

ABBREVIATED STORM REPORT

STORM OF SEPTEMBER 19-20, 1992

Data Collected by the Flood Control District
of Maricopa County ALERT System

Prepared by S.D. Waters, Hydrology Division, September 25, 1992

This air-mass thunderstorm occurred primarily between the hours of 11:00 pm on the 19th and 2:00 am on the 20th. The most significant damage reports received were to the housing areas east of Luke Air Force Base, where 4 inches of rainfall was reported by the media. The closest FCD automatic raingage, five miles to the west at the White Tanks 3 structure, measured 0.67 inches. The highest recorded rainfall amount was 3.23 inches at the Chrysler Proving Grounds, approximately 19 miles northwest of the Base. The storm appears to have moved from the northwest to southeast; with intense rainfall over the Wittmann area, lighter rainfall over the McMicken Dam area, then heavy rain again over Luke Air Force Base.

Figure 1, "Rainfall Map", shows storm total rainfall measured at FCD automatic raingages. Gage density is currently too sparse in the Luke area to construct an accurate isohyetal (lines of equal rainfall) map.

Table 1, "Daily Precipitation Report", gives the total rainfall recorded at all FCD automatic gages for the 24 hours preceding 7:00 am on September 20th.

Table 2 shows 15-minute time distributions for 5 selected precipitation gages near Luke Air Force Base.

Figure 2 consists of hyetographs for 3 precipitation gages near Luke, plus the rising limb of the stage hydrograph at McMicken Dam. McMicken Dam was the only FCD Structure to impound significant amounts of flow.

Flood Control District of Maricopa County
Daily Precipitation Report
9/20/92 0700

Location	Daily Total	Month to date	Year to date	ID #
Chrysler P.G.	3.23	3.23	15.12	5460
Wittmann	3.11	3.11	7.64	5455
Sols Wash	1.57	1.57	11.89	5275
Horsethief Basin	1.38	1.38	13.74	5700
Minnehaha	1.22	1.22	21.02	3650
Circle City	1.10	1.10	10.83	5475
McMicken Floodway	1.10	1.10	4.65	5435
McMicken Dam	1.06	1.06	10.51	5445
Box Canyon	0.91	0.91	11.65	5305
Morristown	0.91	0.91	3.74	5220
Adobe Dam	0.91	0.91	11.93	5535
Castle Hot Springs	0.91	0.91	13.15	5490
Centennial Wash	0.83	0.83	2.64	5180
P.V. Country Club	0.83	0.83	13.50	6645
Garfias Mtn. Ranch	0.83	0.83	18.78	5670
NewRiver @ Glendale	0.79	0.79	11.22	5505
Patton Rd.	0.75	0.75	1.10	5450
Columbia Hill	0.75	0.79	18.74	5685
Deer Valley Airport	0.67	0.67	11.69	5550
White Tanks 3	0.67	0.67	9.33	5415
Cooks Mesa	0.63	0.63	20.63	5640
New River Dam	0.63	0.63	10.04	5610
Bear Seep	0.51	0.55	10.12	0135
Crown King	0.51	0.55	0.55	5715
Smith Peak	0.51	0.51	11.89	5190
Signal Butte FRS	0.47	0.47	13.23	6625
Usery Mtn. Park	0.43	0.43	10.04	6640
Greenway & 32nd Ave	0.43	0.47	11.77	6340
Florence Junction	0.43	0.47	14.53	6730
White Tanks E.P.	0.43	0.47	5.08	5430
Towers Mtn.	0.39	0.39	11.22	5340
Mt. Ord	0.39	0.43	24.06	5960
Spookhill FRS	0.39	0.47	13.11	6060
Sunset FRS	0.39	0.39	9.37	5230
Lake Pleasant	0.39	0.39	13.54	2660
Thompson Peak	0.35	0.35	14.68	5945
Rittenhouse FRS	0.35	0.35	0.35	6700
Cave Creek & Cactus	0.35	0.35	11.97	6330
New River @ Bell	0.35	0.35	8.94	5595
Maryvale Muni Golf	0.31	0.31	12.20	6260
A.C.D.C. & 67th Ave	0.31	0.31	9.33	5520
Carrage Lane Park	0.31	0.31	11.57	6520
City of Glendale	0.28	0.28	12.68	6270
Sunnycove FRS	0.28	0.28	11.18	5245
Skunk Creek & I-17	0.28	0.43	1.34	5565
McDowell Mtn. Park	0.24	0.24	14.25	6695
Asher Hills	0.24	0.24	13.98	5900
Sweetwater	0.24	0.24	11.06	6140
Seven Springs	0.24	0.24	18.70	6450
Vineyard FRS	0.24	0.24	12.60	6685
Apache FRS	0.24	0.24	9.13	6670
Sunup Ranch	0.20	0.20	13.43	5625
A.C.D.C. & 43rd Ave	0.20	0.20	9.02	6320

TABLE 1

Kings Ranch	0.20	0.20	11.61	5605
South Mountain West	0.20	0.24	7.60	6550
Munds Park	0.16	0.75	12.17	0140
Dreamy Draw	0.16	0.28	11.65	6300
Gladden	0.16	0.16	10.04	0620
Thunder Mountain	0.16	0.24	12.01	6655
IBW Interceptor	0.16	0.31	11.18	6120
Vekol Wash	0.12	0.63	9.49	6980
Vulture Mine	0.12	0.12	13.62	5260
Guadalupe FRS	0.08	1.61	19.57	6500
Kleinman Park	0.08	0.08	13.82	6030
Mesa Tower	0.08	0.08	12.05	6540
Roeser @ 2nd. St.	0.04	0.04	9.65	6010
Salt & 24th St.	0.04	0.04	8.11	6020
Cave Buttes Dam	0.04	0.04	6.57	6400
Papago Park	0.04	0.04	10.35	6240
Sunup Ranch	0.04	0.04	11.46	2605
Magma FRS	0.04	0.04	12.48	6715
Upper Skunk Creek	0.04	0.04	17.40	2630
EMF @ Broadway	0.04	0.04	9.33	6565
Yarnell Hill	0.04	0.04	16.02	5290
O'Brian	0.04	0.08	15.28	3610
Hassy Bridge	0.04	0.04	17.87	3670

TABLE 1
(cont.)

Maricopa County ALERT System

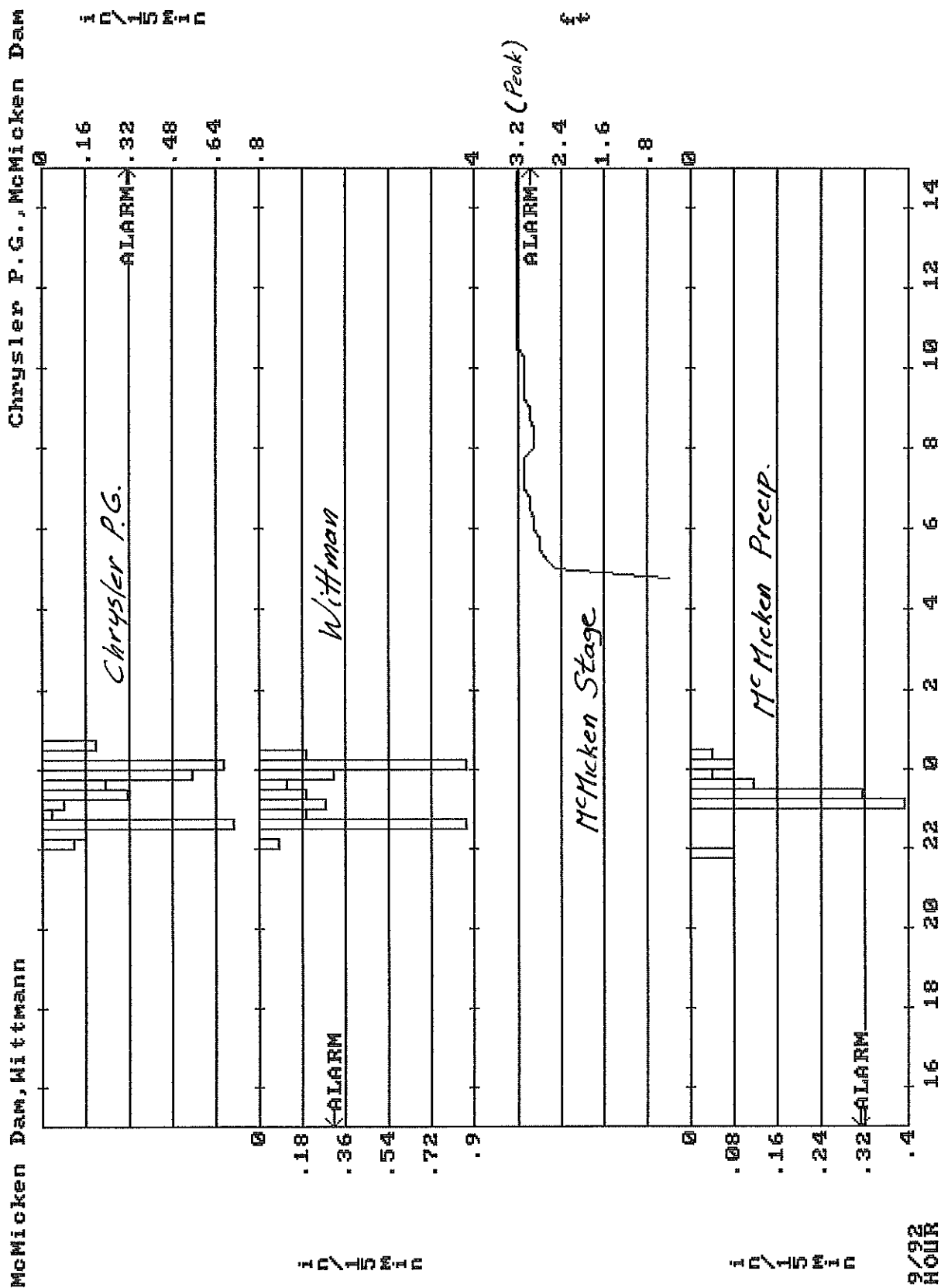
Date Time

09/25/92 10:40:13

Table 2

DeviceID	McMicken	Wittmann	Chrys.PG	NR@Glndl	WtTanks3
StatType	dif	dif	dif	dif	dif
DataType	precip	precip	precip	precip	precip
Units	in	in	in	in	in
09/20/92					
0200	0.00	0.00	0.00	0.00	0.00
0145	0.00	0.00	0.00	0.00	0.00
0130	0.00	0.00	0.00	0.00	0.00
0115	0.00	0.00	0.00	0.04	0.00
0100	0.00	0.00	0.00	0.04	0.04
0045	0.00	0.00	0.20	0.28	0.04
0030	0.04	0.20	0.16	0.31	0.08
0015	0.08	0.87	0.67	0.04	0.16
09/19/92					
2400	0.04	0.31	0.55	0.00	0.31
2345	0.12	0.12	0.24	0.00	0.04
2330	0.31	0.20	0.31	0.04	0.00
2315	0.39	0.28	0.08	0.00	0.00
2300	0.00	0.20	0.04	0.04	0.00
2245	0.00	0.87	0.71	0.00	0.00
2230	0.00	0.00	0.16	0.00	0.00
2215	0.00	0.08	0.12	0.00	0.00
2200	0.08	0.00	0.00	0.00	0.00
2145	0.00	0.00	0.00	0.00	0.00
TOTALS:	1.06	3.11	3.23	0.79	0.67

FIGURE 2



CHRYSLER PROVING GROUNDS (No. 5460)
STORM OF SEPT. 19, 20, 1992
3.23 inches in 2.5 hours

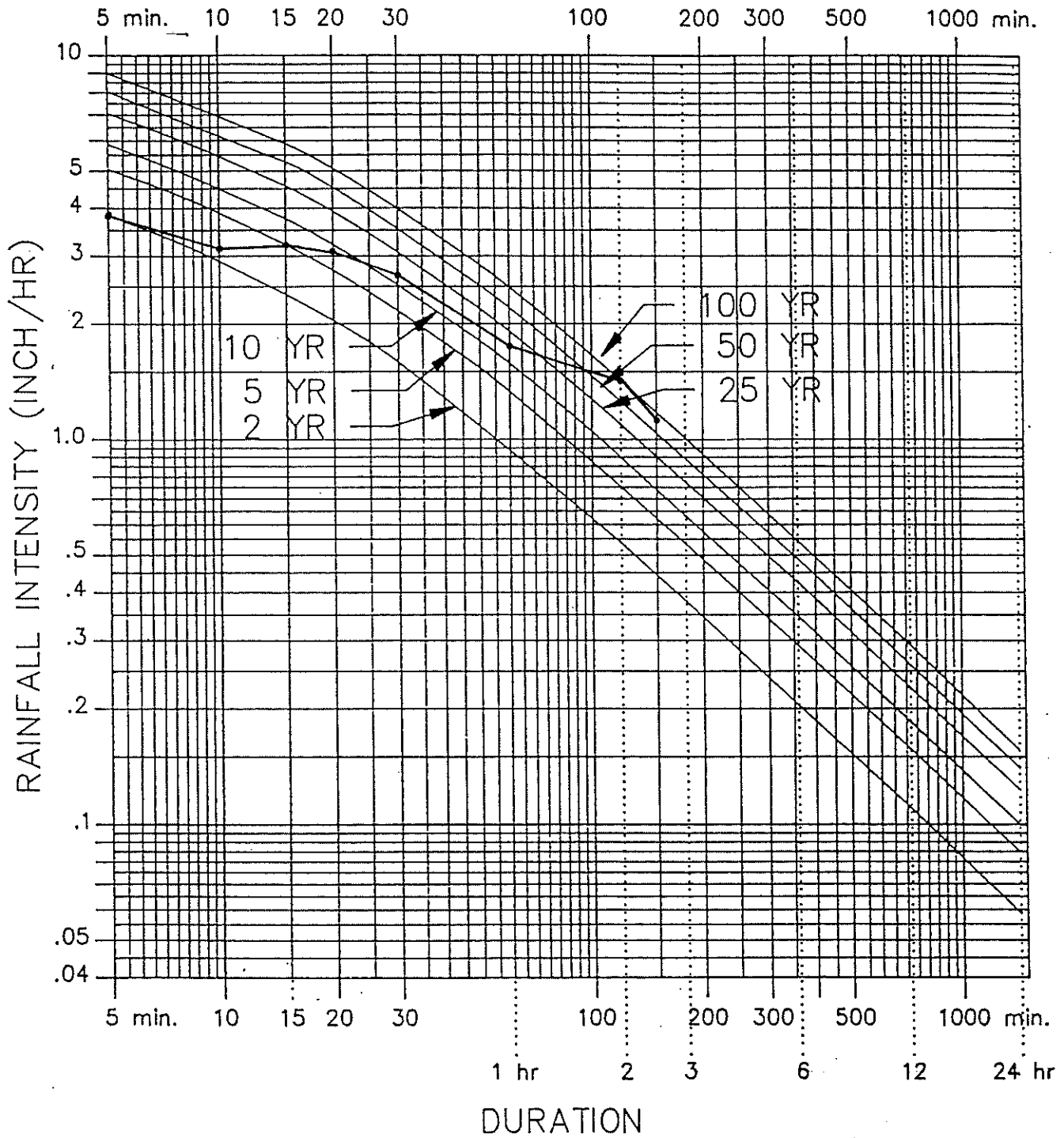


Figure 3.2
Rainfall Intensity-Duration-Frequency Relation
(Phoenix Metro Area)

Maricopa County ALERT System
Date Time
01/19/94 08:07:45

DeviceID	Chrys	PG
StatType	rain	
DataType	precip	
Units	in	
09/20/92		
0045		0.00
0040		0.08
0035		0.12
0030		0.00
0025		0.00
0020		0.16
0015		0.16
0010		0.31
0005		0.20
09/19/92		
2400		0.31
2355		0.20
2350		0.04
2345		0.12
2340		0.12
2335		0.00
2330		0.00
2325		0.04
2320		0.28
2315		0.08
2310		0.00
2305		0.00
2300		0.00
2255		0.04
2250		0.00
2245		0.24
2240		0.16
2235		0.31
2230		0.08
2225		0.00
2220		0.08
2215		0.12
2210		0.00
2205		0.00
2200		0.00
2155		0.00
TOTALS:		3.23