

Appendix A  
**Drainage Parameters**

**City of Anaheim**  
**Department of Pubic Works**

**STORM DRAINAGE PARAMETERS**

April 30, 2004

A. HYDROLOGY

Hydrology for Storm Drainage studies shall be based on the “*Orange County Hydrology Manual (October 1986, and Addendum No.1 May 1996)*”. However, the City of Anaheim requires of all storm events (10-year, 25-year, or 100-year) to be based on the “high confidence” level storm frequency events.

B. STREET AND HIGHWAY

Maximum flooded widths and depths for local streets and highways shall be per the following:

**TABLE 1**

<b>Type of Street</b>	<b>Frequency Storm</b>	<b>Maximum Allowable Flooding</b>	<b>See Figure No.</b>
<b>Local Street</b>	10 yr	Top of Curb	1
	100 yr	At or below *ROW Line	2
<b>Highway</b>	10 yr	17 feet	1
	25 yr	Top of Curb	1
	100 yr	At or below *ROW Line	2
<b>Sump Condition Street or Highway</b>	Same as above	Same as above	1 & 2

\* ROW - Right-of-Way

### C. DRAINAGE SYSTEM REQUIRED

The drainage systems are required per the “*County of Orange Local Drainage Manual (January 1996)*”. However, the City of Anaheim requires the design and installation of a storm drain system when any of the conditions listed below exists:

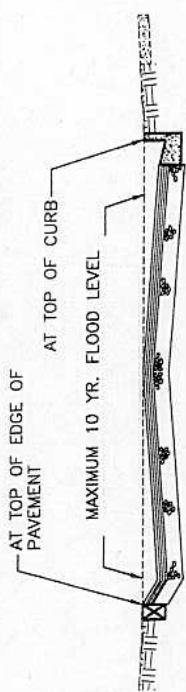
1. The limitations outlined in Table 1 & Figures 1 & 2 are exceeded.
2. Excess nuisance water in residential areas (maximum surface flow is 1,000 feet).
3. The need for cross-gutters across any arterial highway.
4. Median drainage is required.
5. Product of depth times velocity is greater than six at street/highway gutter flowline.
6. Future upstream development will cause drainage problems.

### D. DRAINAGE SYSTEM DESIGN

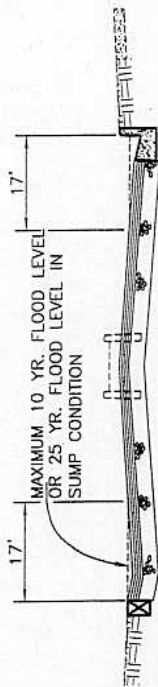
The drainage system design shall be per the “*County of Orange Local Drainage Manual (January 1996)*”. However, the City of Anaheim requires the drainage system be designed with a minimum size to fully convey all storm water in that system for:

1. A 25-year storm event for all drainage areas/basins tributary to the Santa Ana River watershed or,
2. A 10-year storm event for the drainage areas/basins tributary to the other watershed facilities

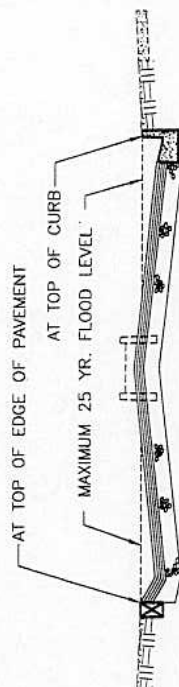
The above criteria are the minimum requirements for sizing a storm drainage system and that sizing must be increased, as necessary, to address all requirements including those noted for the 100 year storm event.



**LOCAL STREET**



**ARTERIAL HIGHWAY**



**ARTERIAL HIGHWAY**

**NOTES:**

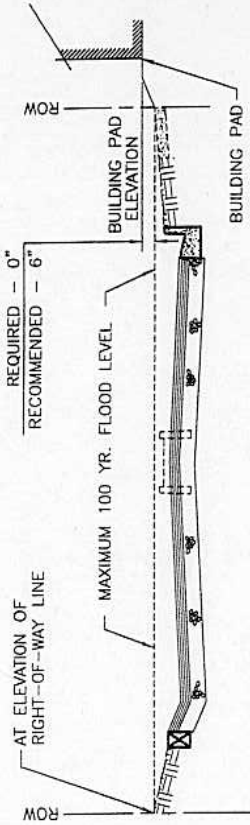
1. THESE CONDITIONS SHALL APPLY TO ALL STREETS AND HIGHWAYS WITH A SLOPE GRADIENT OR IN A SUMP CONDITION.

**CITY OF ANAHEIM**

**FIGURE**

**10-YEAR AND 25-YEAR STORMS  
MAXIMUM FLOODED WIDTHS AND DEPTHS**

**1**



**LOCAL STREET AND ARTERIAL HIGHWAY**

**NOTES:**

1. THIS CONDITION SHALL APPLY TO ALL STREETS AND HIGHWAYS.

**CITY OF ANAHEIM**

**FIGURE**

**100-YEAR STORM  
MAXIMUM FLOODED WIDTHS AND DEPTHS**

**2**