	Daylight of Dominguez Channel at 116th Street		DC-51	
	D060	First drain entering Dominguez Channel from the east		DC-50	
	D071	West side of Dominguez Channel, south of the 105 Freeway		DC-48	
	D059	East side of Dominguez Channel, north of Rosecrans Avenue, 96" elevated box	807+65	DC-42	

Table 1 – Study Drain Locations (continued)

River	Reprioritization Study ID	Drain Description	Field Station Identifier (if marked)	Treatment Feasibility Study ID	Public Works Drain Designation
Dominguez Channel	**D051**[4]	West side of Dominguez Channel at Manhattan Beach Boulevard, Northwest Outlet		DC-24	Project 12
	D050	West side of Dominguez Channel at Manhattan Beach Boulevard, Southwest Outlet		DC-24	Project 12
	D049	West side of Dominguez Channel, south of Manhattan Beach Boulevard	701+18	DC-22	
	D053	North side of Dominguez Channel at Western Avenue, 42" Outlet	603+78	DC-08	
	D052	South side of Dominguez Channel at Western Avenue, 72" Outlet	603+57	DC-07	
	D073	North side of Dominguez Channel, east of Normandie Avenue		DC-05	Project 10
	D067	Small drain entering Dominguez Channel from north at transition to trapezoidal channel			
	NS1[5]	East side of Dominguez Channel at 190th Street		DC-29	Project 1206
	D068	West side of Dominguez Channel at 223rd Street		DC-37	
Los Angeles River	**D065**	East side of Los Angeles River, north of Atlantic Boulevard in the City of Vernon	DDI 26	LAR-22	DDI 26
	D062	East side of Los Angeles River at Atlantic Boulevard		LAR-16	Project 14

[4] D050 and D051 were initially sampled as separate locations. After verifying that they served the same drainage area, these locations were combined under D050.

[5] Drains which did not have any water quality samples collected are designated with an NS drain identification number. All other drains had at least one water quality sample collected.

Table 1 – Study Drain Locations (continued)

River	Reprioritization Study ID	Drain Description	Field Station Identifier (if marked)	Treatment Feasibility Study ID	Public Works Drain Designation
Los Angeles River	**D063**	East side of Los Angeles River, between Atlantic Boulevard and Slauson Avenue		LAR-17	DDI 22
	D064	East side of Los Angeles River, north of Slauson Avenue		LAR-29	
	D081	West side of Los Angeles River at Southern Avenue			Project 7850
	D082	East side of Los Angeles River, downstream of Firestone Boulevard and upstream of railroad crossing			DDI 23
	D066	East side of Los Angeles River, south of Imperial Highway		LAR-18	
Rio Hondo	**D079**	East side of Rio Hondo at Rush Street			Project 1115
	D080	West side of Rio Hondo, north of San Gabriel Boulevard			Project 1225
	D086	West side of Rio Hondo between Whittier Boulevard and Beverly Boulevard			Project 9901
	D092	West side of Rio Hondo at the extension of Mines Ave			DDI 23/1109
	D083	West side of Rio Hondo at Ford Park Golf Course	117+98		Project 539A

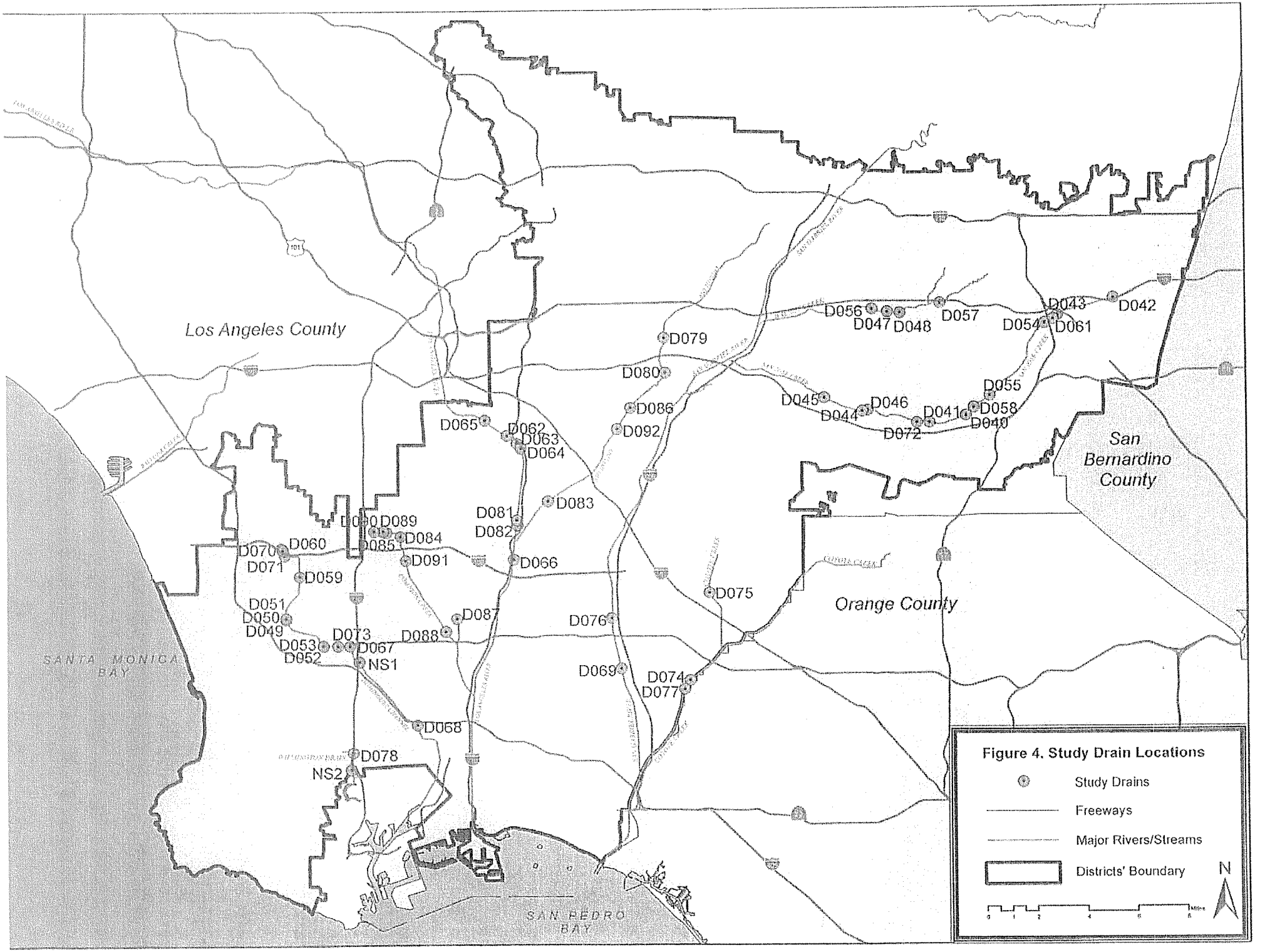
Table 1 – Study Drain Locations (continued)

River	Reprioritization Study ID	Drain Description	Field Station Identifier (if marked)	Treatment Feasibility Study ID	Public Works Drain Designation
San Gabriel River	**D076**	Daylight of Maplewood Channel	Project. 16		Project 16
	D069	East side of San Gabriel River, south of South Street	462+77	SGR-20	Project 1113
San Jose Creek	**D042**	East side of San Jose Creek at White Avenue and Preciado Street	988+84	SGR-05	Project 266
	D043	North side of San Jose Creek at East Corporate Circle Drive	864+44	SGR-06	
	D061	North side of San Jose Creek at Corporate Center Drive	841+03	SGR-04	
	D054	North side of San Jose Creek at Campus Drive and Citrus Lane	828+14		
	D055	South side of San Jose Creek at Cheryl Lane	625+14	SGR-07	
	D058	North side of San Jose Creek at Lemon Avenue	580+53	SGR-08	
	D040	Groundwater drain on south side of San Jose Creek	556+00		
	D041	Multiple outlet channel on south side of San Jose Creek at Nogales Street		SGR-09	Project 4350 / Nogales Ch
	D072	North side of San Jose Creek, downstream of Nogales Street	450+78		
	D046	North side of San Jose Creek, downstream of Anaheim and Puente Road	335+18	SGR-10	
	D044	South side of San Jose Creek, downstream of Kearn Creek Court	324+76	SGR-11	
	D045	North side of San Jose Creek at Hacienda Boulevard	238+41	SGR-13	

Table 1 – Study Drain Locations (continued)

River	Reprioritization Study ID	Drain Description	Field Station Identifier (if marked)	Treatment Feasibility Study ID	Public Works Drain Designation
Walnut Creek	**D057**	South side of Walnut Creek at Barranca Avenue	409+56	SGR-16	
	D048	South side of Walnut Creek at Azusa Avenue	322+64	SGR-17	
	D047	North side of Walnut Creek at Lark Ellen Avenue	295+76	SGR-18	
	D056	North side of Walnut Creek at Vincent Avenue	262+01	SGR-19	
Wilmington Drain	**D078**	Wilmington Drain daylight at Sepulveda Boulevard			Project 1201
	NS2[6]	West side of Wilmington Drain at Lomita Boulevard			Lomita Blvd Drain

[6] Drains which did not have any water quality samples collected are designated with an NS drain identification number. All other drains had at least one water quality sample collected.


Los Angeles County
San Bernardino County
Orange County
SANTA MONICA BAY
SAN PEDRO BAY
D042
D043
D047
D048
D054
D056
D057
D061
D079
D080
D086
D092
D045
D046
D044
D041
D055
D058
D040
D072
D065
D062
D063
D064
D081
D082
D083
D089
D085
D084
D091
D066
D070
D060
D071
D059
D051
D050
D049
D053
D052
D073
D067
NS1
D087
D088
D076
D075
D069
D074
D077
D068
D078
NS2
Figure 4. Study Drain Locations
Study Drains
Freeways
Major Rivers/Streams
Districts' Boundary
N

2.3. Water Quality Measurements

All samples collected were analyzed for total coliform, fecal coliform, enterococcus, temperature, pH, total suspended solids, chemical oxygen demand, dissolved sulfides, copper, zinc, and lead. Additionally, one sample had a visible sheen and additional analyses were performed to try to identify the cause of the sheen.[7] Five samples appeared to contain landscape debris. These samples were screened for common domestic pesticides, chlorpyrifos and diazinon. Lastly, one sample contained a chlorine odor. This sample was analyzed for total and residual chlorine. All samples were collected as unfiltered grab samples, which were preserved as necessary in the field (i.e., acidified or dechlorinated as required by the analytical method and transported on ice), and analyzed using ELAP-approved methods in the State-certified Districts' or contract laboratories.

3. Overview and Analysis of Field and Laboratory Data

3.1. Flows

Due to the changed list of candidate drains part way through the study, not all drains had replicate flow monitoring, however, an attempt was made to collect two flow measurements from each drain recommended for priority ranking. In a few cases, flows could not be quantified due to a submerged outlet or stagnant flow, in these cases no estimates are available. Figure 5 shows the conditions during a sampling event where water quality samples were taken, but taking a flow measurement was not possible due to site conditions. It should be noted that the field personnel were prohibited from entering buried storm drains due to safety concerns.

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[7] The additional analyses were for oil and grease, antimony, arsenic, barium, beryllium, cadmium, chrysene, fluorine, hexavalent chromium, iron, lead, mercury, nickel, selenium, silver, thallium, total chromium, 3,3'-dichlorobenzidine, anthracene, benzidine, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(ghi)perylene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, phenanthrene, and pyrene.

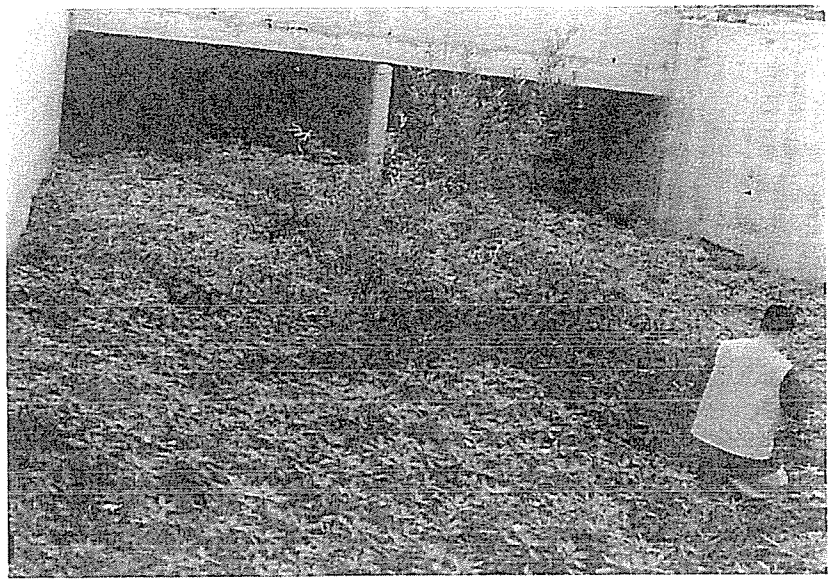


Figure 5 – Example conditions prohibiting flow measurement

As shown in Table 2, the flow monitoring conducted on the candidate drains listed in the Treatment Feasibility Study indicates that many of the drains initially identified do not meet the 0.05 cfs flow threshold established for priority ranking in the Treatment Feasibility Study. Further analysis of the data indicates that a single flow measurement from a storm drain may not be an appropriate measure of the drain's long-term flow characteristics. Table 2 compares the flow reported in the Treatment Feasibility Study with additional measurements collected for this study. These data show the variability of flows from storm drains. This variability is expected due to the presence of stormwater pump stations and the timing of outdoor water use within the subwatersheds. The long-term average flow rate would be more indicative of an individual drain's mass loading to the receiving water, however, installing long-term flow monitors on each drain outlet is cost prohibitive for a planning level study. The Districts calculated a generic long-term average dry-weather urban runoff generation rate from operating diversions and from long-term average flow monitoring conducted in the Ballona Creek Watershed[8]. This generation rate of 185 gallons/day/acre was then used to model the potential long-term average flows from each catchment using the catchment area in acres. These estimated flows are included in Table 2, for comparison.

[8] The Ballona Creek data and analysis were provided by Drew Ackerman of the Southern California Coastal Water Research Project.

Table 2 – Summary and Analysis of Flow Monitoring Data

Reprioritization Study ID	Receiving Water	Catchment Area (acres)	TFS Reported Flow (converted to cfs)	First Visit Flow Rate (cfs)	Second Visit Flow Rate (cfs)	Flow Based on Urban Runoff Generation Rate (cfs)
D040	San Jose Creek			0.12		
D041	San Jose Creek	1871	0.09	1.30	3.13	0.54
D042	San Jose Creek	1207	0.08	0.40	0.212	0.35
D043	San Jose Creek		0.08	0.07		
D044	San Jose Creek		0.22	0.20		
D045	San Jose Creek		0.08	0.001		
D046	San Jose Creek		0.22	0.03		
D047	Walnut Creek		0.08	0.01	0.028	
D048	Walnut Creek		0.08	0.56	0.5	
D049	Dominguez Channel		0.05	0.006		
D050[9]	Dominguez Channel	2195	2.06	0.25	1.98	0.63
D052	Dominguez Channel		0.08	0.017		
D053	Dominguez Channel		0.32	0.001		
D054	San Jose Creek			0.15		
D055	San Jose Creek		0.14	0.115		
D056	Walnut Creek		0.06	0.087	0.06	
D057	Walnut Creek		0.08	0.088		
D058	San Jose Creek		0.09			

[9] The first visit flow rate is the sum of the observed flow from the southwest outlet (D050) and the northwest outlet (D051). After verifying that they served the same drainage area, these locations were combined under D050.

Table 2 – Summary and Analysis of Flow Monitoring Data (continued)

Site ID Number	Receiving Water	Watershed Area (acres)	TFS Reported Flow (converted to cfs)	First Visit Flow Rate (cfs)	Second Visit Flow Rate (cfs)	Flow Based on Urban Runoff Generation Rate (cfs)
D059	Dominguez Channel		0.67	0.004		
D060	Dominguez Channel		0.33			
D061	San Jose Creek		0.04	0.025		
D062	Los Angeles River		5.65	NA	0.86	
D063	Los Angeles River	2983	0.64	NA	0.019	0.85
D064	Los Angeles River		0.72			
D065	Los Angeles River	6544	0.37	NA	0.029	1.87
D066	Los Angeles River		1.67			
D067	Dominguez Channel			0.001		
D068	Dominguez Channel		3.18	0.01		
D069	San Gabriel River	653	0.07	0.05	0.034	0.19
D070	Dominguez Channel		0.06	0.004		
D071	Dominguez Channel		7.33	33.5		
D072	San Jose Creek			0.095		
D073	Dominguez Channel	1867	0.09	0.16	0.245	0.53
D074	Coyote Creek	2237		0.81	1.16	0.64
D075	Coyote Creek	1140				0.33
D076	San Gabriel River	3124		0.68	0.694	0.89
D077	Coyote Creek	3869	0.09	0.667	0.278	1.11
D078	Wilmington Drain	1112		NA	0.054	0.32
D079	Rio Hondo	985		0.016	0.016	0.28

Table 2 – Summary and Analysis of Flow Monitoring Data (continued)

Site ID Number	Receiving Water	Watershed Area (acres)	TFS Reported Flow (converted to cfs)	First Visit Flow Rate (cfs)	Second Visit Flow Rate (cfs)	Flow Based on Urban Runoff Generation Rate (cfs)
D080	Rio Hondo	952		0.121	0.75	0.27
D081	Los Angeles River	5877		0.146	0.183	1.68
D082	Los Angeles River	5304		1.15	0.56	1.52
D083	Rio Hondo	1501		0.433	0.146	0.43
D084	Compton Creek	3465		0.115	0.106	0.99
D085	Compton Creek	3731		0.245	0.087	1.07
D086	Rio Hondo	834		0.25	0.091	0.24
D087	Compton Creek	5534		0.125	0.128	1.58
D088	Compton Creek	2920		0.421	0.09	0.84
D089	Compton Creek	1455		0.0004	0.003	0.42
D090	Compton Creek	1609		0.026	0.041	0.46
D091	Compton Creek	1025		0.026	0.035	0.29
D092	Rio Hondo	4150		0.208	0.131	1.19
NS1	Dominguez Channel	1118	13.35			0.32
NS2	Wilmington Drain	5674				1.62

Figure 6 compares the observed flows from different drains with the expected or modeled flow using the urban runoff generation rate. As discussed previously, the modeled rate is a long-term average flow rate and would be expected to represent average flows. When compared with the flow data collected for this study and the flow data reported in the Treatment Feasibility Study, the modeled average flow rate is greater than all of the observed snapshot flows from catchments with areas greater than 2500 acres. In catchments with areas less than 2500 acres, the modeled flow rate appears to overestimate the average flow condition. These data indicate that an urban runoff generation rate could be a useful tool to screen for excessive flow from a catchment area. For example, the high flow rate listed in the Treatment Feasibility Study for Project 1206 (identified by the highest data point in Figure 6), was determined to have likely been related to an outgoing tide, and not caused by dry-weather urban runoff flows. The outlet to this drain is submerged in an area under the influence of the tide. While the field crews for this study were not able to collect flow measurements from this drain due to this limitation, this drain has been included on the refined priority ranking based on the catchment area and the modeled flow.

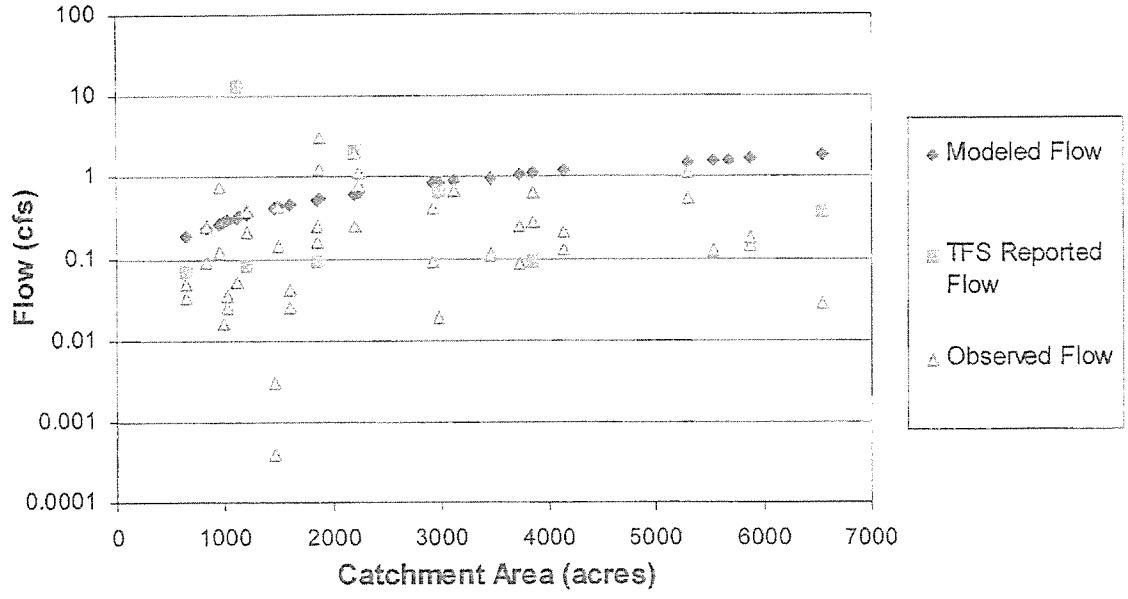


Figure 6 - Comparison of Observed Flows with Modeled Long-Term Average Flows

[10] The calculated dry-weather urban runoff rate is intended to estimate the runoff from outdoor uses of water within an urban watershed. Major NPDES dischargers within the watershed and inputs from natural springs or streams should be accounted for separately.

Until refined generation rates are available in the literature (for urban and other areas), this standard rate[11] may be a useful tool for planning level studies for the treatment of dry-weather urban runoff.

3.2. Visual Observations

Trash was observed at the outlet to almost every drain. Figure 7 shows a drain outlet with a heavy trash load at Station 315+07 on San Jose Creek. Most of the trash observed during the course of the study was related to food and drink containers. It is noted however, that since the field work for this study was conducted many municipalities have implemented BMPs to reduce trash loadings, and that the observations made during this study may not be reflective of current trash discharges.

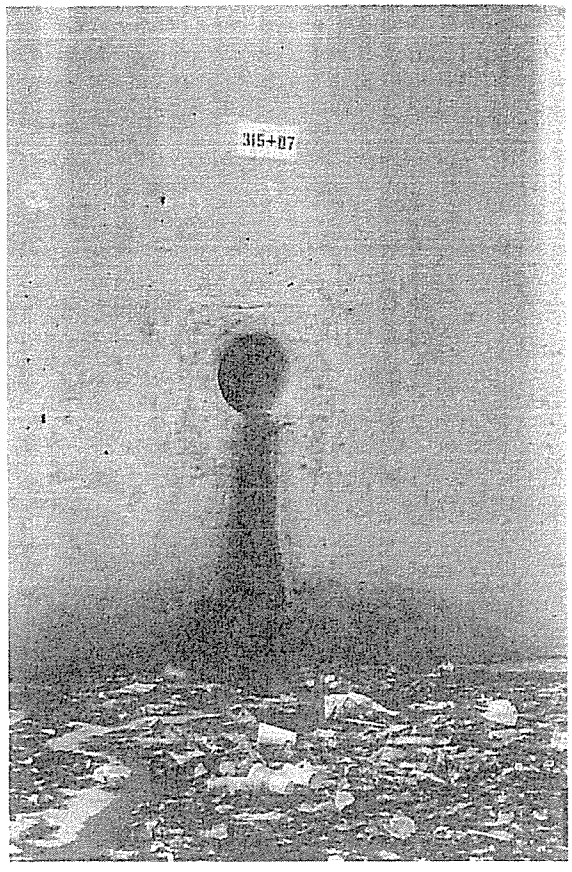


Figure 7 – Trash loading from the drain at Station 315+07 on San Jose Creek

[11] The calculated dry-weather urban runoff rate is intended to estimate the runoff from outdoor uses of water within an urban watershed. Major NPDES dischargers within the watershed and inputs from natural springs or streams should be accounted for separately.

3.3. Water Quality

Eighty-three (83) water quality samples and 19 quality assurance duplicate samples were collected in connection with this project. Over 1,000 analyses were conducted on these samples. The water quality data from all the samples collected from this study are included in Appendix D.

The following sections provide a discussion of the overall trends and findings, by pollutant group. For discussion purposes, the sampled water quality from the candidate drains is compared to existing surface water objectives and criteria. It is important to note, however, that while the flow from each storm drain may contribute to flow in a surface water where these criteria and objectives apply, the criteria and objectives do not apply to discharges from individual storm drains.

3.3.1. Bacteriological Indicators

The total coliform, fecal coliform, and enterococcus measurements collected for this study indicated that the indicator bacteria were variable and unlikely to meet recreational use standards, as shown in Table 3 and discussed below.

Table 3 – Summary of Bacteriological Indicators

Bacteriological Indicators	Low Value	High Value
Total Coliform	ND	>9,999,999 colonies/100 mL
Fecal Coliform	ND	>9,999,999 colonies/100 mL
Enterococcus	ND	160,000 colonies/100 mL

The fecal coliform standard for waters designated as water contact recreation (REC-1) by the Water Quality Control Plan for the Los Angeles Region (Regional Board, 1994) states that not more than 10 percent of total samples during a 30-day period shall exceed 400/100 mL. Additionally, on May 8, 2006, the California Department of Health Services issued Draft Guidance for Fresh Water Beaches, which includes proposed beach posting thresholds for freshwater. Specifically, beach posting is recommended when indicator organisms exceed any of the following single sample values:

- Total coliforms: 10,000 per 100 mL
- Fecal coliforms: 400 per 100 mL
- Either Enterococcus: 61 per 100 mL, or E. coli: 235 per 100 mL.

Ten (10) of the 83 total coliform samples collected in connection with this study were in compliance with the draft standard. Of those 10 samples, 4 were determined to be from sources other than urban runoff (i.e., chlorinated potable water, a permitted discharge of treated groundwater, etc.). After excluding those 4 measurements, the average of the remaining measurements was 420,000 colonies/100 mL with a standard deviation of 1,400,000. The standard deviation of these measurements demonstrates the significant variability of coliform discharges. Two samples at the high end were

significantly higher than the remaining samples. These two samples were collected on February 17, 2005 from D084 (Hooper Avenue Drain, Compton Creek) and August 5, 2004 from D073 (Project 10, Dominguez Channel) with 7,800,000 and >9,999,999 colonies/100 mL, respectively. For comparison, the next highest sample contained 2,200,000 colonies/100 mL. Both D084 and D073 are priority ranked as candidates for diversion or other treatment in this study.

Fourteen (14) of the 83 fecal coliform samples collected in connection with this study were in compliance with the draft standard. Of those 14 samples, 4 were determined to be from sources other than urban runoff. After excluding those 4 measurements, the average of the remaining measurements was 140,000 colonies/100 mL with a standard deviation of 1,100,000. One sample at the high end was an apparent outlier, and after removing the sample the average of the remaining samples was 8,600 colonies/100 mL with a standard deviation of 16,000. The outlier sample was collected on August 5, 2004 from D073 (Project 10, Dominguez Channel) with >9,999,999 colonies/100 mL. For comparison, the next highest sample contained 97,000 colonies/100 mL.

Four (4) of the 83 enterococcus samples collected in connection with this study were in compliance with the draft standard. All of those samples were determined to be from sources other than urban runoff. After excluding those 4 measurements, the average of the remaining measurements was 9,100 colonies/100 mL with a standard deviation of 22,000. Two samples at the high end were apparent outliers and after removing these samples the average of the remaining samples was 5,900 colonies/100 mL with a standard deviation of 8,500. The two outlier samples were collected on February 17, 2005 and August 5, 2004 from D084 (Hooper Avenue Drain, Compton Creek) and D073 (Project 10, Dominguez Channel), with 110,000 and 160,000 colonies/100 mL, respectively. For comparison, the next highest sample contained 41,000 colonies/100 mL.

On March 1, 2005, D073 was sampled again and total coliform, fecal coliform, and enterococcus were measured to be 230,000, 3,700, and 2,900 colonies/100 mL, respectively. D084 had been sampled previously on September 23, 2004 and total coliform, fecal coliform, and enterococcus were measured to be 18,000, 700, and 630 colonies/100 mL, respectively. These data indicate that the results from the sampling events on August 5, 2004 and February 17, 2005 were episodic and not indications of long-term events.

3.3.2. Conventional Pollutants

Every sample collected as part of this study was analyzed for pH, soluble sulfides, total suspended solids, temperature, and total chemical oxygen demand. Table 4 shows the maximum and minimum concentrations for all samples collected in this study.

Table 4 - Summary of Conventional Pollutants

Pollutant	Low Value	High Value
pH	6.5	8.0
Temperature	51 °F	78 °F
Soluble Sulfides	ND	ND
Suspended Solids	ND	935 mg/L
Chemical Oxygen Demand	ND	220 mg/L

The water quality standard for pH is designated in the Water Quality Control Plan for the Los Angeles Region, which specifies that pH of inland surface waters shall not be depressed below 6.5 or raised above 8.5 as a result of waste discharges. None of the storm drain discharges sampled during this study had a pH outside this range.

The temperature standard for waters designated as Warm Freshwater Habitat (WARM) by the Water Quality Control Plan for the Los Angeles Region is dependant on the natural temperature and shall not be raised above 80 degrees Fahrenheit. None of the storm drain discharges sampled during this study had a temperature above this standard.

The water quality objective for suspended solids designated in the Water Quality Control Plan for the Los Angeles Region is narrative and states that suspended or settleable material shall not cause nuisance or adversely affect beneficial uses. The suspended solids from the discharges sampled in this study ranged from < 1 mg/L to 935 mg/L. The average value was 29 mg/L, and the standard deviation using the entire dataset was 108; however, after removing two apparent outliers, the average was 15 mg/L and the standard deviation was 20 mg/L. The two outliers were collected on April 29, 2004 at D041 and August 5, 2004 at D050 and measured 935 mg/L and 404 mg/L, respectively. In each of these instances, the sample was visibly turbid; however, other sampling events at each of these locations demonstrated that the suspended solids on these dates were related to episodes and were not on-going.

3.3.3. Copper, Lead, and Zinc

Each sample was analyzed for copper, lead, and zinc because these metals are of concern in urban runoff. Table 5 shows the maximum and minimum concentrations for all samples collected in this study. The results were compared against the California Toxics Rule (CTR) (United States Environmental Protection Agency, 2000) criteria to protect freshwater aquatic life. Since the CTR values are hardness dependant, the observed hardness from flowing storm drains measured during snapshot dry-weather surveys by the Southern California Coastal Water Research Project were evaluated, and a conservative hardness of 250 mg/L was used to calculate the standards discussed here. In each case, the highest value measured at the candidate drains was greater than the chronic (4-day) standard. Copper was the most likely to exceed the standard with 9 of 83

samples being greater than 20.4 ug/L. The next most likely was lead, with 6 of 83 samples exceeding the 10.2 ug/L standard. Zinc exceeded the 260.4 ug/L standard in only one sample. Some copper and zinc measurements also exceeded the acute (1-hr) standard. Copper exceeded the 33.2 ug/L acute standard in 3 of the samples, and zinc exceeded the 260.4 ug/L acute standard in 1 sample.

Table 5 - Summary of Copper, Lead, and Zinc

Pollutant	Low Value (ug/L)	High Value (ug/L)	CTR Criteria (ug/L)	
			Acute (1-hr)	Chronic (4-day)
Copper	ND	51	33.2	20.4
Lead	ND	71	262.1	10.2
Zinc	ND	396	260.4	260.4

3.3.4. Oil and Grease, Metals, and Polyaromatic hydrocarbons (PAHs)

On September 16, 2004, the discharge to the east side of the Rio Hondo at the extension of Rush Street had an iridescent sheen. The sampling crew suspected an oil or fuel component so additional samples were collected for oil and grease, additional metals, and PAHs. The results of these analyses are included in Table 6. The detected results were compared against the CTR criteria to protect freshwater aquatic life, or if no standard was set for the protection of aquatic life, the values were compared against the human health standard for the consumption of organisms only. In this sample, none of the values were above the criteria.

Table 6 - Results from expanded sampling at the Rush Street discharge to the Rio Hondo

Constituent	Result (ug/L)	CTR Criteria (ug/L)		
		Freshwater		Human Health Organisms Only
		Acute (1-hr)	Chronic (4-day)	
Oil & Grease	ND			
Metals				
Antimony	0.8			4300
Arsenic	2.5	340	150	
Barium	86 L			
Beryllium	ND			
Cadmium	ND			
Chromium (Hexavalent)	ND			
Chromium (Total)	ND			
Copper	18	33.2	20.4	
Fluorine	ND			
Iron	605			
Lead	ND			
Mercury	ND			
Nickel	ND			
Selenium	ND			
Silver	ND			
Thallium	ND			
Zinc	40	260.4	260.4	
PAHs				
Anthracene	ND			
Benzo(a)anthracene	ND			
Benzo(a)pyrene	ND			
Benzo(b)fluoranthene	ND			
Benzo(ghi)perylene	ND			
Benzo(k) fluoranthene	ND			
Chrysene	ND			
Dibenzo (a,h) anthracene	ND			
Indeno(1,2,3-c,d)pyrene	ND			
Phenanthrene	ND			
Pyrene	ND			

3.3.5. Pesticides

Five samples contained grass clippings or other landscaping debris. In these cases, additional samples were collected to screen for the common household pesticides chlorpyrifos and diazinon. These pesticides were not detected in any of the suspect samples. The laboratory detection limit was 5 ug/L in each case.

3.4. Illicit Discharge Investigations

Districts' staff initiated several illicit discharge investigations over the course of the study. The most significant investigation involved one of the drains prioritized in the Treatment Feasibility Study, which is described in Section 3.4.3. Several other calls were made to the 888-Clean-LA hotline. These incidents are described below.

3.4.1. Business discharge to San Jose Creek

On April 7, 2004, flow was observed running down the wall on the south side of the concrete channel that contains San Jose Creek. Upon further investigation, the field crew observed that a business located in the City of Industry had installed discharge piping out the back door and had dug a trench to the flood control right-of-way (see Figure 8). The flow was infiltrating into the trench and subsequently seeping back up to the surface in the flood control right-of-way and running down the concrete wall of San Jose Creek. The Clean LA Hotline was called and an inspector from Public Works investigated. While no formal results of the investigation were available to the Districts, a return visit confirmed that the discharge piping out the back door had been removed.

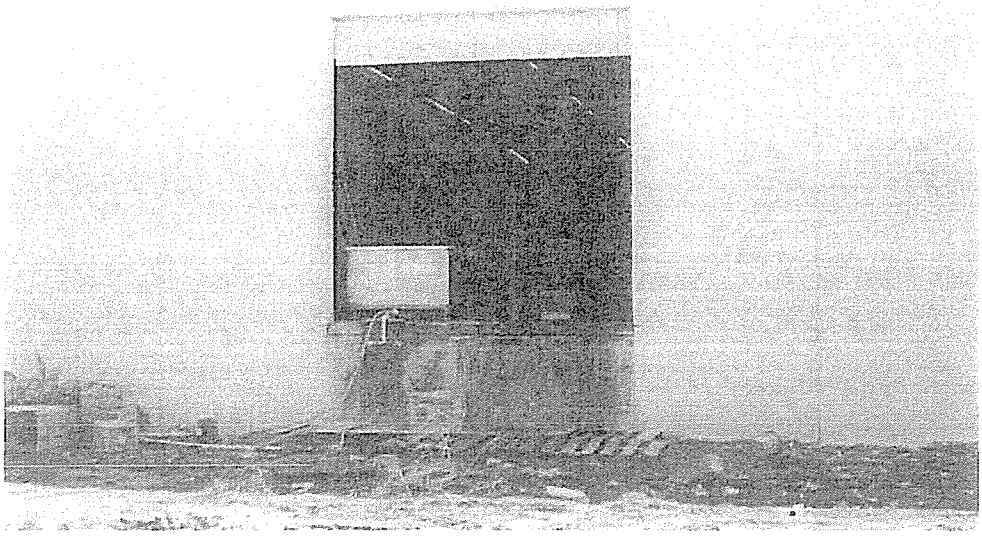


Figure 8 – Illicit Discharge in City of Industry

3.4.2. Discharge to San Jose Creek

On April 7, 2004, flow was observed running down the wall on the north side of the concrete channel containing San Jose Creek. The field crew investigated the discharge and found that the flow was originating in a rail yard and was flowing overland to San Jose Creek (see Figure 9). The Clean LA Hotline was called and an inspector from Public Works investigated. While no formal results of the investigation were available to the Districts, a return visit confirmed that the overland flow has ceased.

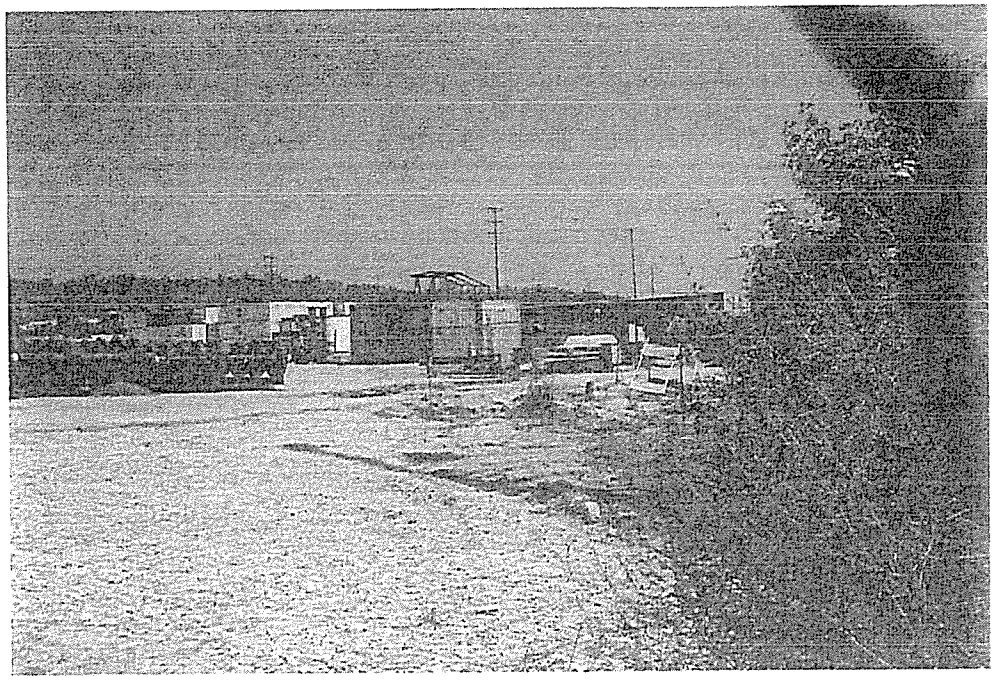


Figure 9 – Potential illicit discharge on the north bank of San Jose Creek between Anaheim and Puente Road and Stimson Avenue

3.4.3. Chlorinated discharge to the Dominguez Channel

Drain D071 discharges to the Dominguez Channel through a double box structure on the west side of the channel just south of the 105 Freeway in the City of Hawthorne. This drain was ranked in the Treatment Feasibility Study as 14th and 15th priority on the Dominguez Channel Watershed Prioritized List (each side of the discharge structure was ranked separately). On July 7, 2004, Districts' field crews detected a chlorine odor at the discharge location. A HACH pocket colorimeter was used to measure total chlorine. The north and south discharge boxes and were found to be discharging 1.16 and 1.13 mg/L total chlorine, respectively, at 20 and 13 cfs, respectively. The Clean LA Hotline was called and a crew from Public Works investigated. The discharge was determined to be from a potable water valve that had been left open. Public Works contacted the water company and the discharge was stopped. A subsequent site visit by Districts' personnel confirmed that the discharge from the drain had been significantly reduced (to an immeasurable seep). This drain is no longer being considered a candidate for diversion or other treatment.

3.4.4. Excessive sediment from Dominguez Channel Drain

On August 5, 2004, the discharge from D050 (marked in the field as "Project 12") was very turbid (see Figures 10 and 11). The effects of the silt-laden discharge were observed from the drain discharge location to the estuary. The Clean LA Hotline was notified, but it is unknown if the source of the discharge was located. The high total suspended solids were confirmed in the Districts' laboratory to be 404 mg/L. It was known at the time of the sampling on August 5, 2004 that this drain did not consistently discharge solids at this level, since on May 25, 2004 the discharge from this drain was sampled and the total suspended solids were determined to be 3 mg/L. This information indicated that the discharge was related to an episode and not a result of a consistent discharge.



Figure 10 – High Suspended Solids load to Dominguez Channel on August 5, 2004



Figure 11 – High Suspended Solids within the Dominguez Channel on August 5, 2004

4. Discussion

4.1. Ranking Methodology

Two methodologies were considered for generating the refined priority listing, a pollutant loading rank and a tributary area rank. With the pollutant loading method, pollutant loads are calculated by multiplying the observed flow rate by the concentration of the pollutant of interest[12]. The primary drawback of this method is the strong potential to mis-rank drains due to the variability of urban runoff and limited data. A preliminary analysis of this method indicated that the rankings shifted (the priorities changed) depending on the pollutant of interest, and rankings based on a single pollutant shifted between sampling events. A secondary drawback of this method is the potential to rank a drain as a high priority for future diversion or treatment when an illicit discharge investigation may solve the problem immediately (see the discussion of the Dominguez Channel chlorinated discharge in Section 3.4.3).

The tributary area method ranks the drains based on the size of the contributing watershed in acres, assigning the drains with the largest tributary areas the highest priority for diversion or alternative treatment. The primary benefit of this method is that it is more likely to correctly capture the drains with the highest long-term average flow rates and pollutant loads (given the variability confirmed in this study). A secondary

[12] Pollutant loadings from snapshot surveys were used to generate the rankings in the Treatment Feasibility Study.

benefit to ranking the drains by tributary area is that treatment systems on these drains are more likely to catch random accidental events within the region. If accidental discharges are randomly distributed, treating a larger area is more likely to prevent pollutants from random events from reaching surface waters. For these reasons, the tributary area method was selected. The pollutant loading method is discussed later in reference to detecting illicit discharges.

4.2. Diversion or Alternative Treatment

The Treatment Feasibility Study identified whether drains were being recommended for diversion or other treatment. The determination of whether the drain should be diverted or should receive alternative treatment was dependant on the ownership of the drain and the available sewer system. For drains within the Districts' service area, preliminary sewer capacity determinations were made based on a single flow measurement at each drain outlet. If a nearby Districts' sewer was tributary to the JWPCP and had capacity at the time to accommodate the single observed flow, the drain was determined to be a candidate for diversion. Drains within the JWPCP's tributary area were only considered for alternative treatment if capacity was not available in a Districts' sewer, or the only available sewer was too distant. In the City of Los Angeles' sewer service area, drains owned by the City were determined to be candidates for diversion after a preliminary capacity check. Drains which were owned by the County of Los Angeles, but were located within the City of Los Angeles' service area, were not identified as diversion candidates (i.e., were designated only for alternative treatment), due to the limited time available for the City to review candidate drains. In every case, the Treatment Feasibility Study indicated that these analyses were preliminary and could change based on additional data or changing conditions.

For this report, recommendations for diversion or alternative treatment are not made on a drain-by-drain basis. Instead, the Districts considered the current and potential uses of the water flowing in these drains on a watershed or sub-watershed basis, and evaluated areas where these flows contribute to water resources or other beneficial uses. For example, if the storm drain flow is currently used to supplement a recreational receiving water body or groundwater supply, it is recommended that on-site treatment is pursued to provide the most benefit to local water supply. For example, the flows in the Wilmington Drain currently supplement the water in Machado Lake. However, the Wilmington Drain and Machado Lake are both 303(d) listed for a number of constituents. This system would benefit from sustaining flows tributary to the lake and treatment of the flows to provide a clean source of water to the lake. In Compton Creek, dry-weather flows support habitat, and potentially some groundwater recharge, in the soft bottom portion of the channel. Thus, this would be another location that would benefit from on-site treatment.

Dry-weather flows in the Rio Hondo and the San Gabriel River are currently diverted to groundwater recharge basins. The dry-weather flow in the Rio Hondo is usually diverted to the Rio Hondo Spreading Grounds in the City of Pico Rivera. Therefore, nearly all the dry-weather urban runoff that enters the Rio Hondo upstream of the Rio Hondo Spreading Grounds is beneficially used to supplement groundwater. The portion of the San Gabriel River upstream of Firestone Boulevard, which includes

tributary flows from San Jose Creek and Walnut Creek, has a soft bottom and is highly managed to maximize infiltration of storm water, imported water, and recycled water. Dry-weather urban runoff is currently carried along with these flows, and the commingled flows are managed by Public Works, the Water Replenishment District of Southern California, and the Main San Gabriel Basin Watermaster. In all of these areas, it is recommended that the responsible jurisdictions consider the existing value of urban runoff as a water resource while making urban runoff management and treatment decisions.

5. Recommendations

5.1. Reprioritized lists

Table 7 shows the recommended priority rankings for drains within the Districts' service area, irrespective of watershed. Tables 8 through 10 show the priority ranking lists for the Dominguez Channel, Los Angeles River, and San Gabriel River Watersheds. Since the Districts' service area, and therefore the study area, does not include the areas served by the City of Los Angeles' sewerage collection system, the rankings for the drains outside of the Districts' service area were not evaluated. The ranking for the Los Angeles River Watershed is therefore divided into the Upper Los Angeles River and the Lower Los Angeles River; thus, the recommended rankings for the Lower Los Angeles River are provided in Table 9 and the rankings for the Upper Los Angeles River have not changed from the Treatment Feasibility Study[13]. The division between the two areas occurs at approximately the location of the 26th Street river crossing in the City of Vernon. Similarly, the rankings for the Malibu Creek, Ballona Creek, and Santa Monica Canyon watersheds are outside the Districts' service area. The rankings for these watersheds can be found in the Treatment Feasibility Study in Appendix A.

[13] The drains in the Upper Los Angeles River watershed can be found in Table 7 of the Treatment Feasibility Study report in Appendix A. The drains identified with Map ID LAR-16, LAR-17, LAR-18, LAR-19, LAR-22, LAR-29, and LAR-30, which are ranked 5th, 10th, 16th, 17th, 19th, 25th, and 27th, respectively, in the Treatment Feasibility Study are in the Lower Los Angeles River portion of the watershed and thus, new rankings have been assigned to those drains in this Reprioritization Study. It is recommended that the rankings in the Treatment Feasibility Study be replaced by the rankings provided in Table 9.

Table 7 - Recommended Priority Rankings for Drains within the Districts' Service Area

New Rank	Public Works Drain Designation	Reprioritization Study ID	Watershed area (acres)	Anticipated Ave. Flow (cfs)	River	TFS[14] Rank
LAR-01	DDI 26	D065	6544	1.87	Los Angeles River	LAR-17
LAR-02	Project 7850	D081	5877	1.68	Los Angeles River	NEW
DC-01	Lomita Blvd Drain	NS2	5674	1.62	Wilmington Drain	NEW
LAR-03	Project 6	D087	5534	1.58	Compton Creek	NEW
LAR-04	DDI 23	D082	5304	1.52	Los Angeles River	NEW
LAR-05	DDI 23/1109	D092	4150	1.19	Rio Hondo	NEW
SGR-01	Project 21 Line A	D077	3869	1.11	Coyote Creek	SGR-20
LAR-06	Project 73 - Unit 2	D085	3731	1.07	Compton Creek	NEW
LAR-07	Hooper Ave Drain System	D084	3465	0.99	Compton Creek	NEW
SGR-02	Project 16	D076	3124	0.89	San Gabriel River	NEW
LAR-08	DDI 22	D063	2983	0.85	Los Angeles River	LAR-16
LAR-09	Glen Ave Drainage System	D088	2920	0.84	Compton Creek	NEW
SGR-03	Project 3001 Line B	D074	2237	0.64	Coyote Creek	NEW
DC-02	Project 12	D050	2195	0.63	Dominguez Channel	DC-04
SGR-04	Project 4350 / Nogales Channel	D041	1871	0.53	San Jose Creek	SGR-16
DC-03	Project 10	D073	1867	0.53	Dominguez Channel	DC-17
LAR-10	Project 635	D090	1609	0.46	Compton Creek	NEW
LAR-11	Project 539A	D083	1501	0.43	Rio Hondo	NEW

[14] TFS Rank indicates the watershed ranking indicated in the original Treatment Feasibility Study report.

Table 7 - Recommended Priority Rankings for Drains within the Districts' Service Area (continued)

New Rank	Public Works Drain Designation	Reprioritization Study ID	Watershed area (acres)	Anticipated Ave. Flow (cfs)	River	TFS[15] Rank
LAR-12	Project 489	D089	1455	0.42	Compton Creek	NEW
SGR-05	Project 266	D042	1207	0.35	San Jose Creek	SGR-03
SGR-06	Project 1111	D075	1140	0.33	Coyote Creek	NEW
DC-04	Project 1206	NS1	1118	0.32	Dominguez Channel	DC-03
DC-05	Project No 1201	D078	1112	0.32	Wilmington Drain	NEW
LAR-13	Project 73 - Unit 1	D091	1025	0.29	Compton Creek	NEW
LAR-14	Project 1115	D079	985	0.28	Rio Hondo	NEW
LAR-15	Project 1225	D080	952	0.27	Rio Hondo	NEW
LAR-16	Project 9901	D086	834	0.24	Rio Hondo	NEW
SGR-07	Project 1113	D069	653	0.19	San Gabriel River	SGR-08

[15] TFS Rank indicates the watershed ranking indicated in the original Treatment Feasibility Study report.

Table 8 - Recommended Priority Ranking for the Dominguez Watershed

New Rank	Public Works Drain Designation	Reprioritization Study ID	Watershed area (acres)	Anticipated Ave. Flow (cfs)	River	TFS[16] Rank
DC-01	Lomita Blvd Drain	NS2	5674	1.62	Wilmington Drain	NEW
DC-02	Project 12	D050	2195	0.63	Dominguez Channel	DC-04
DC-03	Project 10	D073	1867	0.53	Dominguez Channel	DC-17
DC-04	Project 1206	NS1	1118	0.32	Dominguez Channel	DC-03
DC-05	Project No 1201	D078	1112	0.32	Wilmington Drain	NEW

[16] TFS Rank indicates the watershed ranking indicated in the original Treatment Feasibility Study report.

Table 9 - Recommended Priority Ranking for the Lower Los Angeles River Watershed

New Rank	Public Works Drain Designation	Reprioritization Study ID	Watershed area (acres)	Anticipated Ave. Flow (cfs)	River	TFS[17] Rank
LAR-01	DDI 26	D065	6544	1.87	Los Angeles River	LAR-17
LAR-02	Project 7850	D081	5877	1.68	Los Angeles River	NEW
LAR-03	Project 6	D087	5534	1.58	Compton Creek	NEW
LAR-04	DDI 23	D082	5304	1.52	Los Angeles River	NEW
LAR-05	DDI 23/1109	D092	4150	1.19	Rio Hondo	NEW
LAR-06	Project 73 - Unit 2	D085	3731	1.07	Compton Creek	NEW
LAR-07	Hooper Ave Drain System	D084	3465	0.99	Compton Creek	NEW
LAR-08	DDI 22	D063	2983	0.85	Los Angeles River	LAR-16
LAR-09	Glen Ave Drainage System	D088	2920	0.84	Compton Creek	NEW
LAR-10	Project 635	D090	1609	0.46	Compton Creek	NEW
LAR-11	Project 539A	D083	1501	0.43	Rio Hondo	NEW
LAR-12	Project 489	D089	1455	0.42	Compton Creek	NEW
LAR-13	Project 73 – Unit 1	D091	1025	0.29	Compton Creek	NEW
LAR-14	Project 1115	D079	985	0.28	Rio Hondo	NEW
LAR-15	Project 1225	D080	952	0.27	Rio Hondo	NEW
LAR-16	Project 9901	D086	834	0.24	Rio Hondo	NEW

[17] TFS Rank indicates the watershed ranking indicated in the original Treatment Feasibility Study report.

Table 10 - Recommended Priority Ranking for the San Gabriel River Watershed

New Rank	Public Works Drain Designation	Reprioritization Study ID	Watershed area (acres)	Anticipated Ave. Flow (cfs)	River	TFS Rank[18]
SGR-01	Project 21 Line A	D077	3869	1.11	Coyote Creek	SGR-20
SGR-02	Project 16	D076	3124	0.89	San Gabriel River	NEW
SGR-03	Project 3001 Line B	D074	2237	0.64	Coyote Creek	NEW
SGR-04	Project 4350 / Nogales Channel	D041	1871	0.53	San Jose Creek	SGR-16
SGR-05	Project 266	D042	1207	0.35	San Jose Creek	SGR-03
SGR-06	Project 1111	D075	1140	0.33	Coyote Creek	NEW
SGR-07	Project 1113	D069	653	0.19	San Gabriel River	SGR-08

[18] TFS Rank indicates the watershed ranking indicated in the original Treatment Feasibility Study report.

5.2. Recommended procedure for adding to the priority rankings

It is recommended that the Watershed Management Committees, as designated in the MS4 permit, update the Priority Rankings as necessary. It is further recommended that the following factors be considered during the process of adding to the priority rankings.

5.2.1. Special Emphasis

Drains that directly discharge to public swimming areas should be added to the priority rankings based on tributary area. These drains can and should be ranked higher for the protection of public health.

Additional drains that are suspected of contributing significant loads to 303(d) impaired waterbodies should first be screened for illicit discharges; an illicit discharge investigation may be able to solve the problem without expending funds for diversion or other treatment. It is recommended the illicit discharge screening consider flow and water quality in terms of established normal values. Drains that discharge more than 185 gallons per day per acre, on average, should be evaluated for excessive flow. Drains that discharge pollutants over established normal values should be investigated for sources. It is recommended that a storm water stakeholder group evaluate the long-term data sets and set appropriate thresholds for illicit discharge investigations.

5.2.2. Combined Drainshed Projects

For this study, all open channel tributaries were considered to be inappropriate for diversion or alternative treatment based on comments from Regional Board staff that treatment is expected to occur before discharge to receiving waters; however, if at some time the Regional Board determines that providing treatment to open channel tributaries is acceptable, it is recommended that the channels be placed on the priority lists by tributary area.

On a smaller scale, if responsible jurisdictions wish to propose projects which aggregate the flow from multiple underground storm drains into a single diversion or treatment facility, it is recommended that these projects be prioritized based on the combined tributary area to be treated.

5.3. Recommendations for Diversion or Alternative Treatment

As discussed previously, it is recommended that the drains in Compton Creek, the upper Rio Hondo (above the Rio Hondo Spreading Grounds), San Gabriel River (above Firestone Boulevard), San Jose Creek, Wilmington Drain, and Walnut Creek be considered for alternative treatment. In these areas, if the flow from the storm drain was treated and the treated water was returned to these water bodies, the majority of the flow could be beneficially used for groundwater recharge or to support other downstream beneficial uses. Conversely, since the opportunities for beneficial reuse are limited in the Dominguez Channel, the Los Angeles River, and the San Gabriel River (below Firestone Boulevard), it is recommended that appropriate BMPs and/or treatment technologies, including diversions to the sanitary sewer system, be considered based on site-specific conditions.

Appendix A

Treatment Feasibility Study Report

Dry Weather Discharge Treatment Feasibility Study

Submitted by:
County of Los Angeles
Department of Public Works
Watershed Management Division

On behalf of:
County of Los Angeles
Municipal Storm Water Permittees
and
County Sanitation Districts of
Los Angeles County

July 1, 2003

1 Introduction

Urban runoff is a contributor of pollution to the nations waterways. The National Pollution Discharge Elimination System (NPDES) permitting program provides a mechanism for the reduction of pollutants from Municipal Separate Storm Sewer Systems (MS4s) to the maximum extent practicable. One method identified for pollution reduction is the diversion of low-flow urban runoff to sanitary sewer treatment plants prior to reaching the waterways. Several factors such as availability of treatment capacity, available transport capacity, and the assurance that the urban runoff pollutants will not upset the treatment process must all come together before low-flow diversion can be considered feasible.

In this study, the County of Los Angeles Permittees, in cooperation with the County Sanitation Districts of Los Angeles County (LACSD), identified dry weather storm drain discharges and evaluated the feasibility of 1) their diversion to an LACSD or City of Los Angeles sewer system or 2) their treatment using alternative treatment control Best Management Practices (BMPs).

1.1 MS4 Permit Background

This Treatment Feasibility Study was performed in order to fulfill the requirement of the County of Los Angeles Municipal Stormwater Permit (Permit) mandated in Part IV.F.10, Public Agency Activities Program, which states:

> "The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003."

At the July, 2002, Executive Advisory Committee (EAC) meeting an ad hoc committee with members from LACSD, City of Los Angeles, County of Los Angeles Department of Public Works (County), and the various city representatives began working on this study on behalf of all Permittees. The committee has reported monthly to the EAC on the direction and progress of the study. In addition, Permittees have been updated on the study at the quarterly Watershed Management Committee meetings.

1.2 Expected Outcome

During the September, 2002, EAC meeting, Dennis Dickerson, Executive Officer of the Regional Water Quality Control Board, Los Angeles Region, indicated to the attendees that the priority lists from this study will be used to evaluate projects for future grant funding. Therefore, if a municipality applies for a grant to build a diversion or implement another treatment alternative for a drain on the priority list, they would be more likely to

receive funding than a municipality applying for a drain that is lower on the list or not on the list at all.

2 Methodology

The methodology established for this study was developed in order to clearly identify the process that would be used to classify and prioritize drains for possible diversion or alternative treatment. It was also meant to be used as a guideline for future storm drain prioritization as further flow rate and water quality data become available.

2.1 Water Bodies Included

The ad hoc committee developed criteria to ensure that the water bodies already identified by the Regional Board as impaired for a beneficial use were addressed. Thus, the study included rivers, streams, and channels that were identified on the 1998 California 303(d) List of Impaired Waters. The 2002 California 303(d) List of Impaired Waters received partial EPA approval on June 5, 2003; and, therefore, it was not referenced for this study. Concentrating on water bodies with historical water quality impairments allowed the study to be streamlined while keeping the focus on those waters that would benefit the most from contaminant mitigation measures. Table 1 in Appendix A summarizes the water bodies that were the focus of this study and their corresponding impairments.

2.2 Sources of Information

The information used to classify and prioritize drains for possible diversion or alternative treatment came from two types of sources. First, existing storm drain data that had been collected previously by various agencies was used to help expedite the study and allow it to be completed in a timely manner. Second, field investigations were performed for areas without data from previous dry weather flow and water quality assessments.

2.2.1 Historical/ Existing Data

Due to the time constraints on conducting this study, information and data on dry weather urban runoff previously collected by other agencies/groups were used in part for this study. Through the development of Total Maximum Daily Load (TMDL) deterministic models and other environmental studies, the characteristics of dry-weather urban runoff have been documented by others for many of the water bodies evaluated during this study. These water bodies include the Los Angeles River and tributaries, San Gabriel River and tributaries, Dominguez Channel, north Santa Monica Bay drainage area, and south Santa Monica Bay drainage area. Table 2 in Appendix A shows the organization that was the lead agency in the monitoring efforts and other participants.

2.2.2 Field Investigation

For areas without data from previous dry weather flow assessments, field investigations were performed by the County. Since county-owned drains were present throughout every impaired reach, the County provided the resources for the investigation on behalf of all Permittees. The investigation was divided into two phases. During the first phase, drain locations and flow rates were identified; and during the second phase, water quality samples were collected and analyzed for the impairing constituents. All impairing constituents that could be analyzed by the County of Los Angeles Toxicology Laboratory were included, except the constituents that require a sediment sample for analysis.

2.3 Selection Process

The screening process used during the field investigations to identify drains to be considered for diversion or treatment consisted of the following:

- Identifying impaired water bodies and impairing pollutants based on the 1998 303(d) list.
- Identifying storm drain outlets that discharge directly into an impaired water body with dry weather flows greater than or equal to 0.05 cubic feet per second (cfs), approximately 25 gallons per minute (gpm).
- A drain was considered a diversion candidate if it could be diverted to an LACSD sewer based on capacity considerations only.
- A drain was considered an alternative treatment candidate if diversion to an LACSD sewer is not possible.
- Prioritization was based on the mass loading (Flow Rate x Concentration).

2.3.1 Flow Rate Criteria

In order to identify drains that have the highest probability of adversely affecting water quality and/or the environment, only drains with a flow rate equal to or greater than 0.05 cfs were evaluated. This cutoff criteria was developed based on observations made by the County during compliance efforts associated with the Santa Monica Bay Dry Weather Bacteria TMDL. The TMDL includes a list of drains that potentially affect beach water quality and may need to be mitigated to comply with the TMDL. During site investigations, the County found that the drains on the list with dry weather flow had a peak flow rate of at least 0.05 cfs. For this reason, a minimum flow rate of 0.05 cfs was used for this study.

2.3.2 LACSD Review

LACSD received lists of drains that met the screening requirements for the Dominguez Channel, the Los Angeles River, the San Gabriel River (including Walnut Creek, San Jose Creek and Coyote Creek) and Ballona Creek. Most of the Los Angeles River drains and all of the Ballona Creek drains were outside the LACSD service area. In total, approximately 43 drains (of the total 84 identified) meeting the screening criteria were within the LACSD service area and have been evaluated by the LACSD Industrial Waste

Section for possible diversion to a sewer tributary to the Joint Water Pollution Control Plant (JWPCP). LACSD's initial evaluation was solely based on sewer capacity considerations (i.e., whether capacity was available at the closest connection location to a sewer tributary to the JWPCP). Additional information will be required in order to further consider the drains for diversion as discussed in Section 4.1 of this report. In addition, the cumulative impact of these drains to the LACSD system was not evaluated at this time.

LACSD's analyses assumed that the drain flows provided (which were based on one-time sampling events) were peak flow rates, which will have to be verified prior to diversion. To protect the LACSD sewerage system to ensure there is no threat of a sewer overflow, discharges to LACSD's collection system will only be allowed during off-peak periods. As a result, LACSD's analyses were limited to these conditions. Additional restrictions may be applicable, during the next phase of evaluation. As a result of this initial evaluation, a total of 34 drains may be further considered for diversion to an LACSD sewer. The remaining 9 drains (out of the 43) within the LACSD service area were not considered potential candidates due to lack of sewer capacity in the vicinity of the connection or because the closest sewer available was not tributary to the JWPCP. Of the 33 drains that may be acceptable, 11 drains are located within the Dominguez Channel. A total of six drains for the Los Angeles River (all the drains that were within the LACSD service area) and 17 drains within the San Gabriel River Watershed were also identified as potential diversion candidates by LACSD. As indicated earlier, only diversions tributary to the JWPCP were considered. Refer to Tables 1-3 in Appendix D for a listing of the candidate drains, approximate distance to LACSD sewer and additional comments regarding diversion of the drain.

2.3.3 City of Los Angeles Review

The City of Los Angeles (City) performed a preliminary investigation on the seven storm drain outlets that discharge into the Los Angeles River and one storm drain outlet that discharges to Ballona Creek that were identified as belonging to the City. The City verified that the eight storm drains outlets were property of the City and that the dry-weather flows could possibly be diverted to their sewer system. At the time of this investigation, based on the preliminary information (flows and locations) the primary sewers will not be impacted from the additional flow. However, a more detailed investigation will be required for these outlets before the installation of a low-flow diversion structure can be deemed fully feasible, including: water sampling and analysis, detailed analysis of sewer capacity/hydraulics, and substructure interference. The City was not able to evaluate the County drains for potential diversion to City sewers within the timeframe of this study.

2.3.4 Water Quality Prioritization

After LACSD evaluated the drains for potential diversion into their system, the drains were prioritized based on water quality impact. The pollutant load was used in order to quantify the relative impact each drain has on water quality. The pollutant load was

calculated by multiplying the flow rate by the pollutant concentration. It should be noted that although this provided a loading resulting from the discharge of these drains, it does not provide the in-stream effects of this loading. Additional study would be required to refine the priority list based on impacts to in-stream concentrations of these pollutants in the receiving waters.

3 Priority Lists

As specified in the Permit, the following lists have been prioritized according to watershed. Each watershed has a prioritized list, which identifies potential diversion candidates and alternative treatment candidates. The prioritized lists are included in Appendix B and maps for each watershed are included in Appendix C.

3.1 Malibu Creek Watershed

The Malibu Creek Watershed has eight creeks listed for impairments. Field investigations were performed for these reaches, and five storm drains in the watershed were found to have a flow rate greater than 0.05 cfs. Two of these drains discharge into Las Virgenes Creek; one discharges into Chesboro Canyon Channel; and the final two discharge into Medea Creek. These drains are prioritized in Table 1 in Appendix B based on impairing constituents. Since these drains are outside of the service area of LACSD, they are prioritized as alternative treatment candidates.

3.2 Ballona Creek Watershed

The Ballona Creek Watershed Management Area has three creeks listed for impairments. Field investigations were performed for these reaches, and flowing storm drains were found in Ballona Creek and the Santa Monica Canyon Channel. LACSD reviewed these drains, and determined that all of them are outside of their service area. Therefore, the drains are only prioritized for alternative treatment.

3.2.1 Ballona Creek

Eight storm drains discharging into Ballona Creek met the flow criteria of this study. For this study, the County analyzed dry-weather water quality samples for all impairing constituents from these drains. The eight drains are prioritized in Table 2 in Appendix B based on impairing constituents. Since these drains are outside of the service area of LACSD, all these drains are considered alternative treatment candidates except for the one drain owned by the City of Los Angeles, which can possibly be diverted to their system.

3.2.2 Santa Monica Canyon Channel

Two storm drains discharging into the Santa Monica Canyon Channel met the flow criteria of the study. For this study, the County collected dry-weather water quality

samples for all impairing constituents from these drains. The two drains are prioritized in Table 3 in Appendix B based on impairing constituents. The City of Los Angeles is currently in the process of completing a diversion for the entire Santa Monica Canyon Channel. For this reason, these two individual drains should not be diverted to the sewer system unless they are found to have a profound impact on in-stream water quality and source identification is unsuccessful.

3.2.3 Santa Monica Bay Shoreline

The Santa Monica Bay shoreline has been studied previously by both the City of Los Angeles and LACSD. The study performed by the City of Los Angeles was used as a basis for the Santa Monica Bay Dry Weather Bacteria TMDL. This TMDL listed 27 storm drains (see Table 4 in Appendix B) that discharge to the Bay as a significant cause of elevated bacteria levels at the beach. The County and various cities are currently working to construct diversions at these locations, if necessary, in order to fulfill the requirements of the TMDL. These drains should be considered a higher priority than the other drains identified in this study due to their direct impact on public health and/or the environment.

For a Supplemental Environmental Project (SEP), LACSD surveyed 172 storm drains in the coastal area from Manhattan Beach to Long Beach. LACSD concluded that only two drains in this area were confirmed as sources that have a high probability to cause or contribute to exceedances in receiving water objectives. These drains were two of the 27 listed in the TMDL. A diversion was already built at one of these locations in 2001, and it is currently being upgraded to meet the requirements of the TMDL. The County has received grant funding to divert the other drain, and construction of the diversion is expected to be complete by October, 2003.

3.3 Dominguez Watershed

Eighteen drains discharging into the Dominguez Channel were identified by the Regional Board with flow greater than 0.05 cfs. The Regional Board collected flow and water quality data in June, 2002, for the development of a Dominguez Channel Bacteria TMDL. The storm drains in this area were within the service area of LACSD. LACSD analyzed these eighteen drains, and determined that twelve were possible diversion candidates. These drains are prioritized in Table 5 in Appendix B.

3.4 San Gabriel River Watershed

The San Gabriel River Watershed has four reaches listed for impairments to beneficial uses. Twenty drains discharging into these water bodies were quantified with a flow rate equal to or greater than 0.05 cfs. The Southern California Coastal Water Research Project (SCCWRP), with the cooperation of various stakeholders, organized a sampling effort, which included the collection of flow and water quality data, in September, 2002 for the development of a deterministic model for the San Gabriel River and its tributaries. The storm drains in this area were within the LACSD service area. LACSD analyzed the

flow rates from these twenty drains, and determined that seventeen were possible diversion candidates. These drains are prioritized in Table 6 in Appendix B.

3.5 Los Angeles River Watershed

The Los Angeles River Watershed has a total of ten water bodies listed for impairments to beneficial uses. The Southern California Coastal Water Research Project (SCCWRP) with the cooperation of various stakeholders organized a sampling effort, which included the collection of flow and water quality data, in July 2000 and August 2001 for the development of a deterministic model for the Los Angeles River and its tributaries. From this data, thirty-two drains discharging into the Los Angeles River and tributaries were quantified with a flow rate equal to or greater than 0.05 cfs. Of these thirty-two drains, only six were located within the LACSD service area. After LACSD evaluation, all six are possible diversion candidates. Six additional drains owned and maintained by the City of Los Angeles are possible diversion candidates to the City's primary sewer system. The remaining twenty drains, owned by the County, are prioritized as alternative treatment candidates. These drains are prioritized in Table 7 in Appendix B.

3.6 Santa Clara River Watershed

The Santa Clara River Watershed has two water bodies listed for impairments to beneficial uses, which includes one reach of Mint Canyon Creek and three reaches of the Santa Clara River. There were no drains that met the minimum flow requirement of 0.05 cfs. Therefore, there are no drains listed in this report for the watershed.

4 Additional Considerations

Although the methodology developed for this study successfully identified storm drains as possible diversion candidates, the scope of the study did not include the long-term investigations and analyses that will be necessary before the feasibility of the dry weather diversions can be fully assessed. Further, every effort was taken to ensure this study was comprehensive and complete; however, dry weather urban runoff characteristics are inherently variable. For this reason, if a drain not listed in this report is suspected to be a significant source of pollution, the methodology developed for this study can be used to evaluate the relative impact of the discharge. The following section outlines some of the steps that need to be completed prior to the construction of a diversion.

4.1 LACSD Criteria for Diversion Candidates

Additional information is required by LACSD in order to further assess the 35 drains identified in this study. LACSD evaluation of refined flow estimates, flow sources, drain alignment and water quality data will be necessary for each proposed drain diversion. LACSD also requires that drains be ranked in order of priority and that an analysis to identify and reduce flows at the source be completed for each diversion candidate. Diversions will not be allowed where incompatible pollutants have been detected in

quantities that may interfere with the treatment plant's ability to comply with waste discharge requirements. At this time, only diversions to sewers tributary to the JWPCP are being considered and compliance with the corresponding NPDES permit and Ocean Plan criteria will be evaluated as part of the analyses.

4.2 Alternatives to Sanitary Sewer Diversions

The diversion of dry weather urban runoff to the sanitary sewer is just one of many BMPs that can effectively control the impact of urban runoff on receiving water bodies and the environment. Although many locations were identified in this study as a potential low flow diversion site, this study did not investigate the impact of the urban runoff on the receiving water body or the environment. Further, the diversion of dry weather urban runoff and other end-of-pipe treatment BMPs should be implemented only as a last choice after pollutant source identification and source control BMPs fail to find and/or reduce the impacts of the urban runoff.

4.3 Technical Feasibility and Cost/Benefit Analysis

Investigating the technical feasibility and performing cost/benefit analyses for the drains listed as possible diversion candidates in this report were outside of the scope of this study. However, these procedures are necessary next steps in order to determine the appropriate mitigation measures. For example, many of the diversion candidates in the San Gabriel River Watershed are a substantial distance (up to 11,000 feet) from the nearest sewer capable of accepting the dry weather urban runoff. In these cases, constructing a discharge line from the storm drain outlet to the sewer line could easily triple the cost of a diversion making other mitigation measures much more cost effective.

5 Study Conclusions

We have prioritized the drains within the Los Angeles Basin that discharge into water bodies with historical exceedances of water quality objectives. These drains are potential candidates for dry weather diversion and alternative treatment. However, the design, construction and maintenance of dry weather diversions require significant financial resources. Complete characterization of the flow regime within each drain must be performed prior to proceeding with any plans to construct the diversions since the drains identified in this study were prioritized according to pollutant loading calculated from a single flow and water quality assessment.

Appendix A

Table 1

Table of Water Quality Impairments

	Abnormal Fish Histology	Aldrin	Ammonia	Arochlor	Arsenic	Cadmium	ChemA	Chlordane	Chloride	Chlorpyrifos	Chromium	Copper	DDT	Dichloroethylene/1,1-DCE	Dieldrin	Enteric Viruses	Fish Barriers	High Coliform Count	Lead	Mercury	Nitrate/Nitrite	Nutrients (Algae)	Odors	Oil	Org. Enrichment/Low D.O.	PAHs	PCBs	pH	Scum/Foam-unnatural	Sediment Toxicity	Selenium	Shellfish Harvesing Adv.	Silver	Tetrachloroethylene/PCE	Toxicity	Trash	Tributylin	Trichloroethylene/TCE	Zinc
Ballona Creek WMA																																						
Ballona Creek				X	X	X	X				X	X			X	X		X	X							X			X			X		X	X	X		
Ballona Creek Estuary			X				X					X						X	X							X	X			X		X						X
Santa Monica Canyon																		X	X																				
Sepulveda Canyon		X																X	X																				
Dominguez Channel WMA																																							
Dominguez Channel		X	X				X	X			X	X	X		X			X	X							X	X							X					X
Dominguez Channel Estuary		X	X				X	X			X	X	X		X			X	X							X	X												X
Torrance Carson Channel												X						X	X																				
Los Angeles River WMA																																							
Aliso Canyon Wash																															X								
Arroyo Seco																		X				X																	
Bell Creek																		X																					
Burbank Western Channel			X			X																X	X					X											
Compton Creek											X							X	X								X												
Los Angeles River Reach 1			X															X	X			X					X	X											
Los Angeles River Reach 2			X															X	X			X	X	X				X											
Los Angeles River Reach 3			X																			X	X					X											
Los Angeles River Reach 4			X															X	X			X	X					X											
Los Angeles River Reach 5			X				X			X												X	X	X				X											
Los Angeles River Reach 6													X					X															X			X			
Monrovia Canyon Creek																			X																				
Rio Hondo Reach 1			X								X							X	X									X											X
Rio Hondo Reach 2																		X																					
Tujunga Wash			X								X							X					X					X											
Verdugo Wash																		X				X																	
Malibu Creek WMA																																							
Las Virgenes Creek																		X				X			X			X		X					X				
Lindero Creek																		X				X						X		X					X				
Malibu Creek																X		X				X						X							X				
Medea Creek																		X				X								X					X				
Cheeseboro Canyon Channel																		X																					
Stokes Creek																		X																					
Topanga Canyon Creek																			X																				

	Abnormal Fish Histology	Aldrin	Ammonia	Arochlor	Arsenic	Cadmium	ChemA	Chlordane	Chloride	Chlorpyrifos	Chromium	Copper	DDT	Dichloroethylene/1,1-DCE	Dieldrin	Enteric Viruses	Fish Barriers	High Coliform Count	Lead	Mercury	Nitrate/Nitrite	Nutrients (Algae)	Odors	Oil	Org. Enrichment/Low D.O.	PAHs	PCBs	pH	Scum/Foam-unnatural	Sediment Toxicity	Selenium	Shellfish Harvesing Adv.	Silver	Tetrachloroethylene/PCE	Toxicity	Trash	Tributylin	Trichloroethylene/TCE	Zinc
Malibu Creek WMA																																							
Triunfo Canyon Creek																		X	X																				
San Gabriel River WMA																																						
Coyote Creek	X		X														X				X										X							
San Gabriel River East Fork																																		X				
San Gabriel River Estuary	X				X																																	
San Gabriel River Reach 1	X		X														X				X													X				
San Gabriel River Reach 2			X														X	X																				
San Gabriel River Reach 3																																		X				
San Jose Creek			X														X				X																	
Walnut Creek Wash																											X							X				
Santa Clarita WMA																																						
Mint Canyon Creek																				X																		
Santa Clara River Reach 7			X					X									X			X																		
Santa Clara River Reach 8			X					X									X			X				X														
Santa Clara River Reach 9																	X																					

Table 2		
Existing Data Sources		
Drainage Area	**Lead Entity**	**Purpose for Data Collection**
Los Angeles River Watershed	Southern California Coastal Water Research Project	Deterministic Model Development
San Gabriel River Watershed	Southern California Coastal Water Research Project	Deterministic Model Development
Dominguez Channel Watershed	Regional Water Quality Control Board	TMDL Development
North Santa Monica Bay	City of Los Angeles	Low-Flow Diversion Master Plan Report
South Santa Monica Bay	County Sanitation Districts of Los Angeles County	Supplemental Environmental Report

Appendix B

Table 1								
Malibu Creek Watershed Prioritized List[1]								
	Map ID	**Drain Ownership**	**Tributary Area[2]**	**Drain ID**	**Chem ID**	**Flow Rate[3]**	**Potential Candidate Diversion to:**	**Alternative Treatment Candidate Only**
1	Malibu-1	County	County-90% Calabasas-10%	PD 1522	Malibu-1	20		YES
2	Malibu-5	County	Agoura Hills	Driver Drain	Malibu-5	30		YES
3	Malibu-3	County	Agoura Hills	PD 1005	Malibu-3	25		YES
4	Malibu-4	County	Agoura Hills	PD1025	Malibu-4	35		YES
5	Malibu-2	County	County-85% Calabasas-15%	PD 2081	Malibu-2	25		YES

Notes:

1) Prioritized 1 through 5, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results collected during field investigations.

2) Tributary Area is estimated based on storm drain alignment

3) Flow Rates were determined during field investigations.

Table 2

Ballona Creek Watershed Prioritized List[1]

	Map ID	Drain Ownership	Tributary Area[2]	Drain ID	Flow Rate[3]	Potential Candidate Diversion to:	Alternative Treatment Candidate Only
1	BC-03	County	Los Angeles	DDI 1-11	300		YES
2	BC-02	County	Los Angeles	PD9408	450		YES
3	BC-01	County	Los Angeles	PD54	1200		YES
4	BC-05	County	Los Angeles	PD84	150		YES
5	BC-07	County	Los Angeles-75% Culver City-25%	Benedict Canyon Channel	120		YES
6	BC-04	County	Los Angeles-90% Culver City-10%	DDI 1-3	35		YES
7	BC-06	City of Los Angeles	Los Angeles	City	35	City of LA	
8	BC-08	County	Los Angeles	Sepulveda Channel	35		YES

Notes:

1) Prioritized 1 through 8, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results collected during field investigations.

2) Tributary Area is estimated based on storm drain alignment

3) Flow Rates were determined during field investigations.

Table 3						
Santa Monica Canyon Channel Prioritized List[1]						
	Map ID	**Drain Ownership**	**Tributary Area[2]**	**Drain ID**	**Flow Rate[3]**	**Potential Candidate Diversion to:**	**Alternative Treatment Candidate Only**
1	SMC-02	County	Santa Monica	Project 206	30		YES
2	SMC-01	County	City of LA	Project 702	25		YES

Notes:

1) Prioritized 1 through 2, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results collected during field investigations. The City of LA is currently designing a diversion for the entire channel.

2) Tributary Area is estimated based on storm drain alignment

3) Flow Rates were determined during field investigations.

Table 4

Santa Monica Bay Dry-Weather Bacteria TMDL

List of 27 Major Storm Drains Identified by the TMDL[1]

	Major Storm Drains to SMB	Drain Ownership	Drain ID	TG Page /Grid No.	Runoff Contribution
1	Castlerock & Parker Canyon	County	Parker Mesa Dr.	630, E6	County/L.A./State Park
2	Santa Ynez (Sunset Blvd.)	County	Proj. No. 674	630, G6	L.A./State Park
3	Bay Club Drive	City of LA			L.A.
4	Marquez Avenue	City of LA			L.A.
5	Pulga	County	Proj. No. 501	630, J6	L.A./State Park
6	Temescal	County	Proj. No. 500	630, J6	L.A.
7	Palisades Park	City of LA			L.A.
8	Santa Monica Canyon	County	Santa Monica Canyon Channel	631, E4	L.A./Santa Monica
9	Montana Avenue	County	Proj. No. 248	671, D1	Santa Monica
10	Wilshire Boulevard	County	Proj. No. 577	671, D2	Santa Monica
11	Santa Monica Pier	County	Proj. No 249	631, E3	Santa Monica
12	Pico-Kenter	County	Proj. No. 249	631, E3	L.A./Santa Monica
13	Ashland Ave. & Rose Ave.	County	Proj. No. 46	631, F5	L.A./Santa Monica
14	Thornton Avenue	City of LA			L.A./Santa Monica
15	Brooks Avenue	County	Proj. No. 507	631, G6	L.A.
16	Windward Ave./Venice Pavillion	County	Proj. No. 507	631, G6	L.A.
17	Playa del Rey/Culver Blvd.	County	Proj. No. 513	702, A3	L.A.
18	North Westchester	County	Proj. No. 5241	702, B5	L.A./El Segundo
19	Imperial Highway	County	Proj. No. 513, 291	702, C-E6	L.A./El Segundo
20	El Segundo Blvd./Grand Ave.	County	Proj. No. 3402	732, D-F2	L.A./El Segundo
21	South of Dockweiler Jetty	County	Proj. No. 9850	732, D-F4	Mahattan Beach
22	27th St., Manhattan Beach	County	Proj. No. 286 (28th S	732, E-F4	Manhattan Beach
23	Manhattan Beach Pier	Manhattan Beach			
24	Hermosa Beach Pier	County	Pier Ave. Dr.	762, G2	Hermosa Beach
25	Herondo Street	County	Proj. No. 1105	762, H3	Hermosa Beach/Redondo Beach/Torrance
26	Redondo Beach Pier	County	Proj. No. 569	762, H5	Hermosa Beach/ Redondo Beach
27	Avenue I/Miramar	County	Proj. No. 569	792, J1	Redondo Beach/ Torrance

Notes:

1) This list is not prioritized. All of these drains will need to be mitigated if they discharge to the Bay during dry weather

Table 5

Dominguez Channel Watershed Prioritized List[1]

	Map ID	Drain Ownership	Tributary Area[2]	Drain ID	Flow Rate[3]	Potential Candidate Diversion[4] to:	Alternative Treatment Candidate Only[5]
1	DC-37	County	Carson	PD547	1427	LACSD	
2	DC-08	County	Gardena	MTD 783	144	LACSD	
3	DC-29	County	City of LA-50% County 50%	Project 3894	5994		YES
4	DC-24	County	Lawndale-70% County-30%	Project 12	923	LACSD	
5	DC-32	County	Carson	Project 1232	3132		YES
6	DC-51	County	City of LA-50% Hawthorne-50%	Dominguez Channel	27	LACSD	
7	DC-10	County	Gardena-70% Torrance-30%	Project 3501	81	LACSD	
8	DC-33	County	County-75% Carson-25%	Project 1153	167	LACSD	
9	DC-22	County	County-50% Lawndale-50%	Alondra Park Drain	23	LACSD	
10	DC-30	County	Carson	PD212	743		YES
11	DC-42	County	Hawthorne	139th St Drain	302		YES
12	DC-50	County	Inglewood	PD4401	149	LACSD	
13	DC-31	County	Carson	PD1131	284	LACSD	
14	DC-48	County	Hawthorne	MTD687	1197		YES
15	DC-49	County	Hawthorne	MTD687	1544		YES
16	DC-07	County	Torrance-60% City of LA-30% Gardena-10%	Westgard Drain	36	LACSD	
17	DC-05	County	Gardena	Project 10	41	LACSD	

Notes:

1) Prioritized 1 through 17, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results collected during field investigations for this study.

2) Tributary Area is estimated based on storm drain alignment

3) Flow Rates were provided by the Regional Board.

4) See Appendix D for further details provided by LACSD

5) Alternative Treatment Candidates were prioritized based solely on the water quality results provided by the Regional Board.

Table 6

San Gabriel River Watershed Prioritized List[1]

	Map ID	Drain Ownership	Tributary Area[2]	Drain ID	Flow Rate[3]	Potential Candidate Diversion[4] to:	Alternative Treatment Candidate Only
					gpm		
1	SGR-12	County	County	Project 442	80	LACSD	
2	SGR-04	County	Pomona	MTD 184	20	LACSD	
3	SGR-05	County	Pomona	Project 266	35	LACSD	
4	SGR-10	County	County	MTD 76	100	LACSD	
5	SGR-18	County	West Covina	MTD 22	35	LACSD	
6	SGR-03	County	Cerritos-40% Artesia-60%	Projects 21 and 143	50		YES
7	SGR-08	County	Walnut- 90% County -10%	Project 8301	40	LACSD	
8	SGR-20	County	Cerritos	Project 1113	30	LACSD	
9	SGR-07	County	County	MTD 1377	65	LACSD	
10	SGR-11	County	County	MTD 8	100	LACSD	
11	SGR-17	County	West Covina	Project 8402	35	LACSD	
12	SGR-16	County	West Covina	MTD 180	35	LACSD	
13	SGR-19	County	West Covina	Project 589	25	LACSD	
14	SGR-13	County	County	RDD 280	35	LACSD	
15	SGR-15	County	Covina-75% West Covina-25%	Charter Oak Wash	40	LACSD	
16	SGR-09	County	County	PD 1381	40	LACSD	
17	SGR-21	County	Downey	Project 9005	30		YES
18	SGR-14	County	County	MTD 587	35	LACSD	
19	SGR-06	County	Pomona	MTD 644	35	LACSD	
20	SGR-02	County	Cerritos-25% Lakewood-25% Hawaiin Gardens-25% Long Beach-25%	Project 21	40		YES

Notes:
1) Prioritized 1 through 20, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results provided by SCCWRP.
2) Tributary Area is estimated based on storm drain alignment
3) Flow Rates were determined during field investigations.
4) See Appendix D for further details provided by LACSD

Table 7

Los Angeles River Watershed Prioritized List[1]

	Map ID	Drain Ownership	Tributary Area[2]	Drain ID	Flow Rate[3]	Potential Candidate Diversion[4] to:	Alternative Treatment Candidate Only
					gpm		
1	LAR-5	County	City of LA	Calabasas Creek	3596		YES
2	LAR-2	County	City of LA	Bell Creek	655		YES
3	LAR-15	County	City of LA	Project 67	563		YES
4	LAR-6	County	City of LA	Aliso Creek	1164		YES
5	LAR-16	County	City of LA	Project 14	2537		YES
6	LAR-21	County	Hidden Hills-50% City of LA-25% County-25%	Project 4101	2098		YES
7	LAR-23	County	City of LA	City	150		YES
8	LAR-20	County	City of LA-50% Calabasas-50%	Dry Canyon Creek	1731		YES
9	LAR-3	County	City of LA	Dayton Creek	732		YES
10	LAR-18	County	Downey	Project 19	748	LACSD	
11	LAR-9	County	City of LA	Project 469	73		YES
12	LAR-1	County	City of LA	Project 5202	323		YES
13	LAR-13	County	City of LA	Project 60140	198		YES
14	LAR-14	County	City of LA	Arroyo Seco	2078		YES
15	LAR-32	City of Los Angeles	City of LA	City	22	City of LA	
16	LAR-17	County	County-75% Vernon-25%	Project 5550	288	LACSD	
17	LAR-22	County	Vernon-80% County-20%	DDI -28	168	LACSD	
18	LAR-27	City of Los Angeles	City of LA	City	258	City of LA	
19	LAR-29	County	Maywood-50% Bell-50%	Project 9903	321	LACSD	
20	LAR-11	County	City of LA	Project 464	79		YES
21	LAR-31	City of Los Angeles	City of LA	City	22	City of LA	
22	LAR-28	City of Los Angeles	City of LA	City	141	City of LA	
23	LAR-7	County	City of LA	Project 96	40		YES
24	LAR-8	County	City of LA	Project 474	56		YES
25	LAR-19	County	County-33% Norwalk-33% City of LA-33%	Compton Creek	44	LACSD	
26	LAR-12	County	City of LA	Project 39	65		YES
27	LAR-30	County	Long Beach	Dominguez Gap	40	LACSD	
28	LAR-10	County	City of LA	Project 36	37		YES
29	LAR-4	County	City of LA	Browns Creek	47		YES
30	LAR-25	City of Los Angeles	City of LA	City	79	City of LA	
31	LAR-24	City of Los Angeles	City of LA	City	26	City of LA	
32	LAR-26	City of Los Angeles	City of LA	City	33	City of LA	

Notes:

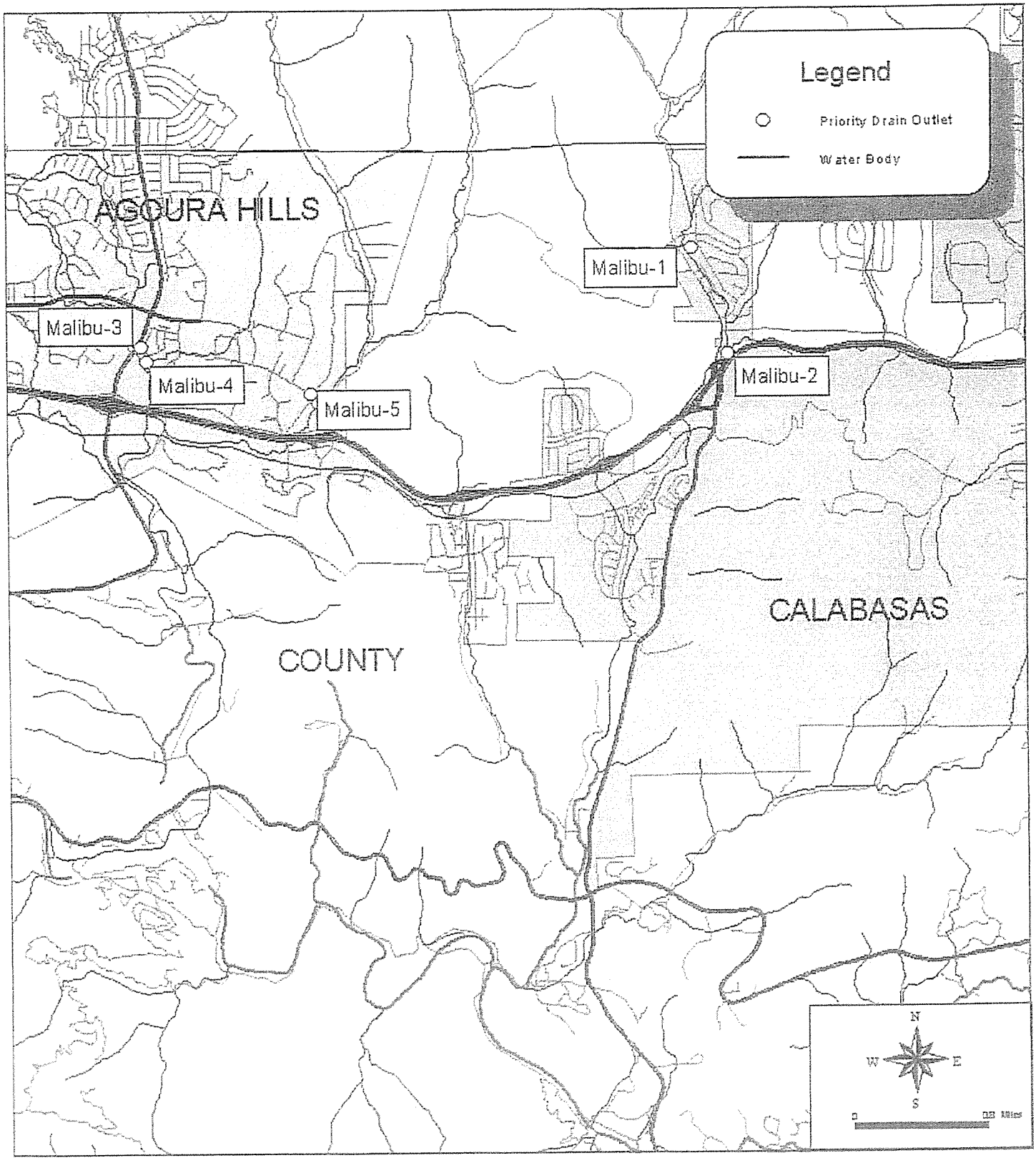
1) Prioritized 1 through 32, with 1 being the highest priority. Prioritization based on pollutant loadings calculated from water quality results provided by SCCWRP.

2) Tributary Area is estimated based on storm drain alignment

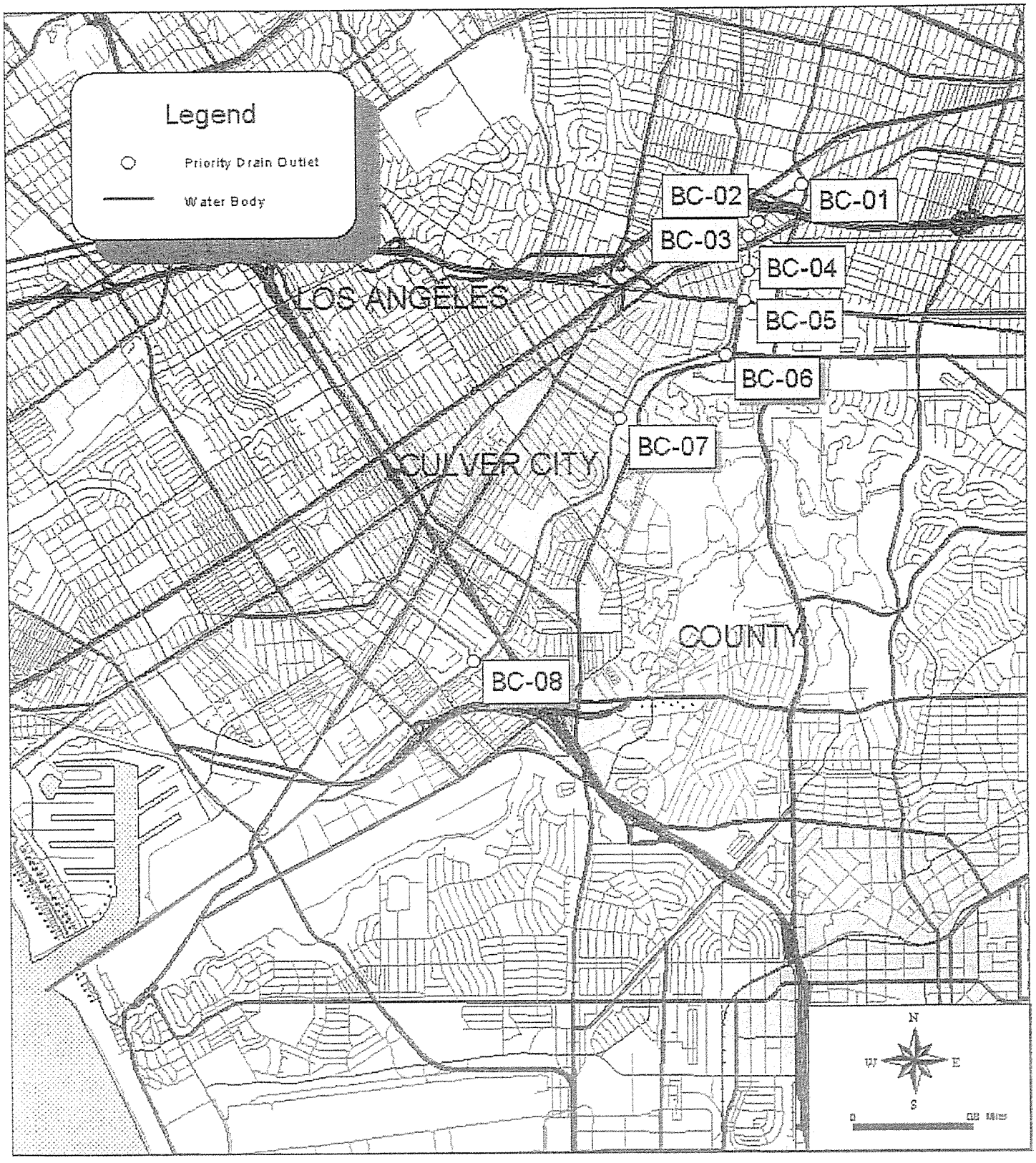
3) Flow Rates were provided by SCCWRP.

4) See Appendix D for further details provided by LACSD

Appendix C



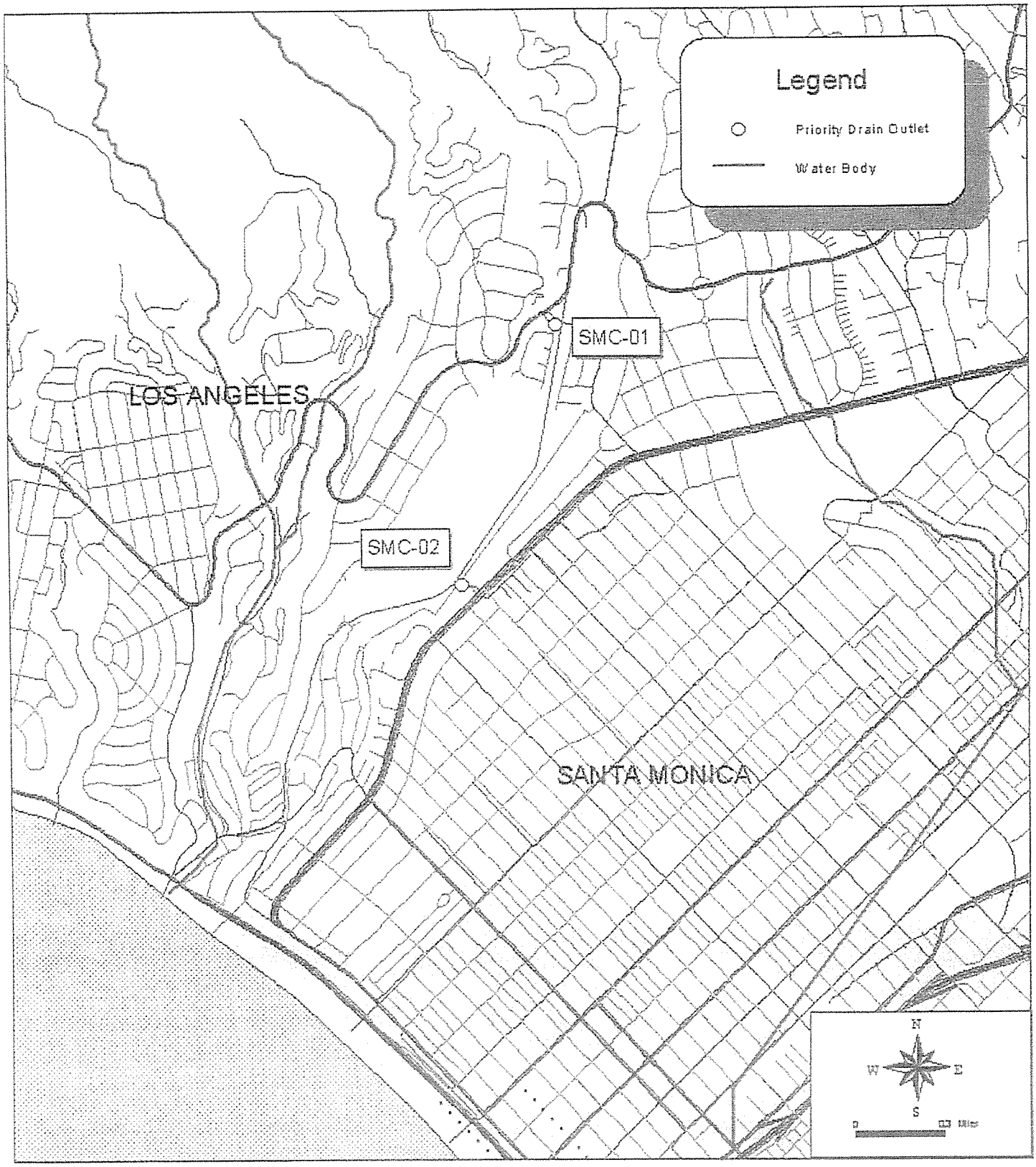
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Malibu Creek Watershed
Priority Drains



PUBLIC WORKS

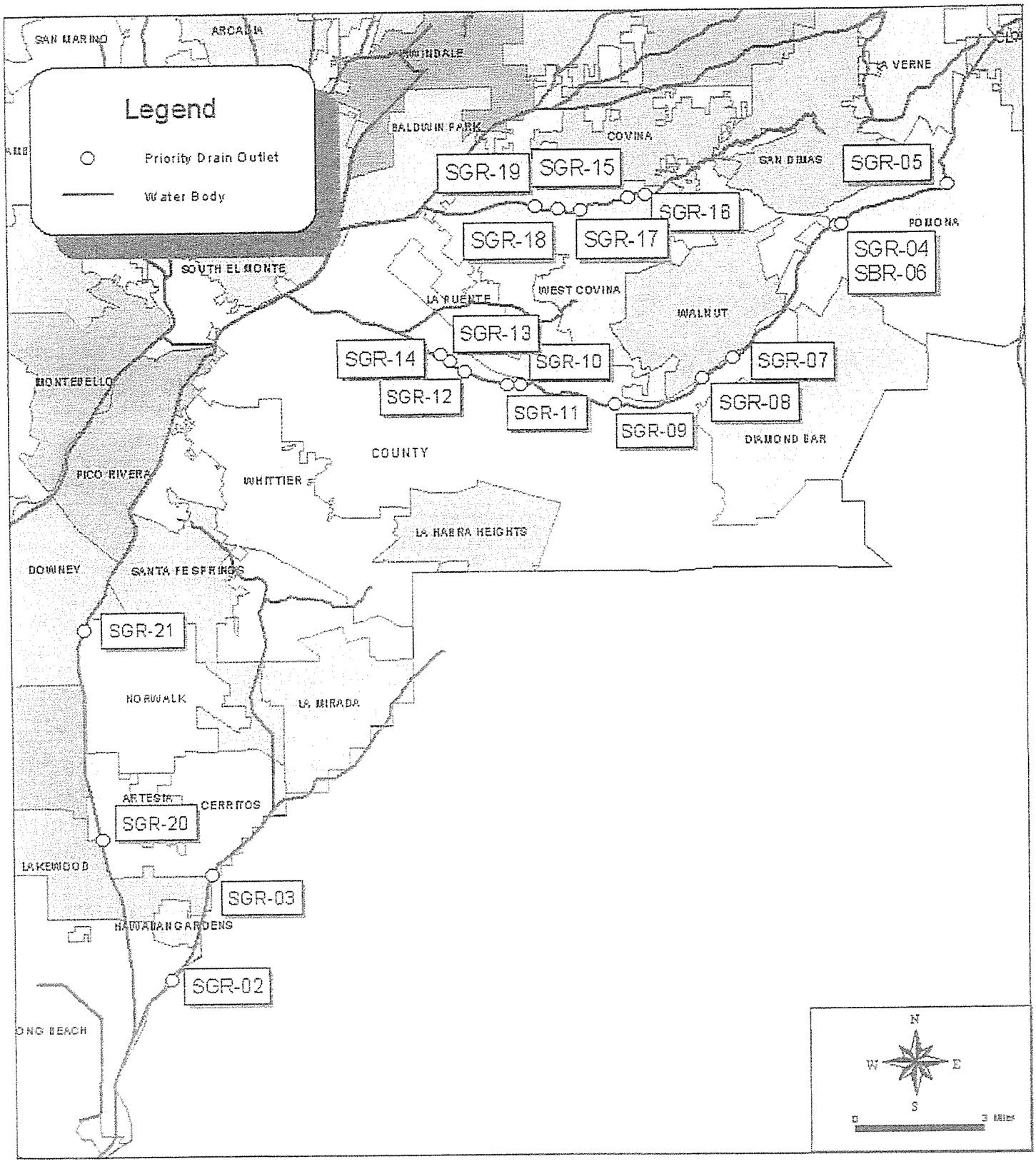
Treatment Feasibiliy Study
Ballona Creek Watershed
Priority Drains

LOS ANGELES COUNTY WATERSHED MANAGEMENT



Treatment Feasibiliy Study
Santa Monica Canyon Channel
Priority Drains

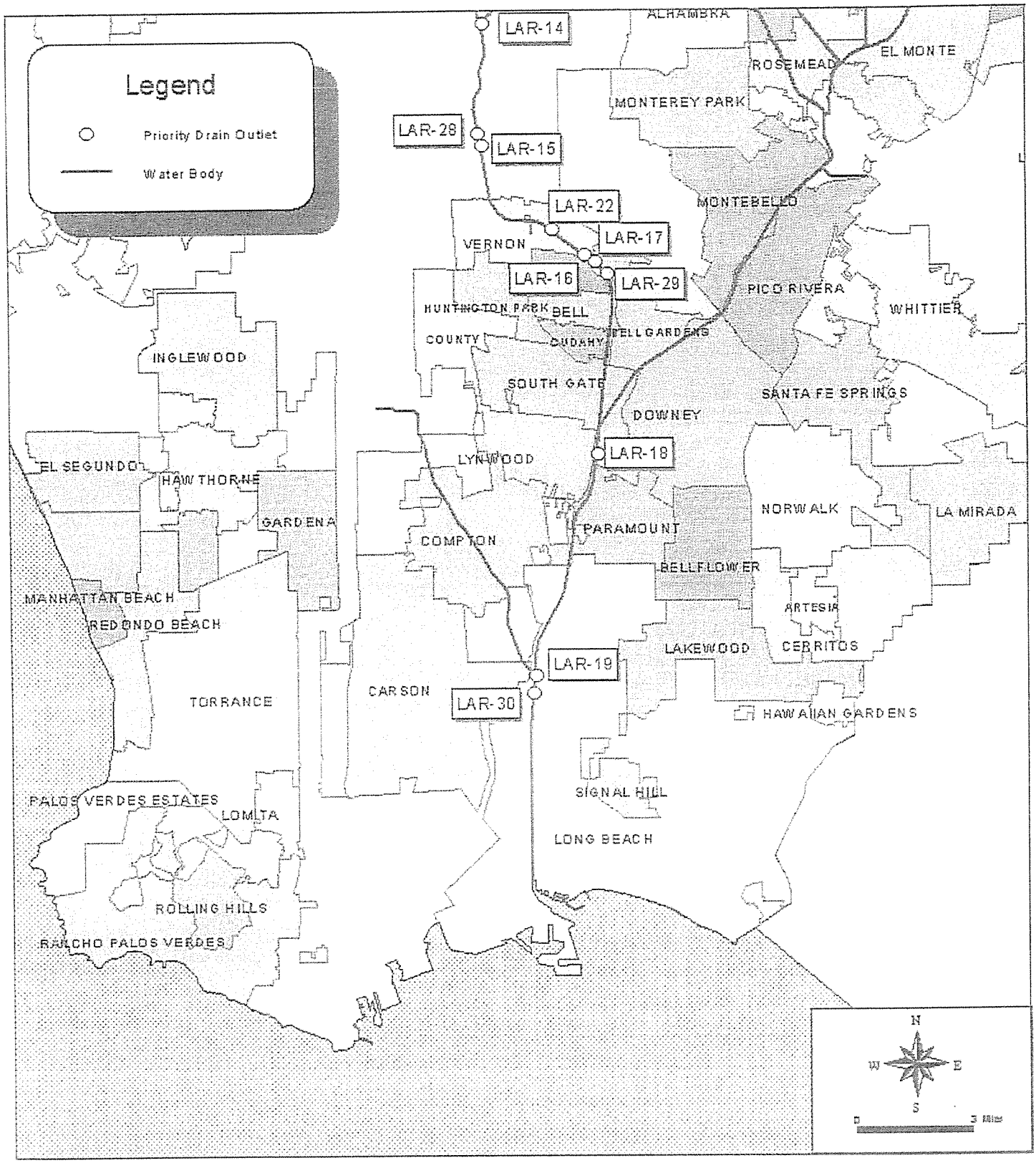
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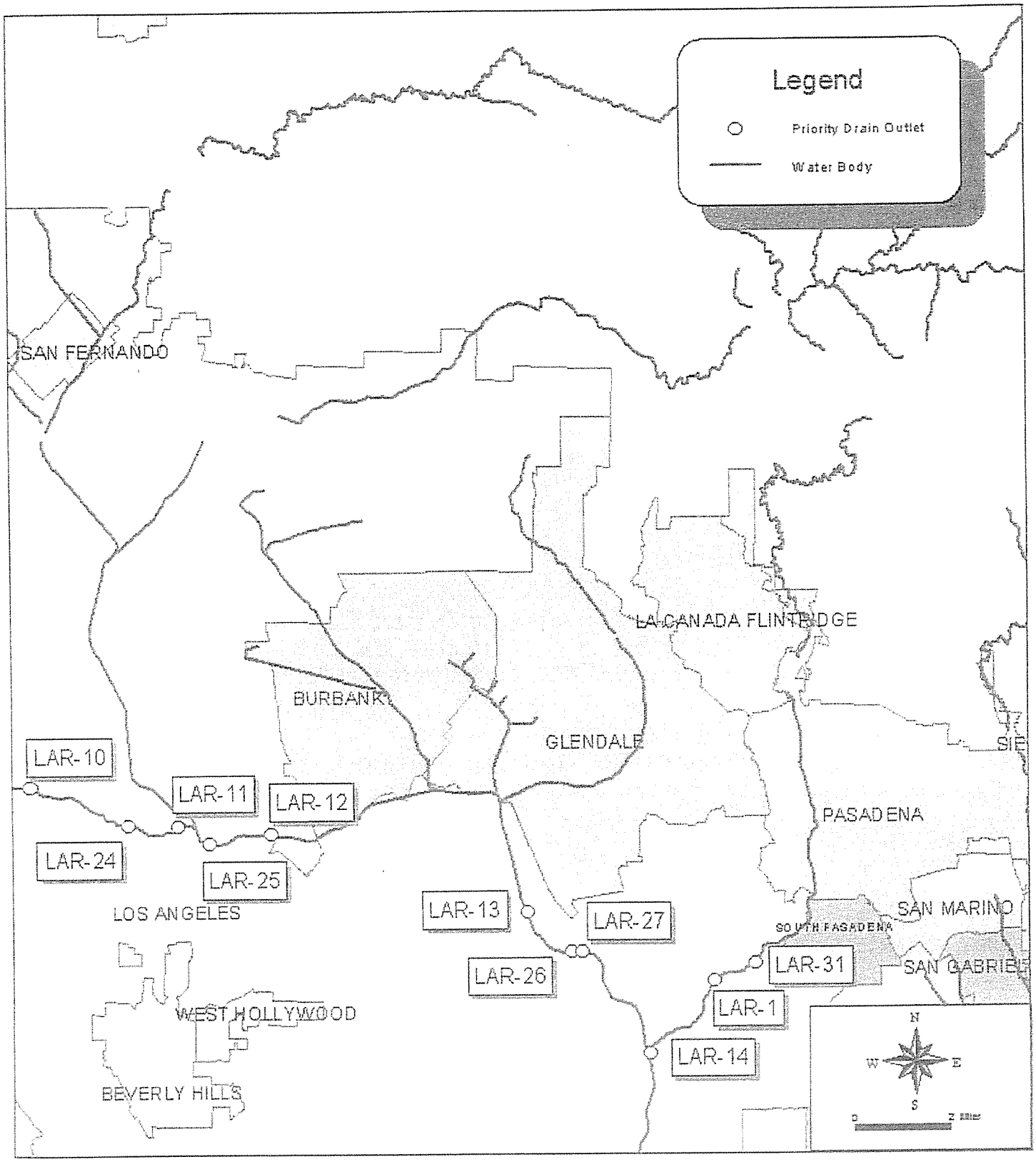
PUBLIC WORKS

Treatment Feasibiliy Study
San Gabriel River Watershed
Priority Drains

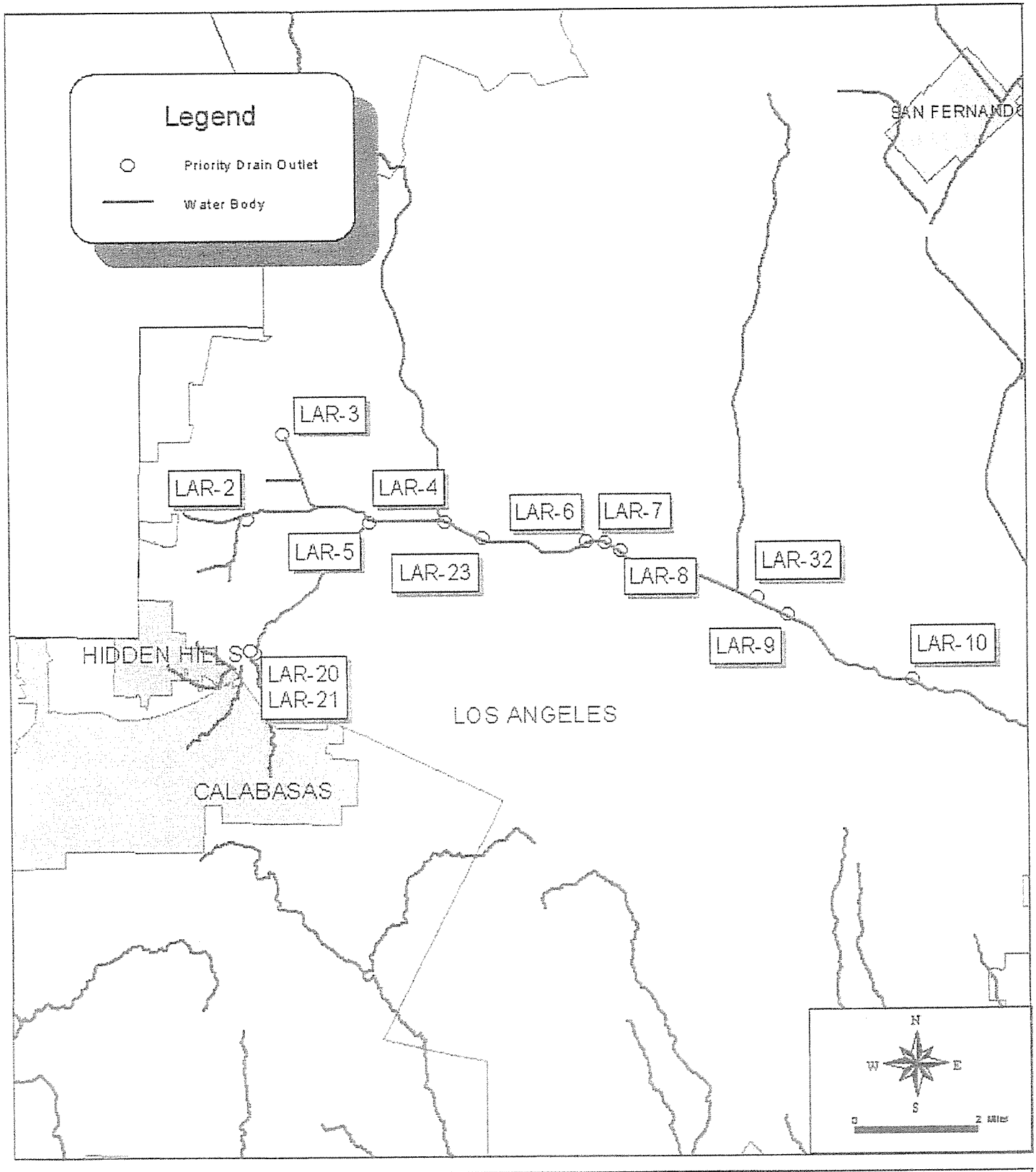
LOS ANGELES COUNTY WATERSHED MANAGEMENT



Treatment Feasibiliy Study
Los Angeles River Watershed
Reach 1 of 3
Priority Drains



Treatment Feasibiliy Study
Los Angeles River Watershed
Reach 2 of 3
Priority Drains



Treatment Feasibiliy Study
Los Angeles River Watershed
Reach 3 of 3
Priority Drains

PUBLIC WORKS

WATERSHED MANAGEMENT

Appendix D

Table 1						
Los Angeles River Diversion Candidates						
Station	Waterbody	Station Qpeak		Nearest Sewer(s)	Distance to Districts' sewer	Comments
		gpm	cfs		ft	
LAR-22	Los Angele River	168	0.37	JOH-2G/JOH-2F	550/ 570	A couple of possible sewer connections are available at this location.
LAR-17	Los Angele River	288	0.64	JOH-2G	2,590	Diversion to the JOH-2G sewer will have to cross or siphon across the LA River.
				Wright Road	2,700	A diversion station will have to be built on the south side of the channel for diversion to the Wright Road sewer.
				JOA-9	4,640	Diversion to the JOA-9 sewer will have to cross the LA River and transition more than 4,600 ft.
LAR-29	Los Angele River	321	0.72	JOA-9/ JOH-2D	2840/ 4,490	A couple of possible sewer connections are available at this location, however both connection distances are significant.
LAR-18	Los Angele River	748	1.67	JOH-1B/ JOA-9	225/ 2,420	A couple of sewer connections available.
LAR-19	Los Angele River	44	0.10	North Long Beach Trunk Sewer	790	A diversion station (for diversion into the North Long Beach Trunk sewer) may have to be built on the east side of the channel.
				Davidson City Trunk Sewer, Sect. 1, 2 & 3	4,950	Diversion to the Davidson City trunk sewer would have to cross the LA River, Long Beach Freeway, several railroads and transition more than 4,900 ft.
LAR-30	Los Angele River	40	0.09	North Long Beach Trunk Sewer	720	The diversion to the North Long Beach trunk sewer could be sent across the Metro Blue Line bridge crossing the LA River to the east side of the channel to the North Long Beach Trunk Sewer.
				Davidson City Trunk Sewer, Sect. 1, 2 & 3	5,910	

Table 2						
San Gabriel River Diversion Candidates						
Station	Waterbody	Station Qpeak		Nearest Sewer	Distance to Districts' sewer	Comments
		gpm	cfs		ft	
SGR-04	San Gabriel River/ San Jose Creek	20	0.04	JOA-1A Dist. 21 Int.	3,500	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-05	San Gabriel River/ San Jose Creek	35	0.08	JOA_1A - Etiwanda-Edison WW Line	490	Etiwanda-Edison WW Line sewer is currently out-of-service. Inspection and repair would be required prior to placing in service.
SGR-06	San Gabriel River/ San Jose Creek	35	0.08	JOA-1A Dist. 21 Int.	3,850	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-07	San Gabriel River/ San Jose Creek	65	0.14	JOA-1A Dist. 21 Int.	4,560	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-08	San Gabriel River/ San Jose Creek	40	0.09	JOA-1A Dist. 21 Int.	2,580	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-09	San Gabriel River/ San Jose Creek	40	0.09	JOA-1A Dist. 21 Int.	3,360	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-10	San Gabriel River/ San Jose Creek	100	0.22	JOA-1A Dist. 21 Int.	2,960	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-11	San Gabriel River/ San Jose Creek	100	0.22	JOA-1A Dist. 21 Int.	2,030	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-12	San Gabriel River/ San Jose Creek	80	0.18	JOA-1A Dist. 21 Int.	40	
SGR-13	San Gabriel River/ San Jose Creek	35	0.08	JOA-1A Dist. 21 Int.	500	
SGR-14	San Gabriel River/ San Jose Creek	35	0.08	JOA-1A Dist. 21 Int.	2,690	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-15	San Gabriel River/ Walnut	40	0.09	JOH-9C	10,585	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-16	San Gabriel River/ Walnut	35	0.08	JOH-9C	9,400	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-17	San Gabriel River/ Walnut	35	0.08	JOH-9C	11,150	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-18	San Gabriel River/ Walnut	35	0.08	JOH-9C	6,110	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-19	San Gabriel River/ Walnut	25	0.06	JOH-9C	5,800	Substantial distance to nearest acceptable Districts' trunk sewer.
SGR-20	San Gabriel River	30	0.07	Artesia Extension Tr.	5,510	Substantial distance to nearest acceptable Districts' trunk sewer. Also may need to cross a flood control channel.

Table 3						
Dominguez Channel Diversion Candidates						
Station	Waterbody	Station Qpeak		Nearest Sewer	Distance to Districts' sewer	Comments
		gpm	cfs		ft	
DC-51	Dominguez Channel	27	0.06	S.I.O.Ave	2,050	Substantial distance to nearest acceptable Districts' trunk sewer.
DC-50	Dominguez Channel	148	0.33	S.I.O.Ave	1,500	Substantial distance to nearest acceptable Districts' trunk sewer.
DC-24	Dominguez Channel	911	2.05	D 5 Main/ JOD-5	50 /305	Discharge not recommended to the D5 Main Trunk Sewer if combined with discharge from adjacent diversion stations. Discharge to JOD-5 could be acceptable with adjacent stations' low flow discharges.
DC-22	Dominguez Channel	22	0.05	D 5 Main/ JOD-5	40/ 10	Discharge not recommended to the D5 Main T.S. if combined with discharge from adjacent diversion stations. Discharge to JOD-5 could be acceptable with adjacent stations' low flow discharges.
DC-10	Dominguez Channel	81	0.18	Gramercy Place Sec 1	50	
DC-08	Dominguez Channel	144	0.32	JOD-2B	150	
DC-07	Dominguez Channel	36	0.08	JOD-2B	75	
DC-05	Dominguez Channel	40	0.09	Gardena Pump Trunk	600	
DC-31	Dominguez Channel	283	0.63	Del Amo Trunk	400	
DC-33	Dominguez Channel	166	0.37	Main St Trunk	60	
DC-37	Dominguez Channel	1423	3.17	JOB-9B	370	Must discharge to JOB downstream of the pressurized (surcharged) siphon. The connection must be pumped and backflow prevented in case of surcharging conditions. Manhole B17 is the point where surcharging no longer occurs. Connection should be made down

Appendix B

Districts' Diversion Policy

SANITATION DISTRICTS OF LOS ANGELES COUNTY

INDUSTRIAL WASTE SECTION
1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 908-4224
www.lacsd.org

STEPHEN R. MAGUIN
Chief Engineer and General Manager

Dry-weather Urban Runoff Diversion Policy
(12/12/2006)

In the interest of promoting better health and safety protection for those who engage in water contact activities in coastal areas bordered by the Districts service area, the Districts have consented, where justified, to accept the diversion of dry-weather urban runoff into the sewer system. Historically, these diversions have been permitted to be active from May 1 through September 30, the traditional water contact period.

The agencies responsible for the storm water collection system are required to obtain permits from the Districts, install equipment to remove gross solids, provide the means for measuring flow, and pay appropriate fees. The permits also recognize that the permittees are responsible for complying with the Districts' *Wastewater Ordinance* including local effluent limitations. In some cases the permits limit the daily discharge period where capacity issues are a concern.

As the Los Angeles Regional Water Quality Control Board has adopted more stringent policies concerning the levels of bacteria in coastal waters and is considering additional requirements for inland water bodies, there continue to be inquiries into the ability of the Districts to accept dry-weather diversions. In an effort to aid the inquiring agencies in selecting priorities, the following guidance is provided.

Dry-weather Urban Runoff Diversion Guidance

The following general requirements will apply to all dry-weather urban runoff diversions within the Districts' service area. Details may be obtained by contacting the Districts' Industrial Waste Section at extension 2900 or accessing the Districts' website at www.lacsd.org.

- All projects for dry-weather diversion to the sewer system must obtain an Industrial Wastewater Discharge Permit prior to activation of facilities. The permit application and instructions may be obtained from the Districts' website www.lacsd.org under the Industrial Waste section.

- Diversions should consolidate multiple smaller storm drains where feasible. Drains identified by multiple agency workgroups should be given priority for diversions.

- To the extent feasible, non-contaminated dry-weather flows should be segregated from diverted flows. Tributary flows from industrial facilities being discharged under NPDES permits are considered non-contaminated dry-weather flows. All NPDES permitted flows tributary to the diversion point must be identified to the Districts.

- Dry-weather runoff discharge permits generally limit diversions to May 1 - September 30. However, the discharge periods for some diversion projects may be increased to April 1 through October 31 to coincide with requirements imposed on the permittees by the Regional Board. The Districts may allow for year round discharge provided the sewerage system is not adversely impacted and there is an identified environmental benefit.

- The permit will have a duration not to exceed 5 years. Prior to expiration of the permit, the permittee will need to apply for a permit renewal.

- Off peak discharge will generally be required for all dry-weather urban runoff diversion projects regardless of immediate downstream sewer conditions.

- The discharge rate will generally be limited to ensure that the downstream sewer will not flow more than 3/4 depth. If the dry-weather runoff discharge will cause the sewer to flow at greater than 3/4 depth, or if the Districts have concerns for other operational difficulties, the allowable flow rate may be decreased.

- The discharge must be pumped. The force main should have a check valve between the pump and the connection to the sewer. It should be installed so as to minimize the possibility of wastewater backing into the storm drain.

- Facilities providing for the removal of trash and sediment must be provided. Debris larger that 3/8 inch must not be discharged.

- An effluent flow meter must be installed. The flow meter should have a non-resettable totalizer and an instantaneous recorder to assist in the peak flow compliance determination.

- The acreage of the area tributary to the diversion point must be provided to the Districts. The applicant must perform an illicit discharger investigation to determine if any significant inappropriate wastestreams are tributary to the diversion. A report of the investigation must be submitted with the permit application. The permittee should exercise procedures to minimize the generation of unnecessary dry-weather flows. Dry-weather diversions greater than 185gpd/acre are considered excessive.

- A gas detector to shut down the operation upon reaching a 20% LEL must be provided for any diversion structure serving a drainage area of more than 300 acres.

- A rain collector capable of measuring 0.1" of rainwater must be installed. Upon sensing 0.1" of rainwater, the system must automatically shut off power to the pump with the newly accumulated flow discharging to the storm drain. Power to the pump should not be turned back on for at least 24 hours after cessation of the rain event. Diversion levels lower than 0.1" may be proposed by the applicant or required by the Districts depending on downstream sewerage conditions.

- The permittee will be required to provide the Districts unencumbered access to either the source of power or the controls to the discharge pump so that diversion may be interrupted should a spill occur upstream or should any other event occur that may adversely impact the Districts' sewerage system.

- Should the diversion be of sufficient size to have the possibility of significantly impacting the Districts' sewerage system, the permittee may be required to install and maintain a communications system such that the discharge can be continually monitored and regulated by the Districts from a remote location.

- Periodic sampling of the dry-weather flows will be required.

- The permittee will be required to pay connection fees, annual surcharges, and any required permit processing fees.

- The permittee will be responsible for the quality of the wastewater discharged to the sewer system.

- Wastewater diversions will not be allowed where incompatible pollutants have been detected in quantities that may interfere with the downstream treatment plant's ability to achieve waste discharge requirements. For the foreseeable future, diversions will only be allowed to the Districts' Joint Water Pollution Control Plant in Carson.

- The permittee should provide the Districts a map of the storm drain system tributary to the diversion point in a GIS layer consistent with Districts' standards.

- The local permitting agency may have additional requirements, especially if the discharge is to a local sewer.

- The permittee will be required to indemnify and hold the Districts harmless from liability associated with the dry-weather urban runoff, including but not limited to failure of the check valve/pump system to prevent sewage from backing into the storm drain.

* * * * *

Appendix C

Photographs and Aerial Photo Maps of Monitored Drains

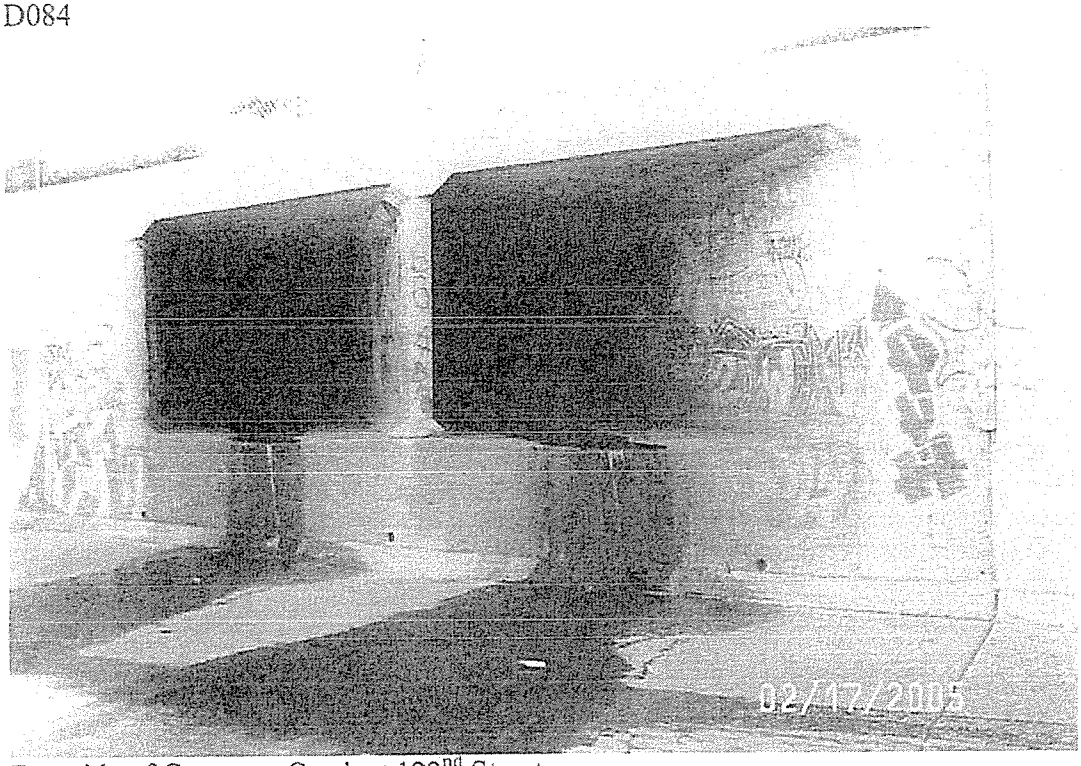
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Reprioritization Study ID	Outlet Photograph Location	Aerial Map Location
Compton Creek		
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D085	Page C-1	Figure C-2
D087	Page C-2	Figure C-6
D088	Page C-2	Figure C-5
D089	Page C-3	Figure C-2
D090	Page C-3	Figure C-1
D091	Page C-4	Figure C-3
Coyote Creek		
D074	Page C-5	Figure C-8
D075	Page C-5	Figure C-7
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Dominguez Channel		
D049	Page C-7	Figure C-12
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D066	Page C-16	Figure C-22
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D082	Page C-17	Figure C-21

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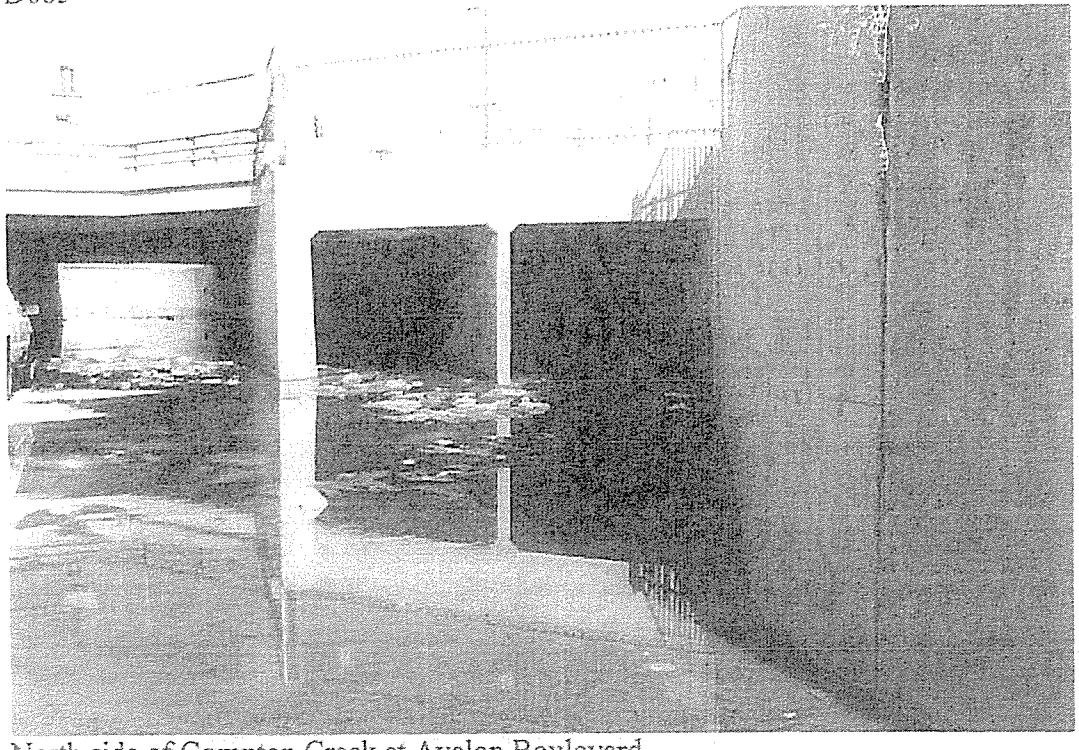
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Wilmington Drain		
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NS2	Page C-35	Figure C-41

D084



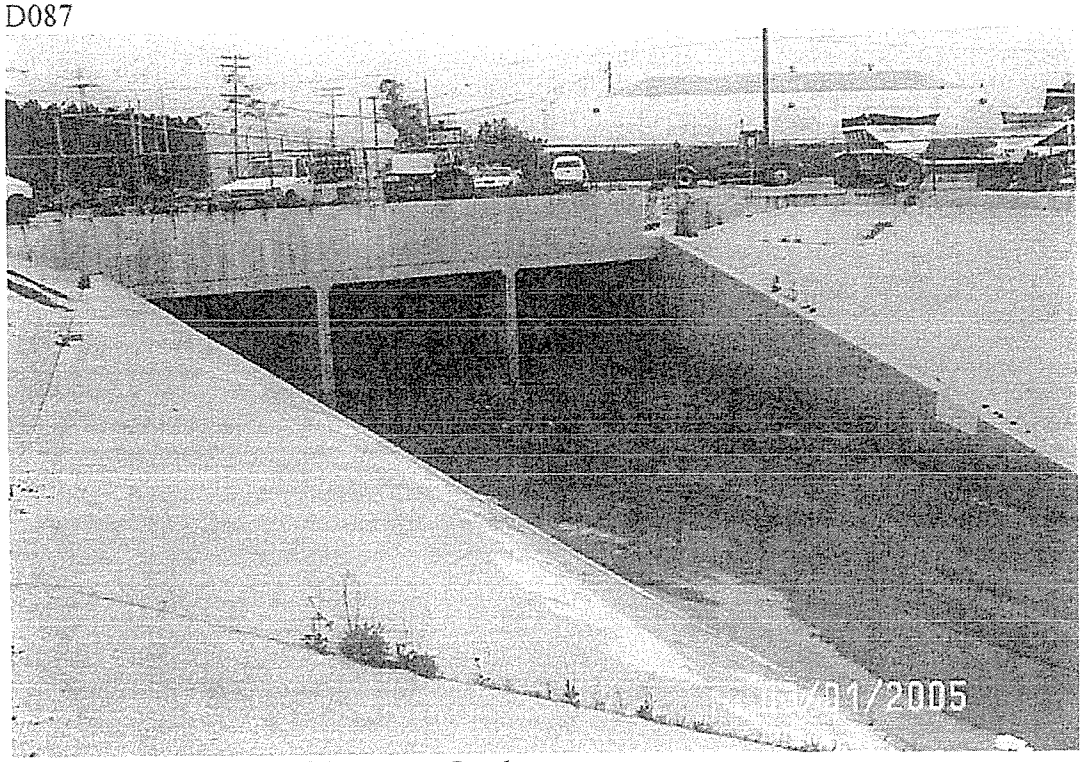
East side of Compton Creek at 122nd Street

D085



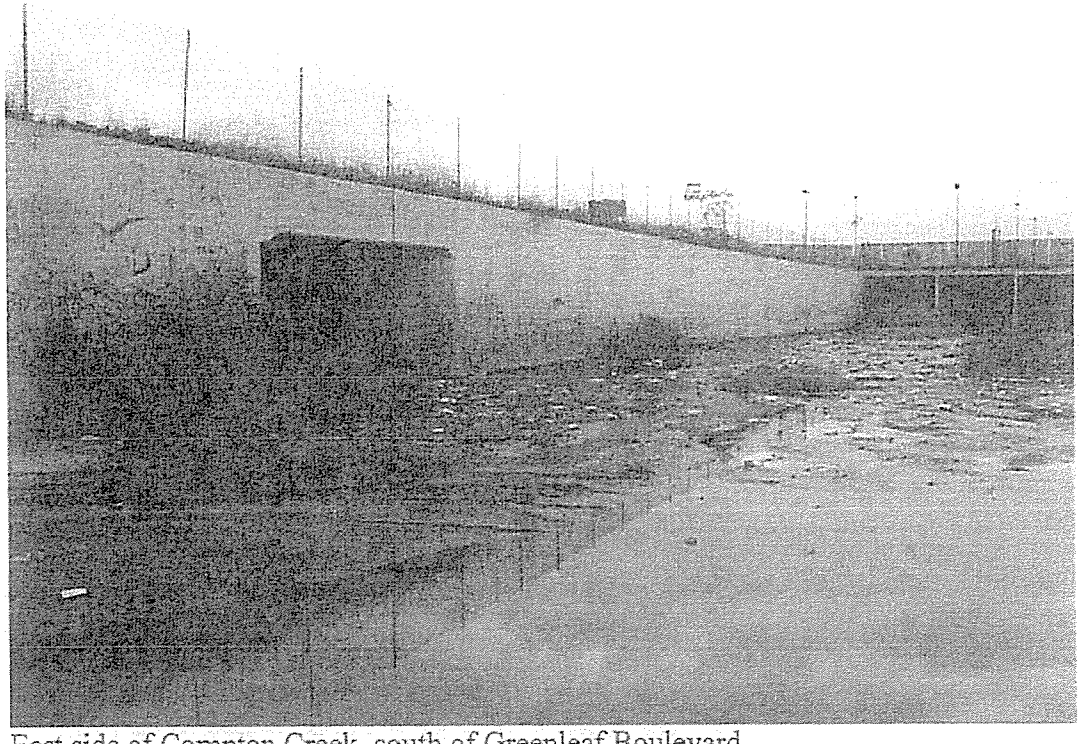
North side of Compton Creek at Avalon Boulevard

D087



Daylight of East Fork of Compton Creek

D088



East side of Compton Creek, south of Greenleaf Boulevard

D089



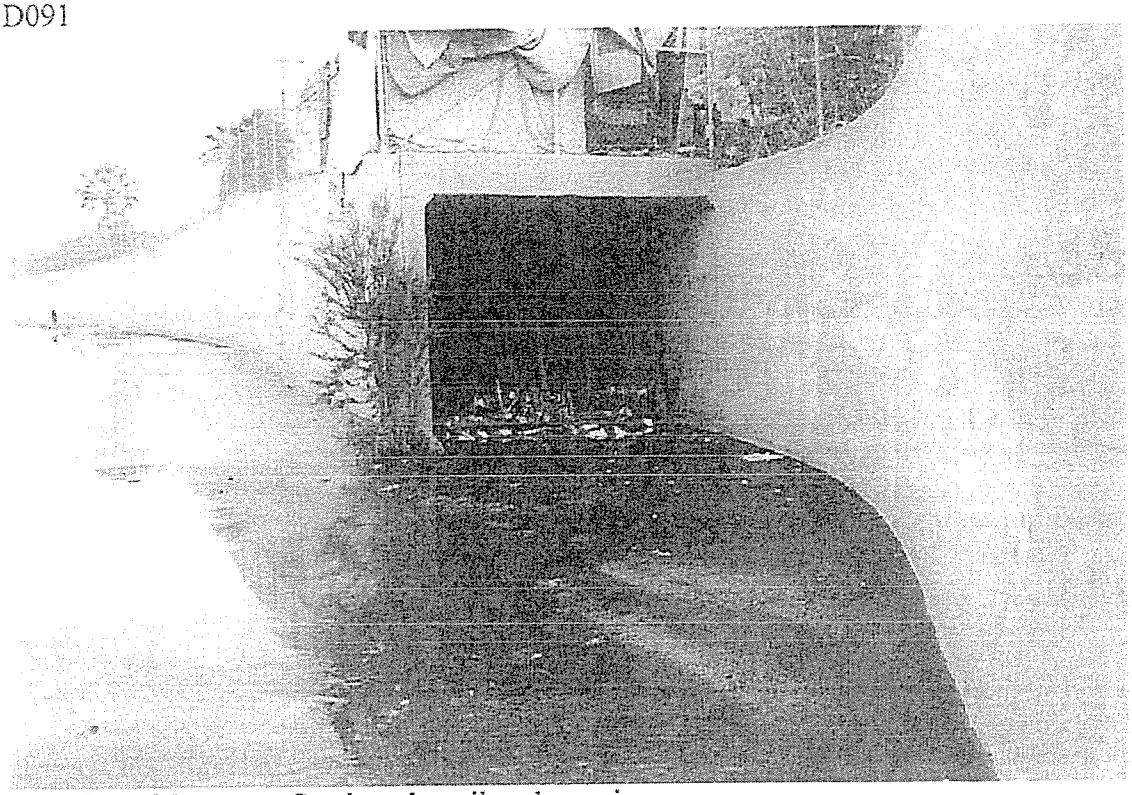
North side of Compton Creek at Towne Avenue

D090



Daylight of Compton Creek at Main Street and 108th Street

D091



East side of Compton Creek at the railroad crossing

D074



West side of Coyote Creek at Shoemaker Avenue

D075



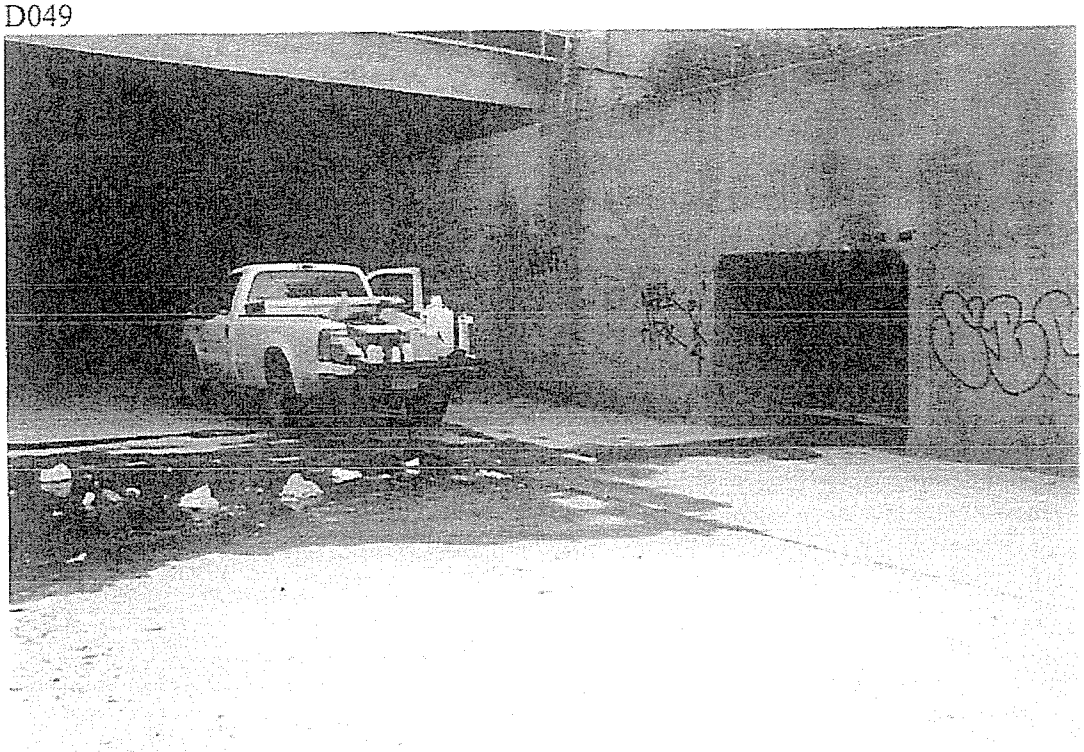
West side of Coyote Creek at Rosecrans Avenue

D077



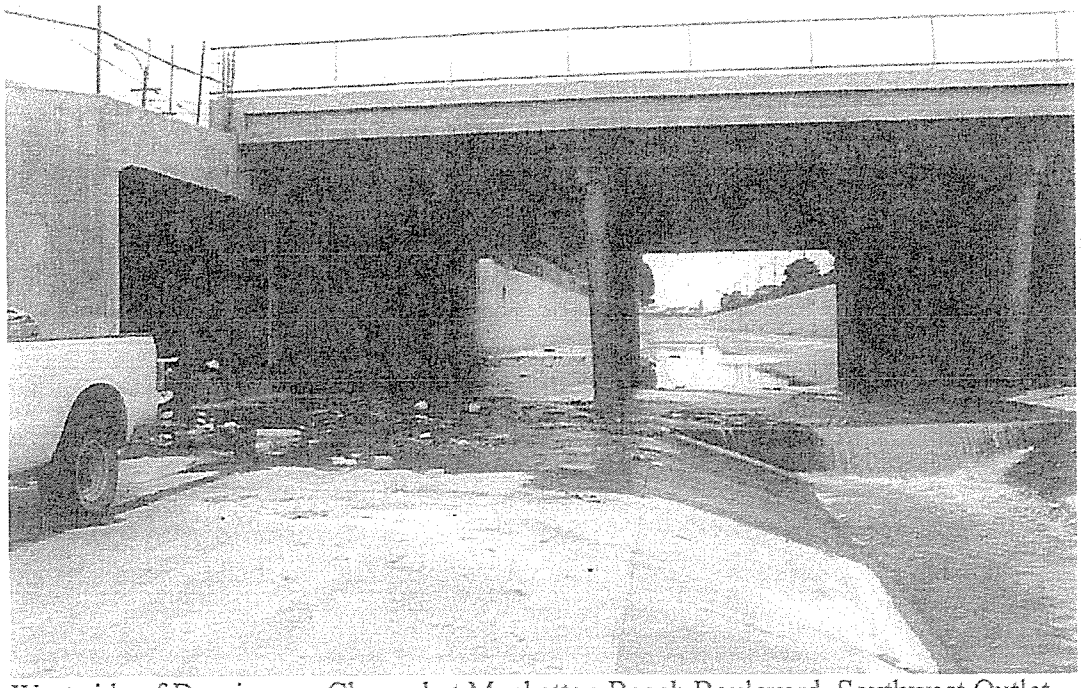
Daylight of Project 21, Line A (at Grayland Avenue and South Street in Artesia)

D049



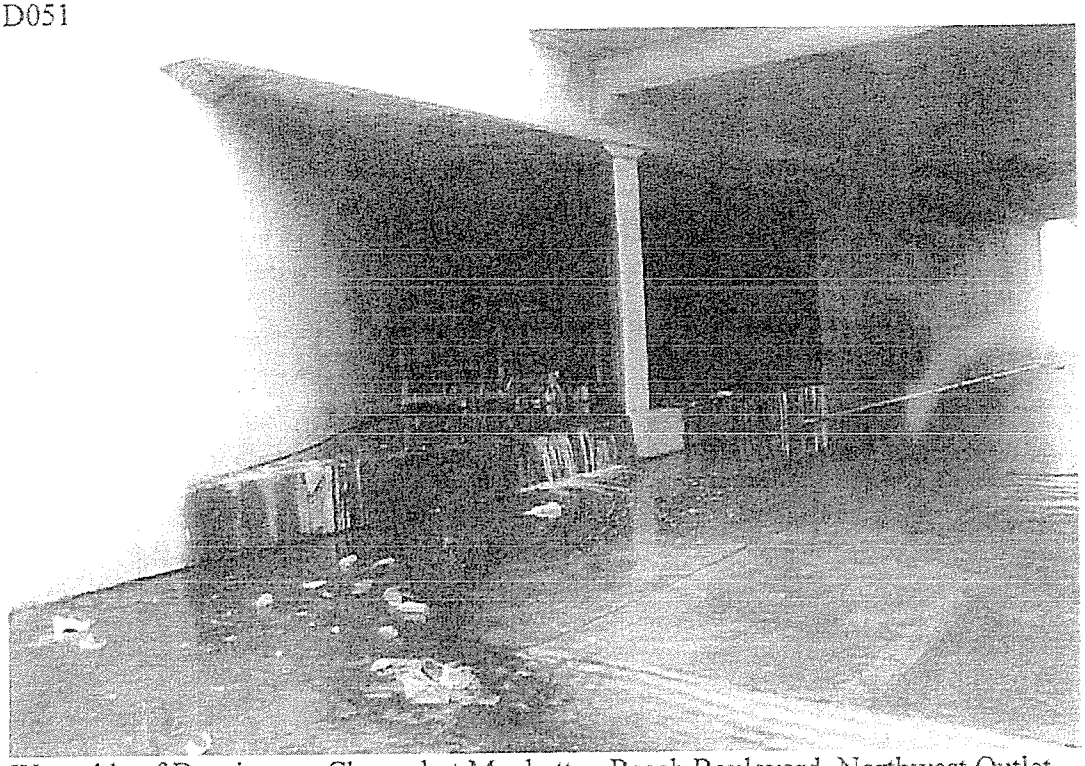
West side of Dominguez Channel at Manhattan Beach Boulevard, Station 701+18

D050



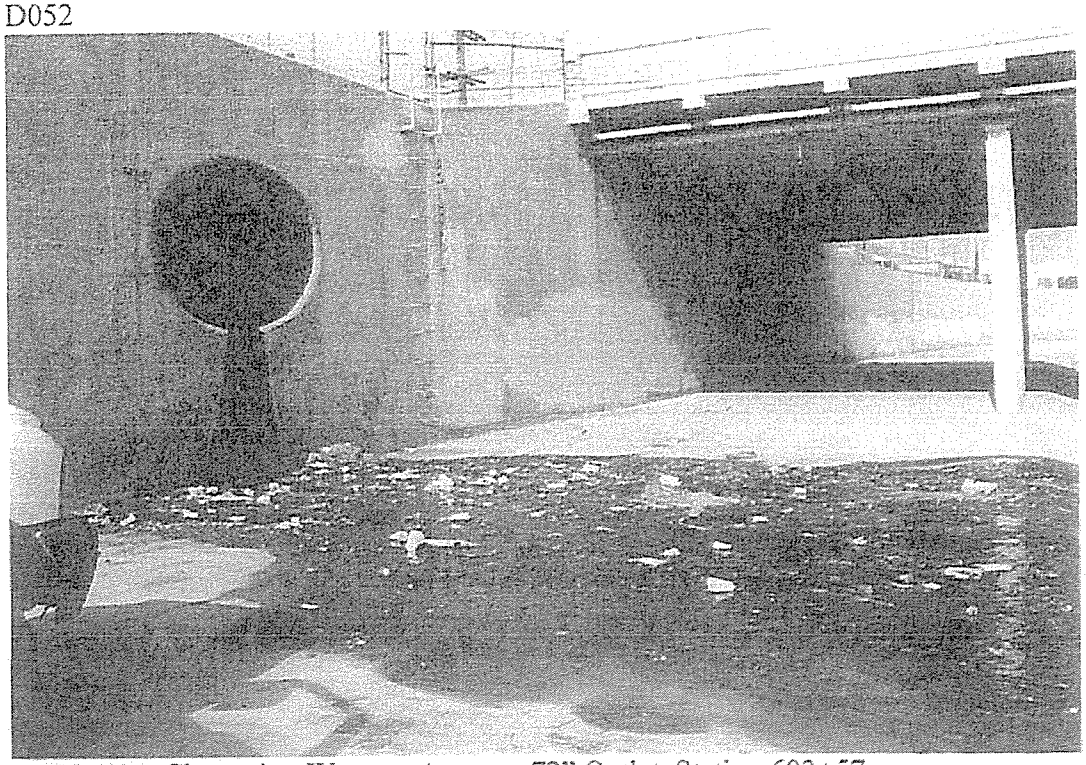
West side of Dominguez Channel at Manhattan Beach Boulevard, Southwest Outlet

D051



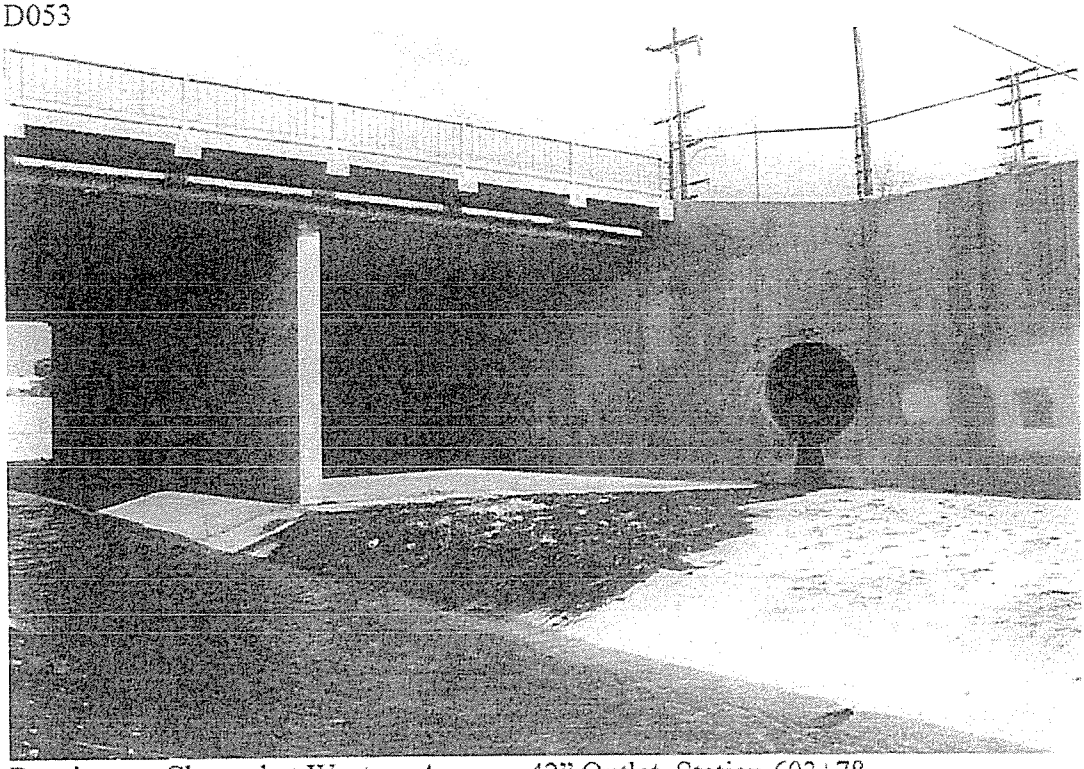
West side of Dominguez Channel at Manhattan Beach Boulevard, Northwest Outlet

D052



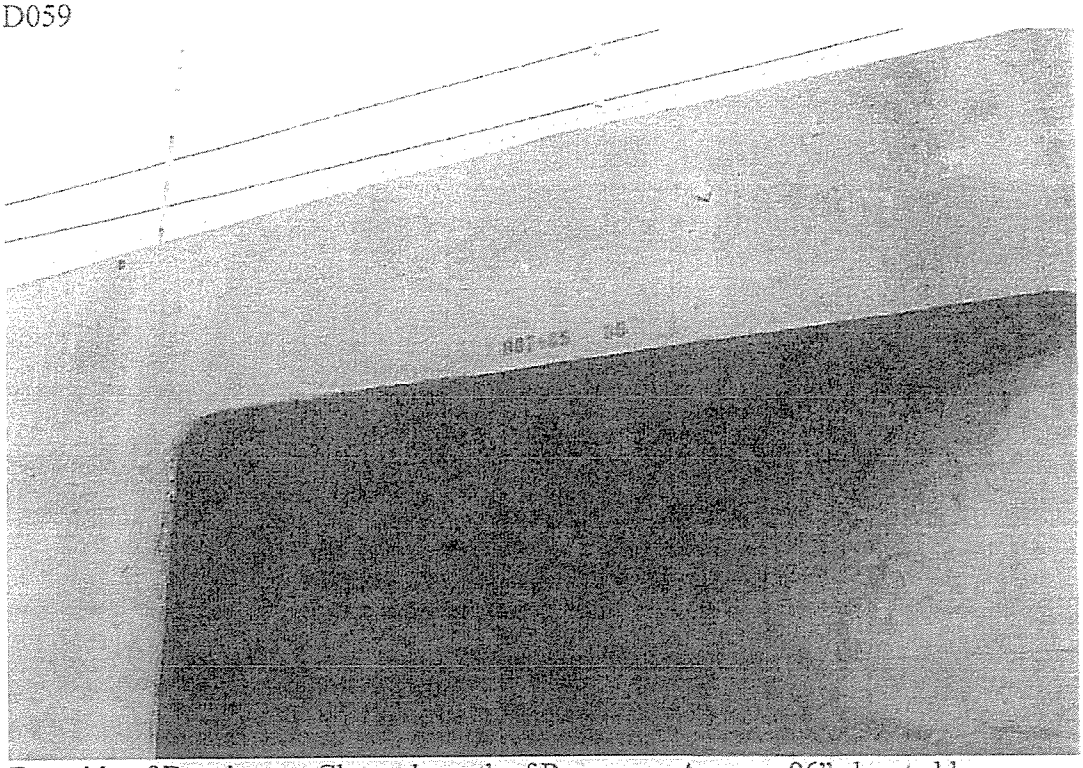
Dominguez Channel at Western Avenue, 72" Outlet, Station 603+57

D053



Dominguez Channel at Western Avenue, 42" Outlet, Station 603+78

D059



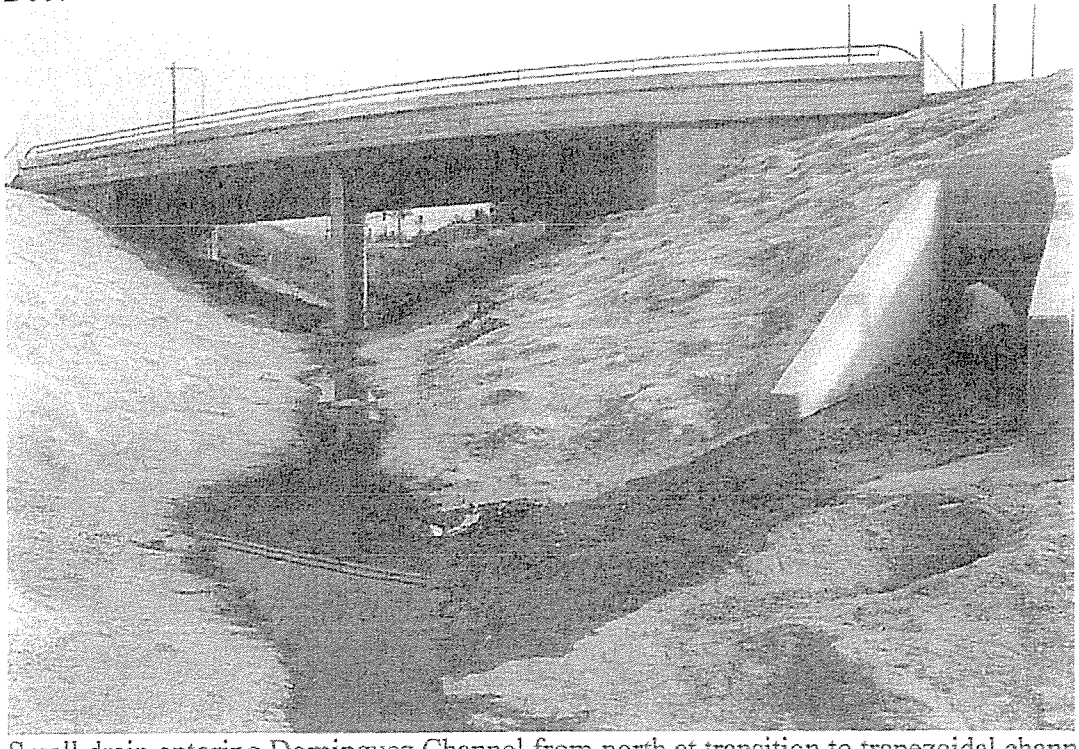
East side of Dominguez Channel, north of Rosecrans Avenue, 96" elevated box, Station 807+65

D060

No Picture Available

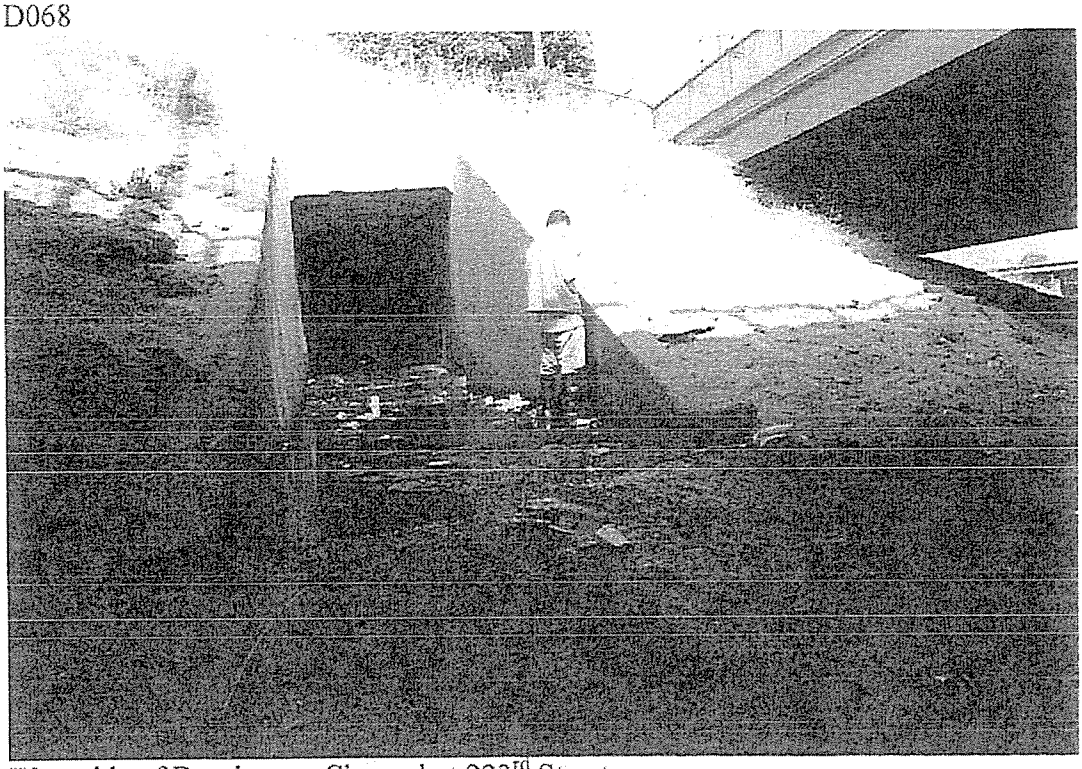
First drain entering Dominguez Channel from the east

D067



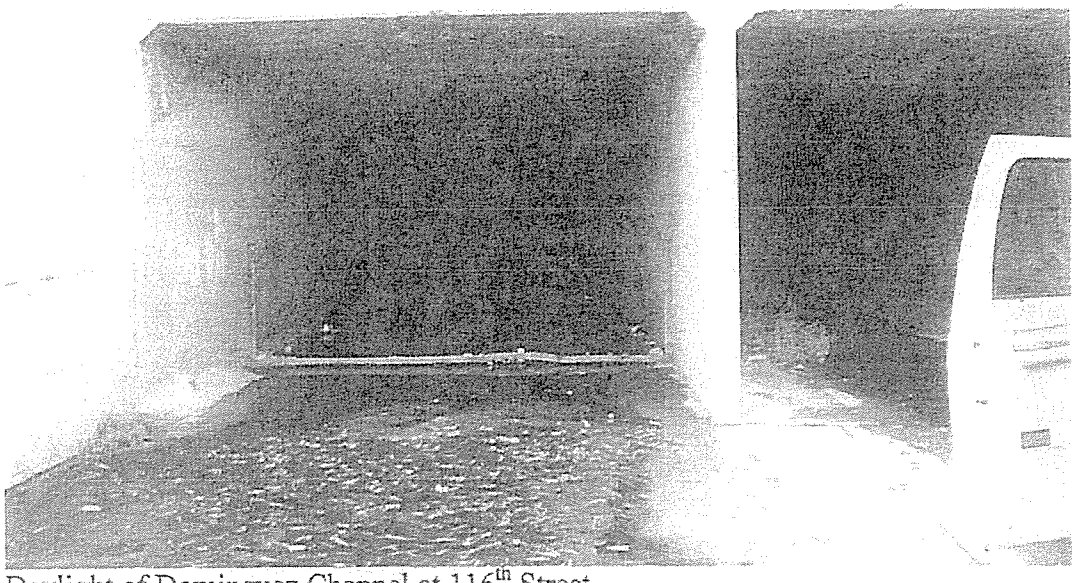
Small drain entering Dominguez Channel from north at transition to trapezoidal channel

D068



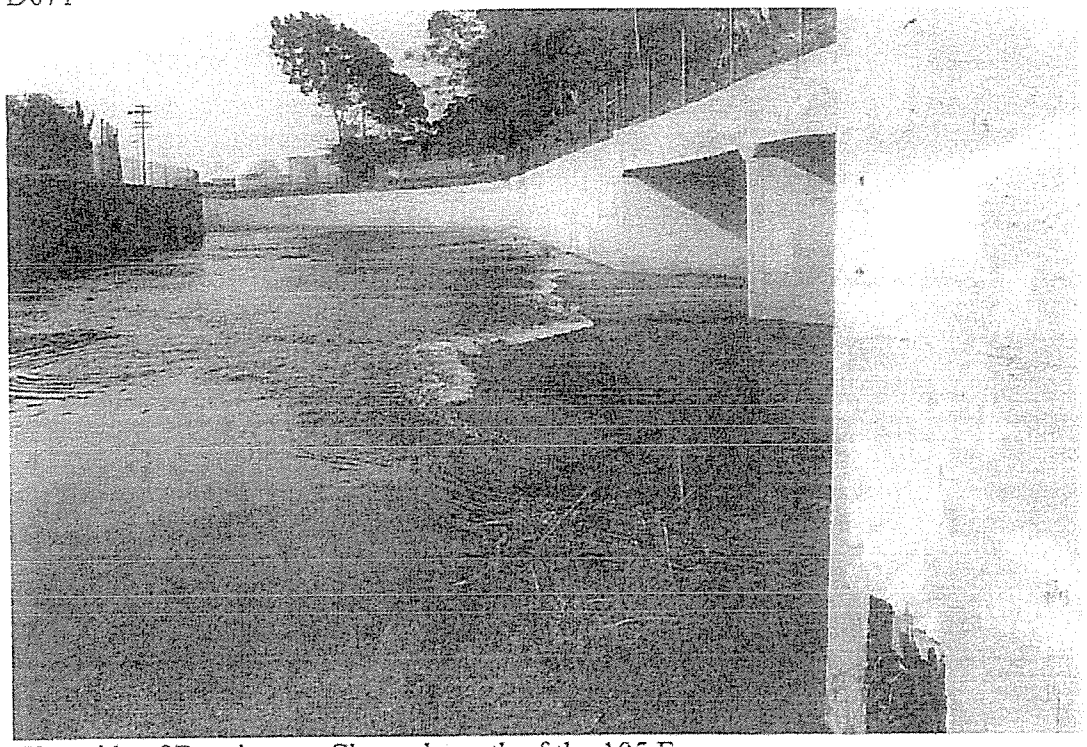
West side of Dominguez Channel at 223rd Street

D070



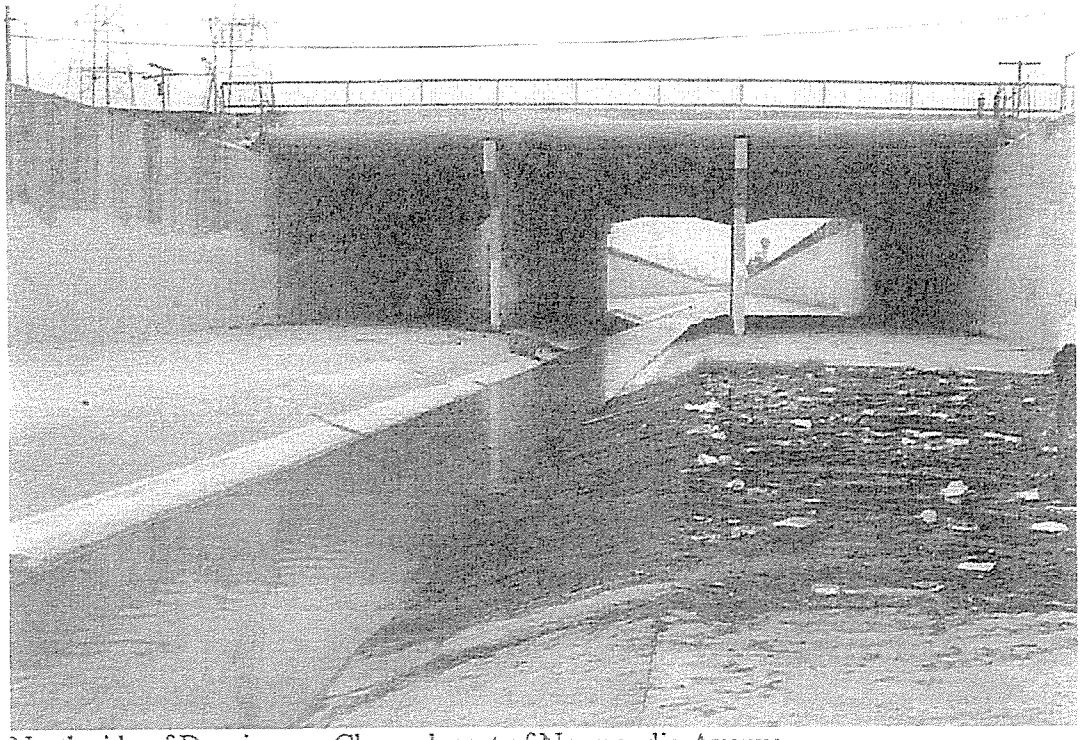
Daylight of Dominguez Channel at 116th Street

D071



West side of Dominguez Channel, south of the 105 Freeway

D073



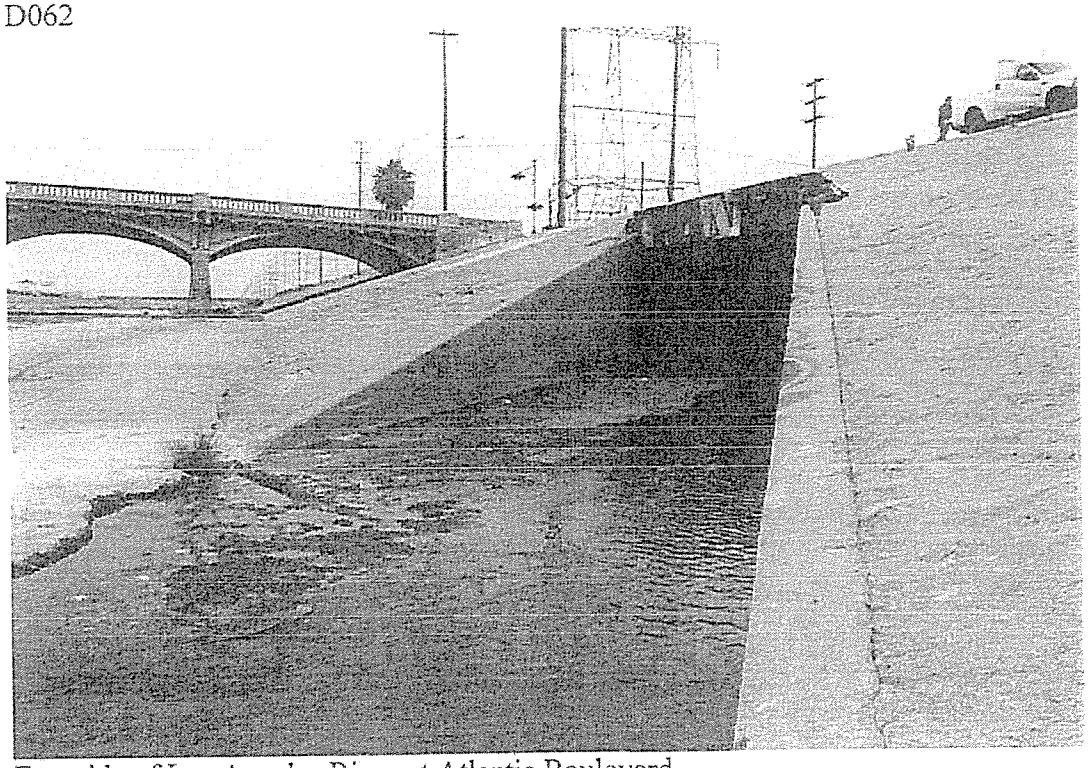
North side of Dominguez Channel, east of Normandie Avenue

NS1

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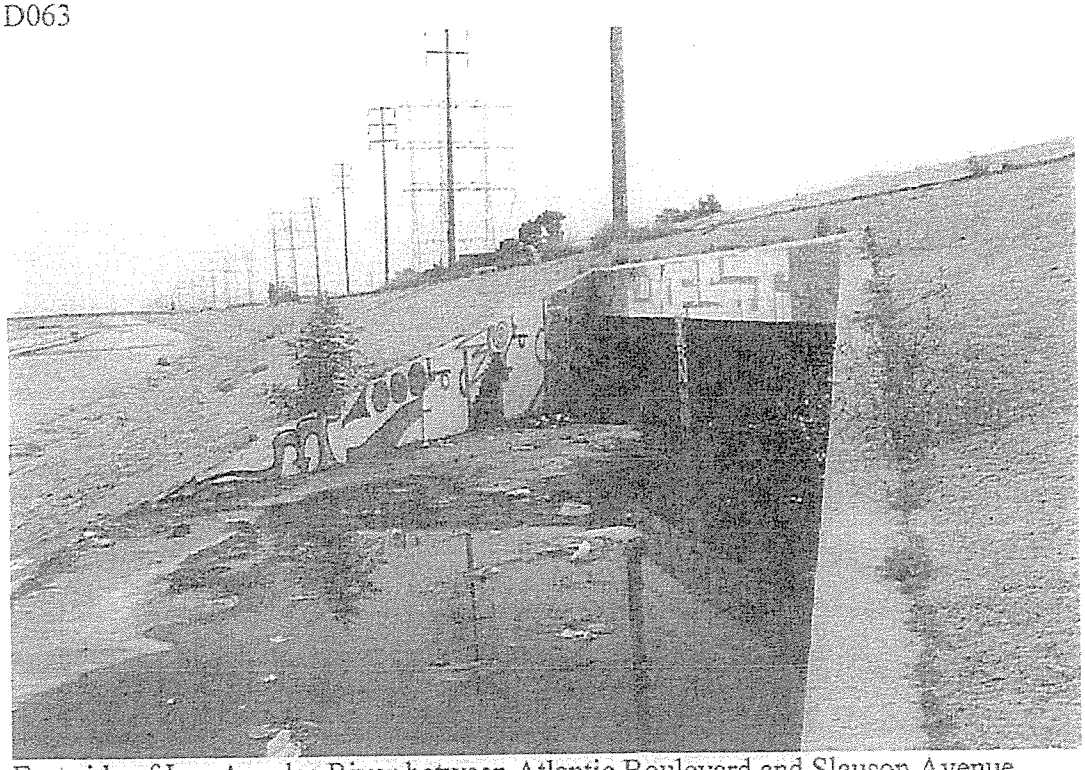
East side of Dominguez Channel at 190th Street, Station Project 1206

D062



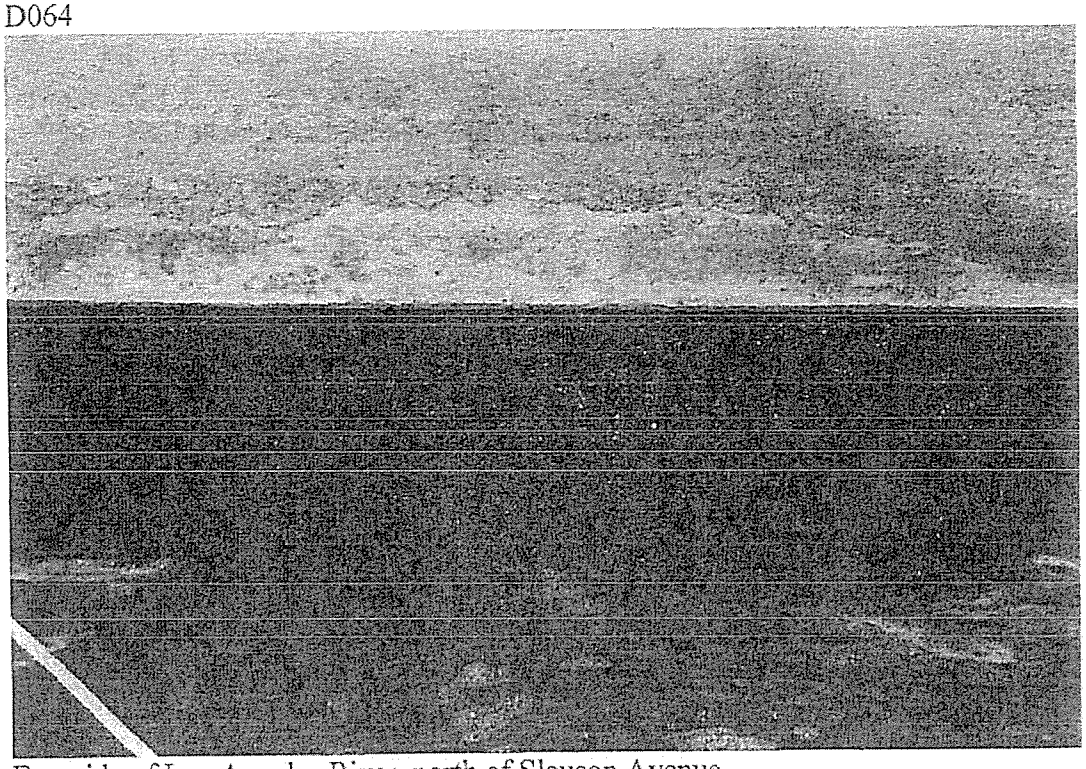
East side of Los Angeles River at Atlantic Boulevard

D063



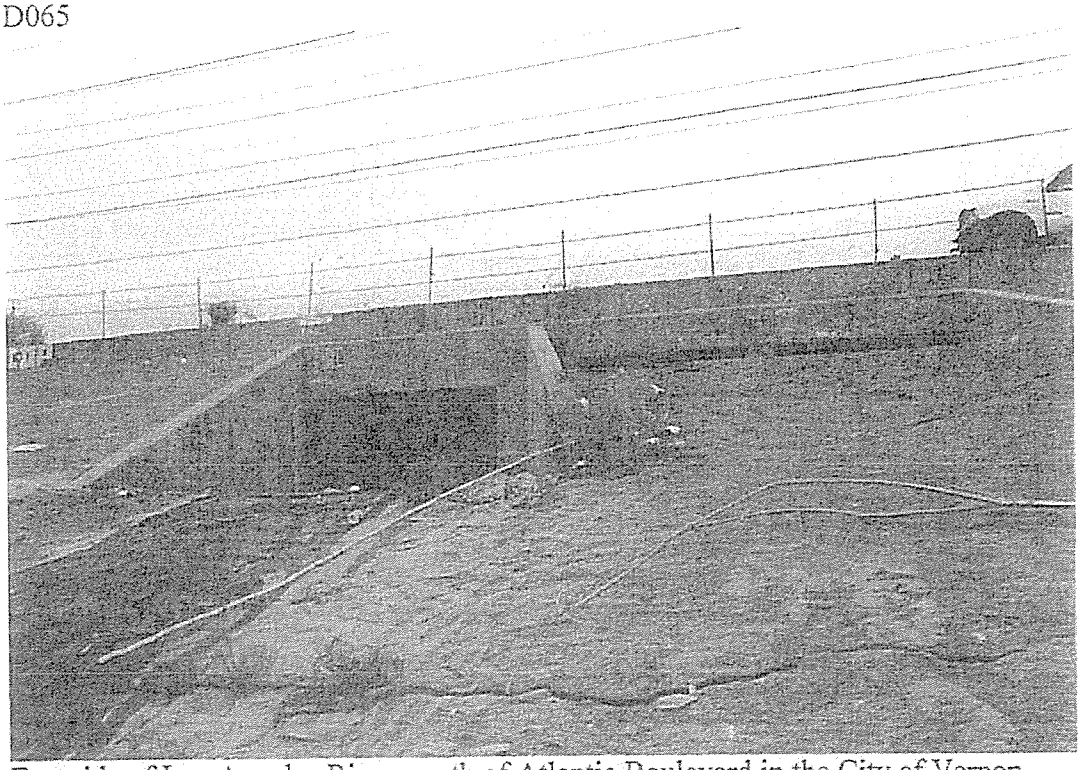
East side of Los Angeles River between Atlantic Boulevard and Slauson Avenue

D064



East side of Los Angeles River, north of Slauson Avenue

D065



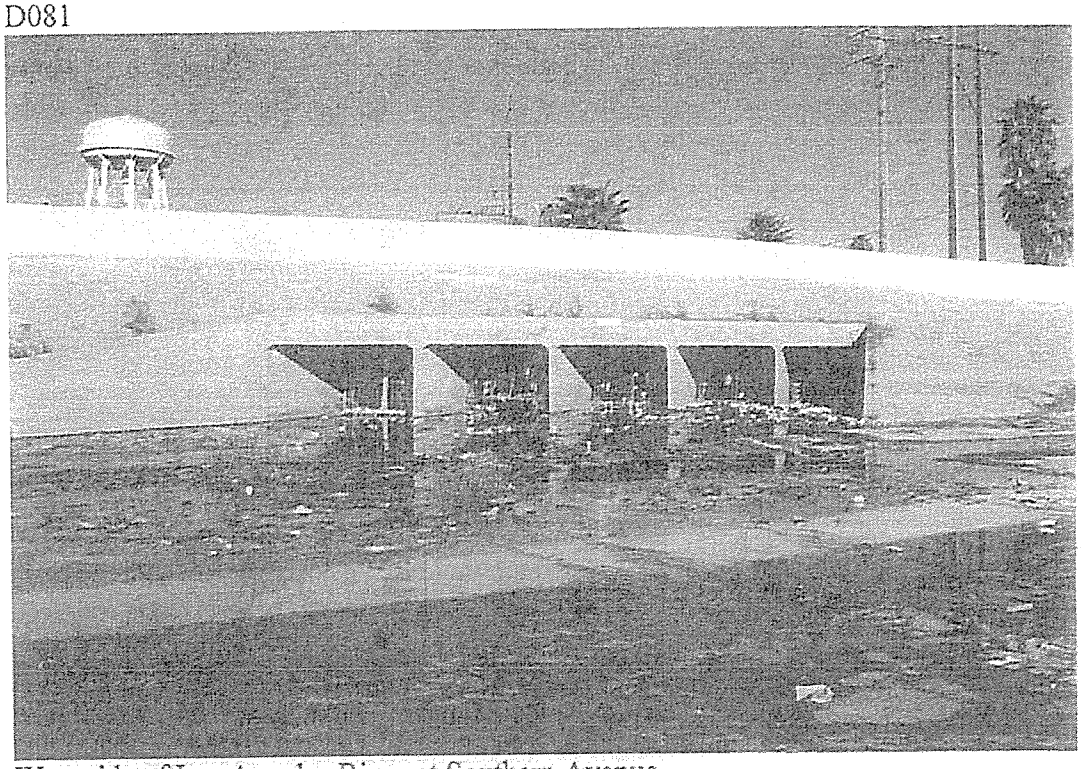
East side of Los Angeles River, north of Atlantic Boulevard in the City of Vernon, Station DDI 26

D066



East side of Los Angeles River, south of Imperial Highway

D081



West side of Los Angeles River at Southern Avenue

D082



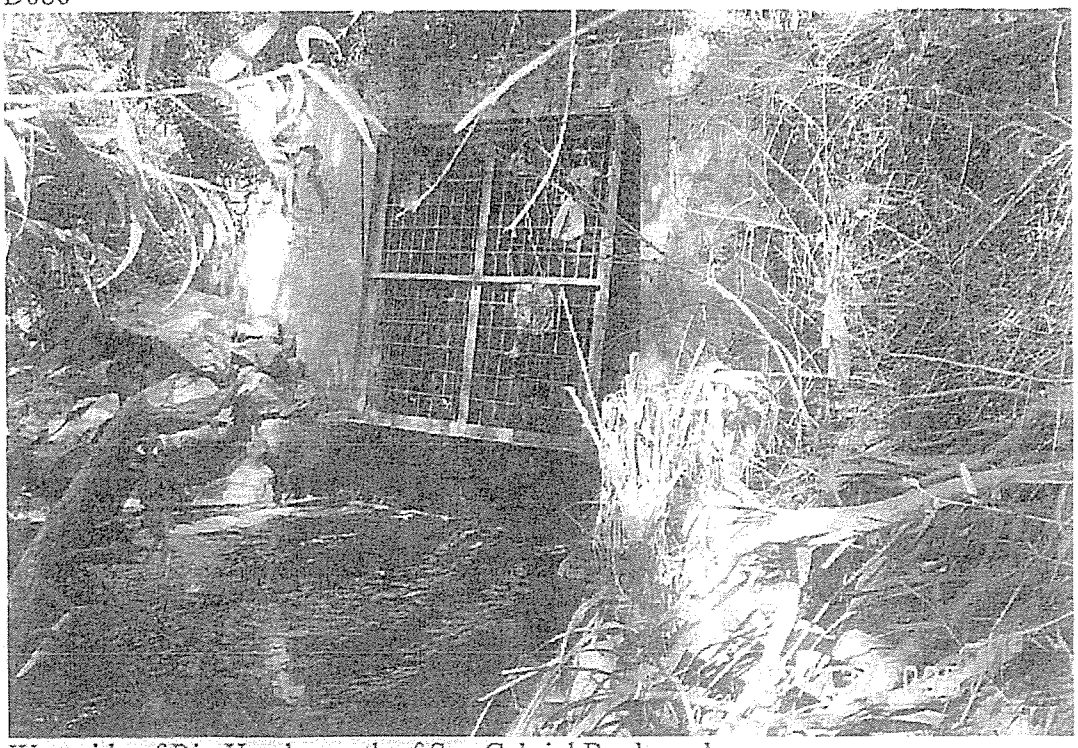
East side of Los Angeles River, downstream of Firestone Boulevard and upstream of railroad crossing

D079



East side of Rio Hondo at Rush Street

D080



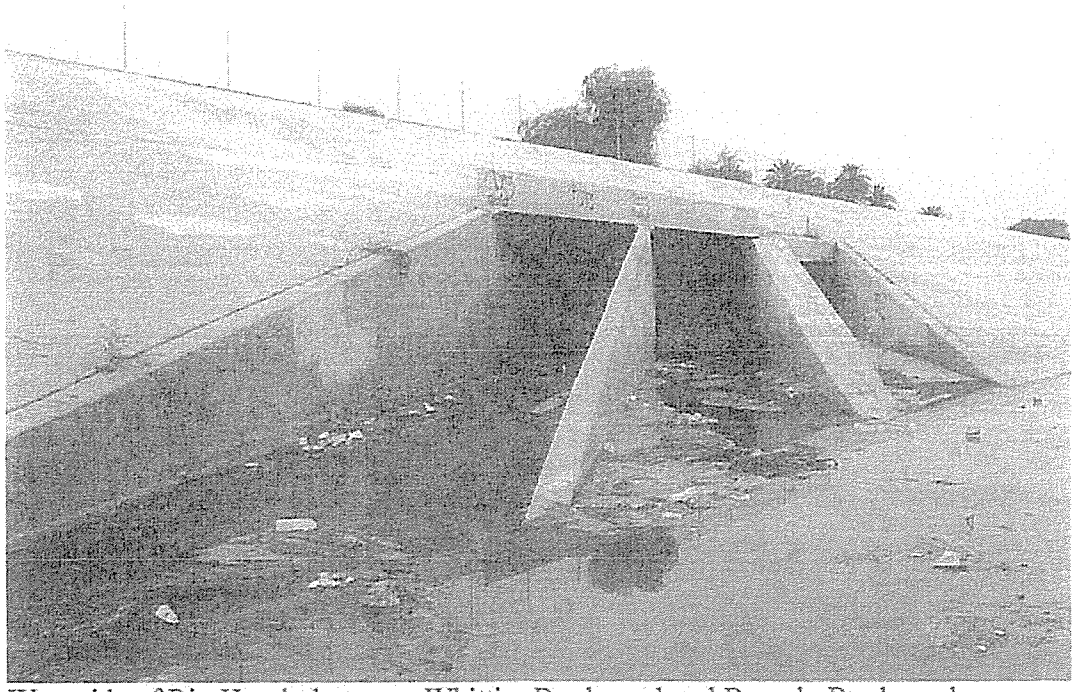
West side of Rio Hondo, north of San Gabriel Boulevard

D083



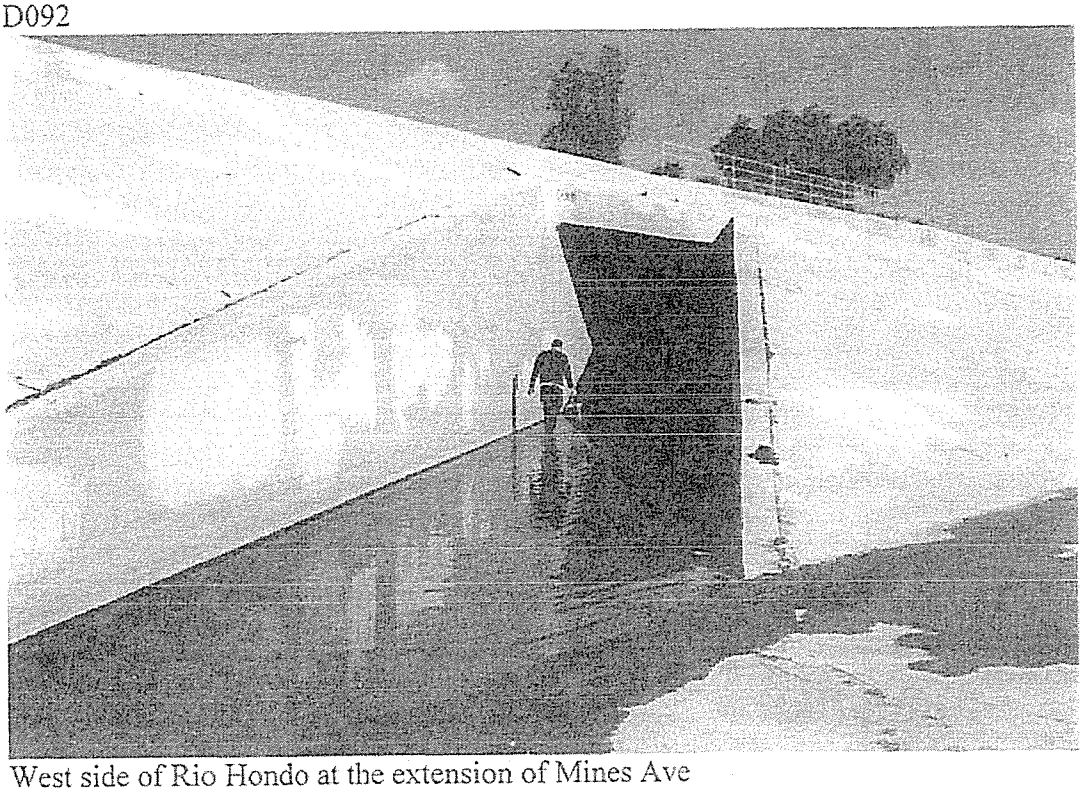
West side of Rio Hondo at Ford Park Golf Course, Station N7+98

D086



West side of Rio Hondo between Whittier Boulevard and Beverly Boulevard

D092



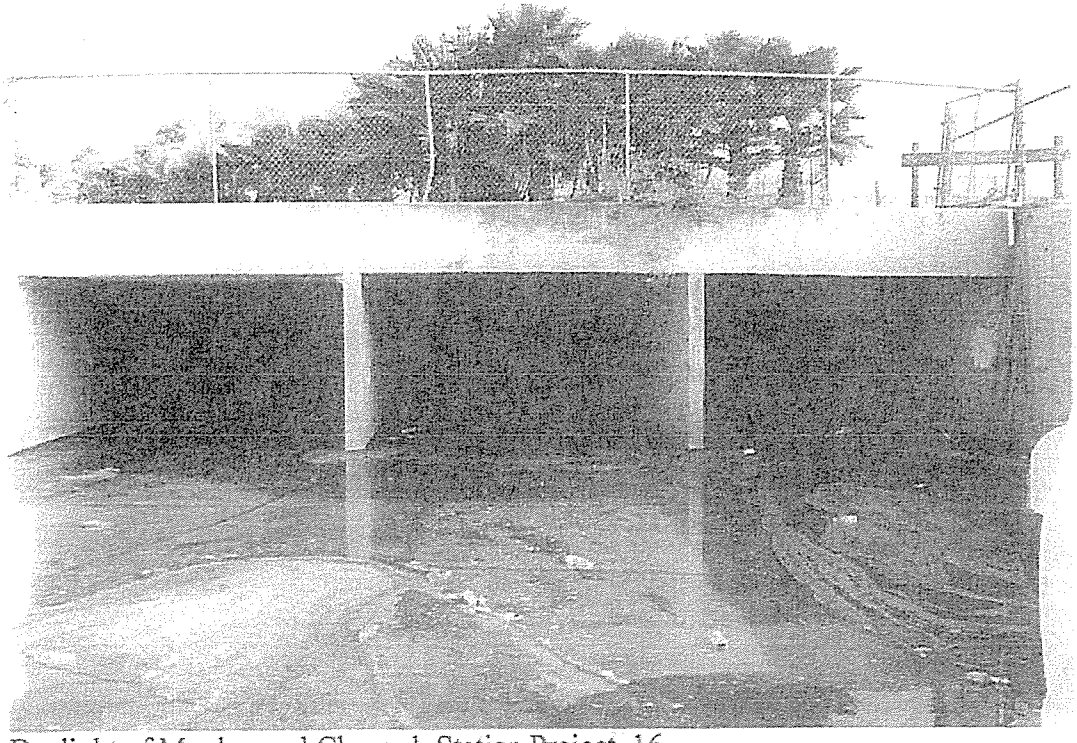
West side of Rio Hondo at the extension of Mines Ave

D069



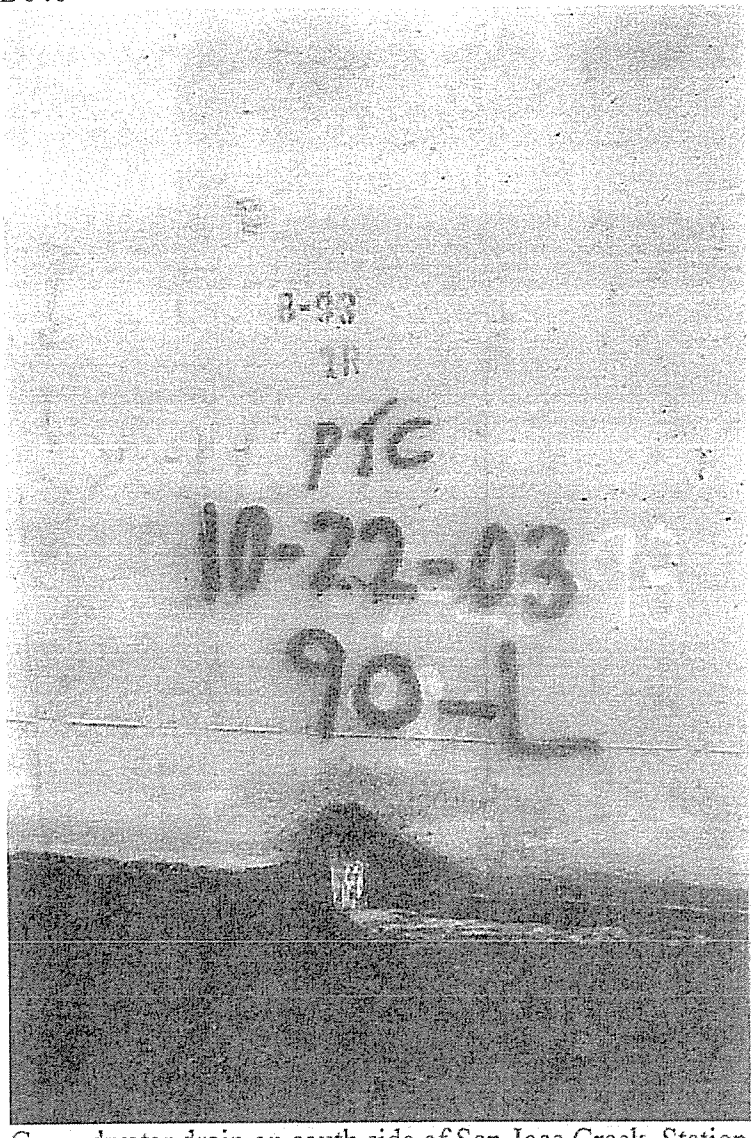
East side of San Gabriel River, south of South Street, Station 462+77

D076



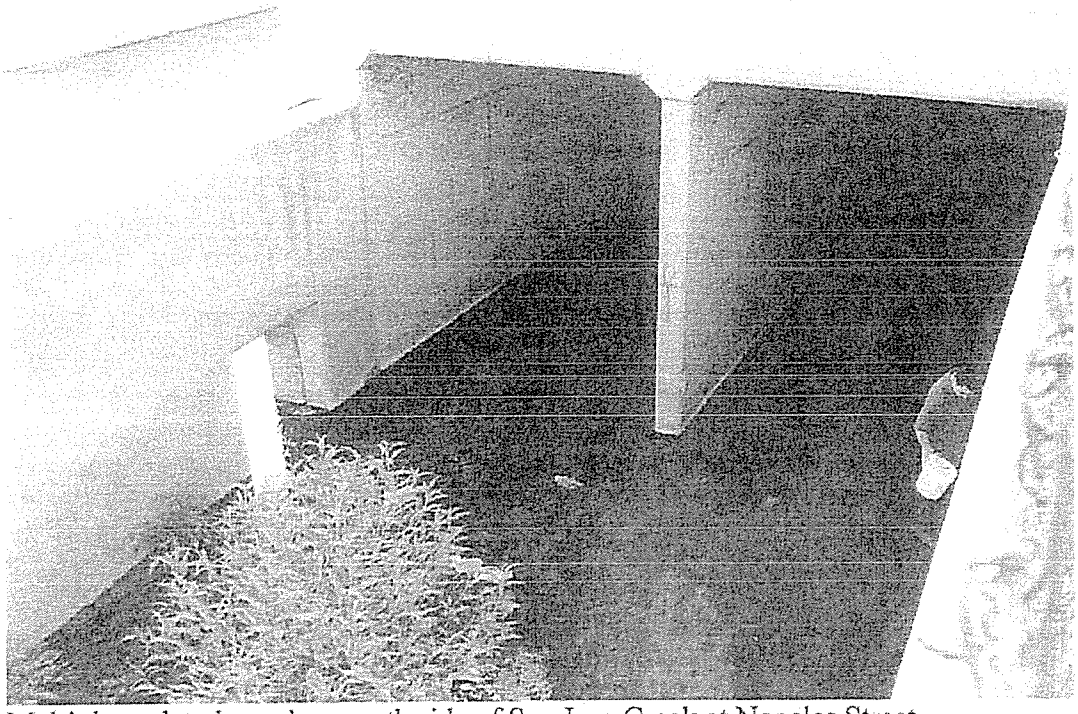
Daylight of Maplewood Channel, Station Project. 16

D040



Groundwater drain on south side of San Jose Creek, Station 556+00

D041



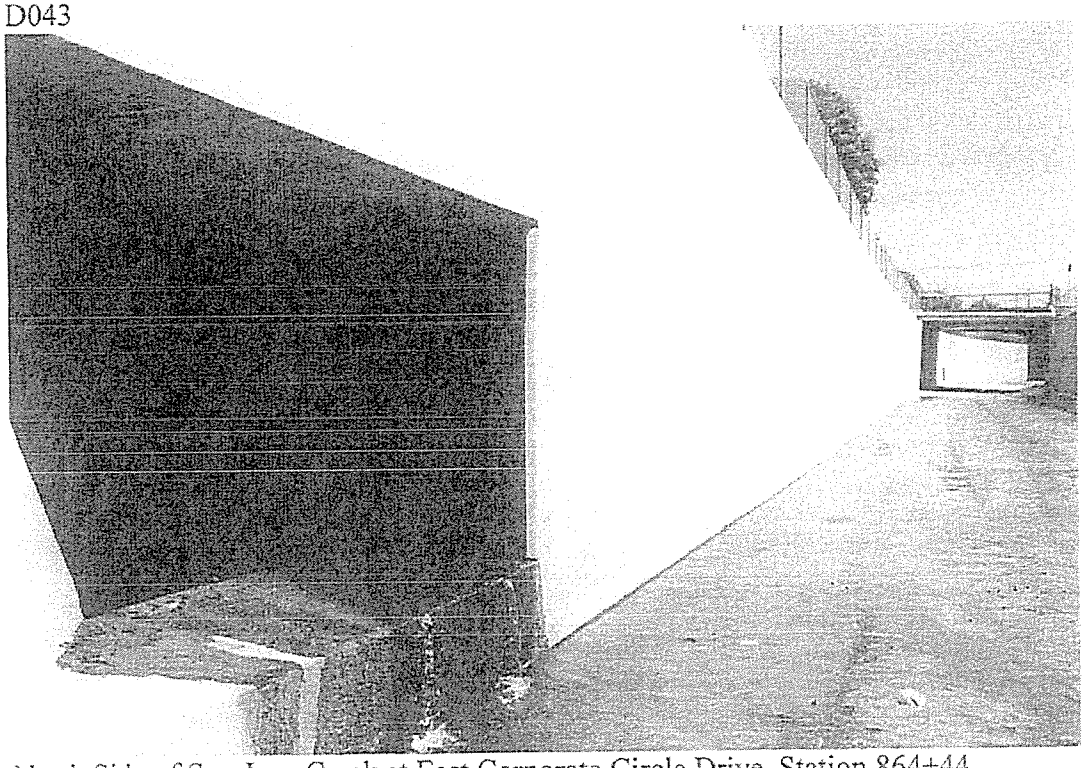
Multiple outlet channel on south side of San Jose Creek at Nogales Street

D042



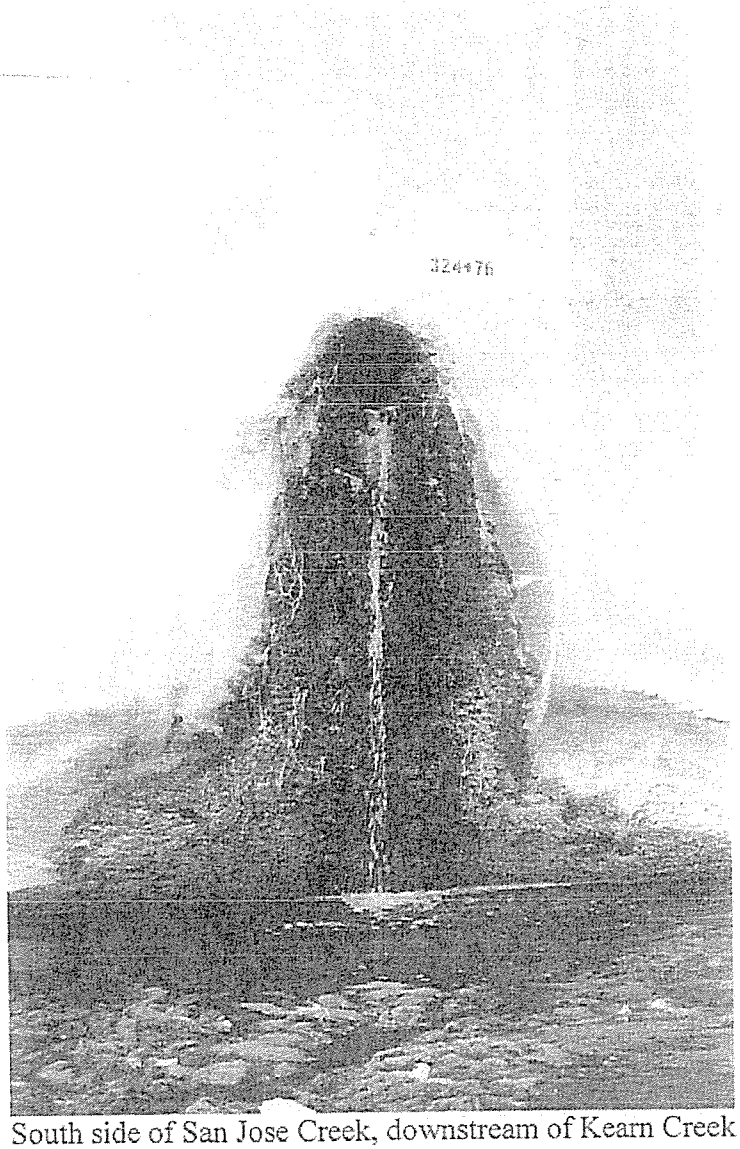
East side of San Jose Creek at White Avenue and Preciado Street, Station 988+84

D043



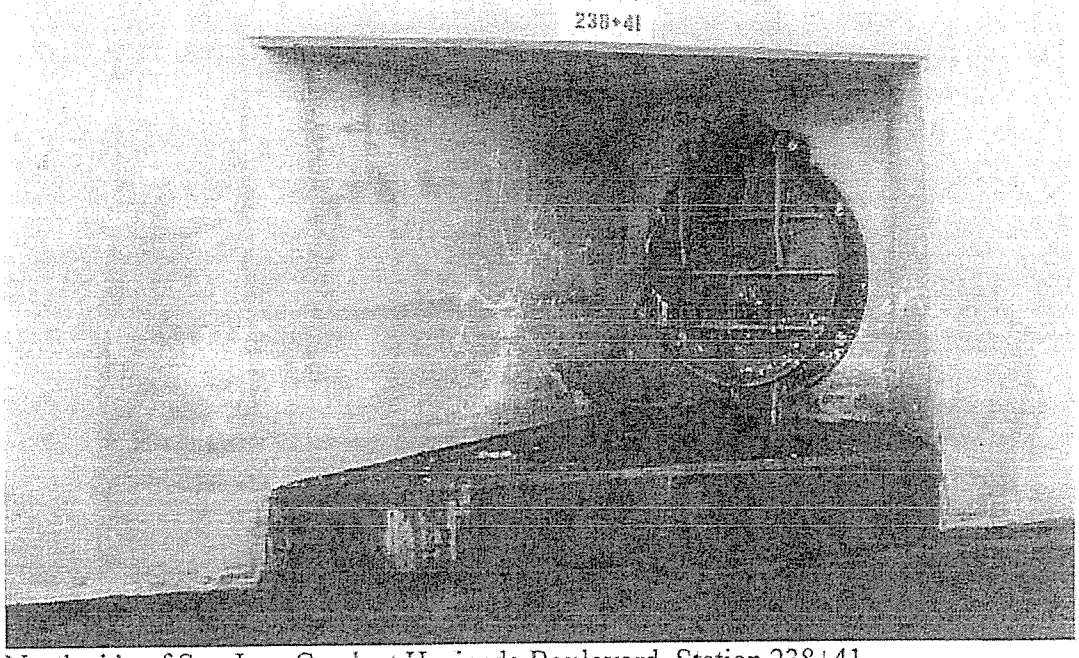
North Side of San Jose Creek at East Corporate Circle Drive, Station 864+44

D044



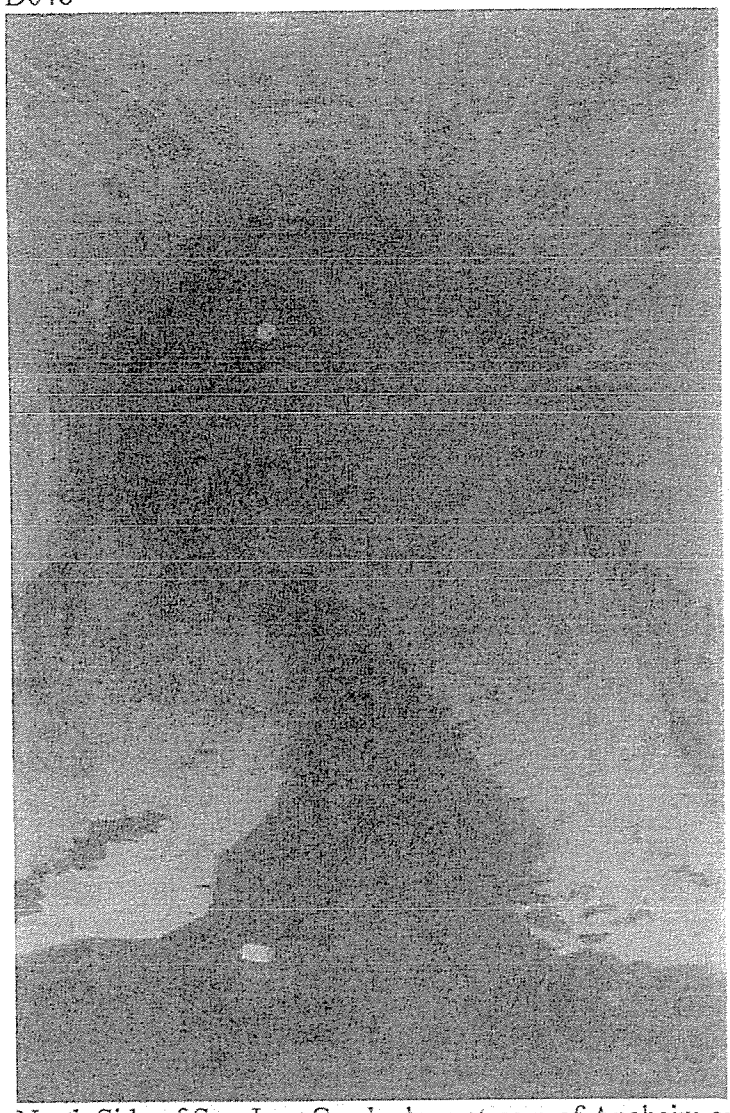
South side of San Jose Creek, downstream of Kearn Creek Court, Station 324+76

D045



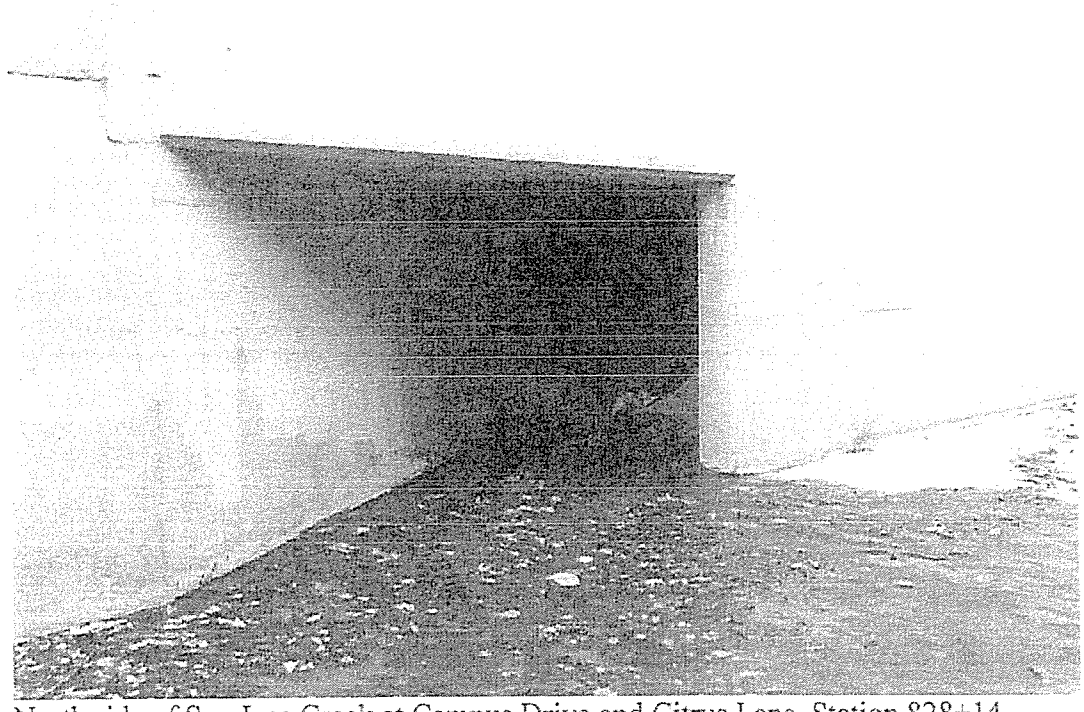
North side of San Jose Creek at Hacienda Boulevard, Station 238+41

D046



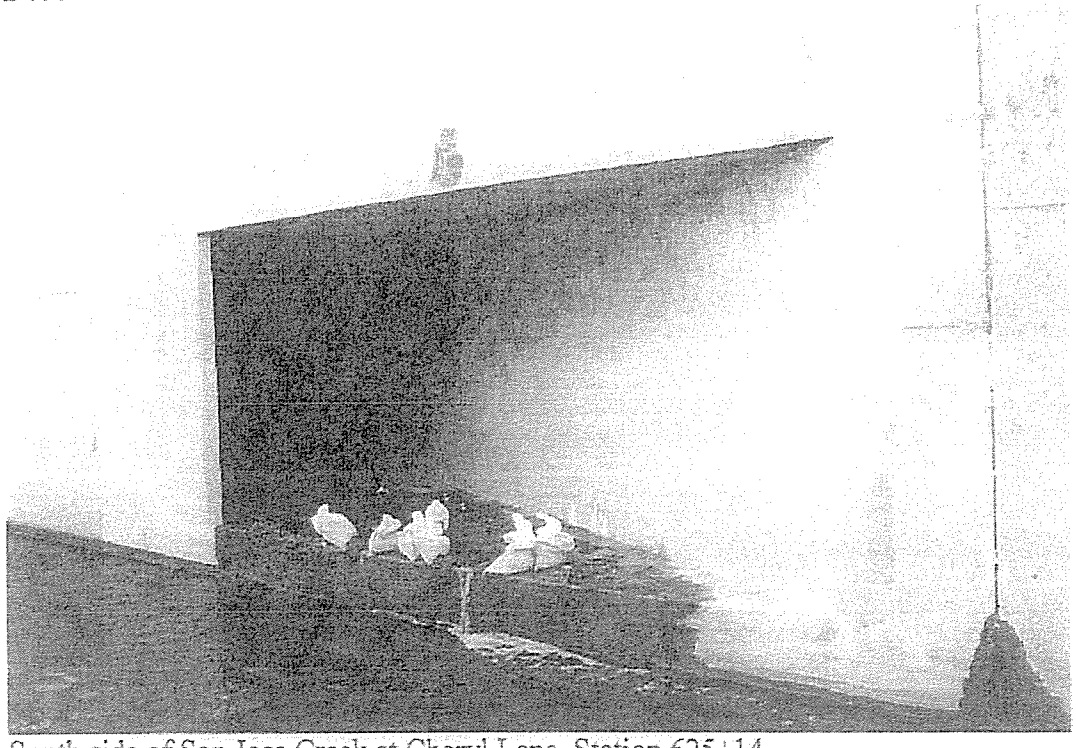
North Side of San Jose Creek, downstream of Anaheim and Puente Road, Station 335+18

D054



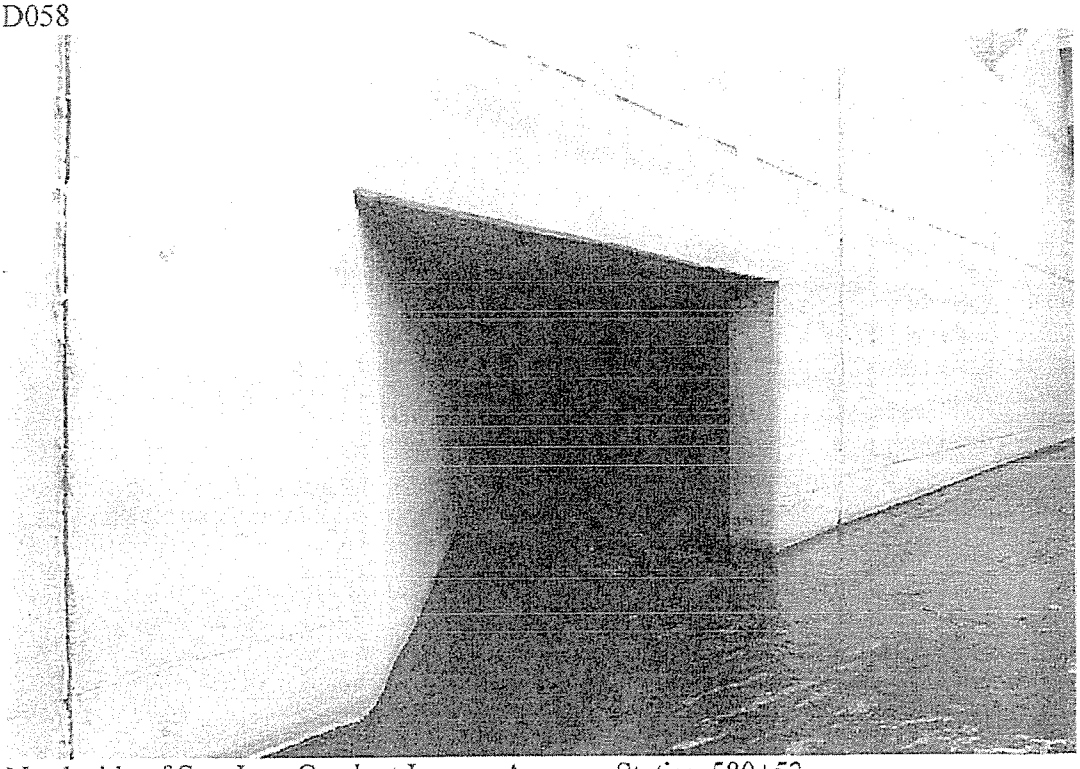
North side of San Jose Creek at Campus Drive and Citrus Lane, Station 828+14

D055



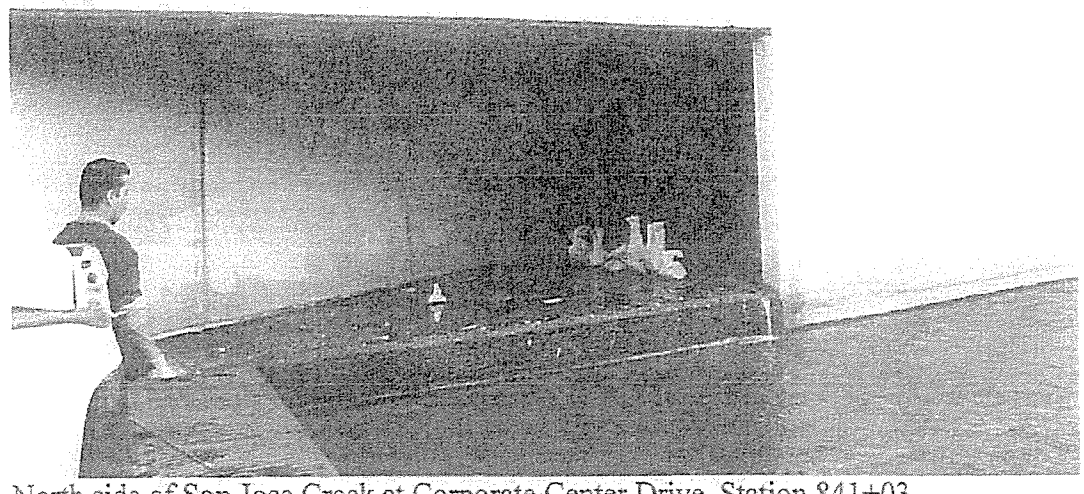
South side of San Jose Creek at Cheryl Lane, Station 625+14

D058



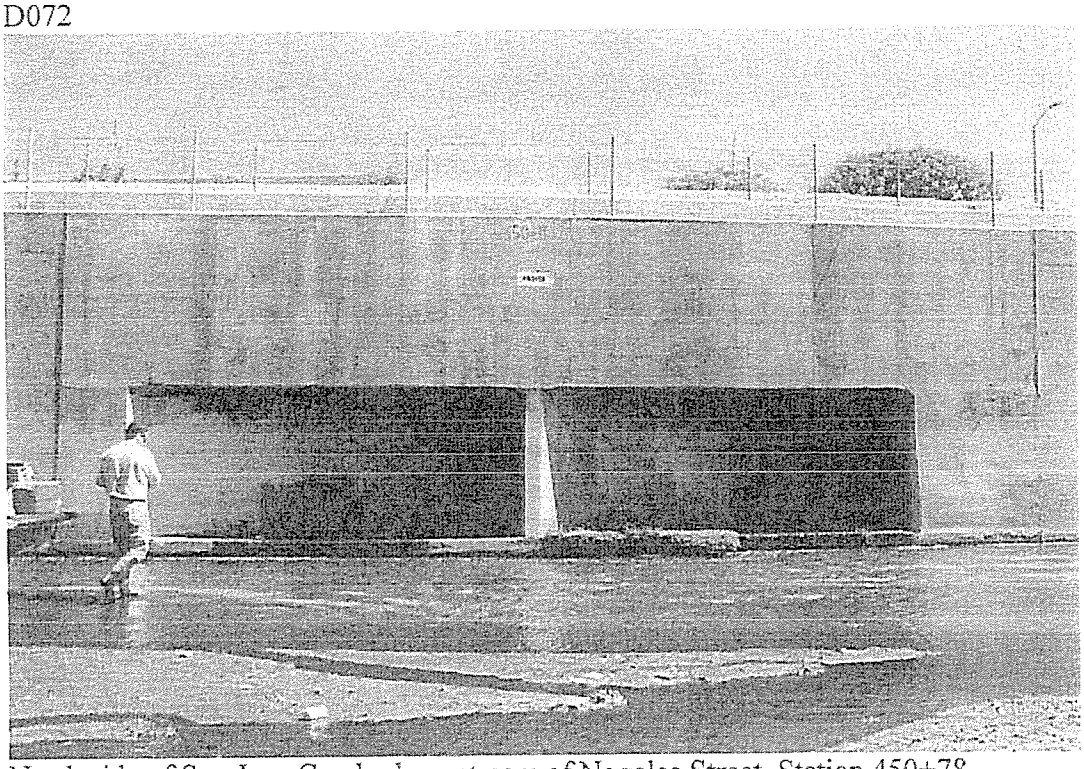
North side of San Jose Creek at Lemon Avenue, Station 580+53

D061



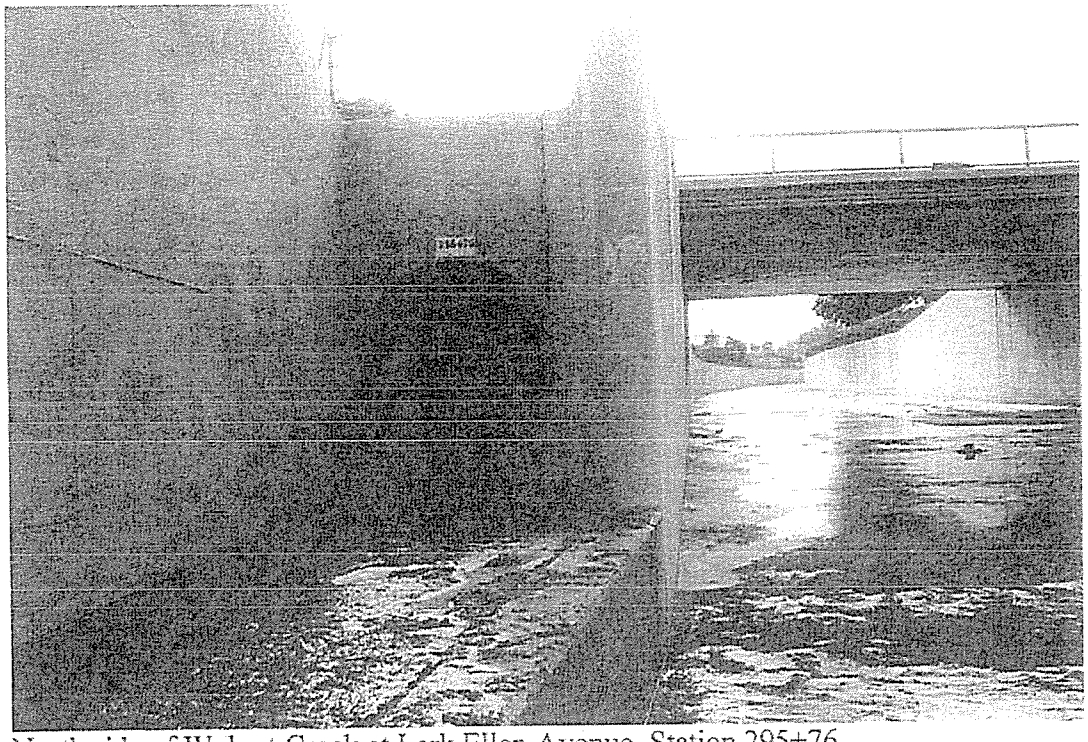
North side of San Jose Creek at Corporate Center Drive, Station 841+03

D072



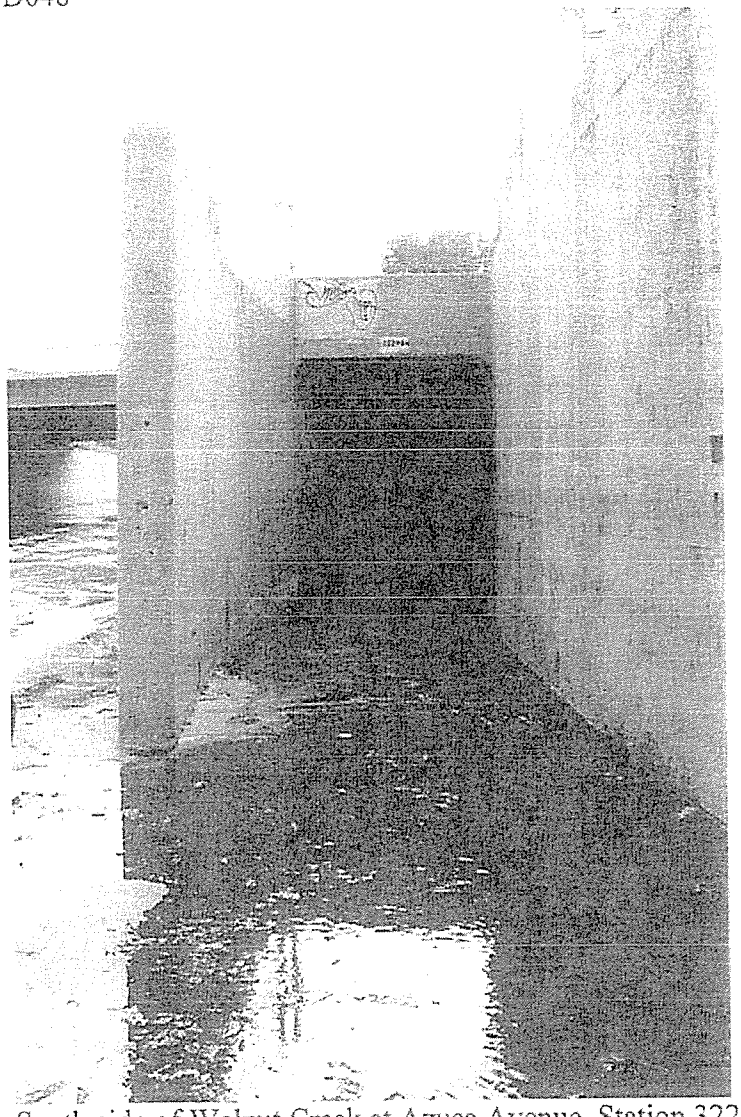
North side of San Jose Creek, downstream of Nogales Street, Station 450+78

D047



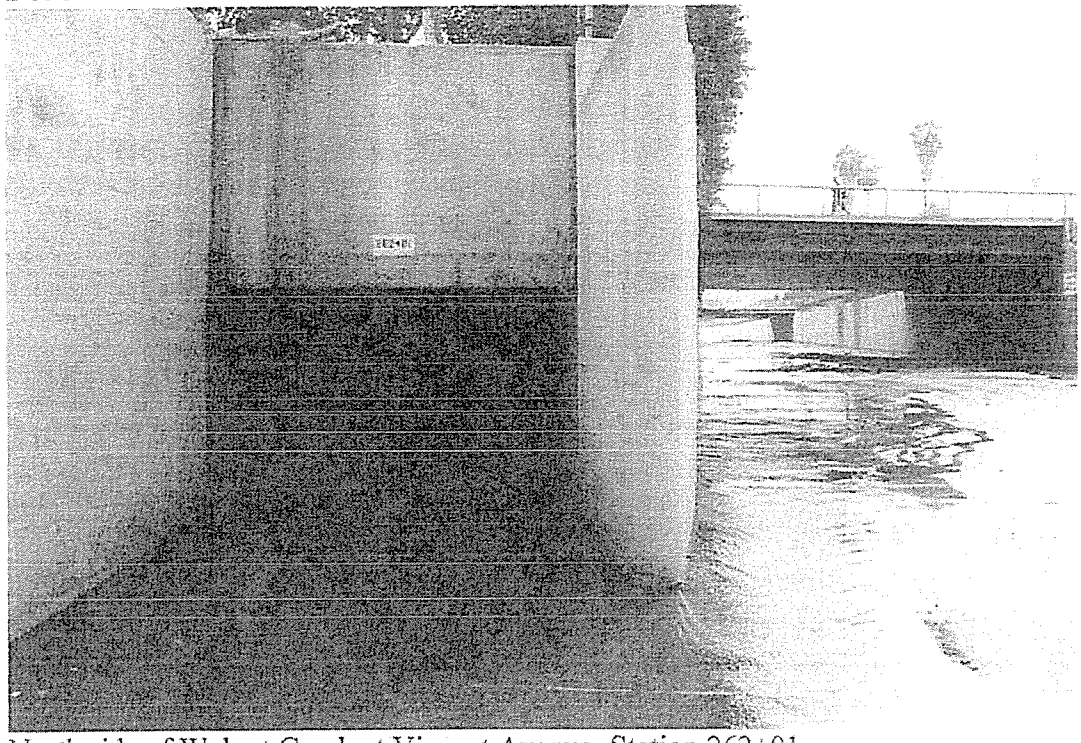
North side of Walnut Creek at Lark Ellen Avenue, Station 295+76

D048



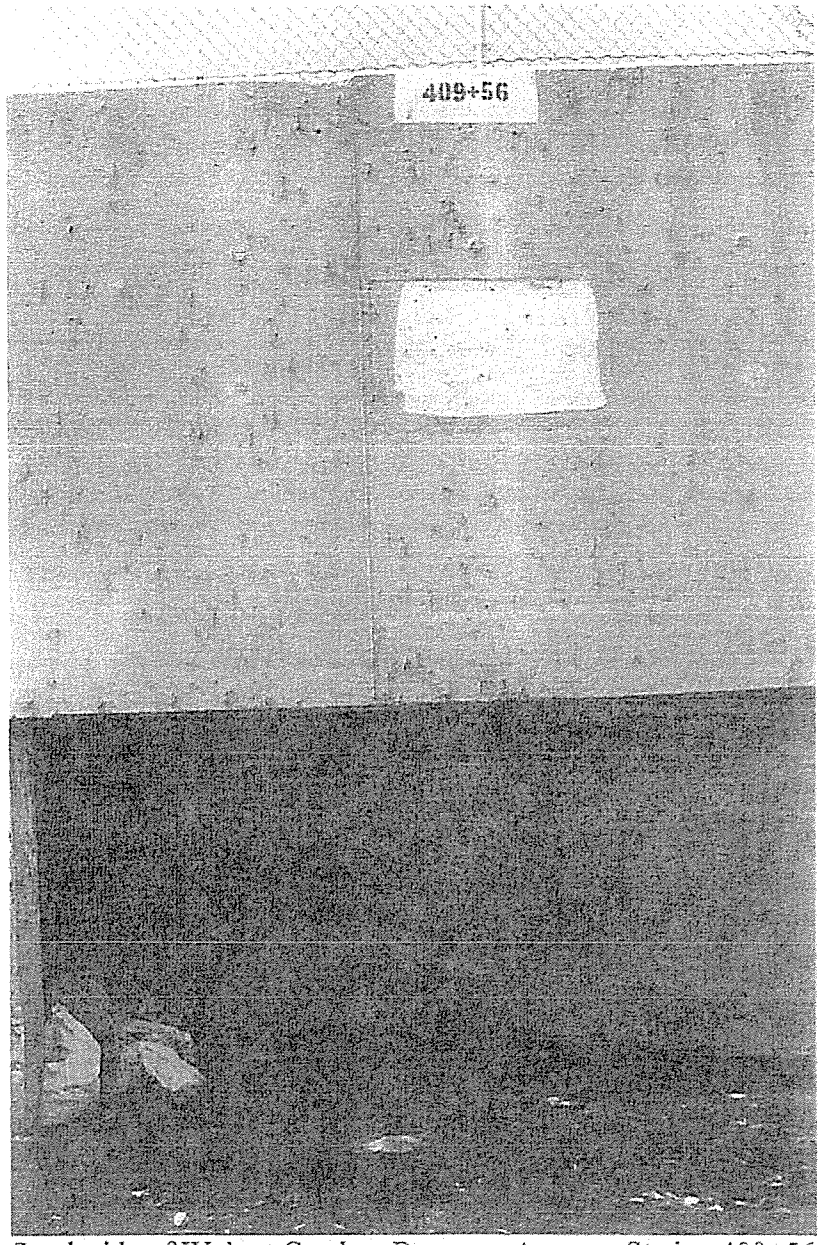
South side of Walnut Creek at Azusa Avenue, Station 322+64

D056



North side of Walnut Creek at Vincent Avenue, Station 262+01

D057



South side of Walnut Creek at Barranca Avenue, Station 409+56

D078

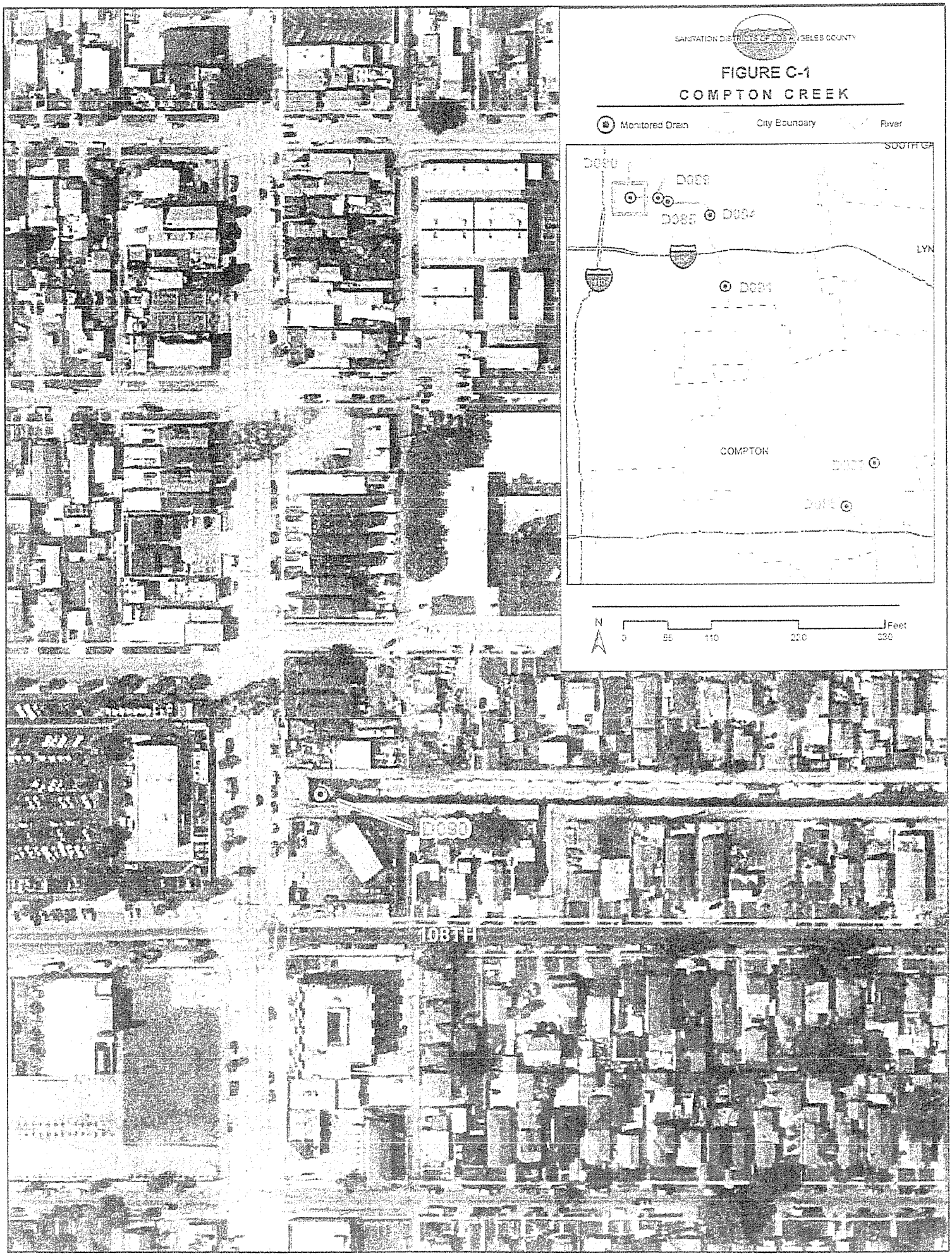


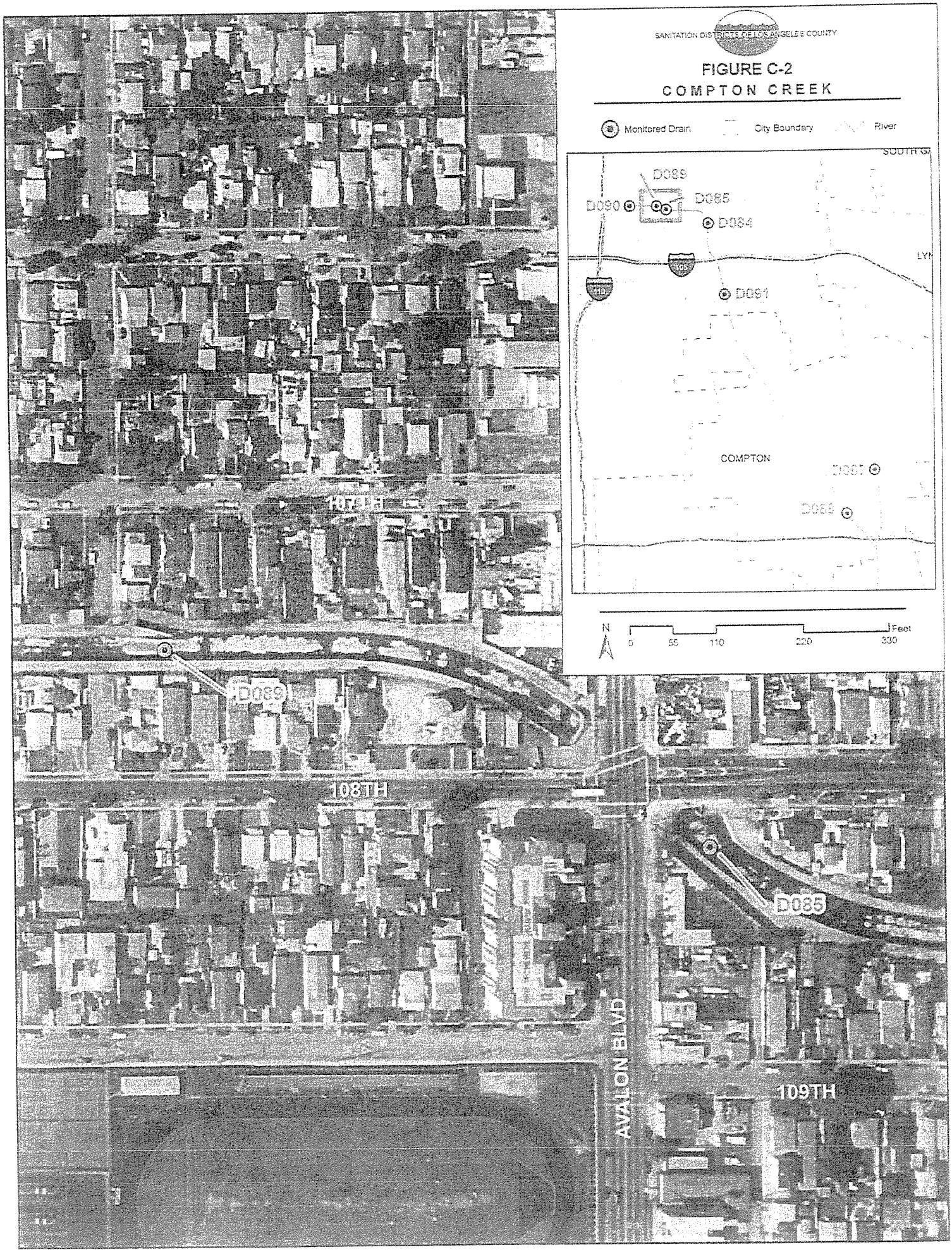
Wilmington Drain daylight at Sepulveda Boulevard

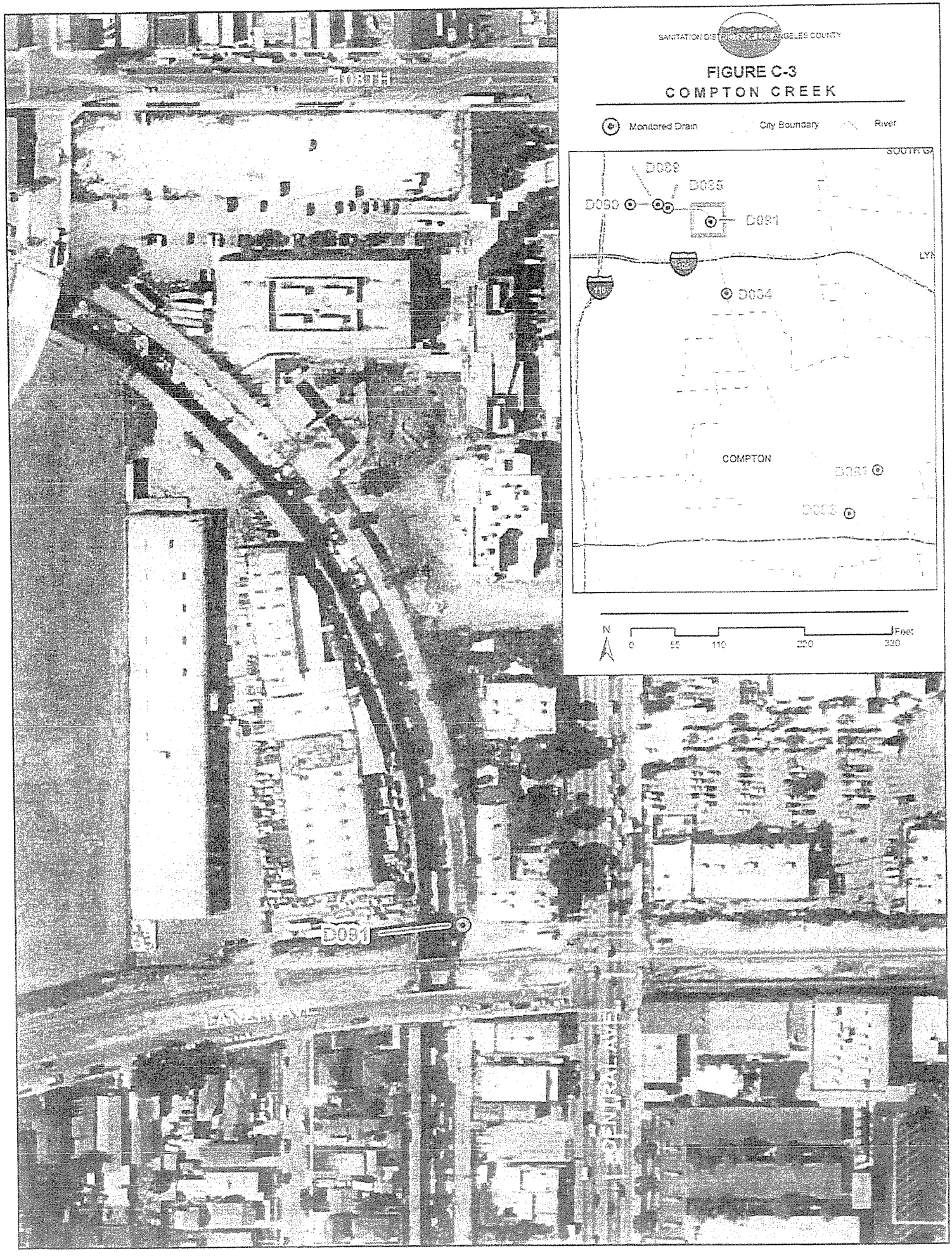
NS2

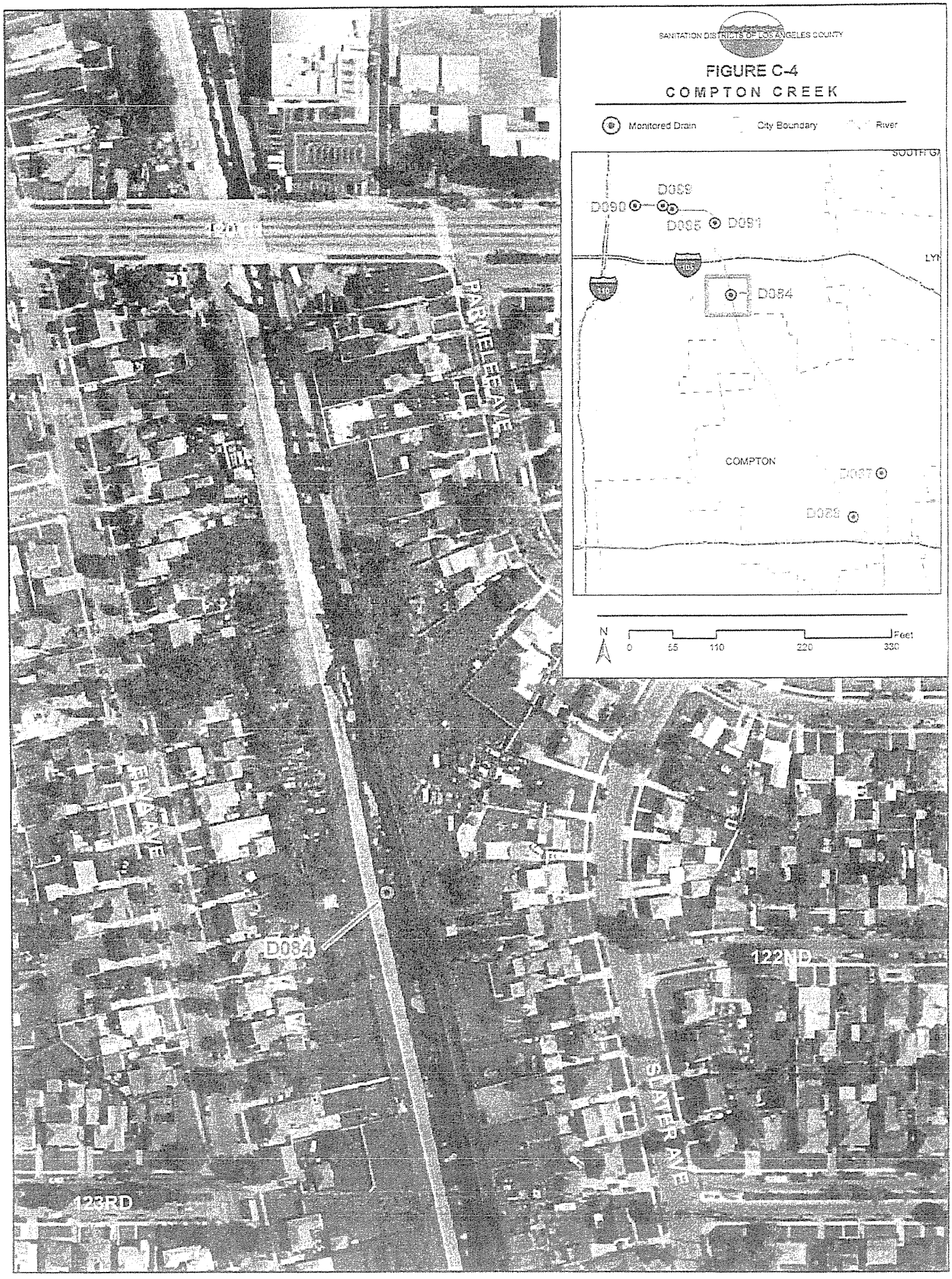
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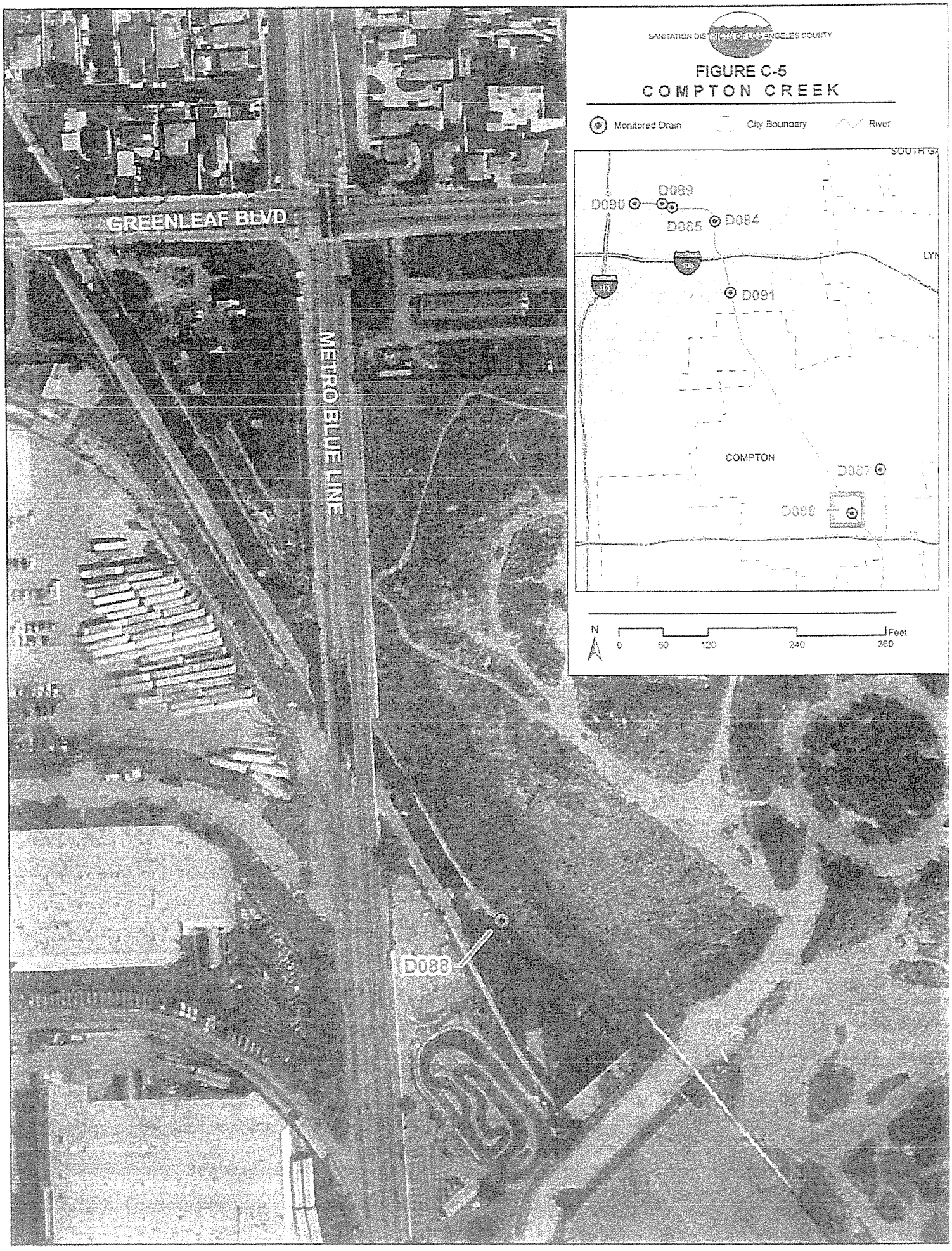
West side of Wilmington Drain at Lomita Boulevard

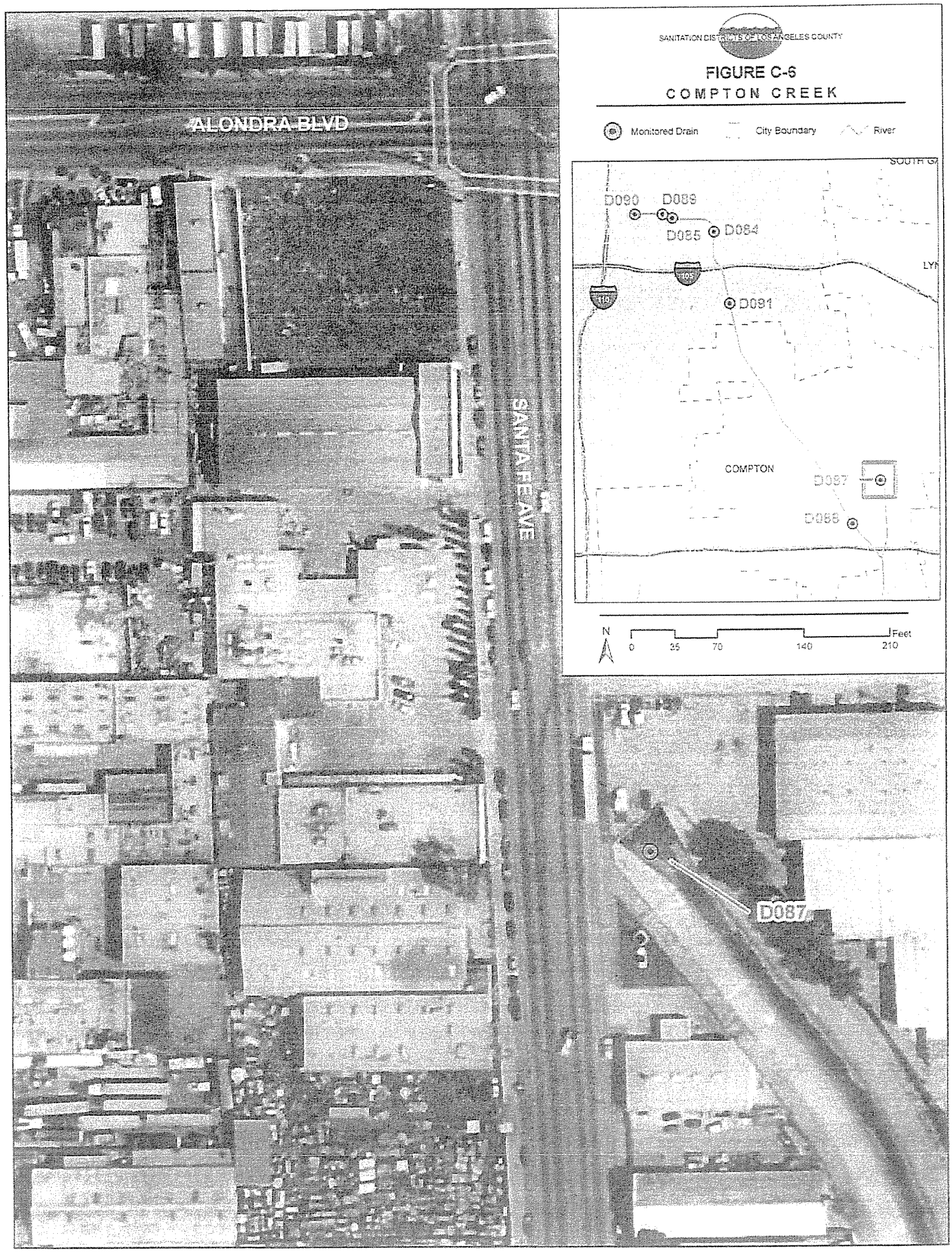

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-1
COMPTON CREEK
Monitored Drain
City Boundary
River
D080
D083
D084
D085
LYN
COMPTON
N
0
55
110
220
330
Feet
D080
108TH

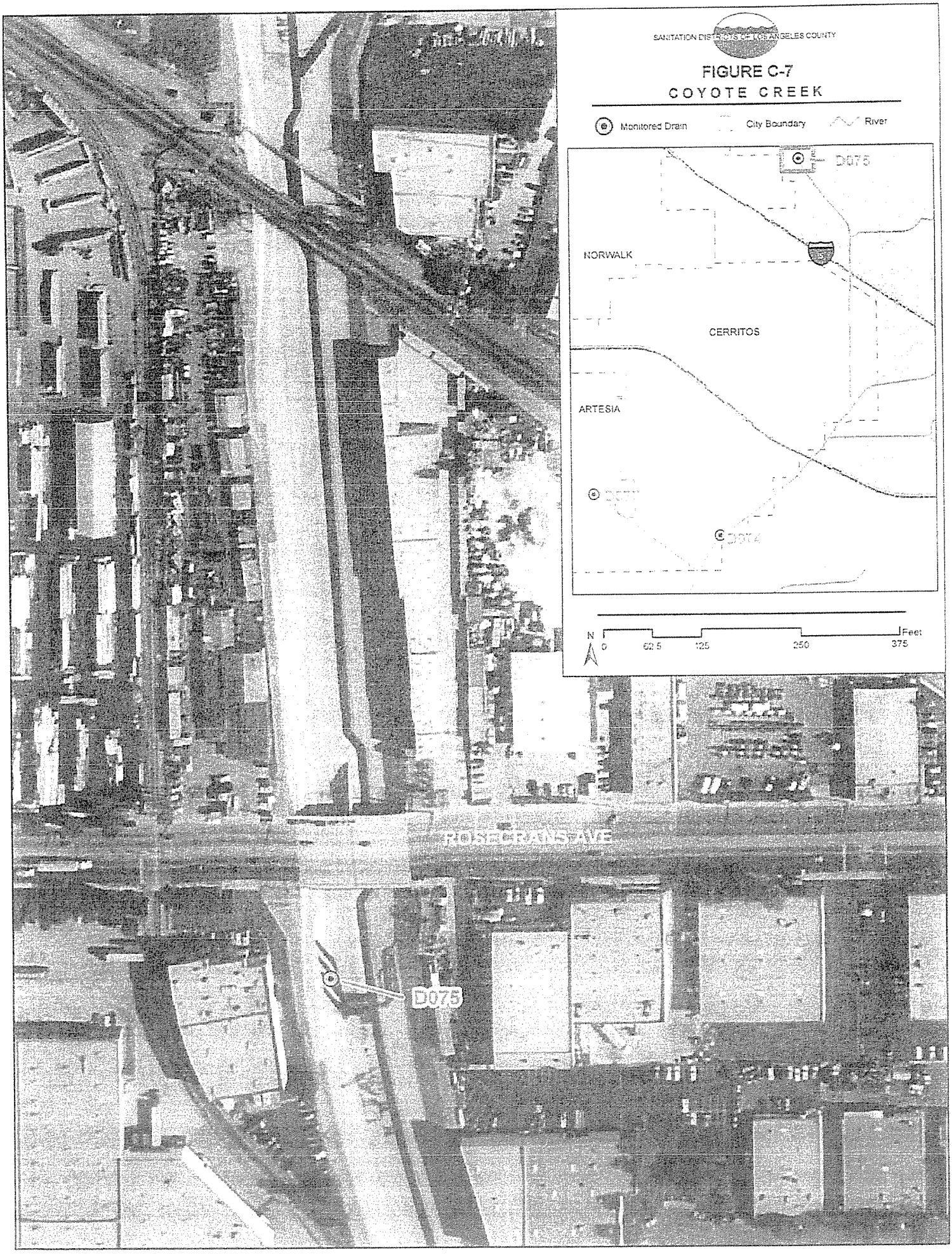

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-2
COMPTON CREEK
Monitored Drain
City Boundary
River
D089
D090
D085
D084
D091
D087
D086
COMPTON
N
0
55
110
220
330
Feet
107TH
D089
108TH
D085
AVALON BLVD
109TH

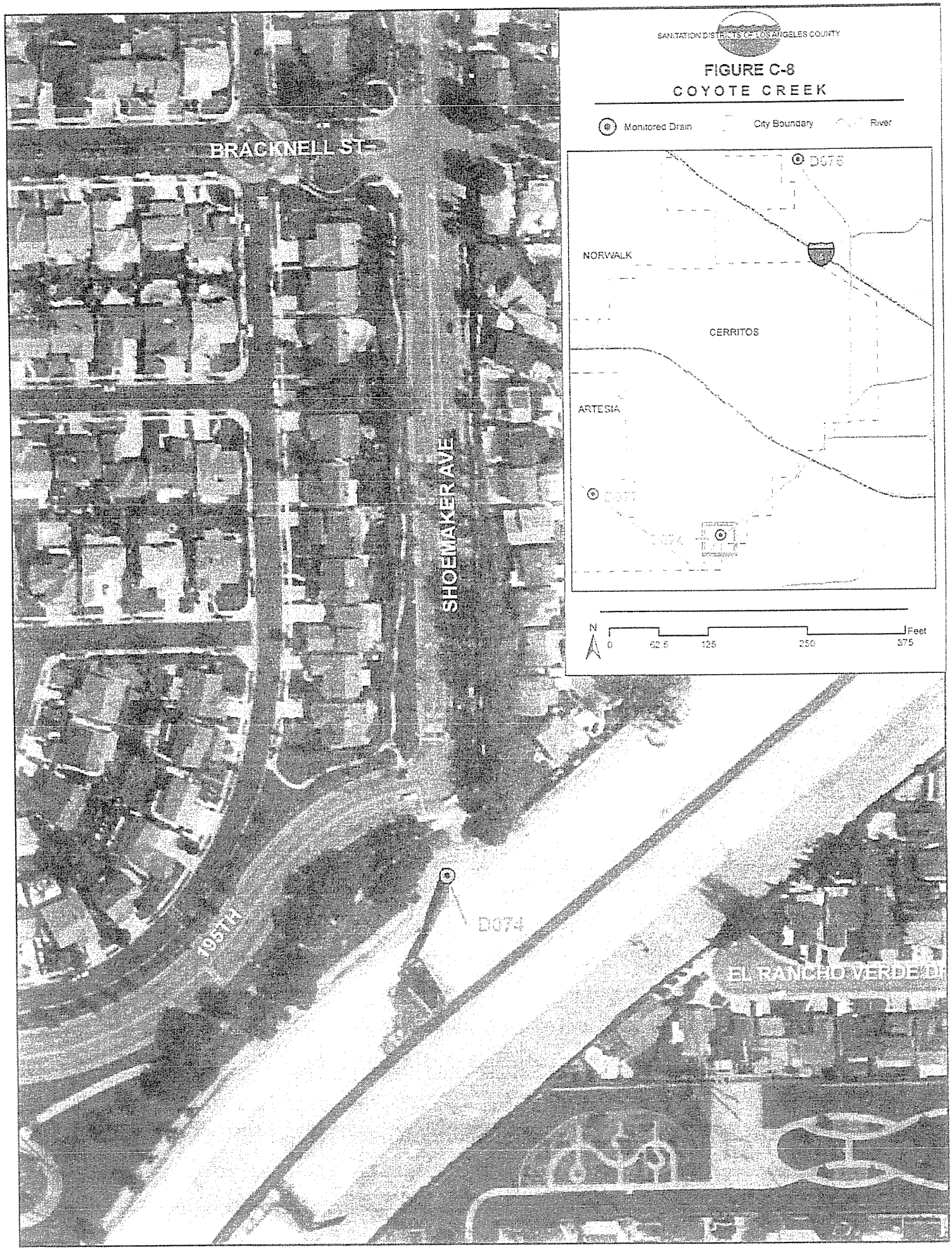

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-3
COMPTON CREEK
Monitored Drain
City Boundary
River
D089
D088
D090
D091
D094
COMPTON
N
0
55
110
220
330
Feet
D091

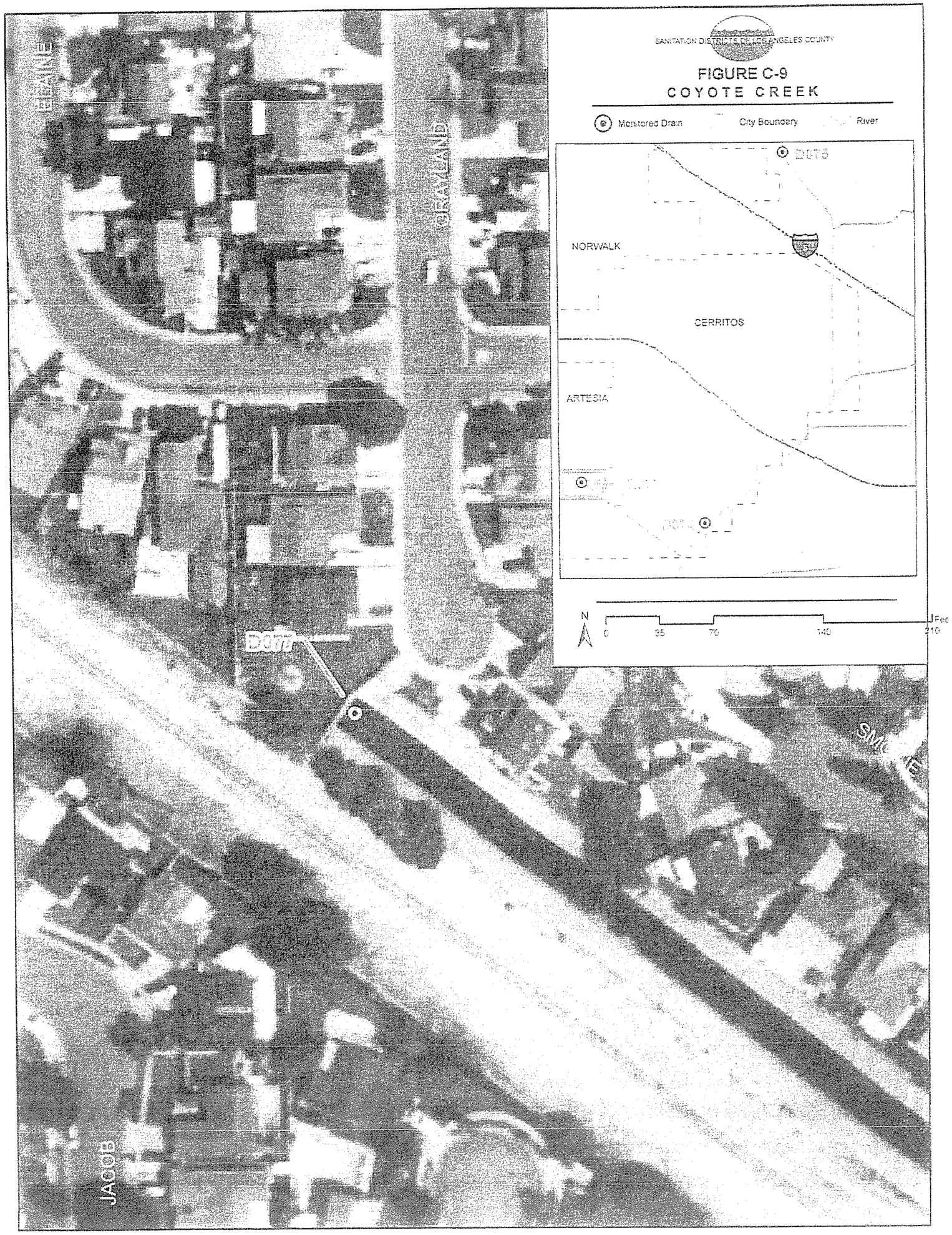

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-4
COMPTON CREEK
Monitored Drain
City Boundary
River
D089
D090
D088
D091
D084
COMPTON
D087
D085
N
0
55
110
220
330
Feet
PARMELEE AVE
D084
122ND
123RD
SANTA FE AVE

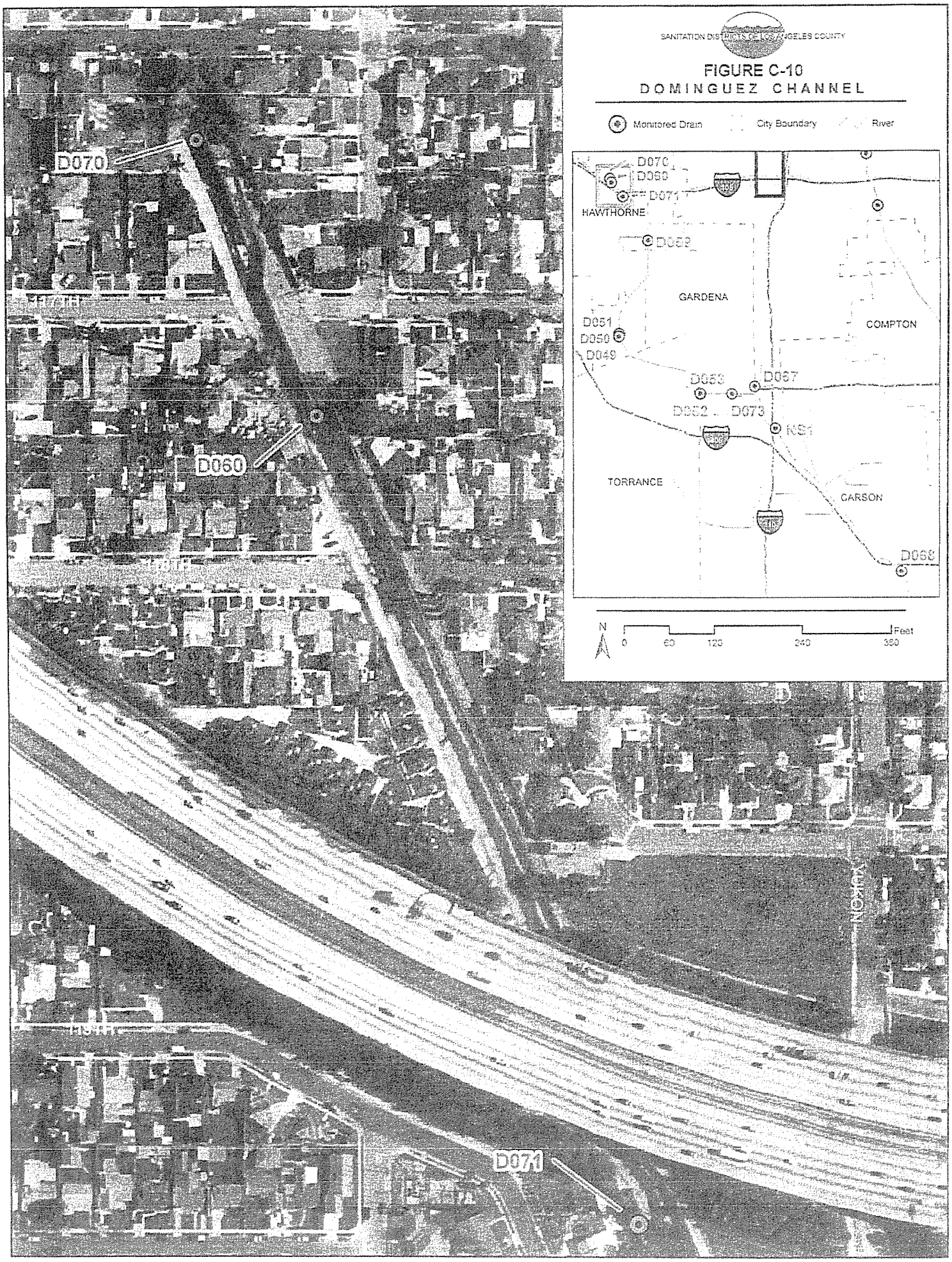

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-5
COMPTON CREEK
Monitored Drain
City Boundary
River
GREENLEAF BLVD
METRO BLUE LINE
D088
D089
D090
D085
D084
D091
D087
D086
COMPTON
LYN
N
0
60
120
240
360
Feet


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-6
COMPTON CREEK
Monitored Drain
City Boundary
River
D090
D089
D085
D084
D091
D087
D086
COMPTON
N
0
35
70
140
210
Feet
ALONDRA BLVD
SANTA FE AVE
D087


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-7
COYOTE CREEK
Monitored Drain
City Boundary
River
D075
NORWALK
CERRITOS
ARTESIA
N
0
62.5
125
250
375
Feet
D075


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-8
COYOTE CREEK
Monitored Drain
City Boundary
River
D076
NORWALK
CERRITOS
ARTESIA
D077
D074
N
0
62.5
125
250
375
Feet
BRACKNELL ST
SHOEMAKER AVE
105TH
D074
EL RANCHO VERDE DR


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-9
COYOTE CREEK
Monitored Drain
City Boundary
River
D07S
NORWALK
CERRITOS
ARTESIA
D07T
N
0
35
70
140
210
Feet
BLAINE
GRAYLAND
JACOB
SW

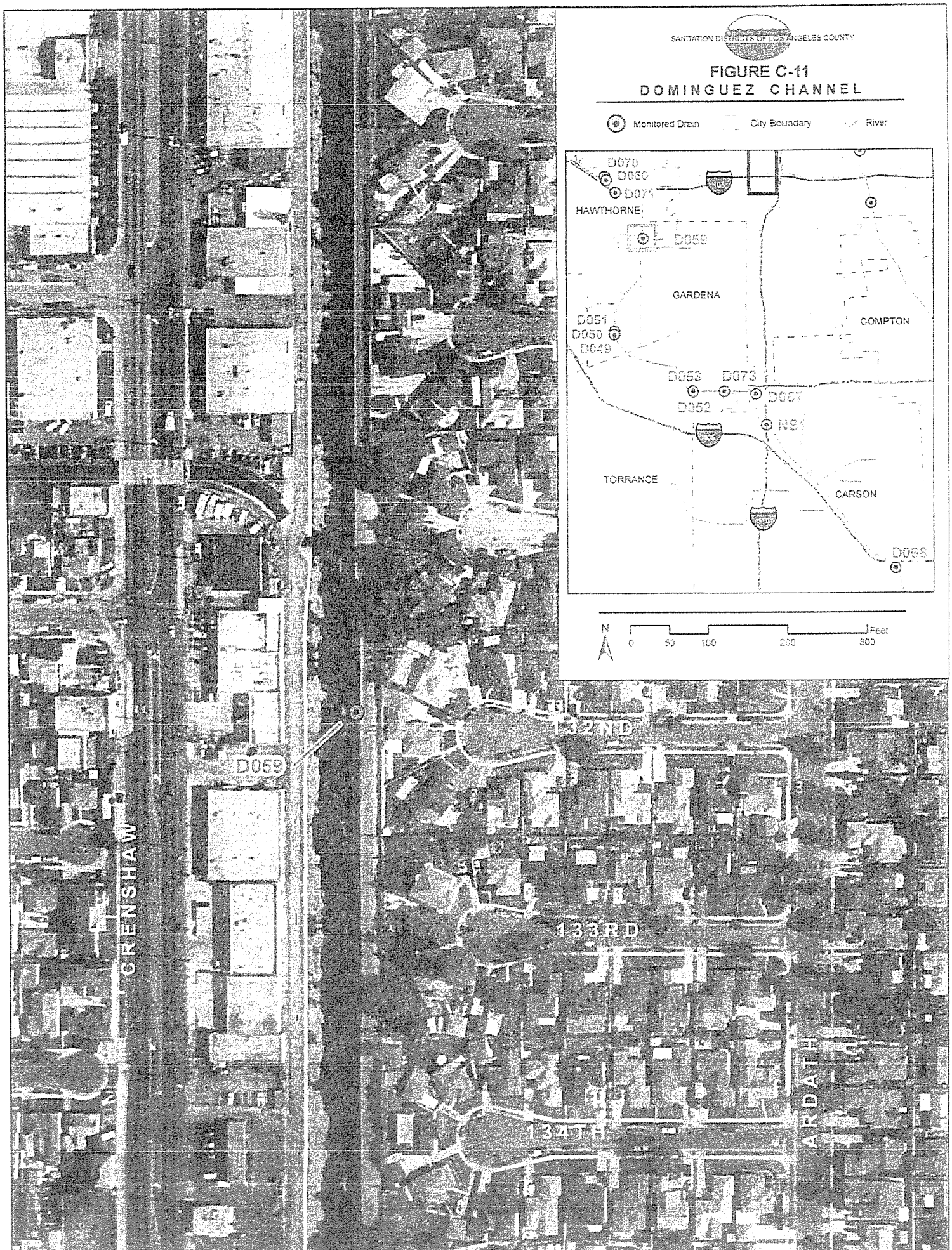


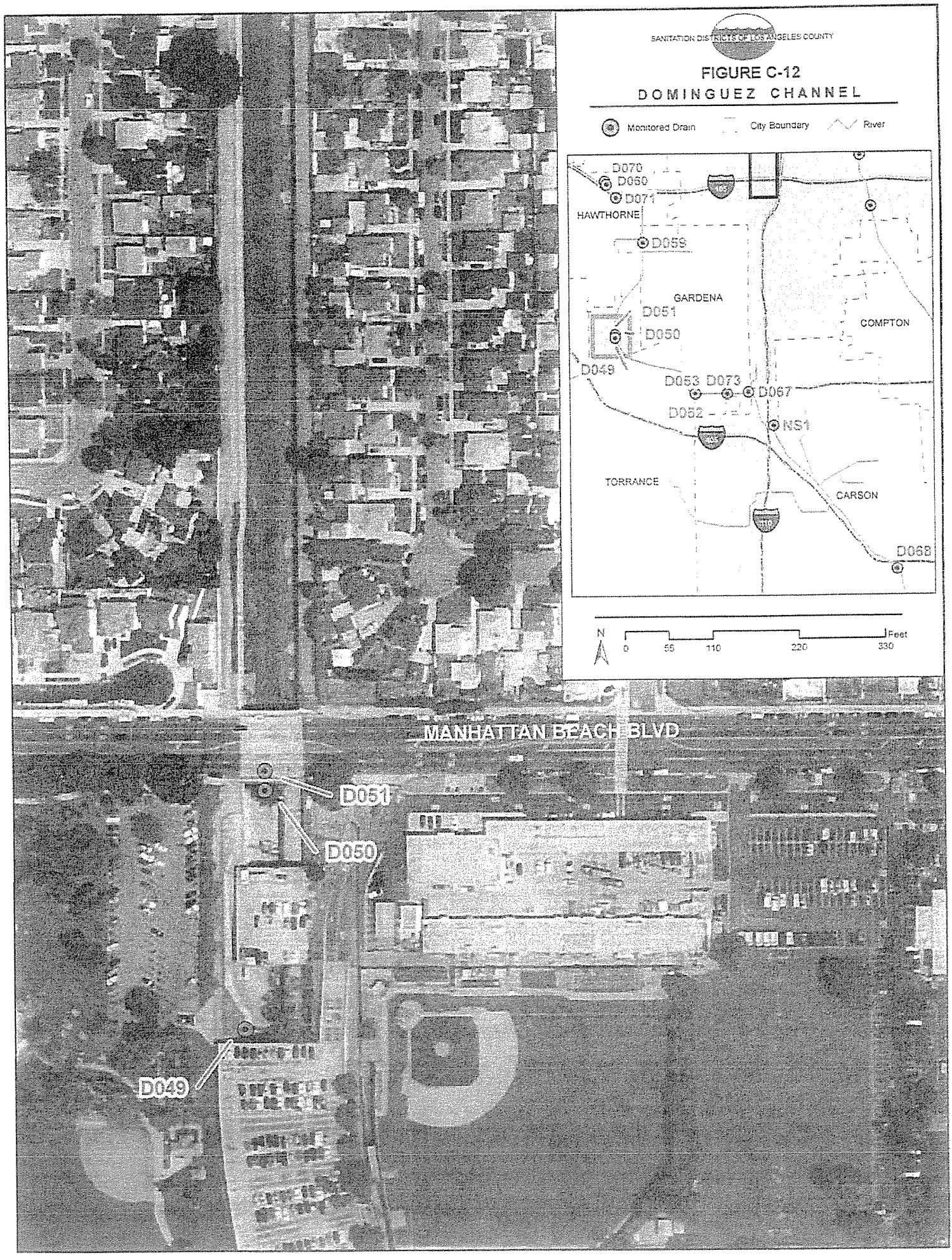
SANITATION DISTRICTS OF LOS ANGELES COUNTY

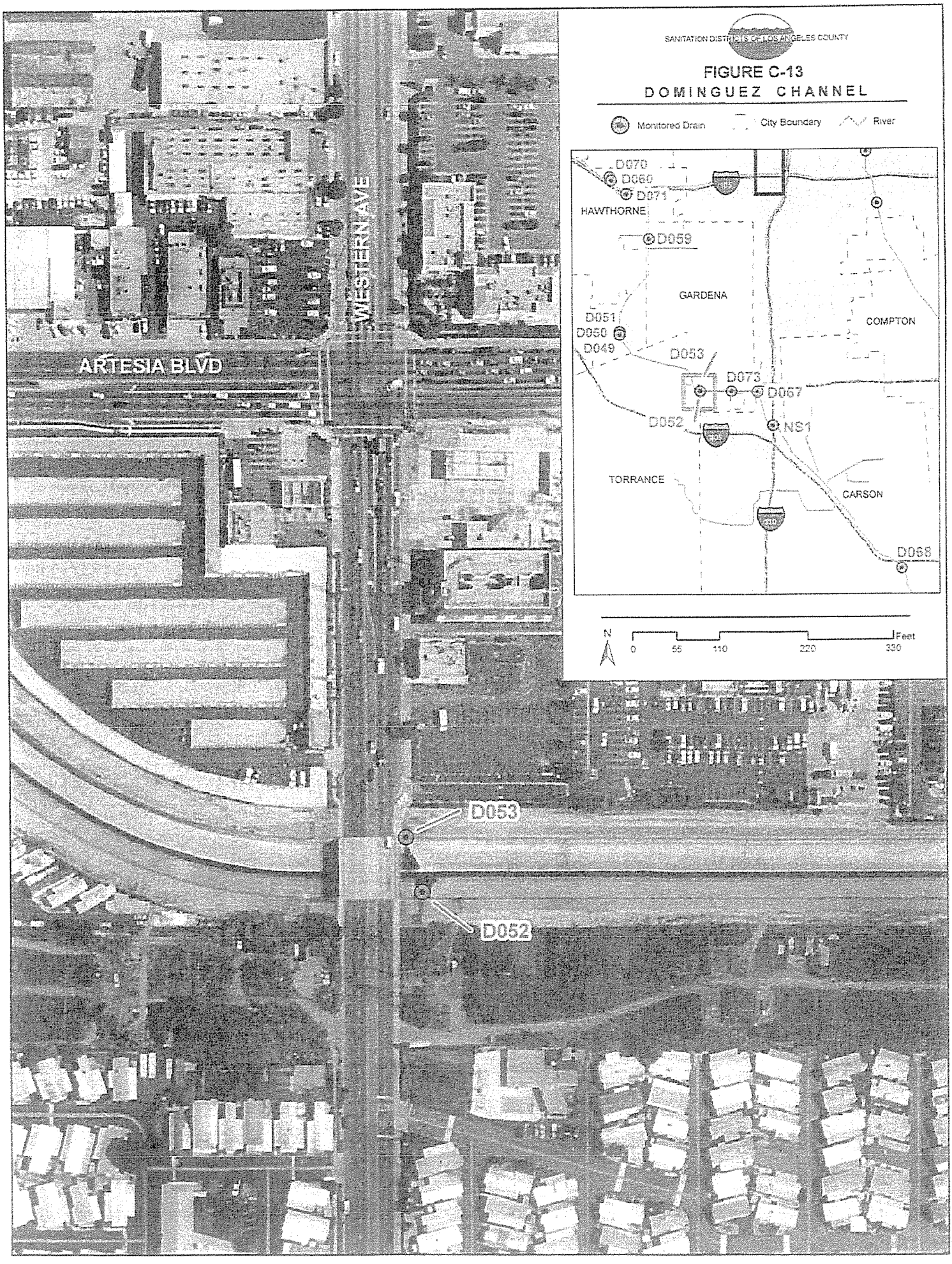
FIGURE C-10
DOMINGUEZ CHANNEL

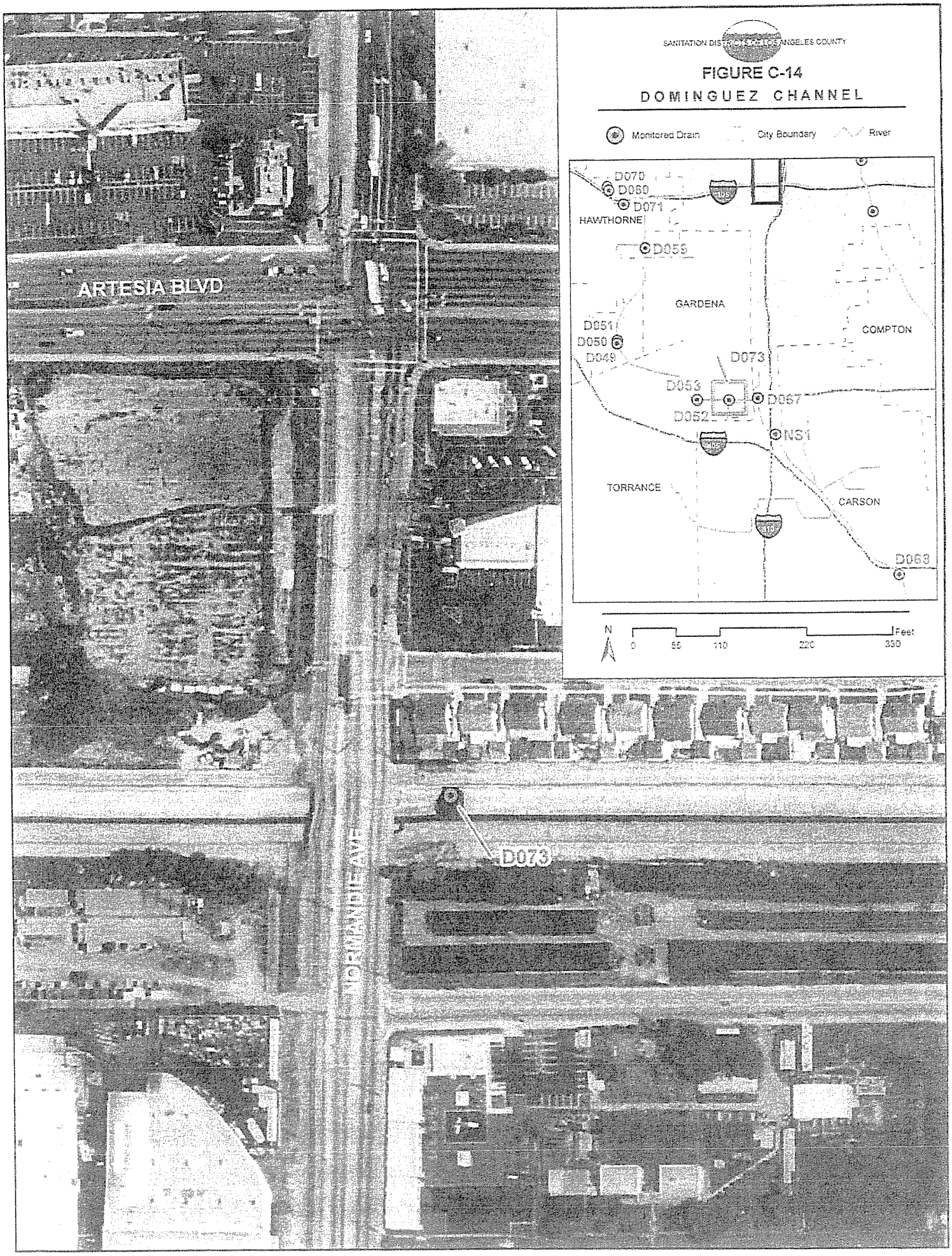
Monitored Drain City Boundary River

N 0 60 120 240 360 Feet


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-11
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D080
D071
HAWTHORNE
D059
GARDENA
COMPTON
D051
D050
D049
D053
D073
D057
D052
NS1
TORRANCE
CARSON
D055
N
0
50
100
200
300
Feet
D059
GRENSHAW
132ND
133RD
134TH
ARDATH


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-12
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D060
D071
HAWTHORNE
D059
GARDENA
D051
D050
D049
COMPTON
D053
D073
D067
D052
NS1
TORRANCE
CARSON
D068
N
0
55
110
220
330
Feet
MANHATTAN BEACH BLVD
D051
D050
D049


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-13
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D060
D071
HAWTHORNE
D059
GARDENA
COMPTON
D051
D050
D049
D053
D073
D067
D052
NS1
TORRANCE
CARSON
D068
N
0
55
110
220
330
Feet
WESTERN AVE
ARTESIA BLVD
D053
D052



SANITATION DISTRICTS OF LOS ANGELES COUNTY

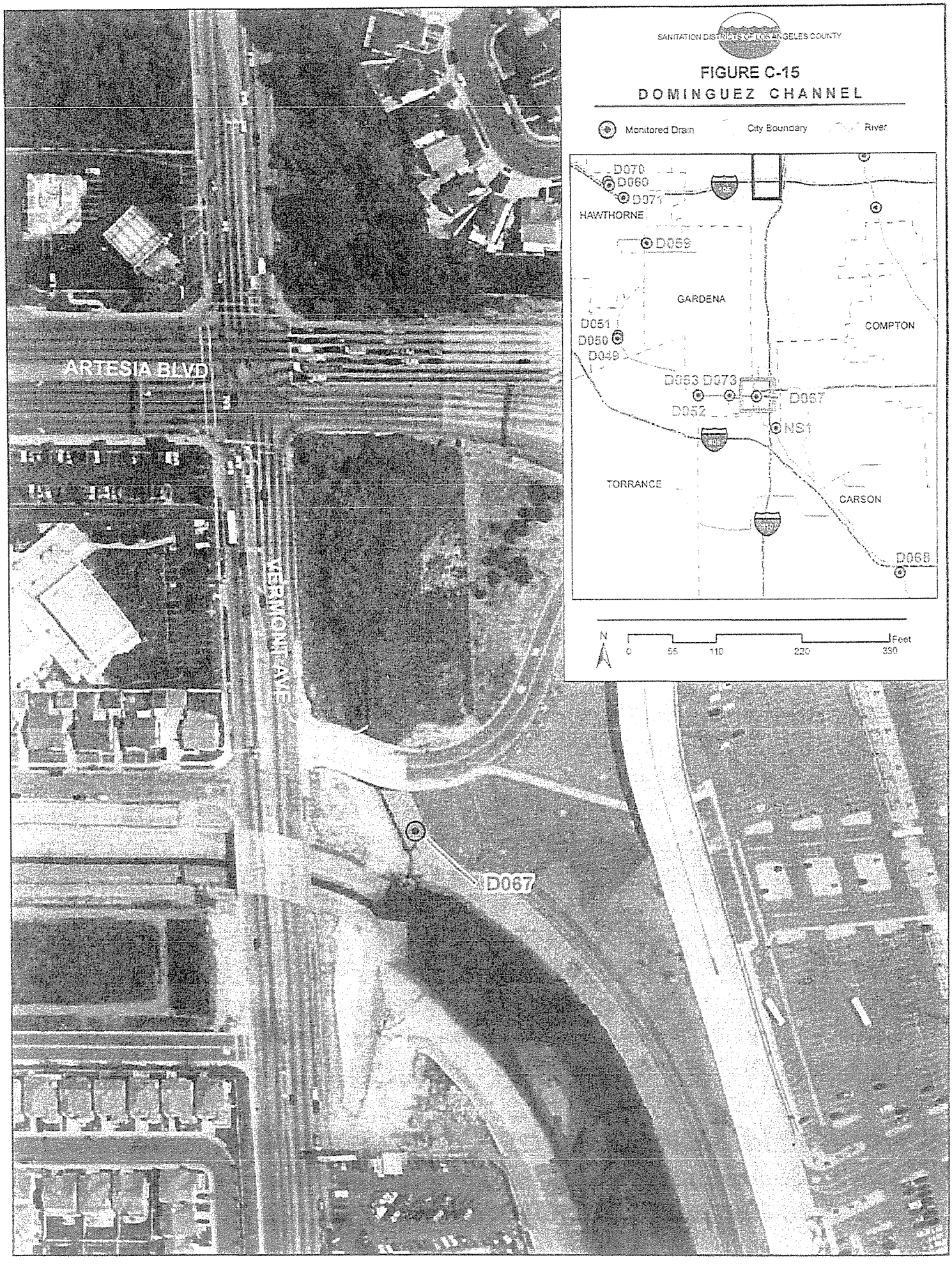
FIGURE C-14

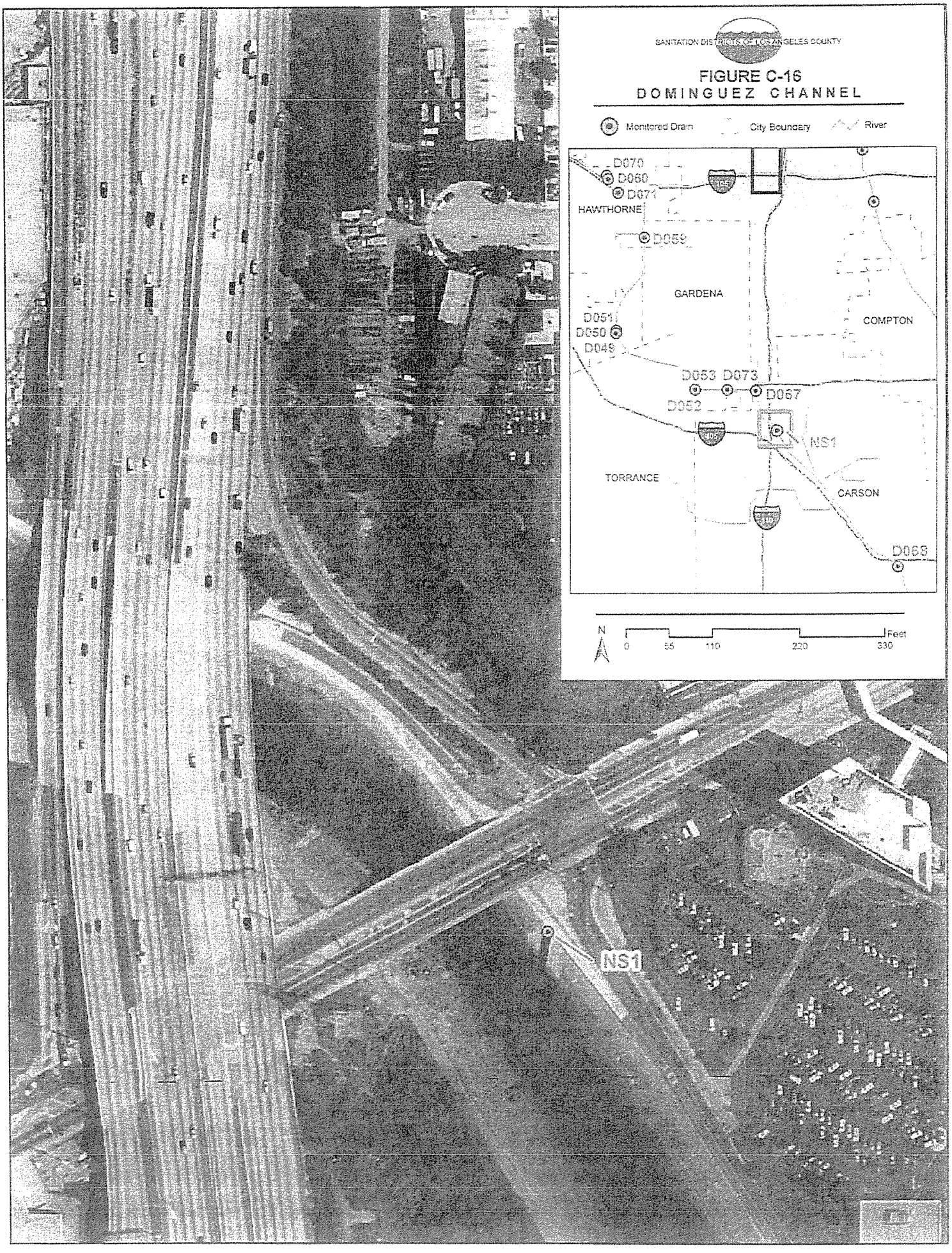
DOMINGUEZ CHANNEL

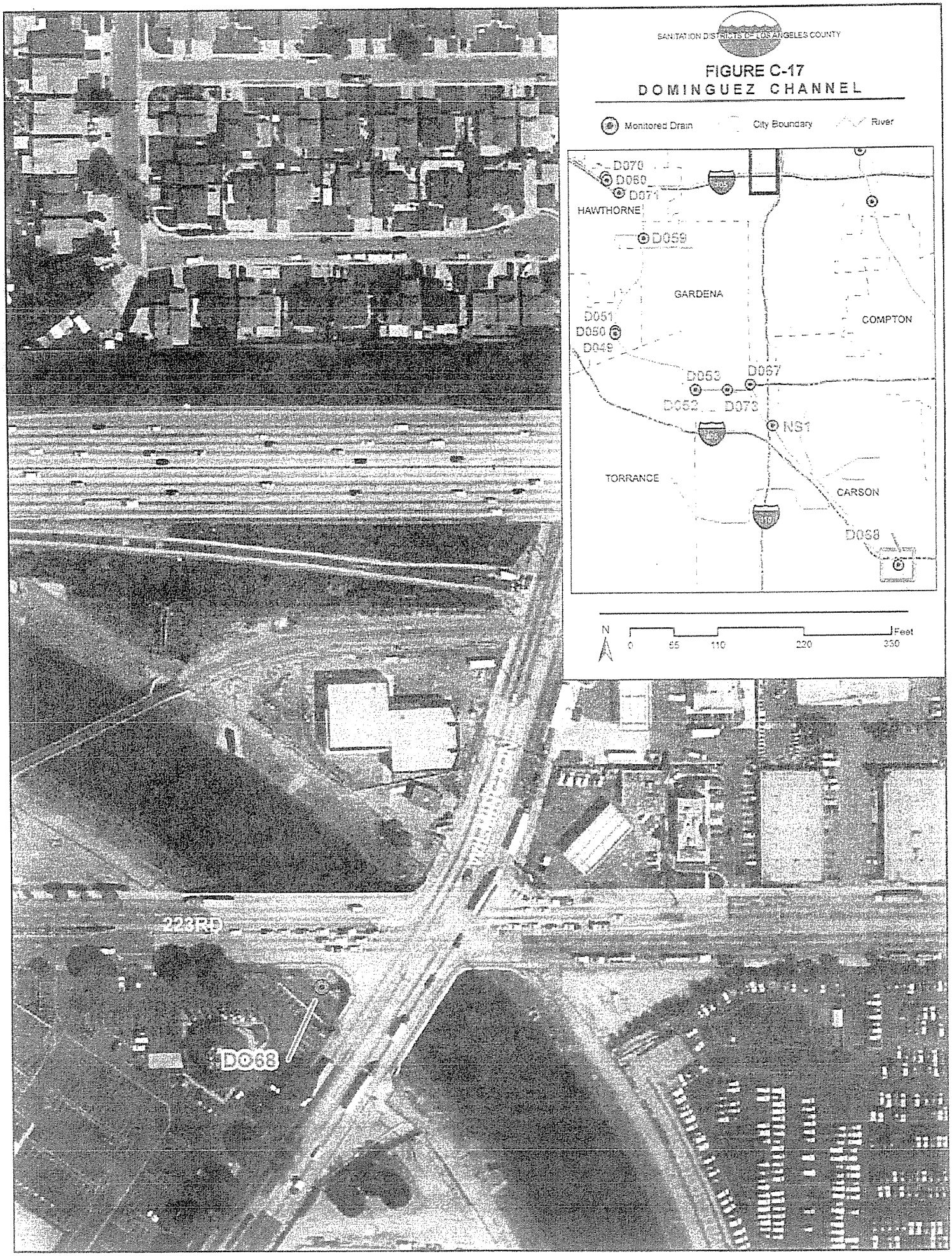
Monitored Drain | City Boundary | River

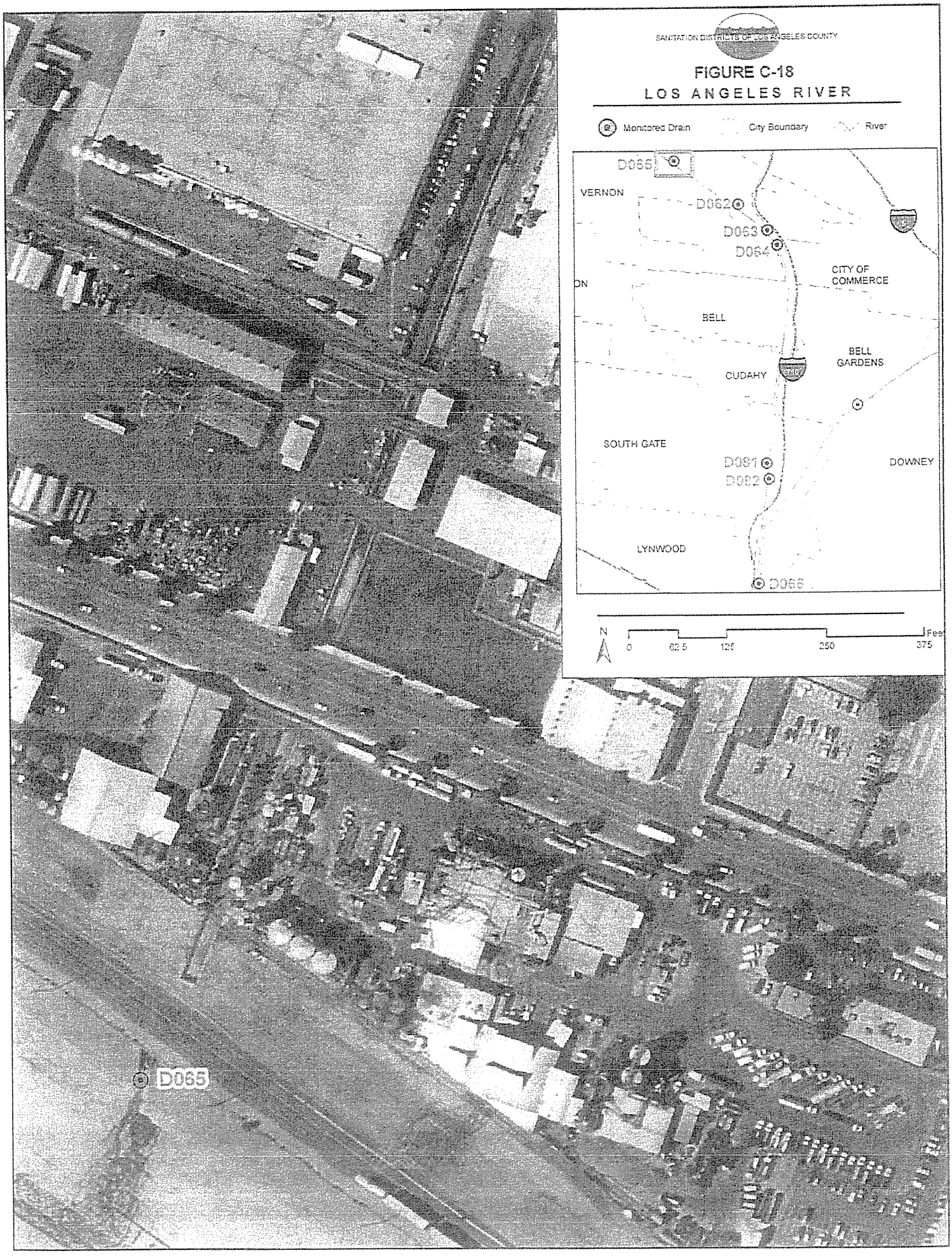
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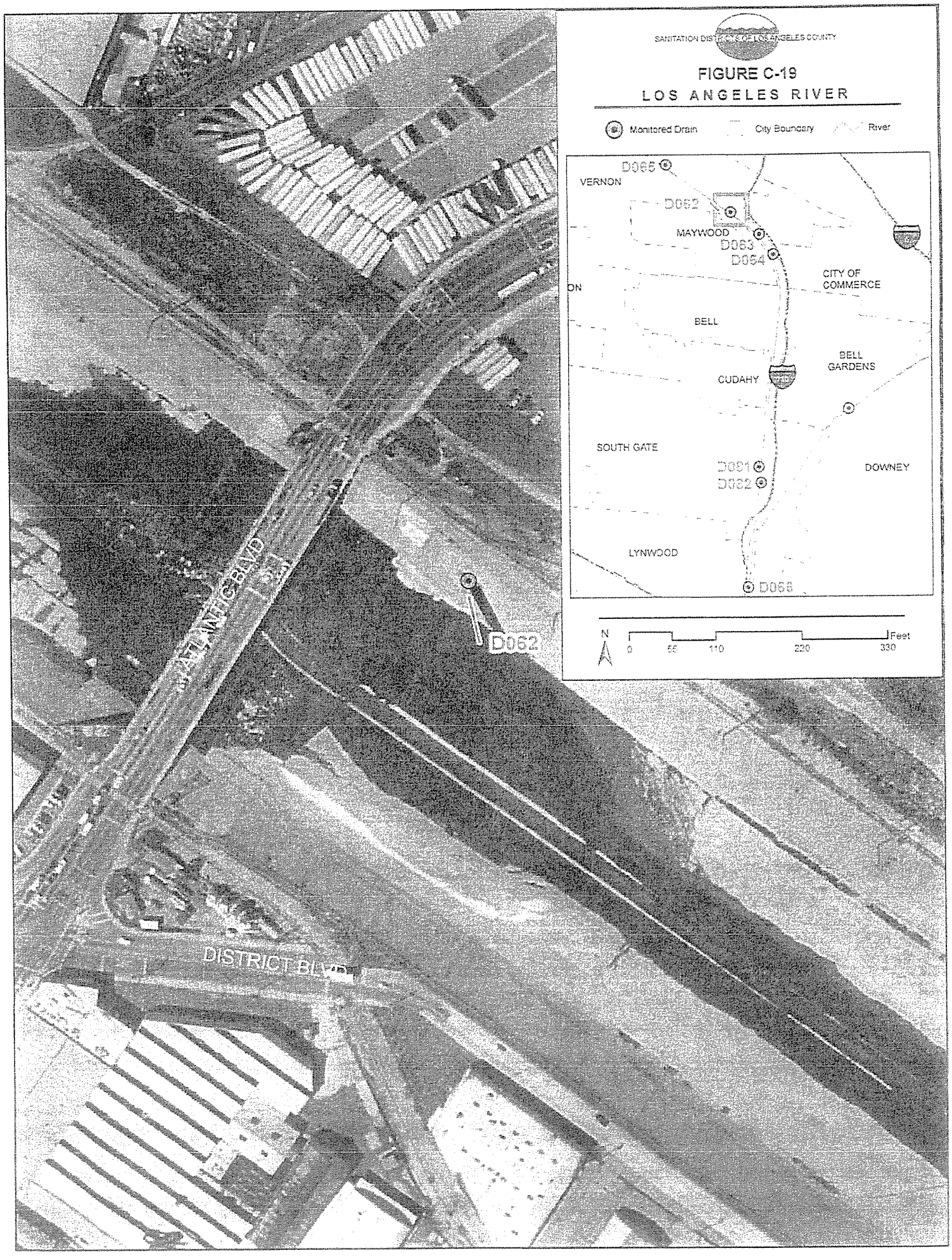
0 55 110 220 330 Feet

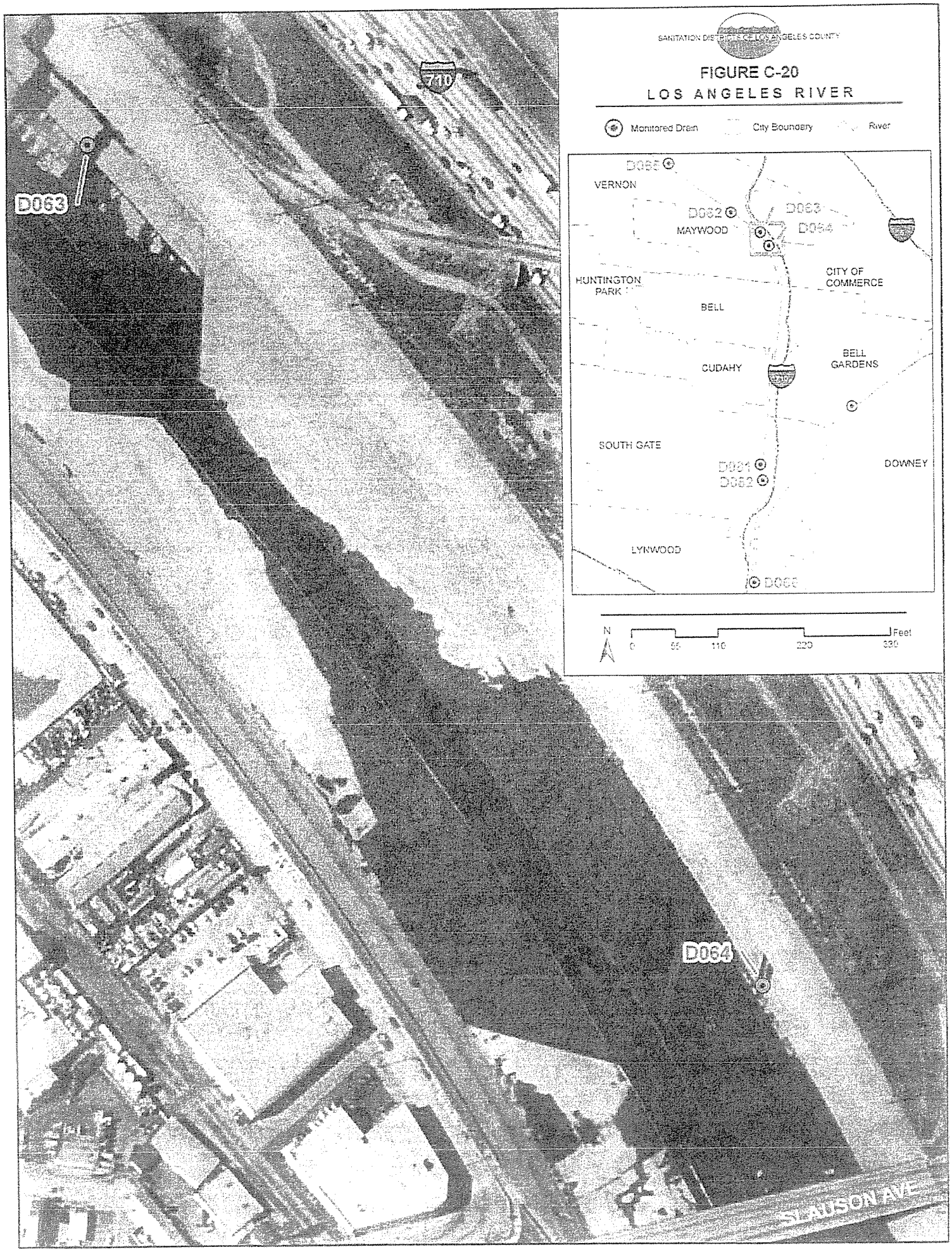

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-15
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D060
D071
HAWTHORNE
D059
GARDENA
COMPTON
D051
D050
D049
D053 D073
D067
D052
NS1
TORRANCE
CARSON
D068
N
0
55
110
220
330
Feet
ARTESIA BLVD
VERMONT AVE
D067

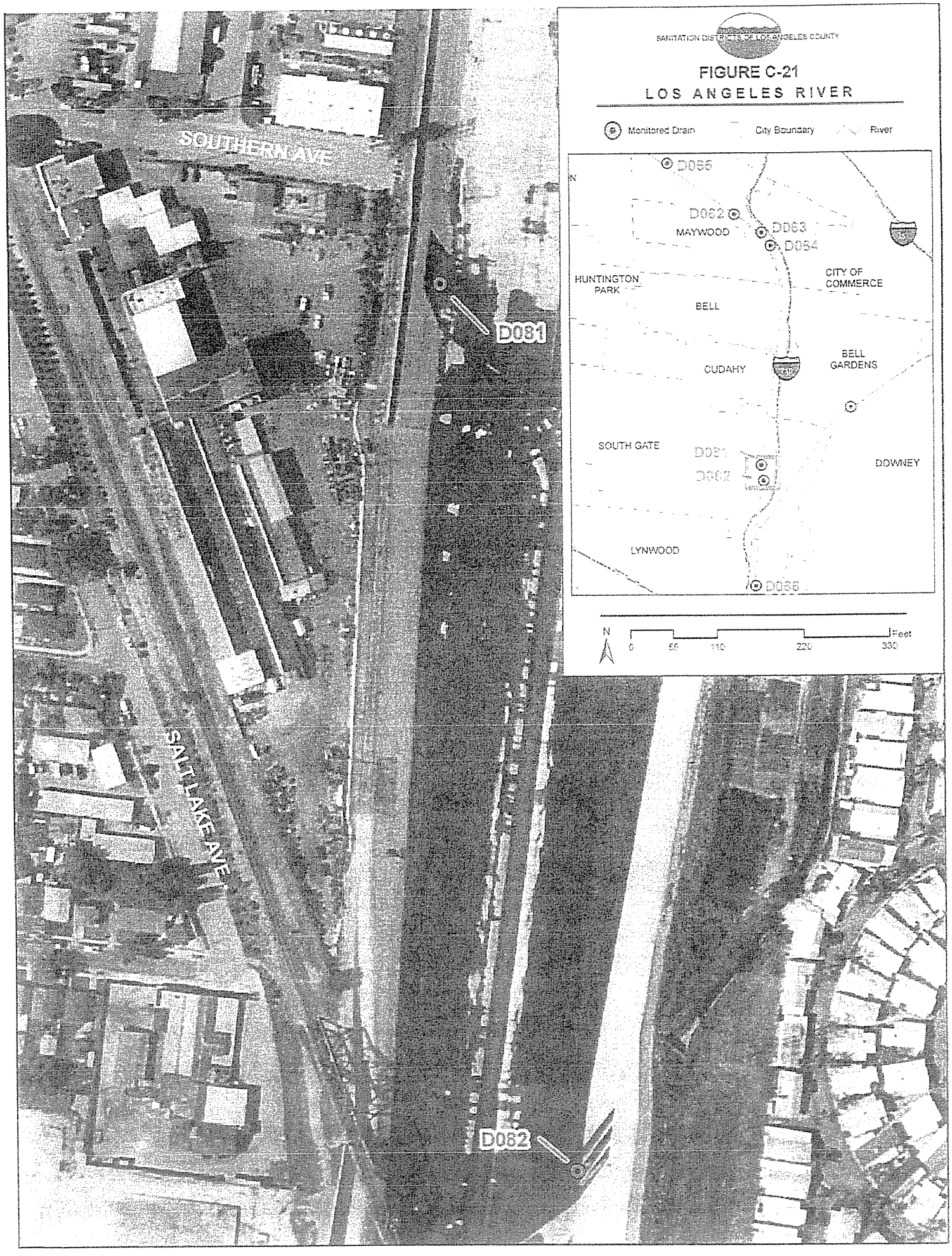

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-16
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D060
D071
HAWTHORNE
D059
GARDENA
D051
D050
D049
COMPTON
D053
D073
D067
D052
NS1
TORRANCE
CARSON
D068
N
0
55
110
220
330
Feet
NS1


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-17
DOMINGUEZ CHANNEL
Monitored Drain
City Boundary
River
D070
D060
D071
HAWTHORNE
D059
GARDENA
D051
D050
D049
COMPTON
D053
D067
D052
D078
NS1
TORRANCE
CARSON
D068
N
0
55
110
220
330
Feet
223RD
D068


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-18
LOS ANGELES RIVER
Monitored Drain
City Boundary
River
D065
VERNON
D062
D063
D064
CITY OF COMMERCE
BELL
BELL GARDENS
CUDAHY
SOUTH GATE
D067
D068
DOWNEY
LYNWOOD
D066
N
0
62.5
125
250
375
Feet
D065


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-19
LOS ANGELES RIVER
Monitored Drain
City Boundary
River
D065
VERNON
D062
MAYWOOD
D063
D064
CITY OF COMMERCE
BELL
BELL GARDENS
CUDAHY
SOUTH GATE
D061
D032
DOWNEY
LYNWOOD
D066
N
0
55
110
220
330
Feet
D062
DISTRICT BLVD


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-20
LOS ANGELES RIVER
Monitored Drain
City Boundary
River
D065
VERNON
D062
MAYWOOD
D063
D064
HUNTINGTON PARK
CITY OF COMMERCE
BELL
CUDAHY
BELL GARDENS
SOUTH GATE
D061
D062
DOWNEY
LYNWOOD
D060
N
0
55
110
220
330
Feet
710
D063
D064
SLAUSON AVE



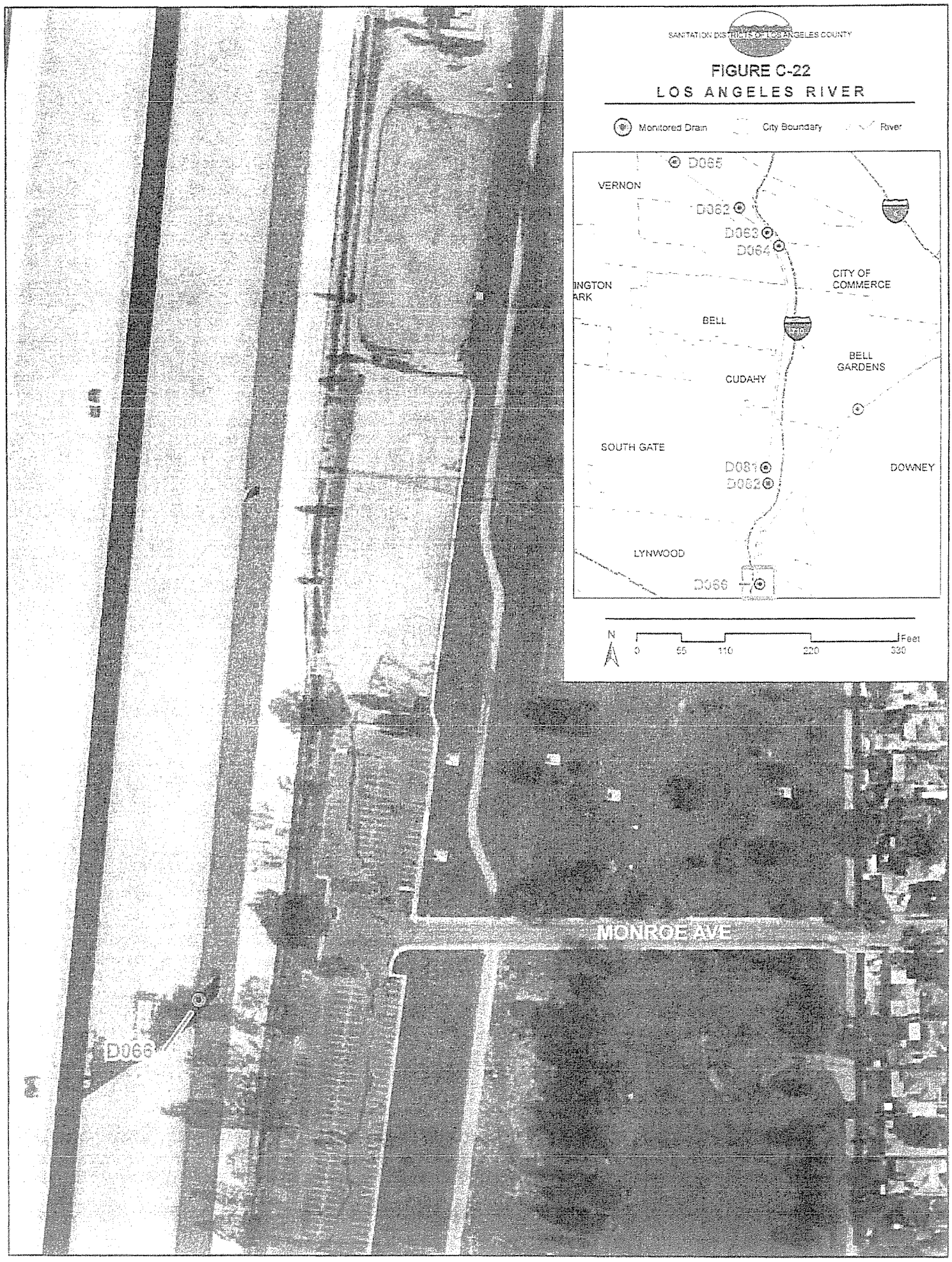
SANITATION DISTRICTS OF LOS ANGELES COUNTY

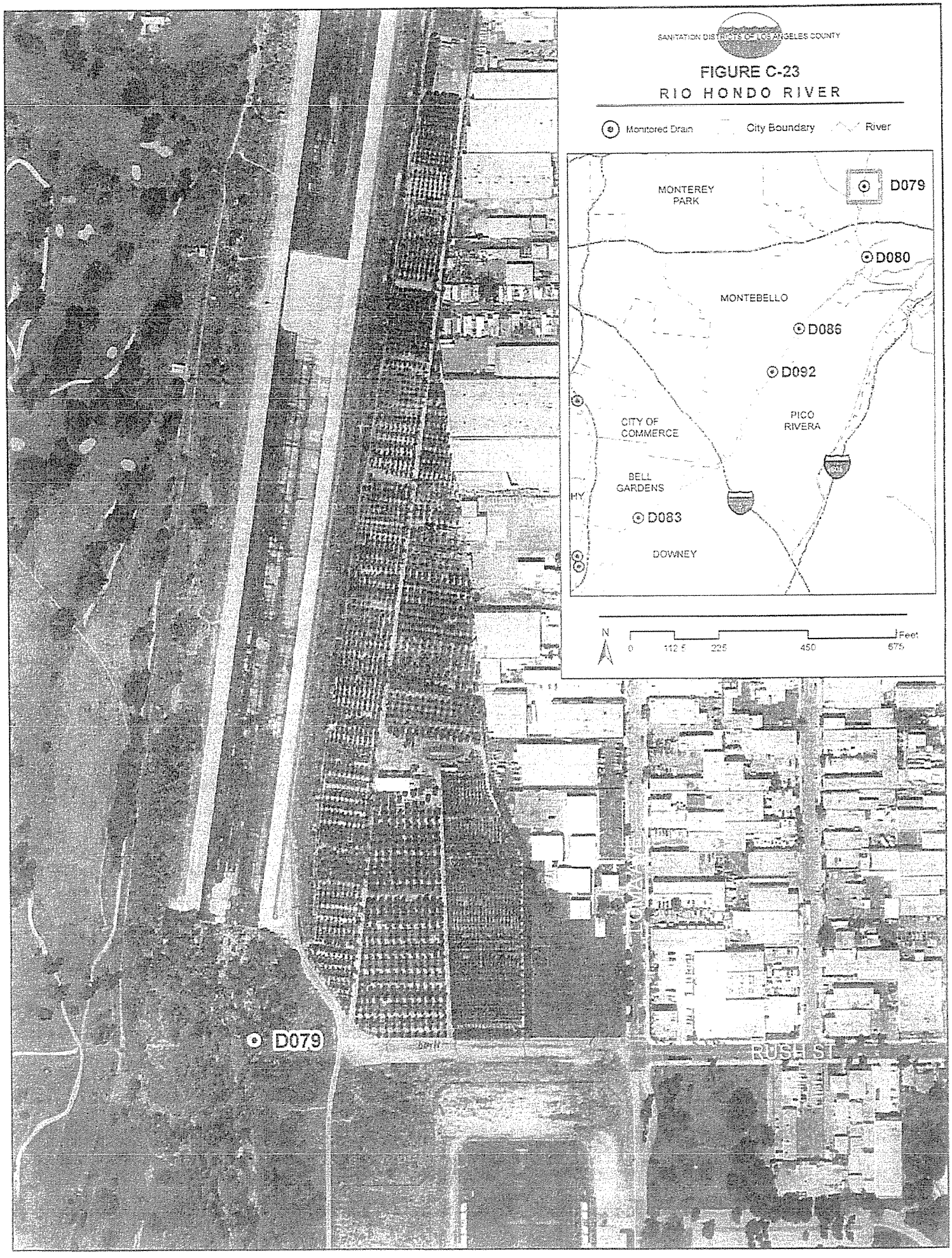
FIGURE C-21
LOS ANGELES RIVER

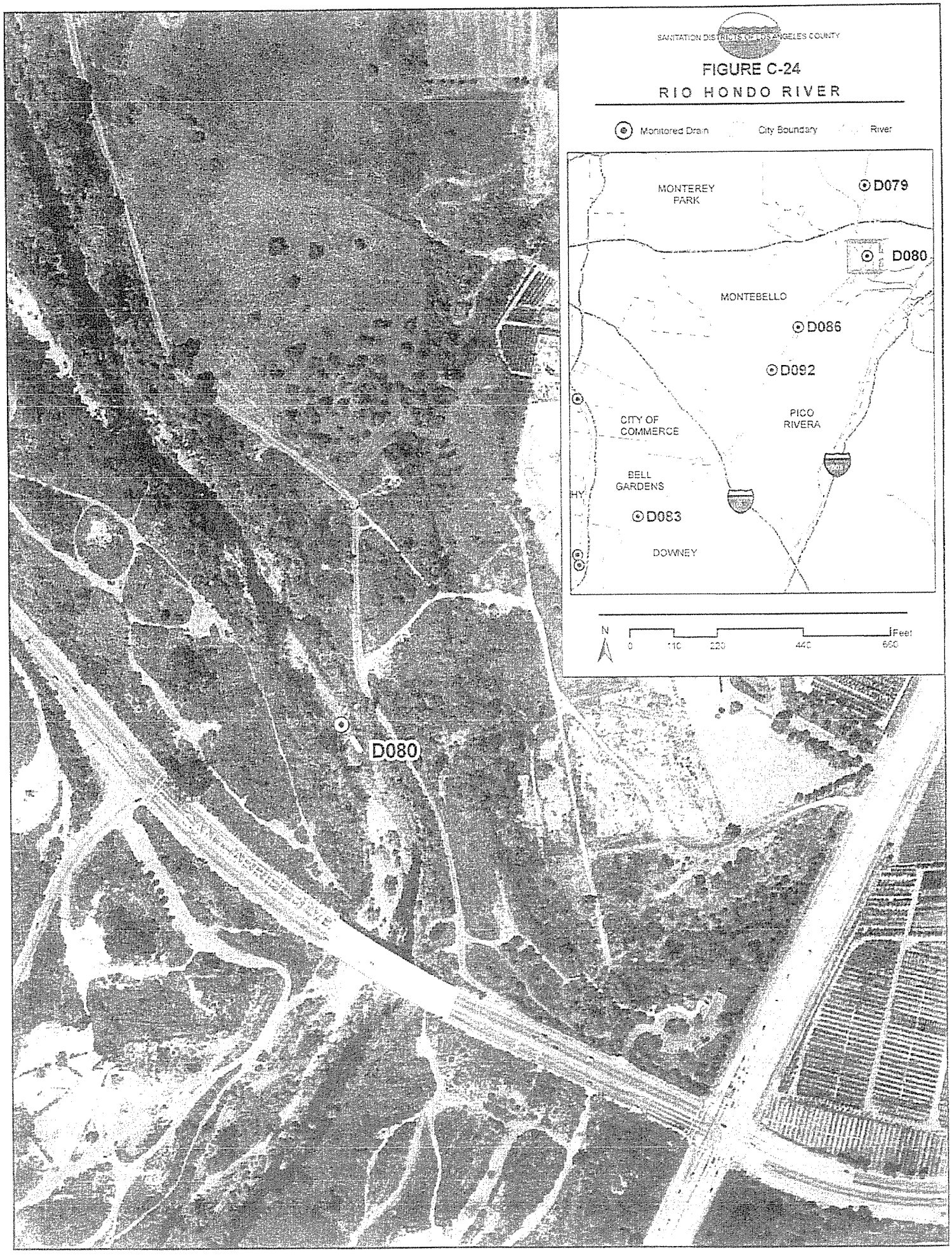
Monitored Drain | City Boundary | River

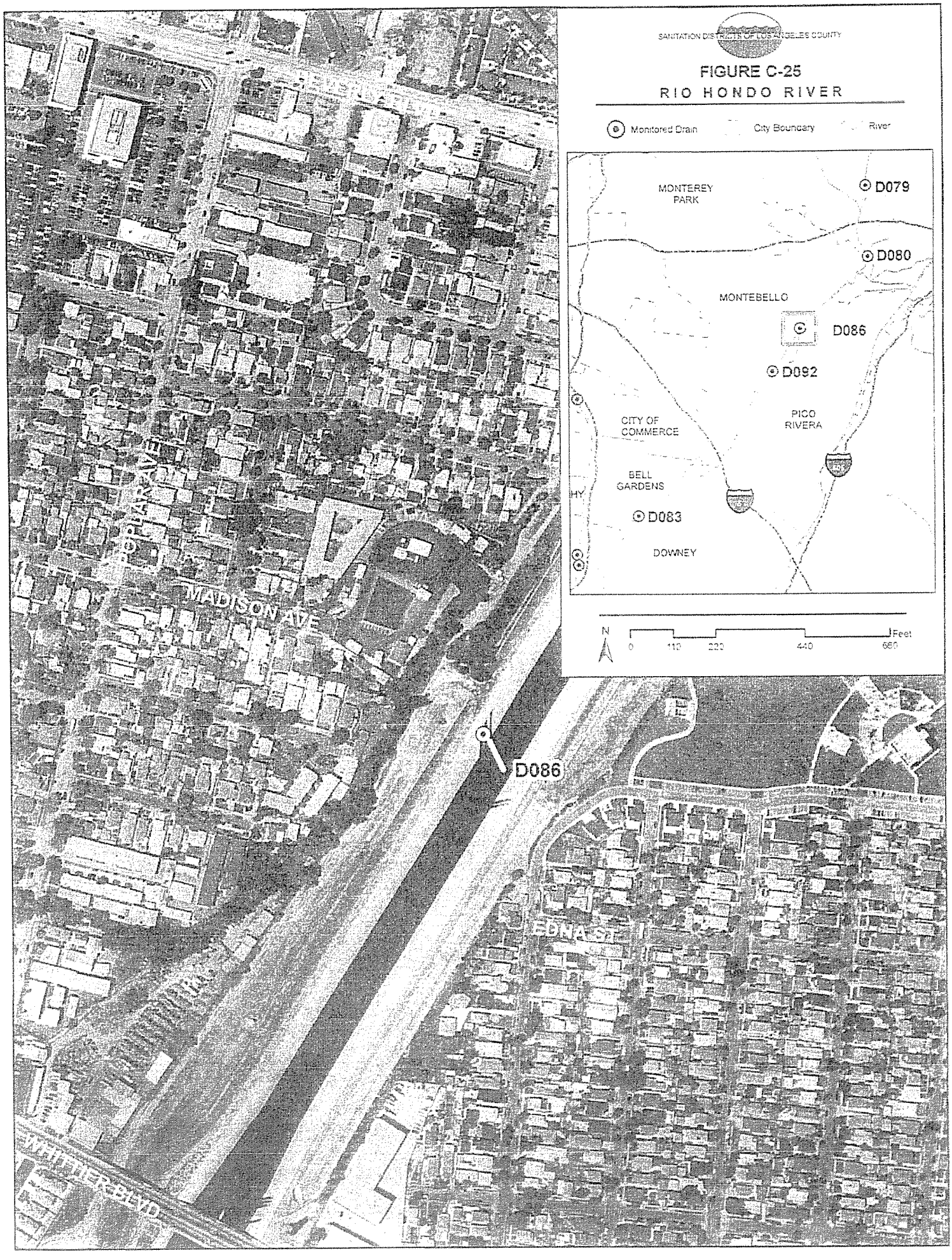
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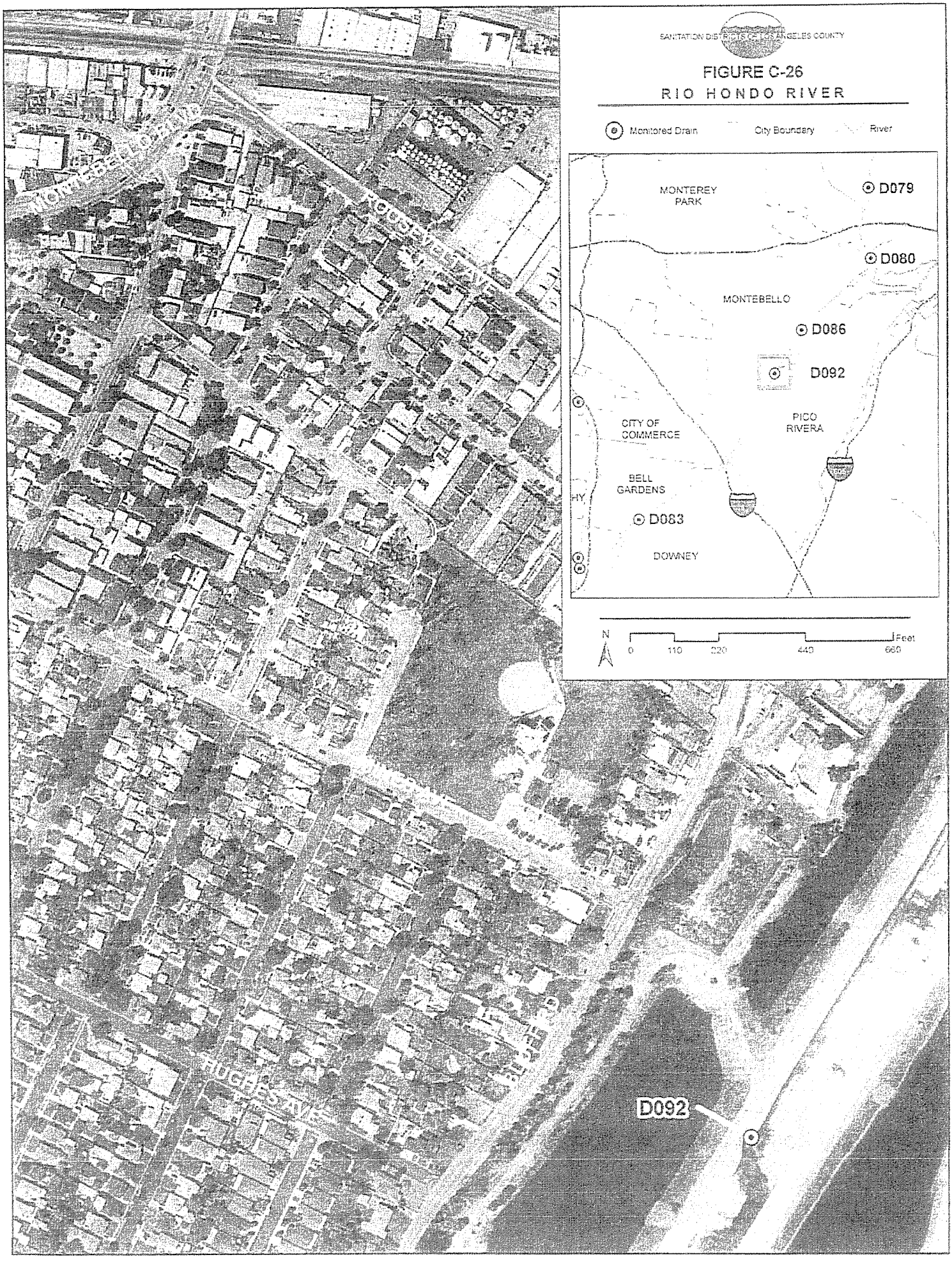
0 55 110 220 330 Feet

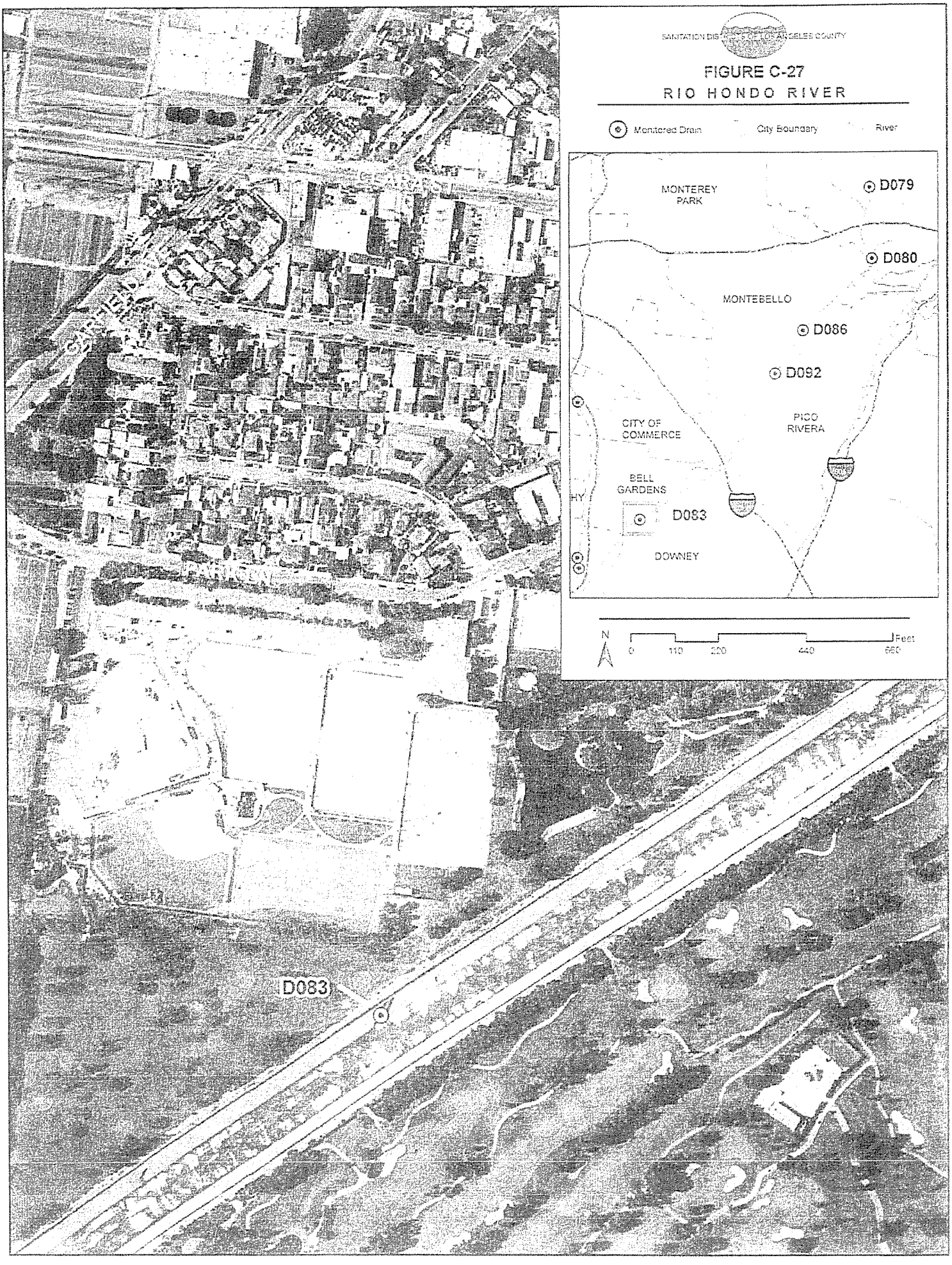

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-22
LOS ANGELES RIVER
Monitored Drain
City Boundary
River
D065
VERNON
D062
D063
D064
CITY OF COMMERCE
BELL
BELL GARDENS
CUDAHY
SOUTH GATE
D081
D082
DOWNEY
LYNWOOD
D066
N
0
55
110
220
330
Feet
MONROE AVE
D066

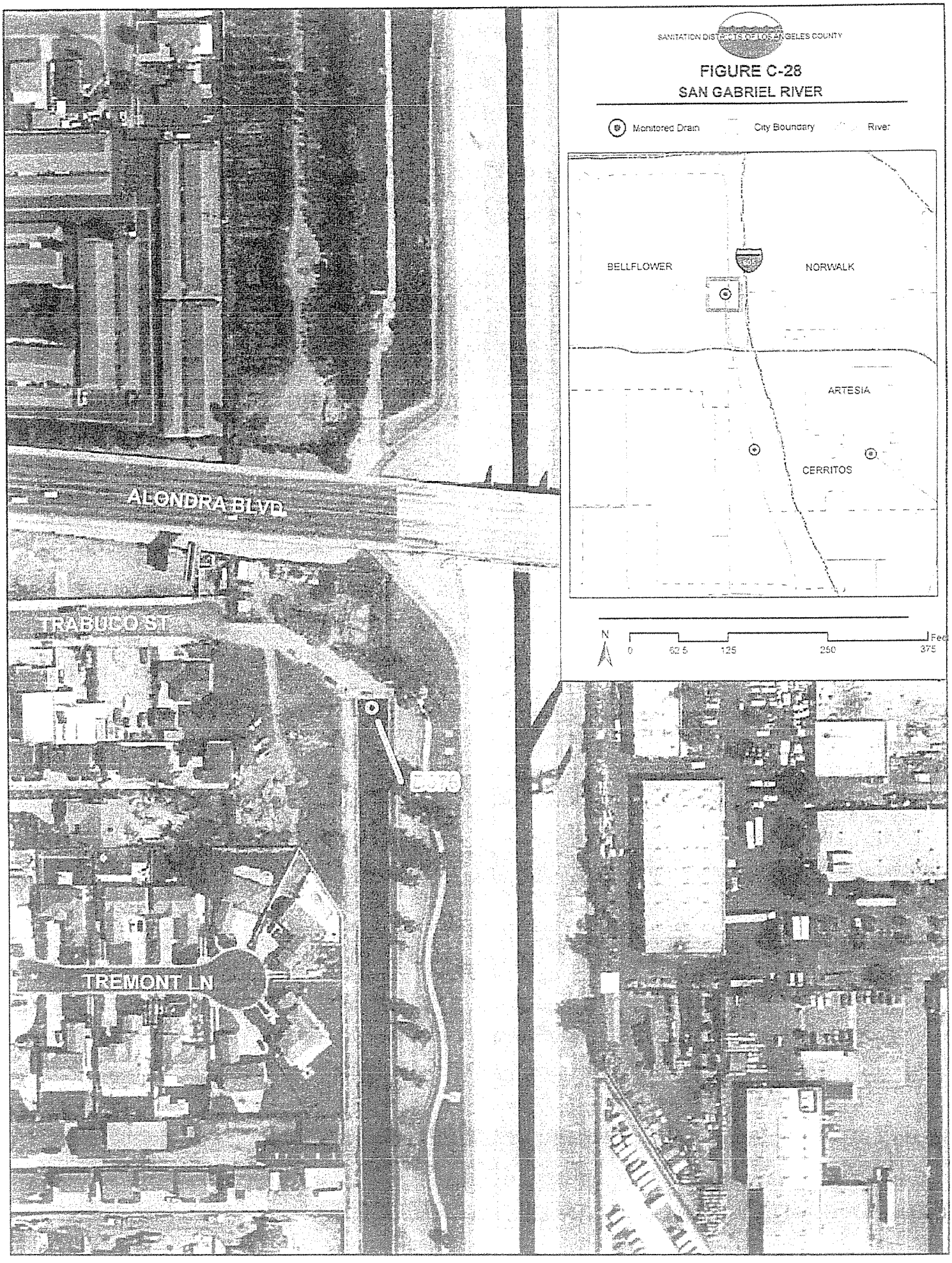

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-23
RIO HONDO RIVER
Monitored Drain
City Boundary
River
MONTEREY PARK
D079
D080
MONTEBELLO
D086
D092
CITY OF COMMERCE
PICO RIVERA
BELL GARDENS
D083
DOWNEY
N
0
112.5
225
450
675
Feet
D079
RUSH ST

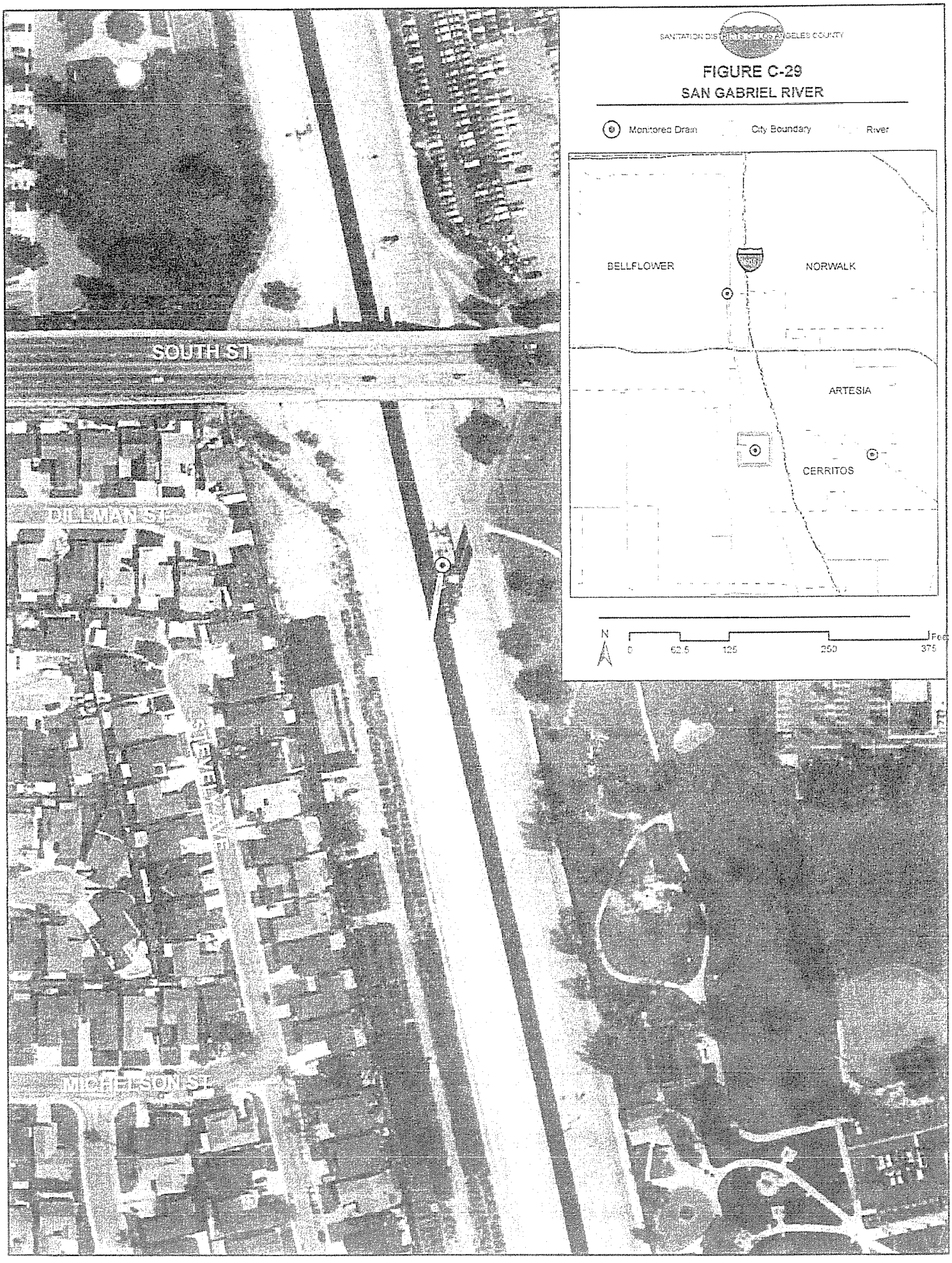

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-24
RIO HONDO RIVER
Monitored Drain
City Boundary
River
MONTEREY PARK
D079
D080
MONTEBELLO
D086
D092
CITY OF COMMERCE
PICO RIVERA
BELL GARDENS
D083
DOWNEY
N
0
110
220
440
660
Feet
D080

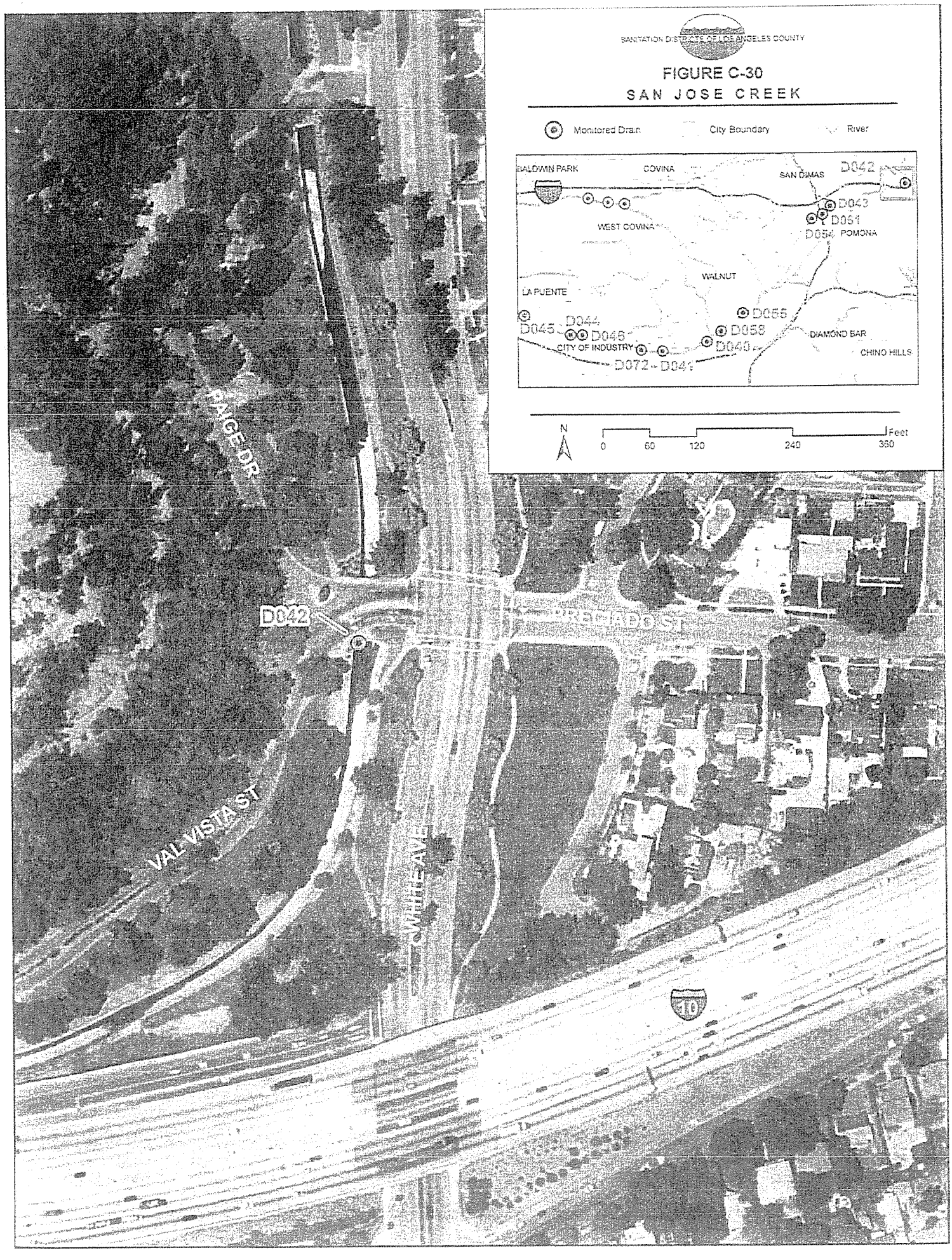

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-25
RIO HONDO RIVER
Monitored Drain
City Boundary
River
MONTEREY PARK
D079
D080
MONTEBELLO
D086
D092
CITY OF COMMERCE
PICO RIVERA
BELL GARDENS
D083
DOWNEY
N
0
110
220
440
660
Feet
D086
MADISON AVE
EDNA ST
WHITTIER BLVD

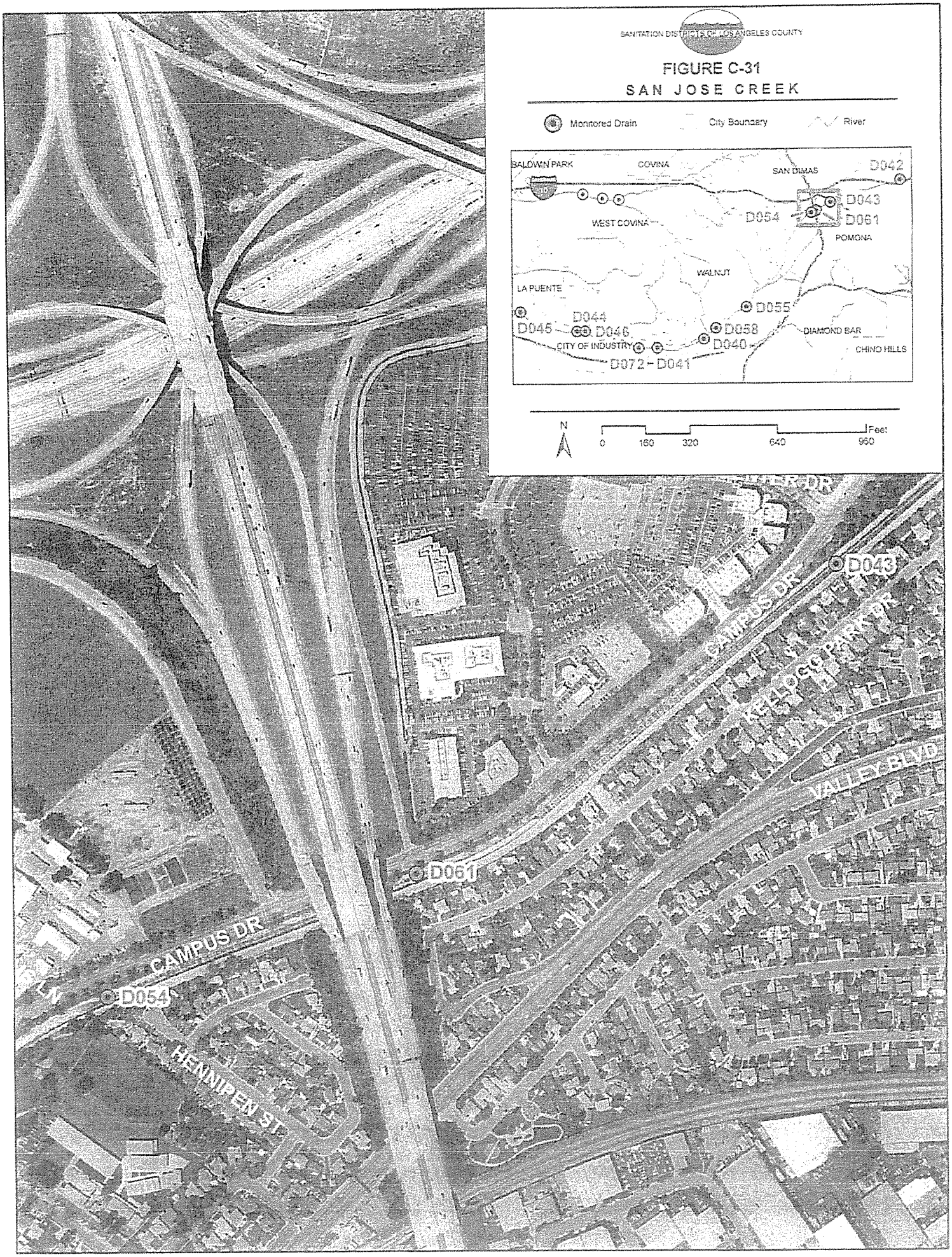

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-26
RIO HONDO RIVER
Monitored Drain
City Boundary
River
MONTEREY PARK
D079
D080
MONTEBELLO
D086
D092
CITY OF COMMERCE
PICO RIVERA
BELL GARDENS
D083
DOWNEY
N
0
110
220
440
660
Feet
ROOSEVELT AVE
HUGHES AVE
D092

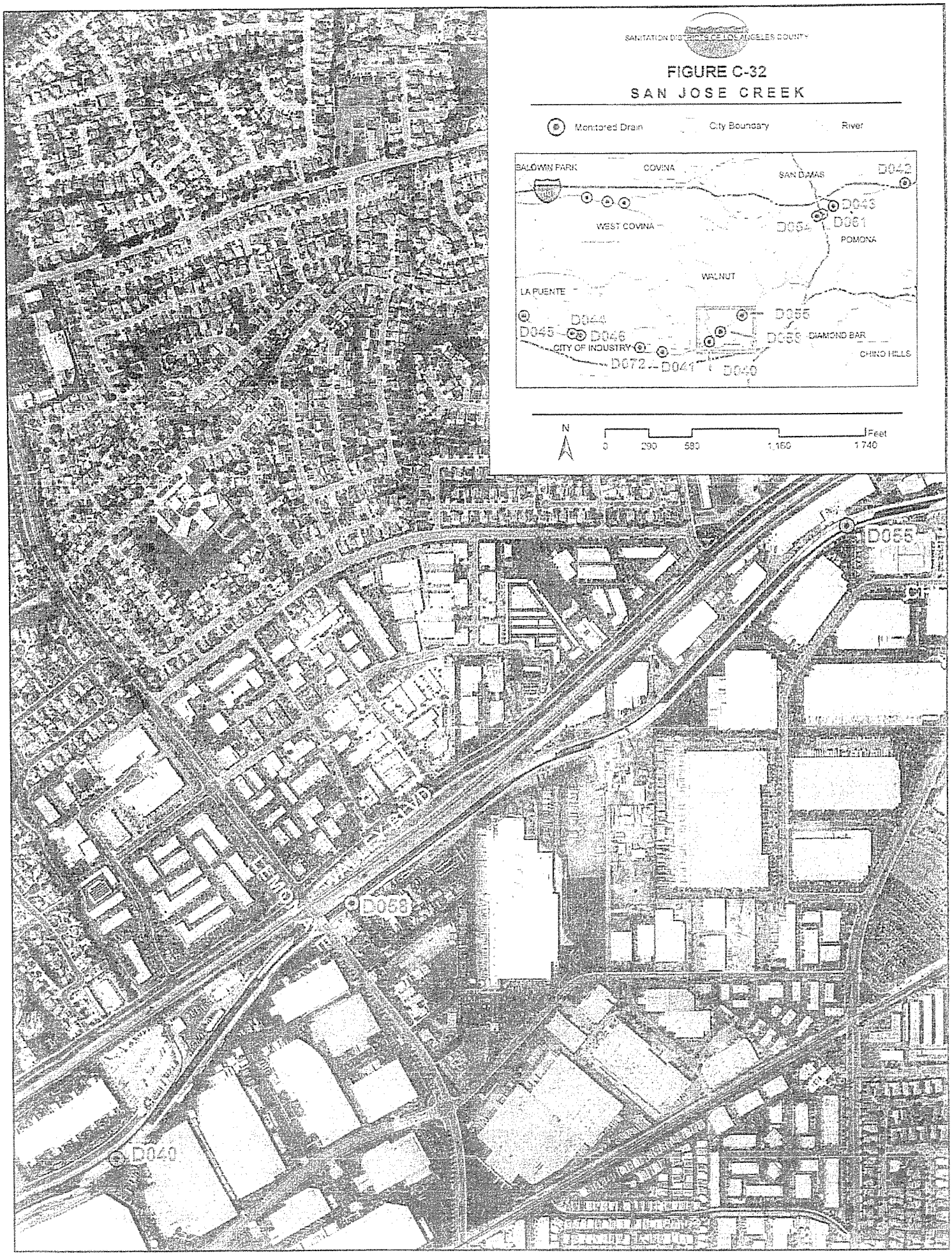

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-27
RIO HONDO RIVER
Monitored Drain
City Boundary
River
MONTEREY PARK
D079
D080
MONTEBELLO
D086
D092
CITY OF COMMERCE
PICO RIVERA
BELL GARDENS
D083
DOWNEY
N
0
110
220
440
660
Feet
D083

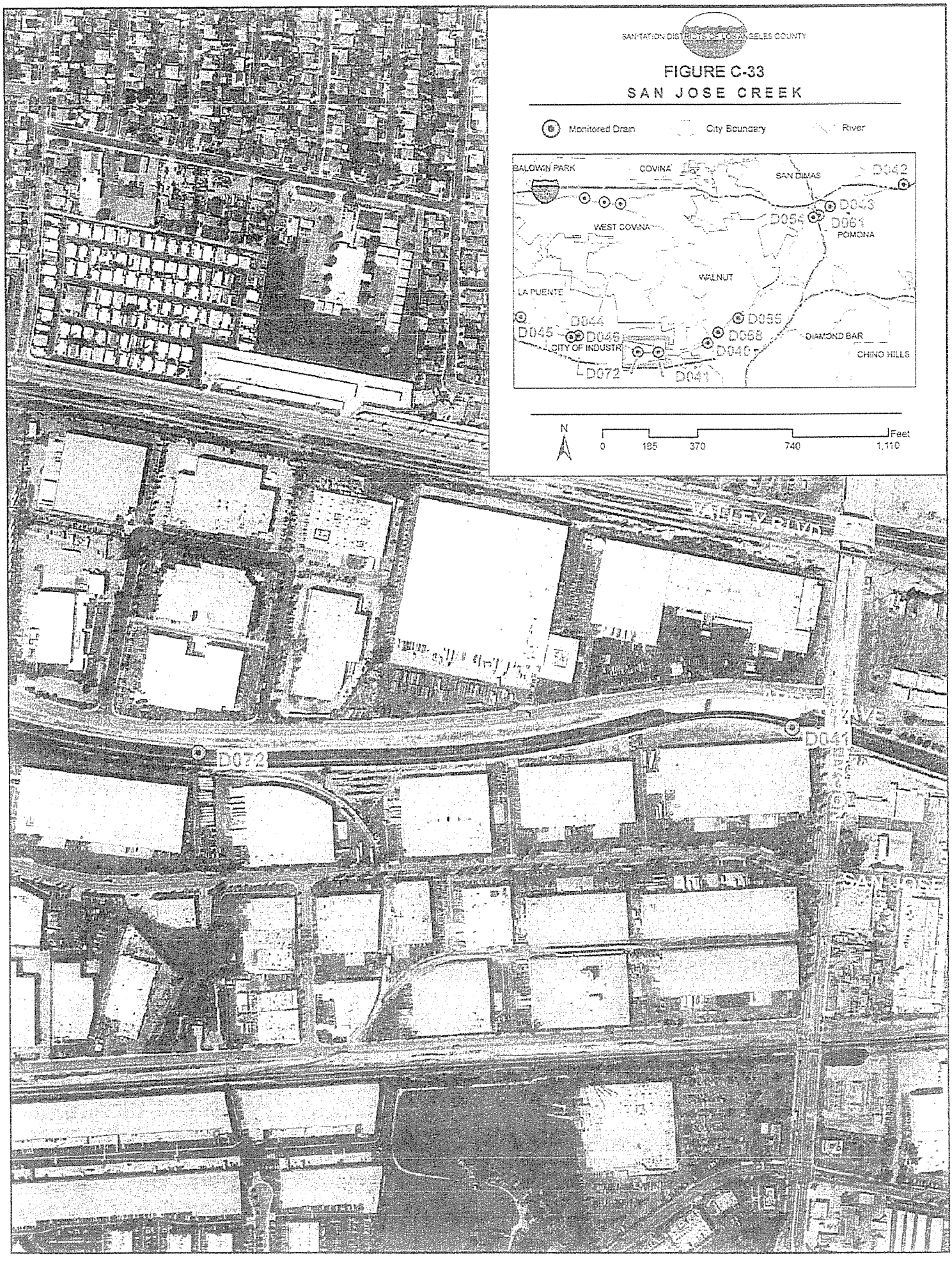

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-28
SAN GABRIEL RIVER
Monitored Drain
City Boundary
River
BELLFLOWER
NORWALK
ARTESIA
CERRITOS
605
ALONDRA BLVD
TRABUCO ST
TREMONT LN
N
0
62.5
125
250
375
Feet

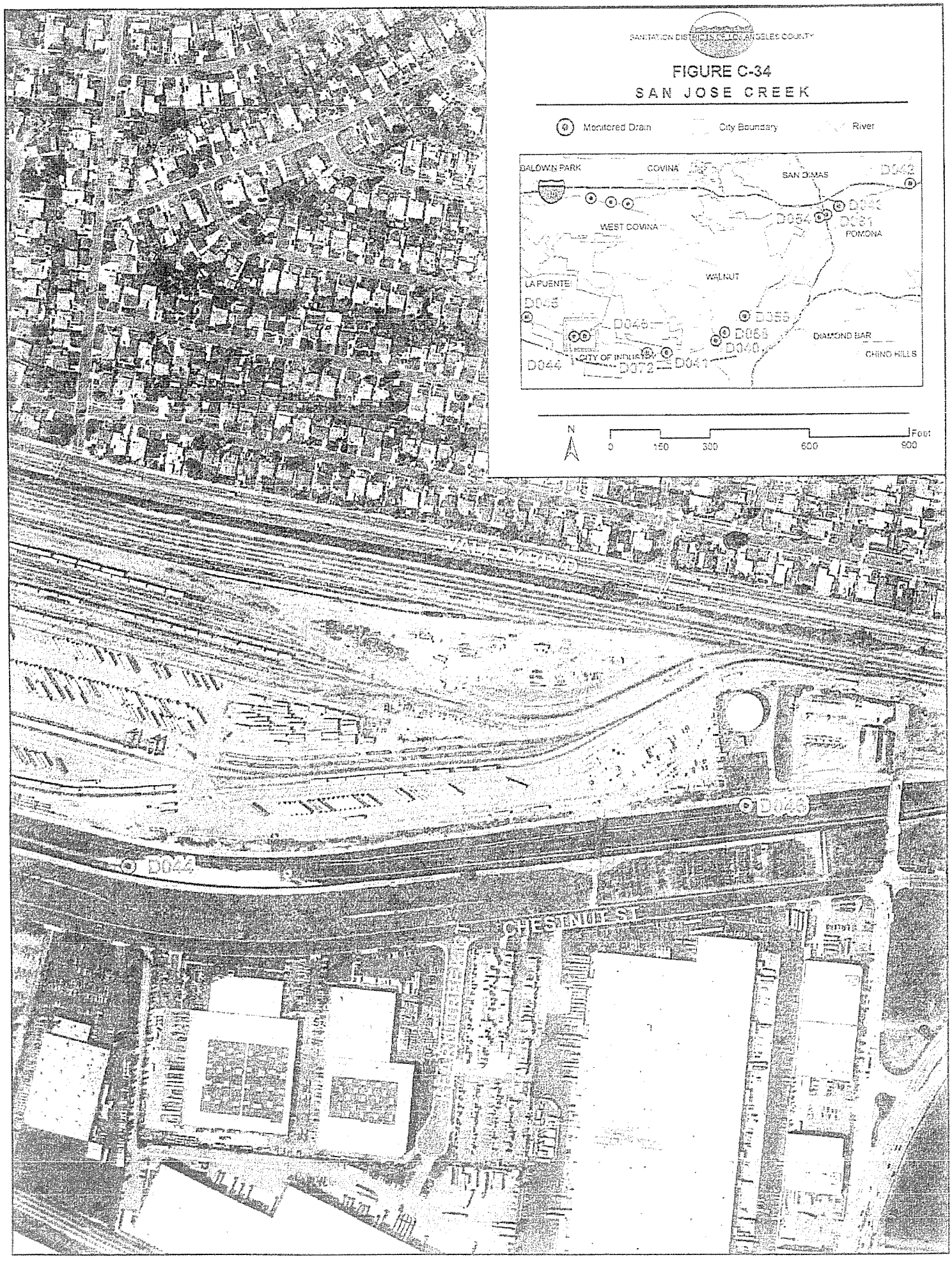

SOUTH ST
BILLMAN ST
MICHELSON ST
SANTA ANA FWY
SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-29
SAN GABRIEL RIVER
Monitored Drain
City Boundary
River
BELLFLOWER
NORWALK
ARTESIA
CERRITOS
N
0
62.5
125
250
375
Feet

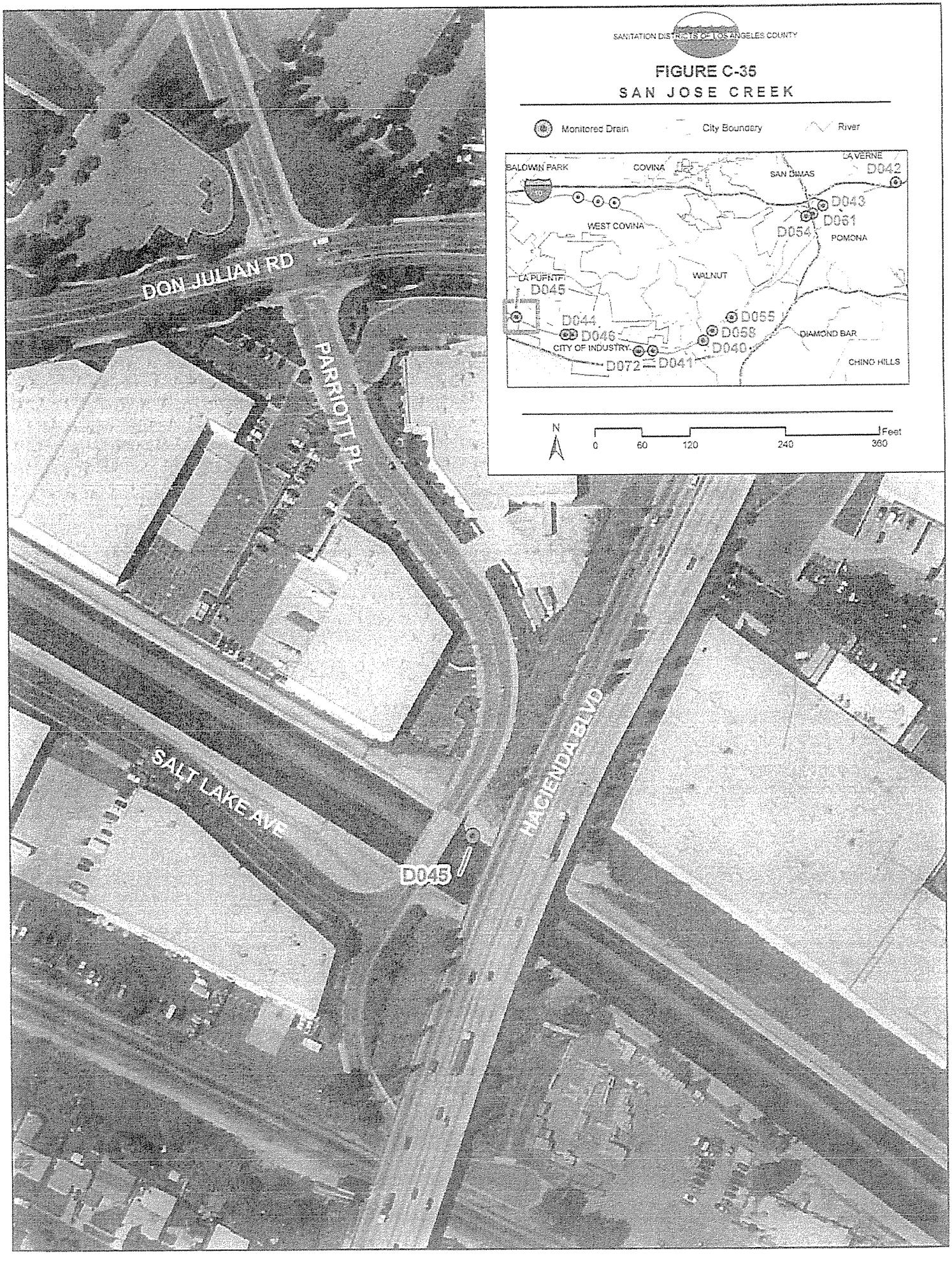

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-30
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
D042
D043
D051
D054
POMONA
WEST COVINA
WALNUT
LA PUENTE
D055
D045
D044
D046
D058
D040
CITY OF INDUSTRY
DIAMOND BAR
CHINO HILLS
D072
D041
N
0
60
120
240
360
Feet
PAGE DR
D042
PRESTADO ST
VAL VISTA ST
WHITE AVE
10

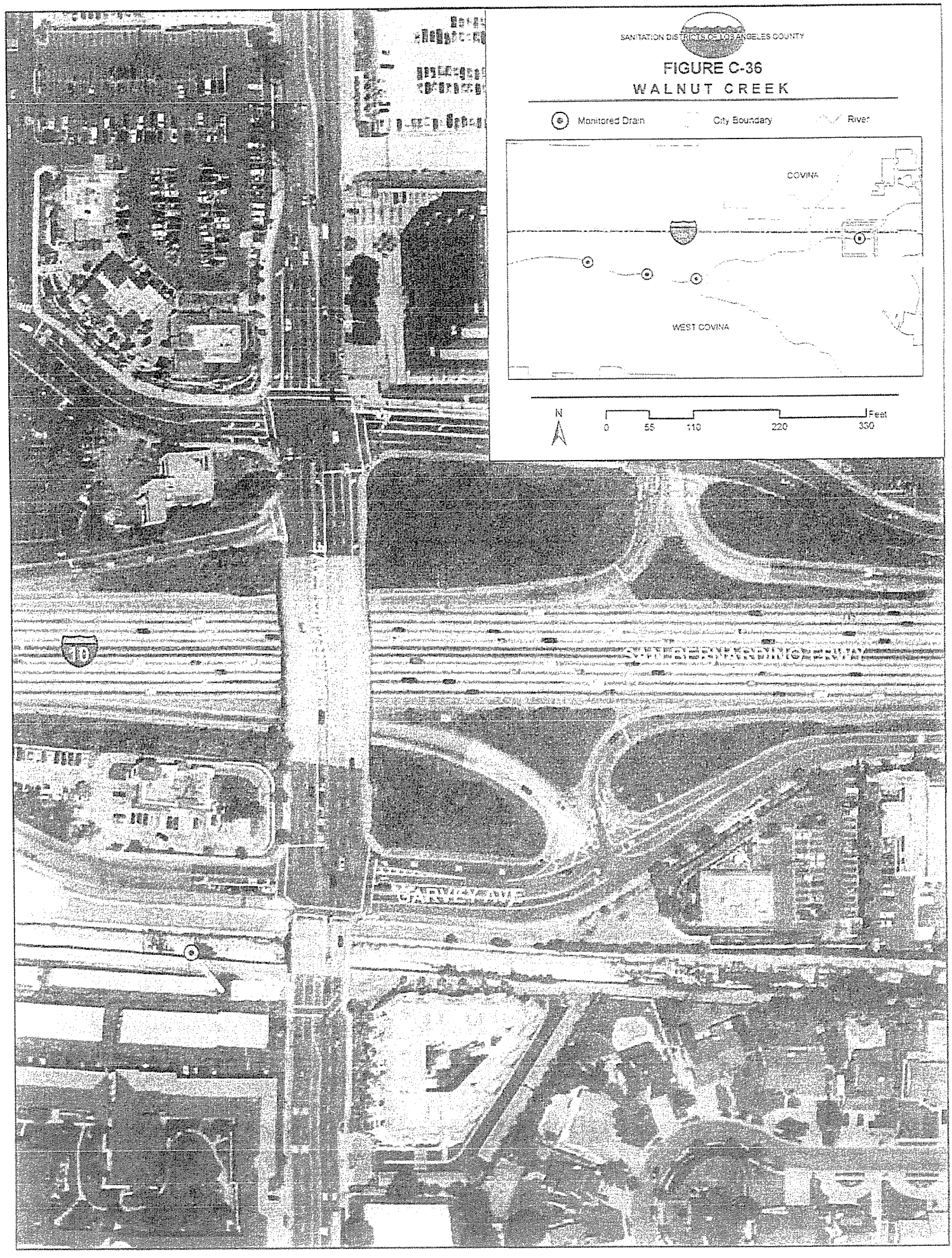

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-31
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
D042
D043
D061
D054
WEST COVINA
POMONA
WALNUT
LA PUENTE
D055
D044
D045
D046
D058
DIAMOND BAR
CITY OF INDUSTRY
D040
CHINO HILLS
D072 - D041
N
0
160
320
640
960
Feet
D043
CAMPUS DR
KELLOGG PARK DR
VALLEY BLVD
D061
CAMPUS DR
D054
HENNIPEN ST

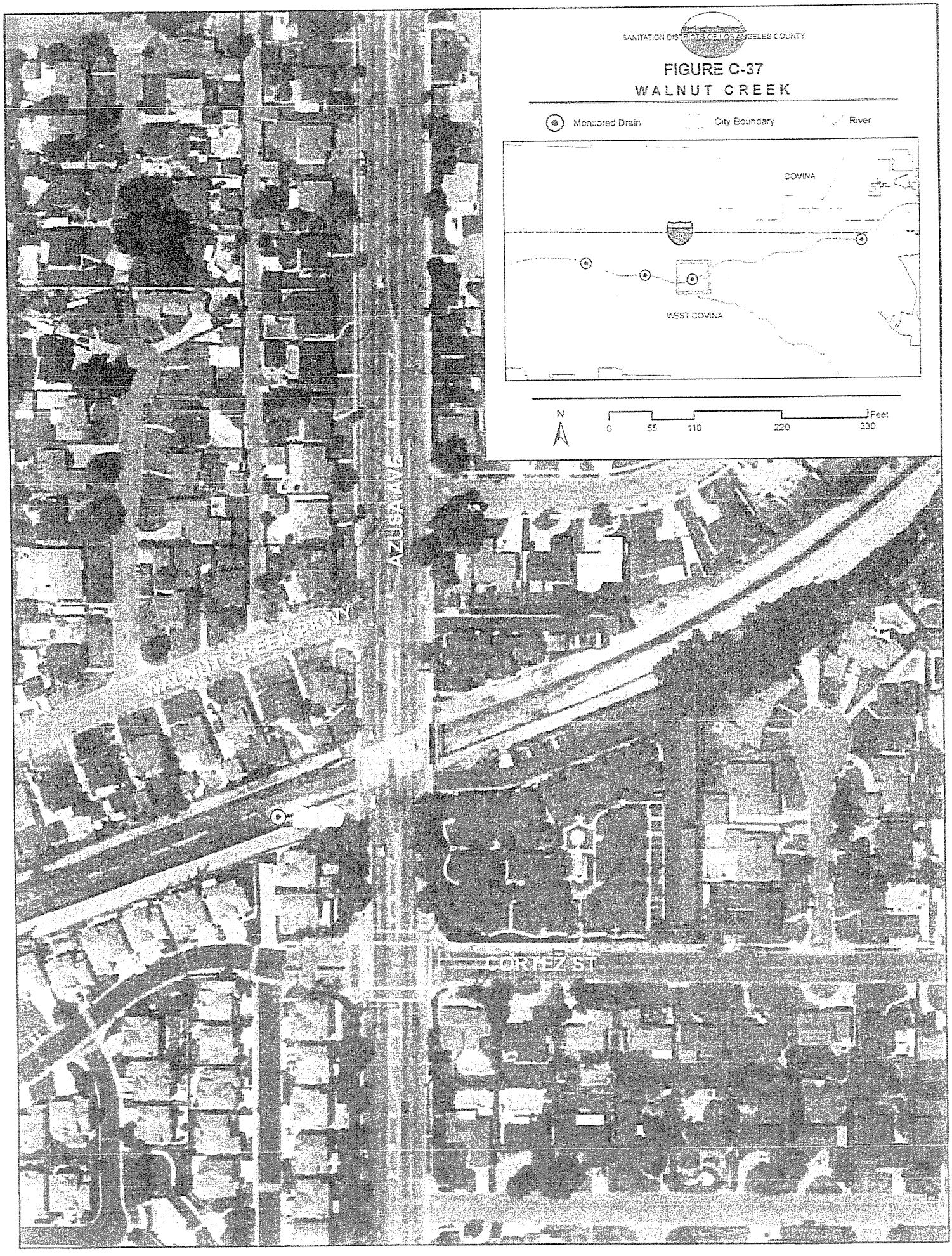

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-32
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
D042
D043
D061
D054
WEST COVINA
POMONA
WALNUT
LA PUENTE
D044
D045
D046
D055
D056
DIAMOND BAR
CITY OF INDUSTRY
CHINO HILLS
D072
D041
D049
N
0
290
580
1,160
1,740
Feet
D055
D058
D040

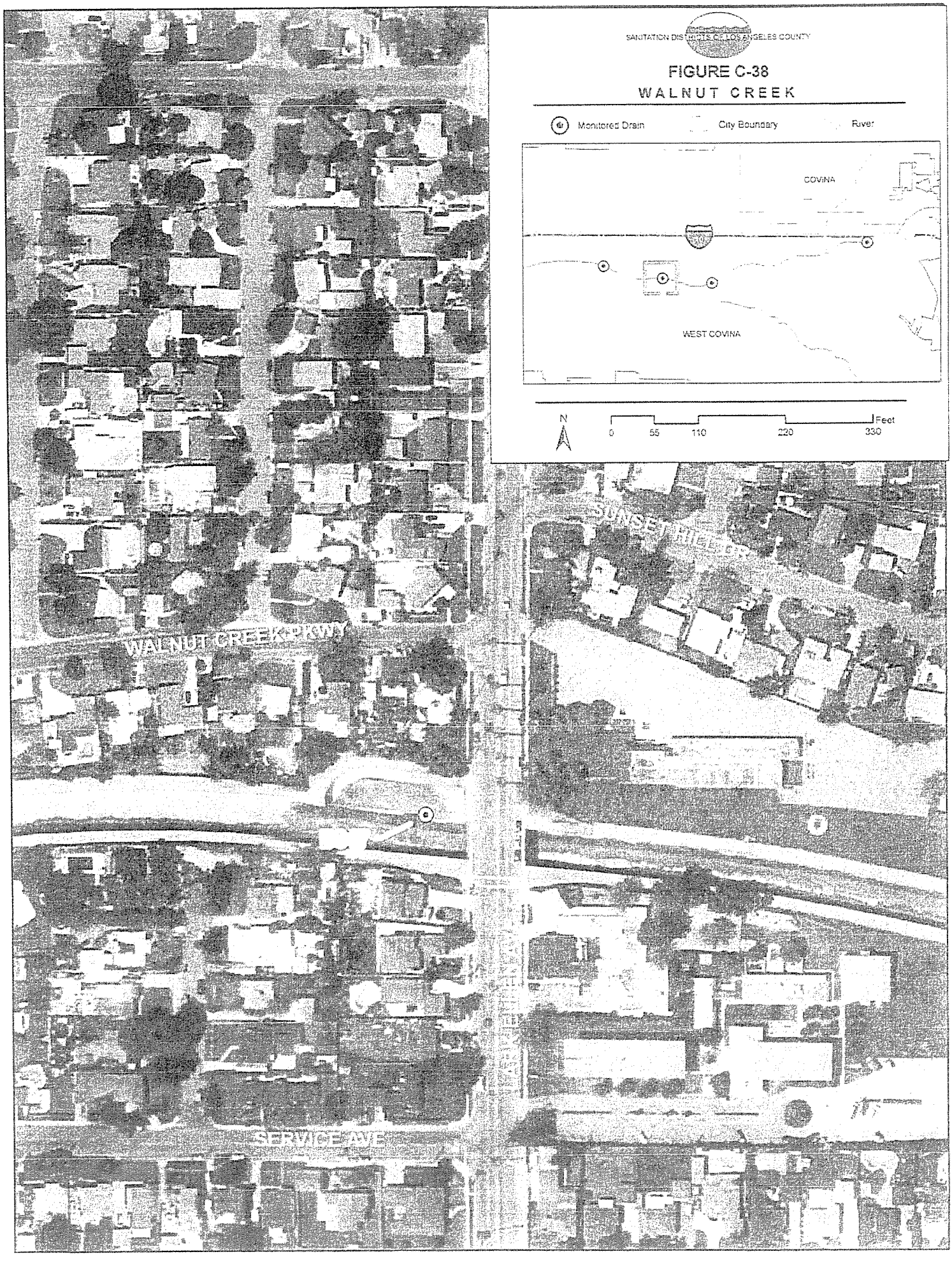

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-33
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
D042
D043
D054
D061
POMONA
WEST COVINA
WALNUT
LA PUENTE
D044
D045
D046
D055
D058
D040
DIAMOND BAR
CITY OF INDUSTRY
CHINO HILLS
D072
D041
N
0
185
370
740
1,110
Feet
D072
D041
SAN JOSE

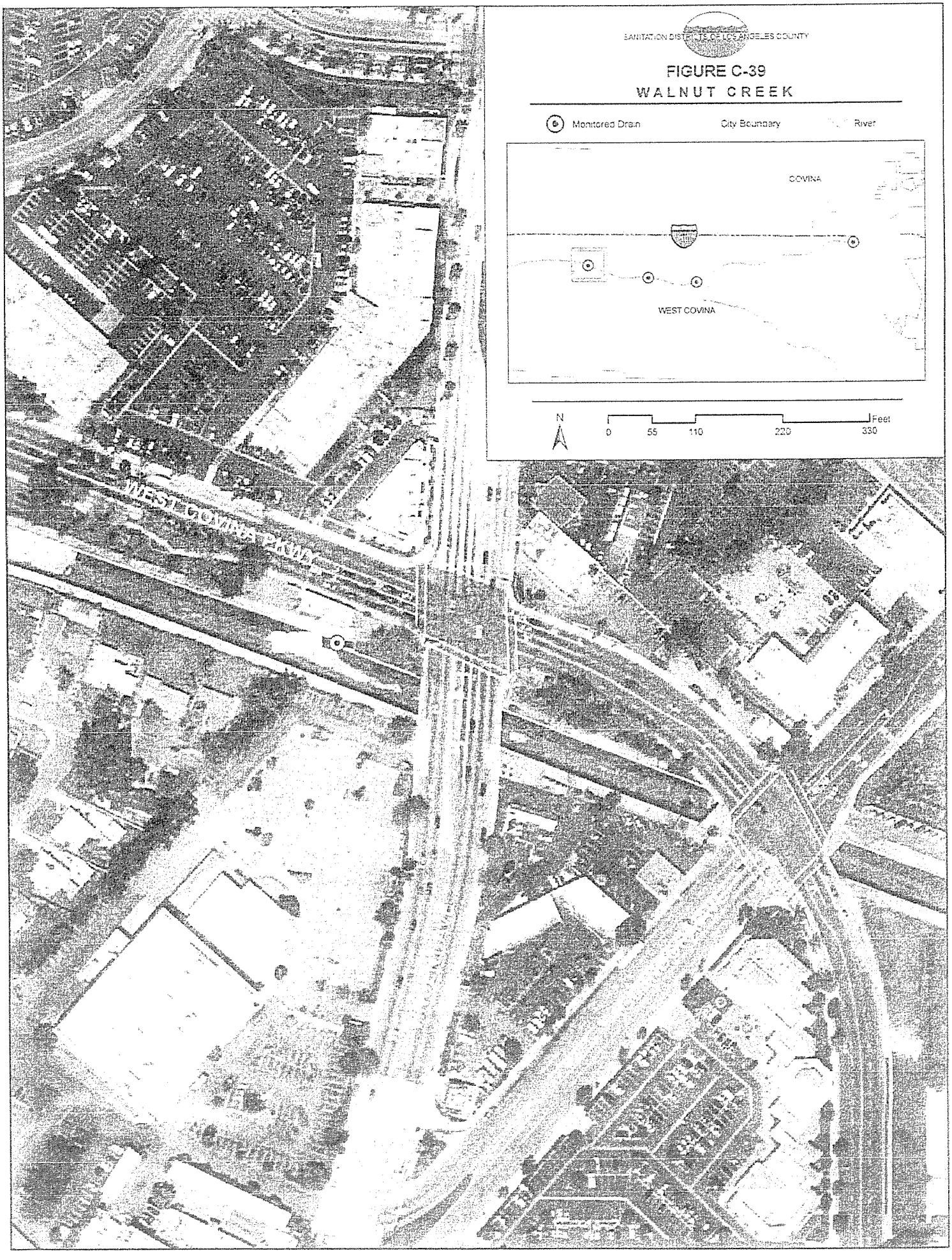

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-34
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
WEST COVINA
POMONA
LA PUENTE
WALNUT
DIAMOND BAR
CHINO HILLS
CITY OF INDUSTRY
D042
D054
D061
D045
D046
D055
D065
D040
D044
D072
D041
D043
D044
CHESTNUT ST
N
0
150
300
600
900
Feet

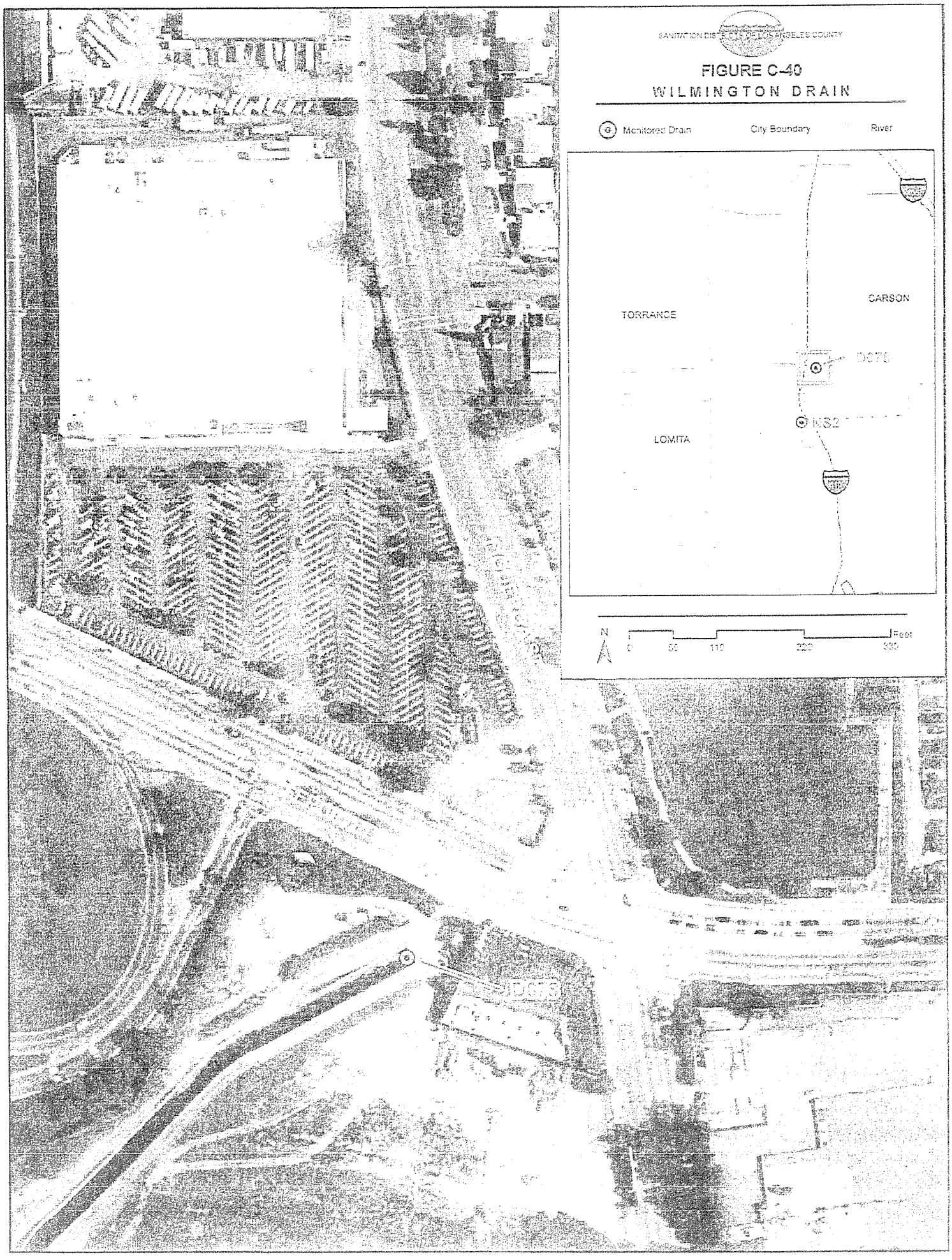

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-35
SAN JOSE CREEK
Monitored Drain
City Boundary
River
BALDWIN PARK
COVINA
SAN DIMAS
LA VERNE
D042
D043
D061
D054
POMONA
WEST COVINA
WALNUT
LA PUENTE
D045
D044
D046
D055
D058
D040
DIAMOND BAR
CITY OF INDUSTRY
D072
D041
CHINO HILLS
N
0
60
120
240
360
Feet
DON JULIAN RD
PARRIOTT PL
SALT LAKE AVE
HACIENDA BLVD
D045

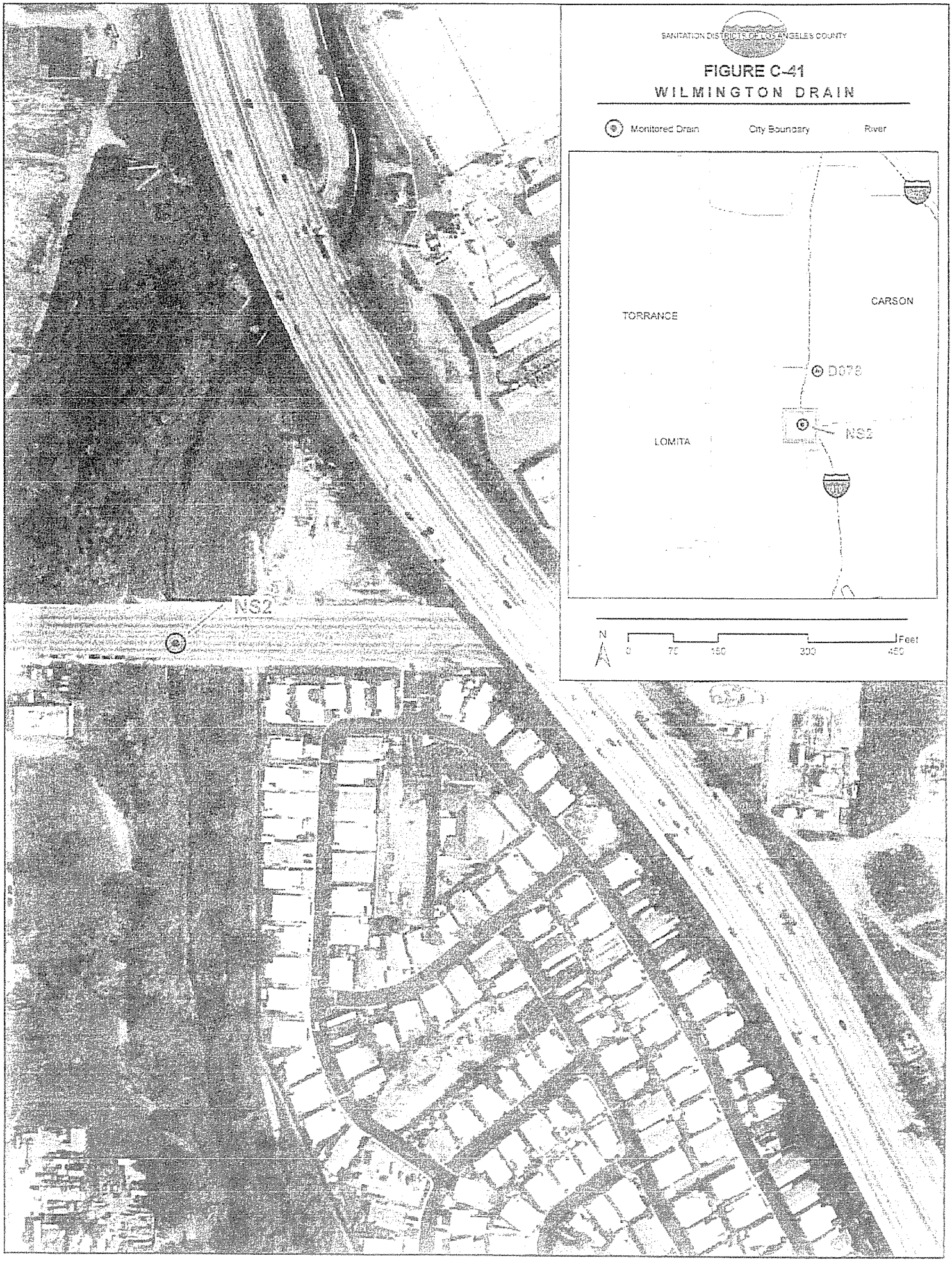

SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-36
WALNUT CREEK
Monitored Drain
City Boundary
River
COVINA
WEST COVINA
N
0
55
110
220
330
Feet
10


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-37
WALNUT CREEK
Monitored Drain
City Boundary
River
COVINA
WEST COVINA
N
0
55
110
220
330
Feet
AZUSA AVE
CORTEZ ST


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-38
WALNUT CREEK
Monitored Drain
City Boundary
River
COVINA
WEST COVINA
N
0
55
110
220
330
Feet
WALNUT CREEK PKWY
SUNSET RIDGE DR
SERVICE AVE


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-39
WALNUT CREEK
Monitored Drain
City Boundary
River
COVINA
WEST COVINA
N
0
55
110
220
330
Feet


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-40
WILMINGTON DRAIN
Monitored Drain
City Boundary
River
TORRANCE
CARSON
LOMITA
D075
WS2
N
0
55
110
220
330
Feet


SANITATION DISTRICTS OF LOS ANGELES COUNTY
FIGURE C-41
WILMINGTON DRAIN
Monitored Drain
City Boundary
River
TORRANCE
CARSON
LOMITA
D078
NS2
NS2
N
0
75
150
300
450
Feet

Appendix D

Laboratory data

Site ID	D040
Drain Description	Groundwater drain on south side of San Jose Creek
Date	04/29/2004
Time	8:19
Flow	0.12 cfs
Sample ID Number	JW11621
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)	<	10	COL/0.1L
356	FECAL COLIFORM (MF)	<	10	COL/0.1L
357	ENTEROCOCCUS	<	10	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	5	MG/L
403	TOTAL COD	<	8	MG/L
712	COPPER		0.006	MG/L
714	LEAD		0.053	MG/L
724	ZINC		0.029	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D041
Drain Description	Multiple outlet channel on south side of San Jose Creek at Nogales Street
Date	04/29/2004
Time	9:20
Flow	1.3 cfs
Sample ID Number	JW11622
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		81000	COL/0.1L
356	FECAL COLIFORM (MF)		2200	COL/0.1L
357	ENTEROCOCCUS		25000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		935	MG/L
403	TOTAL COD		63	MG/L
712	COPPER		0.051	MG/L
714	LEAD		0.072	MG/L
724	ZINC		0.209	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D041
Drain Description	Multiple outlet channel on south side of San Jose Creek at Nogales Street
Date	07/22/2004
Time	8:00
Flow	3.13 cfs
Sample ID Number	JW12672
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		8000	COL/0.1L
356	FECAL COLIFORM (MF)		330	COL/0.1L
357	ENTEROCOCCUS		560	COL/0.1L
101	pH		8	PH
111	TEMPERATURE			DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		1.9	MG/L
403	TOTAL COD		8	MG/L
712	COPPER		0.009	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.009	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D042
Drain Description	East side of San Jose Creek at White Avenue and Preciado Street
Date	05/05/2004
Time	9:45
Flow	0.4 cfs
Sample ID Number	JW11702
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		200000	COL/0.1L
356	FECAL COLIFORM (MF)		13000	COL/0.1L
357	ENTEROCOCCUS		13000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		19	MG/L
403	TOTAL COD		22	MG/L
712	COPPER		0.017	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.059	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D042
Drain Description	East side of San Jose Creek at White Avenue and Preciado Street
Date	07/19/2004
Time	8:25
Flow	0.212 cfs
Sample ID Number	JW12636
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		30000	COL/0.1L
356	FECAL COLIFORM (MF)		1400	COL/0.1L
357	ENTEROCOCCUS		4000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		5.2	MG/L
403	TOTAL COD	<	8	MG/L
712	COPPER	E	0.004	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.057	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D043
Drain Description	North side of San Jose Creek at East Corporate Circle Drive
Date	05/05/2004
Time	10:40
Flow	0.07 cfs
Sample ID Number	JW11703
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		1600	COL/0.1L
356	FECAL COLIFORM (MF)		40	COL/0.1L
357	ENTEROCOCCUS		700	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		72	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	5	MG/L
403	TOTAL COD	<	8	MG/L
712	COPPER	E	0.002	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D044
Drain Description	South side of San Jose Creek, downstream of Kearn Creek Court
Date	05/11/2004
Time	8:55
Flow	0.2 cfs
Sample ID Number	JW11863
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120	COL/0.1L
356	FECAL COLIFORM (MF)	<	10	COL/0.1L
357	ENTEROCOCCUS		60	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.4	MG/L
403	TOTAL COD	<	8	MG/L
712	COPPER		0.015	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.064	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D045
Drain Description	North side of San Jose Creek at Hacienda Boulevard
Date	05/11/2004
Time	9:45
Flow	0.001 cfs
Sample ID Number	JW11864
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		43000	COL/0.1L
356	FECAL COLIFORM (MF)		9000	COL/0.1L
357	ENTEROCOCCUS		5500	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.9	MG/L
403	TOTAL COD		13	MG/L
712	COPPER	E	0.004	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D046
Drain Description	North side of San Jose Creek, downstream of Anaheim and Puente Road
Date	05/11/2004
Time	10:15
Flow	0.03 cfs
Sample ID Number	JW11865
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		12000	COL/0.1L
356	FECAL COLIFORM (MF)		1400	COL/0.1L
357	ENTEROCOCCUS		1100	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE			MG/L
151	SUSPENDED SOLIDS		59	MG/L
403	TOTAL COD		98	MG/L
712	COPPER		0.011	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D047
Drain Description	North side of Walnut Creek at Lark Ellen Avenue
Date	05/19/2004
Time	8:40
Flow	0.01 cfs
Sample ID Number	JW12017
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		70000	COL/0.1L
356	FECAL COLIFORM (MF)		7000	COL/0.1L
357	ENTEROCOCCUS		21000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		12	MG/L
403	TOTAL COD		45	MG/L
712	COPPER		0.044	MG/L
714	LEAD		0.011	MG/L
724	ZINC		0.11	MG/L
500000000	CHLORPYRIFOS	<	0.5	UG/L
5000000000	DIAZINON	<	0.5	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D047
Drain Description	North side of Walnut Creek at Lark Ellen Avenue
Date	07/28/2004
Time	9:05
Flow	0.028 cfs
Sample ID Number	JW12711
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		70000	COL/0.1L
356	FECAL COLIFORM (MF)		19000	COL/0.1L
357	ENTEROCOCCUS		5500	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		15	MG/L
403	TOTAL COD		56	MG/L
712	COPPER		0.011	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D048
Drain Description	South side of Walnut Creek at Azusa Avenue
Date	05/19/2004
Time	9:20
Flow	0.56 cfs
Sample ID Number	JW12018
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		44000	COL/0.1L
356	FECAL COLIFORM (MF)		700	COL/0.1L
357	ENTEROCOCCUS		3000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.1	MG/L
403	TOTAL COD		8	MG/L
712	COPPER		0.007	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.009	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D048
Drain Description	South side of Walnut Creek at Azusa Avenue
Date	07/28/2004
Time	8:45
Flow	0.5 cfs
Sample ID Number	JW12712
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		23000	COL/0.1L
356	FECAL COLIFORM (MF)		4000	COL/0.1L
357	ENTEROCOCCUS		5800	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		7.7	MG/L
403	TOTAL COD		16	MG/L
712	COPPER		0.009	MG/L
714	LEAD		0.012	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D049
Drain Description	West side of Dominguez Channel, south of Manhattan Beach Boulevard
Date	05/25/2004
Time	9:50
Flow	0.006 cfs
Sample ID Number	JW12091
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120000	COL/0.1L
356	FECAL COLIFORM (MF)		6900	COL/0.1L
357	ENTEROCOCCUS		31000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		62	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		86	MG/L
403	TOTAL COD		88	MG/L
712	COPPER		0.009	MG/L
714	LEAD	E	0.007	MG/L
724	ZINC		0.056	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D050
Drain Description	West side of Dominguez Channel at Manhattan Beach Boulevard, Southwest Outlet
Date	05/25/2004
Time	10:55
Flow	0.17 cfs
Sample ID Number	JW12092
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		33000	COL/0.1L
356	FECAL COLIFORM (MF)		780	COL/0.1L
357	ENTEROCOCCUS		1600	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3	MG/L
403	TOTAL COD		32	MG/L
712	COPPER		0.015	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.033	MG/L
500000000	CHLORPYRIFOS	<	0.5	UG/L
5000000000	DIAZINON	<	0.5	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D050
Drain Description	West side of Dominguez Channel at Manhattan Beach Boulevard, Southwest Outlet
Date	08/05/2004
Time	9:00
Flow	1.98 cfs
Sample ID Number	JW12914
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		4800	COL/0.1L
356	FECAL COLIFORM (MF)		420	COL/0.1L
357	ENTEROCOCCUS		160	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		404	MG/L
403	TOTAL COD		28	MG/L
712	COPPER		0.036	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.096	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D051
Drain Description	West side of Dominguez Channel at Manhattan Beach Boulevard, Northwest Outlet
Date	05/25/2004
Time	11:05
Flow	0.08 cfs
Sample ID Number	JW12093
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		20000	COL/0.1L
356	FECAL COLIFORM (MF)		470	COL/0.1L
357	ENTEROCOCCUS		960	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.8	MG/L
403	TOTAL COD		34	MG/L
712	COPPER		0.014	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.033	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D052
Drain Description	Dominguez Channel at Western Avenue, 72" Outlet
Date	05/26/2004
Time	8:55
Flow	0.017 cfs
Sample ID Number	JW12109
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		340000	COL/0.1L
356	FECAL COLIFORM (MF)		18000	COL/0.1L
357	ENTEROCOCCUS		23000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.2	MG/L
403	TOTAL COD		31	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.032	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D052
Drain Description	Dominguez Channel at Western Avenue, 72" Outlet
Date	05/26/2004
Time	8:55
Flow	0.017 cfs
Sample ID Number	JW12110
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		210000	COL/0.1L
356	FECAL COLIFORM (MF)		16000	COL/0.1L
357	ENTEROCOCCUS		28000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.2	MG/L
403	TOTAL COD		31	MG/L
712	COPPER	E	0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.031	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D053
Drain Description	Dominguez Channel at Western Avenue, 42" Outlet
Date	05/26/2004
Time	9:25
Flow	0.001 cfs
Sample ID Number	JW12111
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		400000	COL/0.1L
356	FECAL COLIFORM (MF)		2400	COL/0.1L
357	ENTEROCOCCUS		4100	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.4	MG/L
403	TOTAL COD		32	MG/L
712	COPPER	E	0.005	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.047	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D054
Drain Description	North side of San Jose Creek at Campus Drive and Citrus Lane
Date	06/08/2004
Time	9:30
Flow	0.15 cfs
Sample ID Number	JW12297
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		13000	COL/0.1L
356	FECAL COLIFORM (MF)		700	COL/0.1L
357	ENTEROCOCCUS		3000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	2	MG/L
403	TOTAL COD		29	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.026	MG/L
500000000	CHLORPYRIFOS	<	0.5	UG/L
5000000000	DIAZINON	<	0.5	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D055
Drain Description	South side of San Jose Creek at Cheryl Lane
Date	06/08/2004
Time	9:50
Flow	0.115 cfs
Sample ID Number	JW12298
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		40	COL/0.1L
356	FECAL COLIFORM (MF)	<	10	COL/0.1L
357	ENTEROCOCCUS	<	10	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	1	MG/L
403	TOTAL COD	<	8	MG/L
712	COPPER	E	0.005	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L
500000000	CHLORPYRIFOS	<	0.5	UG/L
5000000000	DIAZINON	<	0.5	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D056
Drain Description	North side of Walnut Creek at Vincent Avenue
Date	06/09/2004
Time	8:25
Flow	0.087 cfs
Sample ID Number	JW12337
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		200000	COL/0.1L
356	FECAL COLIFORM (MF)		6000	COL/0.1L
357	ENTEROCOCCUS		22000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		7.8	MG/L
403	TOTAL COD		30	MG/L
712	COPPER		0.015	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.036	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D056
Drain Description	North side of Walnut Creek at Vincent Avenue
Date	07/28/2004
Time	8:10
Flow	0.06 cfs
Sample ID Number	JW12713
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		700000	COL/0.1L
356	FECAL COLIFORM (MF)		53000	COL/0.1L
357	ENTEROCOCCUS		15000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		8.8	MG/L
403	TOTAL COD		49	MG/L
712	COPPER		0.018	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.024	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D057
Drain Description	South side of Walnut Creek at Barranca Avenue
Date	06/09/2004
Time	9:20
Flow	0.088 cfs
Sample ID Number	JW12338
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		160000	COL/0.1L
356	FECAL COLIFORM (MF)		1600	COL/0.1L
357	ENTEROCOCCUS		21000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE			MG/L
151	SUSPENDED SOLIDS		8.4	MG/L
403	TOTAL COD		26	MG/L
712	COPPER		0.025	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.013	MG/L
500000000	CHLORPYRIFOS	<	0.5	UG/L
5000000000	DIAZINON	<	0.5	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D058
Drain Description	North side of San Jose Creek at Lemon Avenue
Date	06/09/2004
Time	11:00
Flow	Not available
Sample ID Number	JW12339
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		19000	COL/0.1L
356	FECAL COLIFORM (MF)		100	COL/0.1L
357	ENTEROCOCCUS		590	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.2	MG/L
403	TOTAL COD		16	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D059
Drain Description	East side of Dominguez Channel, north of Rosecrans Avenue, 96" elevated box
Date	06/15/2004
Time	8:25
Flow	0.004 cfs
Sample ID Number	JW12371
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		1800000	COL/0.1L
356	FECAL COLIFORM (MF)		23000	COL/0.1L
357	ENTEROCOCCUS		2700	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	2	MG/L
403	TOTAL COD		62	MG/L
712	COPPER	E	0.004	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.022	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D060
Drain Description	First drain entering Dominguez Channel from the east
Date	06/15/2004
Time	9:35
Flow	Not available
Sample ID Number	JW12372
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		160000	COL/0.1L
356	FECAL COLIFORM (MF)		14000	COL/0.1L
357	ENTEROCOCCUS		10000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		9.2	MG/L
403	TOTAL COD		58	MG/L
712	COPPER		0.009	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.083	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D061
Drain Description	North side of San Jose Creek at Corporate Center Drive
Date	06/08/2004
Time	9:00
Flow	0.025 cfs
Sample ID Number	JW12296
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		34000	COL/0.1L
356	FECAL COLIFORM (MF)		2000	COL/0.1L
357	ENTEROCOCCUS		2900	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		9	MG/L
403	TOTAL COD		22	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.01	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D062
Drain Description	East side of Los Angeles River at Atlantic Boulevard
Date	06/16/2004
Time	8:50
Flow	Not available
Sample ID Number	JW12378
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		15000	COL/0.1L
356	FECAL COLIFORM (MF)		55	COL/0.1L
357	ENTEROCOCCUS		860	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	2	MG/L
403	TOTAL COD		18	MG/L
712	COPPER		0.008	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.008	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D062
Drain Description	East side of Los Angeles River at Atlantic Boulevard
Date	08/18/2004
Time	8:15
Flow	0.86 cfs
Sample ID Number	JW13115
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		13000	COL/0.1L
356	FECAL COLIFORM (MF)		450	COL/0.1L
357	ENTEROCOCCUS		1600	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		31	MG/L
403	TOTAL COD		11	MG/L
712	COPPER		0.007	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	<	0.025	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D062
Drain Description	East side of Los Angeles River at Atlantic Boulevard
Date	08/18/2004
Time	8:15
Flow	0.86 cfs
Sample ID Number	JW13116
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		6500	COL/0.1L
356	FECAL COLIFORM (MF)		590	COL/0.1L
357	ENTEROCOCCUS		2300	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		28	MG/L
403	TOTAL COD		12	MG/L
712	COPPER		0.008	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.008	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D063
Drain Description	East side of Los Angeles River, between Atlantic Boulevard and Slauson Avenue
Date	06/16/2004
Time	9:10
Flow	Not available
Sample ID Number	JW12379
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		100000	COL/0.1L
356	FECAL COLIFORM (MF)		7000	COL/0.1L
357	ENTEROCOCCUS		5000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		9.8	MG/L
403	TOTAL COD		98	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.047	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D063
Drain Description	East side of Los Angeles River, between Atlantic Boulevard and Slauson Avenue
Date	04/20/2005
Time	8:30
Flow	0.019 cfs
Sample ID Number	JW21418
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		24000	COL/0.1L
356	FECAL COLIFORM (MF)		1500	COL/0.1L
357	ENTEROCOCCUS		140	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		58	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.3	MG/L
403	TOTAL COD		87	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.039	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D063
Drain Description	East side of Los Angeles River, between Atlantic Boulevard and Slauson Avenue
Date	04/20/2005
Time	8:30
Flow	0.019 cfs
Sample ID Number	JW21419
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	12000	COL/0.1L
356	FECAL COLIFORM (MF)	220	COL/0.1L
357	ENTEROCOCCUS	85	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D064
Drain Description	East side of Los Angeles River, north of Slauson Avenue
Date	06/16/2004
Time	9:30
Flow	Not available
Sample ID Number	JW12380
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		2000	COL/0.1L
356	FECAL COLIFORM (MF)		480	COL/0.1L
357	ENTEROCOCCUS		980	COL/0.1L
101	pH			PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	2	MG/L
403	TOTAL COD		30	MG/L
712	COPPER	E	0.002	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.012	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D065
Drain Description	East side of Los Angeles River, north of Atlantic Boulevard in the City of Vernon
Date	06/23/2004
Time	8:15
Flow	Not available
Sample ID Number	JW12451
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		95000	COL/0.1L
356	FECAL COLIFORM (MF)		3000	COL/0.1L
357	ENTEROCOCCUS		2300	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.2	MG/L
403	TOTAL COD		62	MG/L
712	COPPER		0.011	MG/L
714	LEAD		0.026	MG/L
724	ZINC		0.044	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D065
Drain Description	East side of Los Angeles River, north of Atlantic Boulevard in the City of Vernon
Date	06/23/2004
Time	8:15
Flow	Not available
Sample ID Number	JW12452
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		80000	COL/0.1L
356	FECAL COLIFORM (MF)		900	COL/0.1L
357	ENTEROCOCCUS		1200	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		66	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		11	MG/L
403	TOTAL COD		63	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.044	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D065
Drain Description	East side of Los Angeles River, north of Atlantic Boulevard in the City of Vernon
Date	08/18/2004
Time	9:10
Flow	0.029 cfs
Sample ID Number	JW13117
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		60000	COL/0.1L
356	FECAL COLIFORM (MF)		27000	COL/0.1L
357	ENTEROCOCCUS		10000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		72	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		68	MG/L
403	TOTAL COD		87	MG/L
712	COPPER		0.025	MG/L
714	LEAD		0.01	MG/L
724	ZINC		0.125	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D066
Drain Description	East side of Los Angeles River, south of Imperial Highway
Date	06/23/2004
Time	8:45
Flow	Not available
Sample ID Number	JW12453
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		24000	COL/0.1L
356	FECAL COLIFORM (MF)		1500	COL/0.1L
357	ENTEROCOCCUS		1800	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		28	MG/L
403	TOTAL COD		20	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.048	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D067
Drain Description	Small drain entering Dominguez Channel from north at transition to trapezoidal channel
Date	06/24/2004
Time	10:00
Flow	0.001 cfs
Sample ID Number	JW12468
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		280000	COL/0.1L
356	FECAL COLIFORM (MF)		750	COL/0.1L
357	ENTEROCOCCUS		20000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.1	MG/L
403	TOTAL COD		46	MG/L
712	COPPER		0.014	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.035	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D068
Drain Description	West side of Dominguez Channel at 223rd Street
Date	06/24/2004
Time	10:00
Flow	0.01 cfs
Sample ID Number	JW12469
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		20000	COL/0.1L
356	FECAL COLIFORM (MF)		18000	COL/0.1L
357	ENTEROCOCCUS		6000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE			DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.8	MG/L
403	TOTAL COD		64	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.092	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D069
Drain Description	East side of San Gabriel River, south of South Street
Date	06/30/2004
Time	9:30
Flow	0.05 cfs
Sample ID Number	JW12529
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120000	COL/0.1L
356	FECAL COLIFORM (MF)		600	COL/0.1L
357	ENTEROCOCCUS		4100	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		72	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		1.6	MG/L
403	TOTAL COD		28	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.121	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D069
Drain Description	East side of San Gabriel River, south of South Street
Date	02/08/2005
Time	10:20
Flow	0.034 cfs
Sample ID Number	JW20424
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		210000	COL/0.1L
356	FECAL COLIFORM (MF)		440	COL/0.1L
357	ENTEROCOCCUS		210	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS			MG/L
403	TOTAL COD		26	MG/L
712	COPPER		0.013	MG/L
714	LEAD	E	0.004	MG/L
724	ZINC		0.084	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D070
Drain Description	Daylight of Dominguez Channel at 116th Street
Date	06/30/2004
Time	11:50
Flow	0.0035 cfs
Sample ID Number	JW12530
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		2200000	COL/0.1L
356	FECAL COLIFORM (MF)		11000	COL/0.1L
357	ENTEROCOCCUS		1200	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		7.4	MG/L
403	TOTAL COD		28	MG/L
712	COPPER		0.019	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.055	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D070
Drain Description	Daylight of Dominguez Channel at 116th Street
Date	06/30/2004
Time	11:50
Flow	0.0035 cfs
Sample ID Number	JW12531
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		1300000	COL/0.1L
356	FECAL COLIFORM (MF)		16000	COL/0.1L
357	ENTEROCOCCUS		900	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		69	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		6.8	MG/L
403	TOTAL COD		27	MG/L
712	COPPER		0.019	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.049	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D071
Drain Description	West side of Dominguez Channel, south of the 105 Freeway
Date	07/07/2004
Time	9:10
Flow	33.5 cfs
Sample ID Number	JW12559
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		20	COL/0.1L
356	FECAL COLIFORM (MF)	<	10	COL/0.1L
357	ENTEROCOCCUS	<	10	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		1	MG/L
403	TOTAL COD		8	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.019	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D072
Drain Description	North side of San Jose Creek, downstream of Nogales Street
Date	07/19/2004
Time	10:20
Flow	0.095 cfs
Sample ID Number	JW12637
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		75000	COL/0.1L
356	FECAL COLIFORM (MF)		6800	COL/0.1L
357	ENTEROCOCCUS		3100	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		77	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		42	MG/L
403	TOTAL COD		30	MG/L
712	COPPER		0.031	MG/L
714	LEAD		0.008	MG/L
724	ZINC		0.044	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D073
Drain Description	North side of Dominguez Channel, east of Normandie Avenue
Date	08/05/2004
Time	10:00
Flow	0.16 cfs
Sample ID Number	JW12915
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)	>	9999999	COL/0.1L
356	FECAL COLIFORM (MF)	>	9999999	COL/0.1L
357	ENTEROCOCCUS		160000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		86	MG/L
403	TOTAL COD		220	MG/L
712	COPPER		0.023	MG/L
714	LEAD		0.02	MG/L
724	ZINC		0.062	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D073
Drain Description	North side of Dominguez Channel, east of Normandie Avenue
Date	03/01/2005
Time	9:20
Flow	0.245 cfs
Sample ID Number	JW20723
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		230000	COL/0.1L
356	FECAL COLIFORM (MF)		3700	COL/0.1L
357	ENTEROCOCCUS		2900	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		67	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		7	MG/L
403	TOTAL COD		26	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.032	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D073
Drain Description	North side of Dominguez Channel, east of Normandie Avenue
Date	03/01/2005
Time	9:20
Flow	0.245 cfs
Sample ID Number	JW20724
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	270000	COL/0.1L
356	FECAL COLIFORM (MF)	3900	COL/0.1L
357	ENTEROCOCCUS	3100	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D074
Drain Description	West side of Coyote Creek at Shoemaker Avenue
Date	08/17/2004
Time	10:10
Flow	0.81 cfs
Sample ID Number	JW13102
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120000	COL/0.1L
356	FECAL COLIFORM (MF)		17000	COL/0.1L
357	ENTEROCOCCUS		2000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		74	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		58	MG/L
403	TOTAL COD		30	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.044	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D074
Drain Description	West side of Coyote Creek at Shoemaker Avenue
Date	03/08/2005
Time	9:15
Flow	1.16 cfs
Sample ID Number	JW20822
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		200000	COL/0.1L
356	FECAL COLIFORM (MF)		120	COL/0.1L
357	ENTEROCOCCUS		2100	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		5	MG/L
403	TOTAL COD		26	MG/L
712	COPPER		0.015	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.017	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D074
Drain Description	West side of Coyote Creek at Shoemaker Avenue
Date	03/08/2005
Time	9:15
Flow	1.16 cfs
Sample ID Number	JW20823
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	110000	COL/0.1L
356	FECAL COLIFORM (MF)	140	COL/0.1L
357	ENTEROCOCCUS	1800	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D075
Drain Description	West side of Coyote Creek at Rosecrans Avenue
Date	08/17/2004
Time	10:55
Flow	Not available
Sample ID Number	JW13103
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		76000	COL/0.1L
356	FECAL COLIFORM (MF)		7000	COL/0.1L
357	ENTEROCOCCUS		3400	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		78	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		36	MG/L
403	TOTAL COD		43	MG/L
712	COPPER		0.016	MG/L
714	LEAD	E	0.005	MG/L
724	ZINC		0.09	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D075
Drain Description	West side of Coyote Creek at Rosecrans Avenue
Date	03/08/2005
Time	8:40
Flow	Not available
Sample ID Number	JW20820
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		210000	COL/0.1L
356	FECAL COLIFORM (MF)		12000	COL/0.1L
357	ENTEROCOCCUS		10000	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		62	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		36	MG/L
403	TOTAL COD		55	MG/L
712	COPPER		0.022	MG/L
714	LEAD		0.008	MG/L
724	ZINC		0.105	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D075
Drain Description	West side of Coyote Creek at Rosecrans Avenue
Date	03/08/2005
Time	8:40
Flow	Not available
Sample ID Number	JW20821
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	420000	COL/0.1L
356	FECAL COLIFORM (MF)	10000	COL/0.1L
357	ENTEROCOCCUS	30000	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D076
Drain Description	Daylight of Maplewood Channel
Date	08/25/2004
Time	9:00
Flow	0.68 cfs
Sample ID Number	JW13179
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		900000	COL/0.1L
356	FECAL COLIFORM (MF)		1900	COL/0.1L
357	ENTEROCOCCUS		8000	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		12	MG/L
403	TOTAL COD		14	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.059	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D076
Drain Description	Daylight of Maplewood Channel
Date	02/08/2005
Time	9:40
Flow	0.694 cfs
Sample ID Number	JW20423
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		2800	COL/0.1L
356	FECAL COLIFORM (MF)		120	COL/0.1L
357	ENTEROCOCCUS		620	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		62	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS			MG/L
403	TOTAL COD		8	MG/L
712	COPPER	E	0.004	MG/L
714	LEAD	E	0.005	MG/L
724	ZINC		0.029	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D077
Drain Description	Daylight of Project 21, Line A (at Grayland Avenue and South Street in Artesia)
Date	08/26/2004
Time	8:45
Flow	0.667 cfs
Sample ID Number	JW13258
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		80000	COL/0.1L
356	FECAL COLIFORM (MF)		14000	COL/0.1L
357	ENTEROCOCCUS		9800	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		11	MG/L
403	TOTAL COD		54	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.074	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D077
Drain Description	Daylight of Project 21, Line A (at Grayland Avenue and South Street in Artesia)
Date	03/08/2005
Time	10:05
Flow	0.278 cfs
Sample ID Number	JW20824
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		180000	COL/0.1L
356	FECAL COLIFORM (MF)		2300	COL/0.1L
357	ENTEROCOCCUS		680	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		62	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3	MG/L
403	TOTAL COD		20	MG/L
712	COPPER		0.011	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.061	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D077
Drain Description	Daylight of Project 21, Line A (at Grayland Avenue and South Street in Artesia)
Date	03/08/2005
Time	10:05
Flow	0.278 cfs
Sample ID Number	JW20825
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	320000	COL/0.1L
356	FECAL COLIFORM (MF)	2300	COL/0.1L
357	ENTEROCOCCUS	980	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D078
Drain Description	Wilmington Drain daylight at Sepulveda Boulevard
Date	08/26/2004
Time	10:35
Flow	Not available
Sample ID Number	JW13259
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		10000	COL/0.1L
356	FECAL COLIFORM (MF)		1600	COL/0.1L
357	ENTEROCOCCUS		2000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		6.6	MG/L
403	TOTAL COD		64	MG/L
712	COPPER		0.01	MG/L
714	LEAD	E	0.004	MG/L
724	ZINC		0.053	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D078
Drain Description	Wilmington Drain daylight at Sepulveda Boulevard
Date	03/01/2005
Time	10:00
Flow	0.054 cfs
Sample ID Number	JW20725
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		230000	COL/0.1L
356	FECAL COLIFORM (MF)		1200	COL/0.1L
357	ENTEROCOCCUS		380	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		60	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		18	MG/L
403	TOTAL COD		47	MG/L
712	COPPER		0.018	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.105	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D078
Drain Description	Wilmington Drain daylight at Sepulveda Boulevard
Date	03/01/2005
Time	10:00
Flow	0.054 cfs
Sample ID Number	JW20726
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	70000	COL/0.1L
356	FECAL COLIFORM (MF)	900	COL/0.1L
357	ENTEROCOCCUS	420	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D079
Drain Description	East side of Rio Hondo at Rush Street
Date	09/16/2004
Time	8:40
Flow	0.016 cfs
Sample ID Number	JW13412
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		1000000	COL/0.1L
356	FECAL COLIFORM (MF)		44000	COL/0.1L
357	ENTEROCOCCUS		41000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		72	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		8.2	MG/L
403	TOTAL COD		45	MG/L
408	OIL & GREASE	<	4	MG/L
725	ANTIMONY		0.0008	MG/L
705	ARSENIC		0.0025	MG/L
706	BARIUM		0.086	MG/L
726	BERYLLIUM	<	0.0005	MG/L
708	CADMIUM	<	0.0004	MG/L
710	HEXAVALENT CHROMIUM	<	0.1	MG/L
709	TOTAL CHROMIUM	<	0.01	MG/L
712	COPPER		0.018	MG/L
831	FLUORENE	<	0.02	UG/L
713	IRON		0.605	MG/L
714	LEAD	<	0.008	MG/L
717	MERCURY	<	0.00004	MG/L
718	NICKEL	<	0.02	MG/L
720	SELENIUM	E	0.0009	MG/L
722	SILVER	<	0.2	UG/L
734	THALLIUM	<	0.001	MG/L
724	ZINC		0.04	MG/L
802	ANTHRACENE	<	0.02	UG/L
804	BENZO(A)ANTHRACENE	<	0.02	UG/L
805	BENZO(A)PYRENE	<	0.02	UG/L
806	BENZO(B)FLUORANTHENE	<	0.02	UG/L
807	BENZO(GHI)PERYLENE	<	0.02	UG/L
808	BENZO(K)FLUORANTHENE	<	0.02	UG/L
817	CHRYSENE	<	0.02	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Test Code	*Test Description*	*Result*		
818	DIBENZO(A,H)ANTHRACENE	<	0.02	UG/L
836	INDENO(1,2,3-C,D)PYRENE	<	0.02	UG/L
842	PHENANTHRENE	<	0.02	UG/L
843	PYRENE	<	0.02	UG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D079
Drain Description	East side of Rio Hondo at Rush Street
Date	07/13/2005
Time	9:00
Flow	0.016 cfs
Sample ID Number	JW22474
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		39000	COL/0.1L
356	FECAL COLIFORM (MF)		2000	COL/0.1L
357	ENTEROCOCCUS		340	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		6.2	MG/L
403	TOTAL COD		47	MG/L
712	COPPER		0.0085	MG/L
714	LEAD		0.0036	MG/L
724	ZINC		0.092	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D079
Drain Description	East side of Rio Hondo at Rush Street
Date	07/13/2005
Time	9:00
Flow	0.016 cfs
Sample ID Number	JW22475
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	40000	COL/0.1L
356	FECAL COLIFORM (MF)	1900	COL/0.1L
357	ENTEROCOCCUS	280	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D080
Drain Description	West side of Rio Hondo, north of San Gabriel Boulevard
Date	09/16/2004
Time	10:00
Flow	0.121 cfs
Sample ID Number	JW13413
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		57000	COL/0.1L
356	FECAL COLIFORM (MF)		2600	COL/0.1L
357	ENTEROCOCCUS		4900	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		74	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		11	MG/L
403	TOTAL COD		16	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.016	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D080
Drain Description	West side of Rio Hondo, north of San Gabriel Boulevard
Date	07/13/2005
Time	9:30
Flow	0.75 cfs
Sample ID Number	JW22476
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		24000	COL/0.1L
356	FECAL COLIFORM (MF)		6000	COL/0.1L
357	ENTEROCOCCUS		230	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		70	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS	<	2	MG/L
403	TOTAL COD		18	MG/L
712	COPPER		0.005	MG/L
714	LEAD		0.00047	MG/L
724	ZINC		0.013	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D080
Drain Description	West side of Rio Hondo, north of San Gabriel Boulevard
Date	07/13/2005
Time	9:30
Flow	0.75 cfs
Sample ID Number	JW22477
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	24000	COL/0.1L
356	FECAL COLIFORM (MF)	8000	COL/0.1L
357	ENTEROCOCCUS	2200	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D081
Drain Description	West side of Los Angeles River at Southern Avenue
Date	09/22/2004
Time	9:00
Flow	0.146 cfs
Sample ID Number	JW13444
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		60000	COL/0.1L
356	FECAL COLIFORM (MF)		2300	COL/0.1L
357	ENTEROCOCCUS		750	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		76	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		10	MG/L
403	TOTAL COD		46	MG/L
712	COPPER		0.02	MG/L
714	LEAD		0.017	MG/L
724	ZINC		0.094	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D081
Drain Description	West side of Los Angeles River at Southern Avenue
Date	01/20/2005
Time	9:45
Flow	0.183 cfs
Sample ID Number	JW20211
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		960000	COL/0.1L
356	FECAL COLIFORM (MF)		2600	COL/0.1L
357	ENTEROCOCCUS		3000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		5	MG/L
403	TOTAL COD		23	MG/L
712	COPPER		0.01	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.144	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D082
Drain Description	East side of Los Angeles River, downstream of Firestone Boulevard and upstream of railroad crossing
Date	09/22/2004
Time	9:30
Flow	1.15 cfs
Sample ID Number	JW13445
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120000	COL/0.1L
356	FECAL COLIFORM (MF)		900	COL/0.1L
357	ENTEROCOCCUS		1300	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3.9	MG/L
403	TOTAL COD		22	MG/L
712	COPPER		0.015	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.022	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D082
Drain Description	East side of Los Angeles River, downstream of Firestone Boulevard and upstream of railroad crossing
Date	04/20/2005
Time	9:00
Flow	0.56 cfs
Sample ID Number	JW21420
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		30000	COL/0.1L
356	FECAL COLIFORM (MF)		1600	COL/0.1L
357	ENTEROCOCCUS		1600	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		60	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		7.6	MG/L
403	TOTAL COD		35	MG/L
712	COPPER		0.011	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.228	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D082
Drain Description	East side of Los Angeles River, downstream of Firestone Boulevard and upstream of railroad crossing
Date	04/20/2005
Time	9:00
Flow	0.56 cfs
Sample ID Number	JW21421
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	140000	COL/0.1L
356	FECAL COLIFORM (MF)	2200	COL/0.1L
357	ENTEROCOCCUS	1000	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D083
Drain Description	West side of Rio Hondo at Ford Park Golf Course
Date	09/22/2004
Time	10:00
Flow	0.433 cfs
Sample ID Number	JW13446
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		100000	COL/0.1L
356	FECAL COLIFORM (MF)		1200	COL/0.1L
357	ENTEROCOCCUS		830	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		1.3	MG/L
403	TOTAL COD		13	MG/L
712	COPPER		0.018	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.022	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D083
Drain Description	West side of Rio Hondo at Ford Park Golf Course
Date	03/30/2005
Time	9:30
Flow	0.146 cfs
Sample ID Number	JW21100
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		49000	COL/0.1L
356	FECAL COLIFORM (MF)		3000	COL/0.1L
357	ENTEROCOCCUS		3000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		61	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4	MG/L
403	TOTAL COD		14	MG/L
712	COPPER		0.009	MG/L
714	LEAD	E	0.004	MG/L
724	ZINC		0.111	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D083
Drain Description	West side of Rio Hondo at Ford Park Golf Course
Date	03/30/2005
Time	9:30
Flow	0.146 cfs
Sample ID Number	JW21101
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	46000	COL/0.1L
356	FECAL COLIFORM (MF)	3000	COL/0.1L
357	ENTEROCOCCUS	1800	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D084
Drain Description	East side of Compton Creek at 122nd Street
Date	09/23/2004
Time	9:40
Flow	0.115 cfs
Sample ID Number	JW13458
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		18000	COL/0.1L
356	FECAL COLIFORM (MF)		700	COL/0.1L
357	ENTEROCOCCUS		630	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.3	MG/L
403	TOTAL COD		54	MG/L
712	COPPER		0.019	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.093	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D084
Drain Description	East side of Compton Creek at 122nd Street
Date	09/23/2004
Time	9:40
Flow	0.115 cfs
Sample ID Number	JW13459
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		13000	COL/0.1L
356	FECAL COLIFORM (MF)		1100	COL/0.1L
357	ENTEROCOCCUS		680	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		71	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.3	MG/L
403	TOTAL COD		55	MG/L
712	COPPER		0.019	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.089	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D084
Drain Description	East side of Compton Creek at 122nd Street
Date	02/17/2005
Time	9:35
Flow	0.106 cfs
Sample ID Number	JW20621
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		7800000	COL/0.1L
356	FECAL COLIFORM (MF)		69000	COL/0.1L
357	ENTEROCOCCUS		110000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		61	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		16	MG/L
403	TOTAL COD		40	MG/L
712	COPPER		0.012	MG/L
714	LEAD	E	0.005	MG/L
724	ZINC		0.175	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D085
Drain Description	North side of Compton Creek at Avalon Boulevard
Date	09/23/2004
Time	10:10
Flow	0.245 cfs
Sample ID Number	JW13460
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		490000	COL/0.1L
356	FECAL COLIFORM (MF)		56000	COL/0.1L
357	ENTEROCOCCUS		1100	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		75	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		2.4	MG/L
403	TOTAL COD		44	MG/L
712	COPPER		0.02	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.058	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D085
Drain Description	North side of Compton Creek at Avalon Boulevard
Date	02/09/2005
Time	9:50
Flow	0.087 cfs
Sample ID Number	JW20435
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		31000	COL/0.1L
356	FECAL COLIFORM (MF)		90	COL/0.1L
357	ENTEROCOCCUS		590	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		51	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4	MG/L
403	TOTAL COD		30	MG/L
712	COPPER		0.009	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.113	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D086
Drain Description	West side of Rio Hondo between Whittier Boulevard and Beverly Boulevard
Date	09/28/2004
Time	8:36
Flow	0.25 cfs
Sample ID Number	JW13480
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		30000	COL/0.1L
356	FECAL COLIFORM (MF)		1800	COL/0.1L
357	ENTEROCOCCUS		5100	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		1.6	MG/L
403	TOTAL COD		23	MG/L
712	COPPER		0.016	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.019	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D086
Drain Description	West side of Rio Hondo between Whittier Boulevard and Beverly Boulevard
Date	07/14/2005
Time	9:00
Flow	0.091 cfs
Sample ID Number	JW22484
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		130000	COL/0.1L
356	FECAL COLIFORM (MF)		13000	COL/0.1L
357	ENTEROCOCCUS		26000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		19	MG/L
403	TOTAL COD		13	MG/L
712	COPPER		0.012	MG/L
714	LEAD		0.0027	MG/L
724	ZINC		0.036	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D086
Drain Description	West side of Rio Hondo between Whittier Boulevard and Beverly Boulevard
Date	07/14/2005
Time	9:00
Flow	0.091 cfs
Sample ID Number	JW22485
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	40000	COL/0.1L
356	FECAL COLIFORM (MF)	13000	COL/0.1L
357	ENTEROCOCCUS	15000	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D087
Drain Description	Daylight of East Fork of Compton Creek
Date	09/30/2004
Time	8:40
Flow	0.125 cfs
Sample ID Number	JW13498
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		79000	COL/0.1L
356	FECAL COLIFORM (MF)		3900	COL/0.1L
357	ENTEROCOCCUS		2400	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3.8	MG/L
403	TOTAL COD		46	MG/L
712	COPPER		0.024	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.014	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D087
Drain Description	Daylight of East Fork of Compton Creek
Date	03/01/2005
Time	8:25
Flow	0.128 cfs
Sample ID Number	JW20721
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		150000	COL/0.1L
356	FECAL COLIFORM (MF)		200	COL/0.1L
357	ENTEROCOCCUS		500	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		59	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		9	MG/L
403	TOTAL COD		16	MG/L
712	COPPER		0.007	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.039	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D087
Drain Description	Daylight of East Fork of Compton Creek
Date	03/01/2005
Time	8:25
Flow	0.128 cfs
Sample ID Number	JW20722
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		200000	COL/0.1L
356	FECAL COLIFORM (MF)		900	COL/0.1L
357	ENTEROCOCCUS		420	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		59	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		64	MG/L
403	TOTAL COD		15	MG/L
712	COPPER		0.007	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.04	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D088
Drain Description	East side of Compton Creek, south of Greenleaf Boulevard
Date	09/30/2004
Time	10:40
Flow	0.421 cfs
Sample ID Number	JW13499
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		270000	COL/0.1L
356	FECAL COLIFORM (MF)		14000	COL/0.1L
357	ENTEROCOCCUS		2900	COL/0.1L
101	pH		6.5	PH
111	TEMPERATURE		74	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		21	MG/L
403	TOTAL COD		24	MG/L
712	COPPER		0.014	MG/L
714	LEAD		0.008	MG/L
724	ZINC		0.068	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D088
Drain Description	East side of Compton Creek, south of Greenleaf Boulevard
Date	02/17/2005
Time	10:00
Flow	0.09 cfs
Sample ID Number	JW20622
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		180000	COL/0.1L
356	FECAL COLIFORM (MF)		2000	COL/0.1L
357	ENTEROCOCCUS		1100	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		11	MG/L
403	TOTAL COD		69	MG/L
712	COPPER		0.014	MG/L
714	LEAD	E	0.005	MG/L
724	ZINC		0.143	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D089
Drain Description	North side of Compton Creek at Towne Avenue
Date	10/05/2004
Time	9:30
Flow	0.0004 cfs
Sample ID Number	JW13536
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		490000	COL/0.1L
356	FECAL COLIFORM (MF)		8500	COL/0.1L
357	ENTEROCOCCUS		24000	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3.6	MG/L
403	TOTAL COD		47	MG/L
712	COPPER		0.016	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC	E	0.011	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D089
Drain Description	North side of Compton Creek at Towne Avenue
Date	02/09/2005
Time	9:25
Flow	0.003 cfs
Sample ID Number	JW20434
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		240000	COL/0.1L
356	FECAL COLIFORM (MF)		13000	COL/0.1L
357	ENTEROCOCCUS		2400	COL/0.1L
101	pH		7.5	PH
111	TEMPERATURE		61	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		18	MG/L
403	TOTAL COD		40	MG/L
712	COPPER		0.018	MG/L
714	LEAD		0.008	MG/L
724	ZINC		0.092	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D090
Drain Description	Daylight of Compton Creek at Main Street and 108th Street
Date	10/05/2004
Time	10:00
Flow	0.026 cfs
Sample ID Number	JW13537
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		720000	COL/0.1L
356	FECAL COLIFORM (MF)		97000	COL/0.1L
357	ENTEROCOCCUS		240	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		41	MG/L
403	TOTAL COD		76	MG/L
712	COPPER		0.014	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.037	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D090
Drain Description	Daylight of Compton Creek at Main Street and 108th Street
Date	02/09/2005
Time	8:50
Flow	0.041 cfs
Sample ID Number	JW20433
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		120000	COL/0.1L
356	FECAL COLIFORM (MF)		560	COL/0.1L
357	ENTEROCOCCUS		870	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		59	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		10	MG/L
403	TOTAL COD		38	MG/L
712	COPPER		0.013	MG/L
714	LEAD	E	0.005	MG/L
724	ZINC		0.076	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D091
Drain Description	East side of Compton Creek at the railroad crossing
Date	10/05/2004
Time	10:20
Flow	0.026 cfs
Sample ID Number	JW13538
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		8500	COL/0.1L
356	FECAL COLIFORM (MF)		850	COL/0.1L
357	ENTEROCOCCUS		2000	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		64	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		20	MG/L
403	TOTAL COD		45	MG/L
712	COPPER		0.012	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.158	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D091
Drain Description	East side of Compton Creek at the railroad crossing
Date	02/17/2005
Time	9:15
Flow	0.035 cfs
Sample ID Number	JW20620
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		30000	COL/0.1L
356	FECAL COLIFORM (MF)		85	COL/0.1L
357	ENTEROCOCCUS		220	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		60	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		3	MG/L
403	TOTAL COD		10	MG/L
712	COPPER		0.006	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.396	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D092
Drain Description	West side of Rio Hondo at the extension of Mines Ave
Date	10/07/2004
Time	9:20
Flow	0.208 cfs
Sample ID Number	JW13565
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		140000	COL/0.1L
356	FECAL COLIFORM (MF)		2500	COL/0.1L
357	ENTEROCOCCUS		2200	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		4.8	MG/L
403	TOTAL COD		36	MG/L
712	COPPER		0.011	MG/L
714	LEAD	<	0.008	MG/L
724	ZINC		0.048	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D092
Drain Description	West side of Rio Hondo at the extension of Mines Ave
Date	10/07/2004
Time	9:20
Flow	0.208 cfs
Sample ID Number	JW13566
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		95000	COL/0.1L
356	FECAL COLIFORM (MF)		950	COL/0.1L
357	ENTEROCOCCUS		2800	COL/0.1L
101	pH		7	PH
111	TEMPERATURE		68	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		29	MG/L
403	TOTAL COD		38	MG/L
712	COPPER		0.041	MG/L
714	LEAD		0.013	MG/L
724	ZINC		0.097	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D092
Drain Description	West side of Rio Hondo at the extension of Mines Ave
Date	03/30/2005
Time	8:45
Flow	0.131 cfs
Sample ID Number	JW21098
Sample Note	

Test Code	*Test Description*	*Result*		
349	TOTAL COLIFORM (MF)		19000	COL/0.1L
356	FECAL COLIFORM (MF)		160	COL/0.1L
357	ENTEROCOCCUS		290	COL/0.1L
101	pH		8	PH
111	TEMPERATURE		60	DEG. F.
252	SOLUBLE SULFIDE	<	0.1	MG/L
151	SUSPENDED SOLIDS		82	MG/L
403	TOTAL COD		26	MG/L
712	COPPER		0.017	MG/L
714	LEAD		0.009	MG/L
724	ZINC		0.059	MG/L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.

Site ID	D092
Drain Description	West side of Rio Hondo at the extension of Mines Ave
Date	03/30/2005
Time	8:45
Flow	0.131 cfs
Sample ID Number	JW21099
Sample Note	QA/QC Duplicate Sample

Test Code	*Test Description*	*Result*	
349	TOTAL COLIFORM (MF)	14000	COL/0.1L
356	FECAL COLIFORM (MF)	120	COL/0.1L
357	ENTEROCOCCUS	280	COL/0.1L

Results marked with an "E" are estimated concentrations. Estimated concentrations are "detected, but not quantified" at levels below the reporting limit for the test.