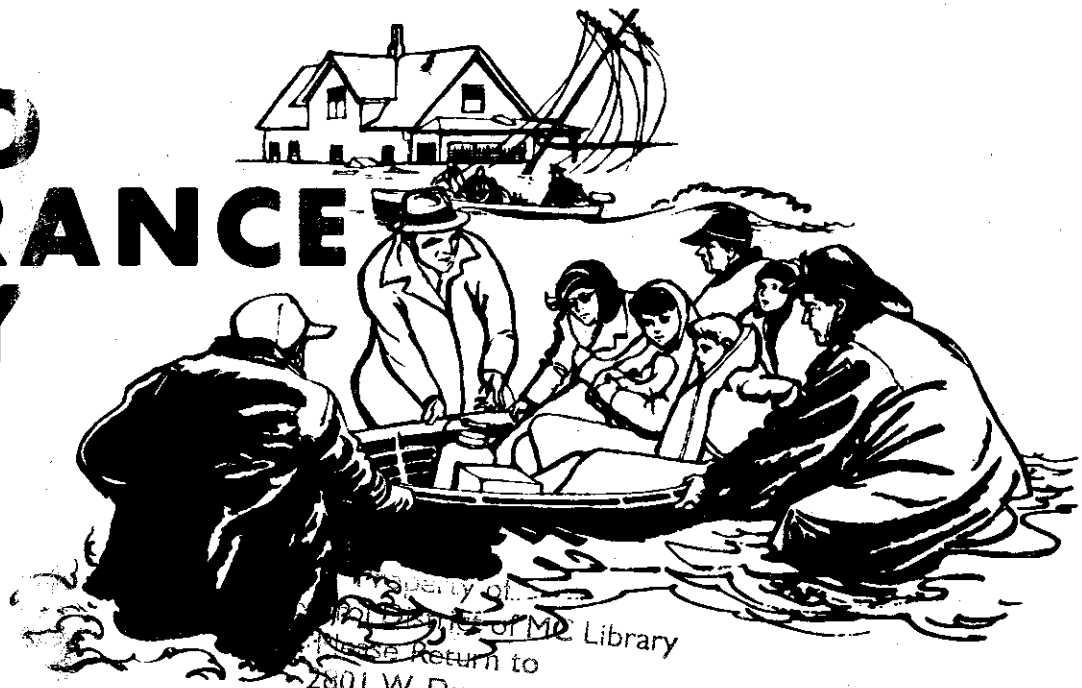
FLOOD INSURANCE STUDY



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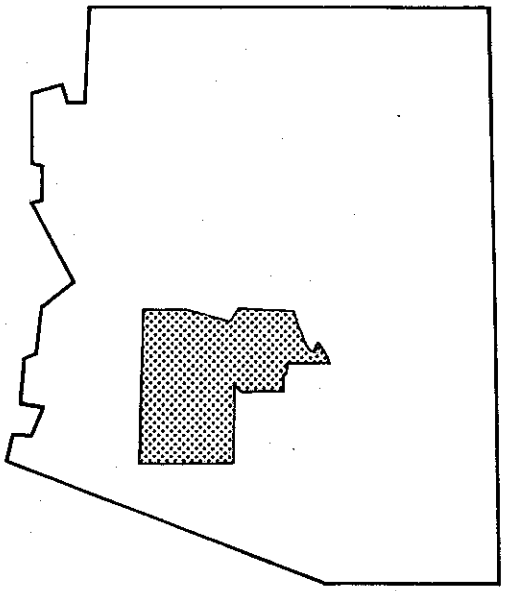
MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

VOLUME 1 OF 3



COMMUNITY NAME	COMMUNITY NUMBER
AVONDALE, CITY OF	040038
BUCKEYE, TOWN OF	040039
CAREFREE, TOWN OF	040126
CAVE CREEK, TOWN OF	040129
CHANDLER, CITY OF	040040
EL MIRAGE, TOWN OF	040041
GILA BEND, TOWN OF	040043
GILBERT, TOWN OF	040044
GLENDALE, CITY OF	040045
GOODYEAR, TOWN OF	040046
GUADALUPE, TOWN OF	040111
LITCHFIELD PARK, CITY OF	040128
MARICOPA COUNTY UNINCORPORATED AREAS	040037
MESA, CITY OF	040048
PARADISE VALLEY, TOWN OF	040049
PEORIA, CITY OF	040050
PHOENIX, CITY OF	040051
SCOTTSDALE, CITY OF	040012
SURPRISE, TOWN OF	045053
TEMPE, CITY OF	040054
TOLLESON, CITY OF	040055
WICKENBURG, TOWN OF	040056
YOUNGSTOWN, TOWN OF	040057

REVISED: SEPTEMBER 29,1989

Federal Emergency Management Agency

FEMA
06, 1-00-8-09/89

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. The Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

This publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 10.0

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PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

FLOOD INSURANCE STUDY
MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study revises and updates information on the existence and severity of flood hazards in the geographic area of Maricopa County, Arizona, including the Cities of Apache Junction, Avondale, Chandler, Glendale, Litchfield Park, Mesa, Peoria, Phoenix, Scottsdale, Tempe, and Tolleson; the Towns of Buckeye, Carefree, Cave Creek, El Mirage, Gila Bend, Gilbert, Goodyear, Guadalupe, Paradise Valley, Surprise, Wickenburg, and Youngtown; and the unincorporated areas of Maricopa County (hereinafter referred to collectively as Maricopa County). This information will be used to update existing floodplain regulations as part of the Regular Phase of the National Flood Insurance Program (NFIP). The information will also be used by local and regional planners to further promote sound land use and floodplain development.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

This Flood Insurance Study is based on previous Flood Insurance Studies for the various incorporated communities and unincorporated areas within Maricopa County. Detailed information on the contractors who studied each area is provided below.

The original hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers (COE), Los Angeles District, for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement Nos. IAA-H-15-72 and IAA-H-15-73. This study was completed in 1973.

Additional hydrologic and hydraulic analyses for many streams within the county were performed by Harris-Toups Associates under Contract No. H-4008. This work was completed in February 1978 and January 1979.

Hydrologic and hydraulic analyses for Cave Creek (below Cave Creek Dam) and for East Fork Cave Creek were revised by Cella, Barr, Evans, and Associates, under Contract No. H-4607. This work was completed in October 1980.

Additional hydrologic and hydraulic analyses for portions of the Agua Fria and New Rivers, and Skunk Creek were performed by the COE under contract to the Flood Control District of Maricopa County (FCDMC), Hydrologic and hydraulic analyses for portions of the Salt and Gila Rivers were performed by Harris-Toups Associates in October 1977. The 10-year flood for portions of the above streams, as well as the 500-year flood for the Agua Fria River, was computed by Dames & Moore using data provided by the COE, Los Angeles District. Approximate floodplain boundaries and boundaries for areas subject to sheetflow were delineated by Dames & Moore.

Hydraulic analyses for portions of the following streams were taken from the effective Flood Insurance Studies for the incorporated communities (References 1-20): Agua Fria River, Gila River, Hassayampa River, New River, Salt River, Skunk Creek, Scatter Wash, Aguila Farm Channel, Andora Hills Wash, Atchison, Topeka & Santa Fe Railway Channel, Casandro Wash, South Branch Casandro Wash, Cave Creek, East Fork Cave Creek, Dreamy Draw Wash East, Echo Canyon Wash, Flynn Lane Wash, Flying "E" Wash, Galloway Wash, Granite Reef Wash, Grapevine Wash, Grass Wash, Hospital Wash, Indian Bend Wash, Indian Bend Wash-Low Flow Channel, Little San Domingo Wash, Lower El Mirage Wash, Martinez Wash, Mockingbird Wash, Moon Valley Wash, Myrtle Avenue Wash, Ocotillo Wash, Powder House Wash, Rowe Wash, Tenth Street Wash, Wash B, Willow Springs Wash, Wittman Drainage and Weekes Wash.

The hydrologic and hydraulic analyses for portions of the Agua Fria, New, Gila, and Salt Rivers, Skunk Creek, and Scatter Wash included in the restudy were performed by the COE, Los Angeles District, for FEMA, under Inter-Agency Agreement No. EMW-E-0941, Project Order No. 10. This work was completed in March 1986.

Revised hydrologic and hydraulic analyses for Sols Wash, which passes through the Town of Wickenburg and extends to the county boundary between Maricopa and Yavapai Counties, were performed by Cella Barr Associates (CBA), for FEMA, under Contract No. EMW-85-C-1909. This restudy was completed in December 1986.

Revised hydraulic analyses for a portion of Consolidated Canal were performed by Greiner Engineering Sciences, Inc. for the City of Mesa in 1984 (Reference 21).

Revised hydraulic analyses for a portion of the Agua Fria River in El Mirage were performed by Engineering and Surveying of Arizona, Inc. in November 1984 (Reference 22).

Revised hydraulic analyses for flooding along a portion of the Atchison, Topeka & Santa Fe Railroad in The City of Chandler were performed in July 1980 (Reference 23).

Revised hydraulic analyses for a portion of East Fork Cave Creek in the City of Phoenix were performed by Erie and Associates, Inc. for the Coral Gables Estates Unit Six Subdivision in November 1985 (Reference 24).

1.3 Coordination

The FCDMC assisted in the selection of the areas that were studied in detail and the selection of preliminary floodway limits.

The Arizona Department of Transportation provided highway maps used for the preparation of base maps covering undeveloped areas studied only by approximate methods.

This study was also coordinated with the Special Studies Section of the Water Resources Division of the U.S. Geological Survey (USGS), Tucson, Arizona (Reference 25).

On May 31, 1977, results of the study were reviewed at the final consultation and coordination meeting, which was attended by residents of the county and representatives of the FCDMC and FEMA.

This study was revised in 1986 to incorporate either new or revised hydrologic and hydraulic analyses for several flooding sources throughout the county. At this time, FEMA decided to include flooding information through the incorporated communities to provide the county with a more usable Flood Insurance Rate Map.

2.0 AREA STUDIED

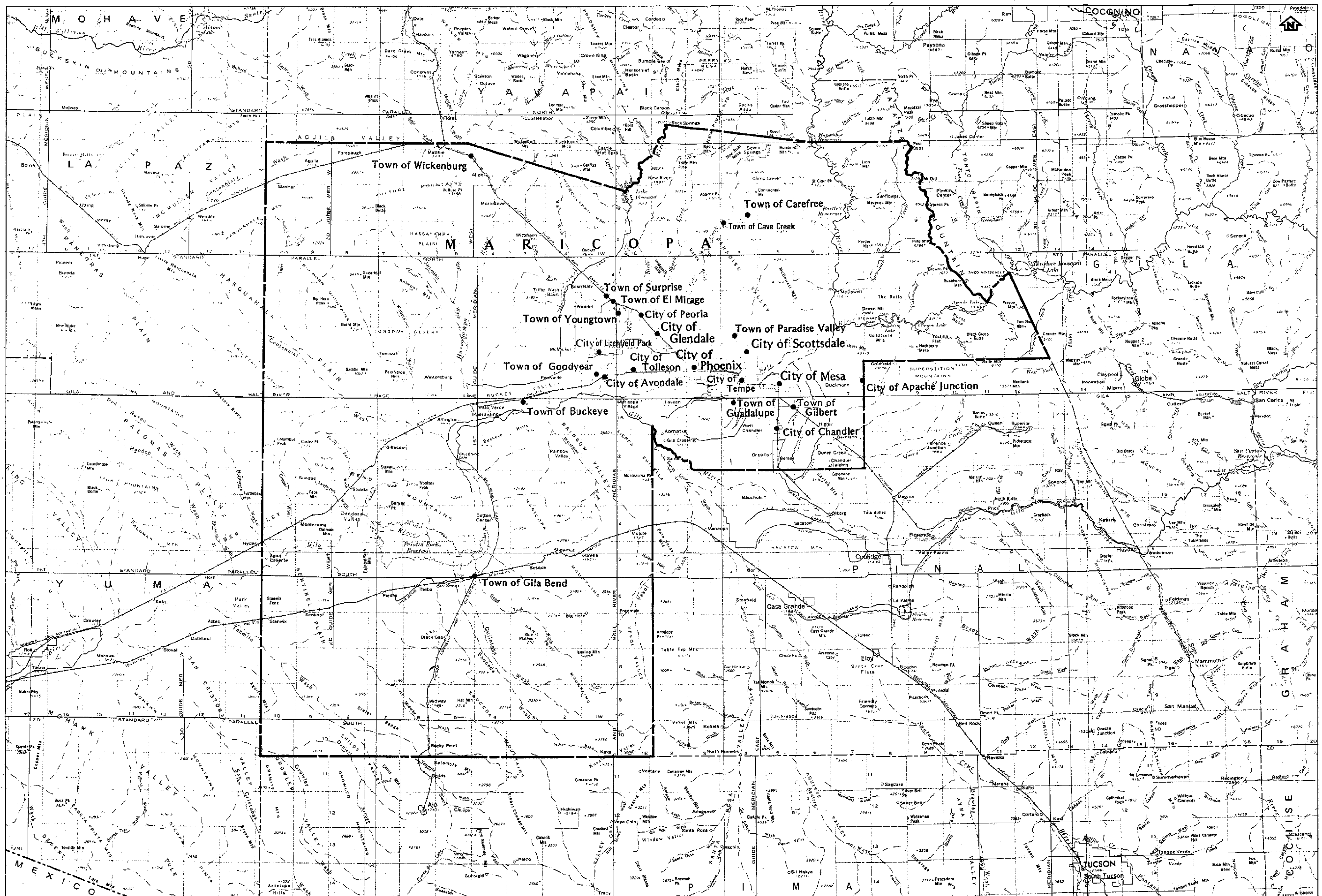
2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Maricopa County, Arizona. The area of study is shown on the Vicinity Map (Figure 1).

The flooding sources studied by detailed methods are shown in Table 1.

The areas studied by detailed methods were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction.

Portions of some flooding sources were studied by approximate methods and are shown in Table 2.



APPROXIMATE SCALE

16 0 16 32 48 MILES

VICINITY MAP

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FIGURE 1

Table 1. Detailed-Study Sources

Flooding Source	Limits of Study
Gila River	From 331st Avenue to confluence with Salt River at 115th Avenue
Agua Fria River	From confluence with Gila River to River Mile 24.32 (near Pinnacle Peak Road)
New River	From confluence with Agua Fria River to Rock Springs
Skunk Creek	From confluence of Arizona Canal to River Mile 27.76, in north-central Maricopa County
Scatter Wash	From confluence with Skunk Creek to just above Williams Drive, and between Black Canyon Highway (Interstate Highway 17) and 7th Avenue
Scatter Wash, North Branch	From confluence with Scatter Wash to 1.6 miles upstream
Scatter Wash, South Branch	From confluence with Scatter Wash to 0.8 mile upstream
Salt River	From confluence with Gila River to North Mesa Drive
Salt River Overflow Area	Along southern overbank between 75th and 39th Avenues
Cave Creek	From 27th Avenue to 0.3 mile above Granite Reef Aqueduct, and from 0.7 mile below Carefree Highway to 0.14 mile above Morning Star Road
East Fork Cave Creek	From confluence with Cave Creek to Beardsley Road
Andora Hills Wash	From confluence with Cave Creek to approximately 2.9 miles upstream

Table 1. Detailed-Study Sources (Cont'd)

Flooding Source	Limits of Study
Galloway Wash	From confluence with Cave Creek to approximately 3.1 miles upstream
Rowe Wash	From confluence with Galloway Wash to 1.5 miles upstream
Grapevine Wash	From confluence with Galloway Wash to approximately 1 mile upstream
Ocotillo Wash	From confluence with Cave Creek to approximately 2 miles upstream
Willow Springs Wash	From confluence with Cave Creek to approximately 1.8 miles upstream
Hassayampa River	From River Mile 40.0 to the Maricopa-Yavapai County boundary
Sols Wash	From confluence with Hassayampa River to Maricopa-Yavapai County boundary
Casandro Wash	From confluence with Sols Wash to approximately 2.8 miles upstream
South Branch Casandro Wash	From confluence with Casandro Wash to 0.9 mile upstream
Flying E Wash	From approximately 0.2 mile downstream of U.S. Highways 60 and 70 to 0.5 mile above the highways
Hospital Wash	From confluence with Sols Wash to 0.4 mile upstream
Powder House Wash	From confluence with Hassayampa River to 1.3 miles upstream

Table 1. Detailed-Study Sources (Cont'd)

Flooding Source	Limits of Study
Martinez Wash	From confluence with Hassayampa River to Maricopa-Yavapai County boundary
Mockingbird Wash	From U.S. Highways 60, 70, and 89 to 0.9 mile upstream
Little San Domingo Wash	From the U.S. Highways 60, 70, and 89 crossing at Morristown to approximately 0.7 mile upstream
Wittmann Drainage	From the U.S. Highways 60, 70, and 89 crossing to 0.6 mile upstream
Aguila Farm Channel	For 1.5 miles at Aguila, in northwestern Maricopa County
Grass Wash	For 2.2 miles at Aguila
Lower El Mirage Wash	From Cactus Road to approximately 0.4 mile upstream
Lower El Mirage Wash Tributary	For shallow flooding, from confluence with Lower El Mirage Wash to 0.7 mile upstream
Sand Tank and Bender Washes	For combined flows at Gila Bend
Rodeo Wash	For ponding along Southern Pacific Railroad, U.S. Highway 80, and Gillespie Canal at Gila Bend
Rodeo Wash Tributary	For ponding along Southern Pacific Railroad at Gila Bend
Airport Wash	For ponding along U.S. Highway 80 at Gila Bend
Scott Avenue Wash	For ponding along Gillespie Canal, Southern Pacific Railroad, and U.S. Highway 80 at Gila Bend
Atchison, Topeka & Santa Fe Railway Channel	From confluence with Agua Fria River to 1.5 miles upstream

Table 1. Detailed-Study Sources (Cont'd)

Flooding Source	Limits of Study
Atchison, Topeka & Santa Fe Railway Ponding	For ponding along the railroad at Peoria
Echo Canyon Wash	From Arizona Canal to McDonald Drive
Southern Pacific Railroad Shallow Flooding	For shallow flooding at Buckeye, Goodyear, Gilbert, Tempe, and Tolleson
Apache Creek	Flooding on alluvial fan near Apache Junction
Flynn Lane Wash	From confluence with Arizona Canal upstream to 23rd Place
Granite Reef Wash	From Fillmore Street upstream to Pima Road
Indian Bend Wash	From entire length within Scottsdale corporate limits
Indian Bend Wash - Low Flow Channel	From entire length within Scottsdale corporate limits
Moon Valley Wash	From confluence with Cave Creek to Thunderbird Road
Myrtle Avenue Wash	From confluence with Arizona Canal to Myrtle Avenue
Tenth Street Wash	From confluence with Arizona Canal to 100 feet upstream of Mescal Street
Wash B	From Granite Reef Aqueduct to Mountain View Road
Sweat Canyon Wash	From confluence with New River to approximately 4.1 miles upstream
Buchanan Wash	From confluence with Skunk Creek to Central Arizona Project Canal

Table 2. Approximate-Study Streams

Agua Fria River
Arizona Canal
Atchison, Topeka and Santa Fe Railway Channel
Buckeye Canal
Buckeye Detention Dike
Cave Buttes Detention Dike
Cave Creek
Cemetery Wash
Centennial Wash
Cline Creek
Consolidated Canal
Cooper Creek
Cross Cut Canal
Dreamy Draw Detention Dike
Eastern Canal
Echo Canyon Canal
Flying E Wash
Gila Bend Canal
Gila River
Grand Canal
Granite Reef Aqueduct
Harquahala Detention Dike
Hartman Wash
Hassayampa River
Highline Canal
Jackrabbit Wash
Kaiser-Aetna McCormick Ranch Drainage
Kyrene Branch Canal
Little Squaw Creek
Lower El Mirage Wash
Moore Gulch

Queen Creek
Rodger Creek
Roosevelt Canal
Rowe Wash
Saddle Back Mountain Detention Dike
Salt River
Scatter Wash
Signal Butte Detention Dike
Sols Wash
Southern Pacific Railroad
Spook Hill Detention Dike
Sunny Cove Wash
Sunset Wash
Sycamore Creek

Table 2. Approximate-Study Streams (Cont'd)

Tempe Canal

Tiger Wash Detention Dike

Trilby Wash Detention Basin

Verde River

Verde River Tributaries
(Washes 9, 10, and 11)

Waterman Wash

West Prong Wash

Western Canal

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. The scope and methods of study were proposed to, and agreed upon by, FEMA and Maricopa County.

2.2 Community Description

Maricopa County, encompassing a total area of 9,238 square miles, is located in south-central Arizona. Adjacent counties are Yavapai on the north, Gila on the northeast, Pinal on the east, Pima on the south, Yuma on the west, and La Paz on the northwest. The incorporated communities within the county cover an area in excess of 100 square miles, and an additional 3,330 square miles are government owned lands. A large portion of the remaining county land is undeveloped and is considered to be economically unfit for development. The 1980 population of the county was 1.5 million.

The terrain throughout Maricopa County varies in character from numerous rugged mountain ranges to plains and deserts. An abundance of small intermittent streams and washes traverse the major portion of the county.

Residential and agricultural development is concentrated along the major streams, with expansion continuing at a rapid pace.

The climate in Maricopa County is mild, with short winters and long, hot summers.

The Gila River, which is the largest tributary to the lower Colorado River, flows southwesterly through the southern half of the county. The river basin includes the southern half of Arizona and part of southwestern New Mexico and contributes a drainage area of 49,500 square miles at the Gillespie Dam, which is approximately 31 miles downstream from Goodyear.

The Agua Fria River, a tributary to the Gila River, rises in the Prescott National Forest and flows southerly for approximately 130 miles to its confluence with the Gila River. It drains an area of approximately 2,340 square miles. The river is usually dry because flows are regulated by the Carl Pleasant Dam and Lake Pleasant reservoir, approximately 18 miles north of El Mirage, in north-central Maricopa County (Reference 26).

The New River, the major tributary of the Agua Fria River, rises in the Cook Mesa area of the New River Mountains and flows southerly to the Agua Fria River. It is approximately 48 miles long and has a drainage area of approximately 315 square miles (Reference 27).

Skunk Creek flows southwesterly to its confluence with the New River, draining an area of approximately 110 square miles at its mouth.

Scatter Wash flows westerly through northern Phoenix to its confluence with Skunk Creek.

East Branch Scatter Wash is an overflow area from Scatter Wash. Floodwater flows along the southern overbank of Scatter Wash just north of Black Canyon Highway, crosses the highway at the Deer Valley Road interchange, and rejoins Scatter Wash along Rose Garden Lane in Phoenix.

The Salt River originates at the Theodore Roosevelt Lake in Gila County. The river flows westerly through east-central Maricopa County to its confluence with the Gila River. The Salt River has a wide, irregular, sandy streambed with several meandering channels throughout the study area. The river drains an area of 13,700 square miles at its mouth. The Salt River is regulated by four dams: Roosevelt, Horse Mesa, Mormon Flat, and Stewart Mountain. The total capacity of the four reservoirs is 1.755 million acre-feet. Water from this system is used for irrigation of the Salt River Valley and for the generation of power (Reference 28). Granite Reef Dam, located on the Salt River 3.4 miles below its confluence with the Verde River, diverts water from the river to Arizona and Southern Canals. This water is for municipal use and irrigation.

Cave Creek and its numerous tributaries drain the mountainous areas of east-central Maricopa County. Cave Creek flows southwesterly to its confluence with the Salt River. Its tributaries include East Fork Cave Creek and Andora Hills, Galloway, Rowe, Grapevine, Ocotillo, and Willow Springs Washes. Flows are regulated by Cave Creek Dam, located just north of Phoenix. East Fork Cave Creek flows southwesterly to its confluence with Cave Creek, draining an area of 14.4 square miles at its mouth. Andora Hills Wash flows westerly to its confluence with Cave Creek north of Phoenix. Galloway Wash flows westerly to its confluence with Cave Creek north of Phoenix. Rowe Wash and Grapevine Wash flow southwesterly to their confluences with Galloway Wash north of Phoenix. Ocotillo and Willow Springs Washes flow southwesterly before joining Cave Creek north of Phoenix.

The Hassayampa River flows southerly through northwestern Maricopa County before joining the Gila River 40 miles west of Phoenix. The river, which drains an area in northwestern Maricopa County and southern Yavapai County, originates in the Bradshaw Mountains south of Prescott (Reference 29). The terrain of the drainage basin consists of mountains with heavy forest cover in the northern one-third, rolling hills in the central one-third, and desert valley in the southern third. The stream gradient of the Hassayampa River ranges from an average of 20 feet per mile near River Mile 40 to approximately 400 feet per mile near Box Canyon in Yavapai County (Reference 29).

Sols Wash originates in the Date Creek Mountains north of Wickenburg. It flows southeasterly, draining an area of 145 square miles at its confluence with the Hassayampa River. The basin is

bounded by low, poorly defined ridges and hills extending to Twin Peaks. On the south and east, pronounced foothills and mountains distinguish the drainage divide. The Sols Wash basin is a mildly sloping desert plain. Tributaries to Sols Wash are Flying E, Hospital, Casandro, and South Branch Casandro Washes. Flying E Wash flows northeasterly, joining Sols Wash in western Wickenburg. Hospital Wash flows southerly to its confluence with Sols Wash within Wickenburg. Casandro Wash flows northeasterly to its confluence with Sols Wash in Wickenburg. South Branch Casandro Wash flows northeasterly to its confluence with Casandro Wash in southwestern Wickenburg.

Powder House Wash flows southwesterly in a well-defined channel, draining 2 square miles of desert highlands before discharging into the Hassayampa River at Wickenburg.

Martinez Wash flows southeasterly, joining the Hassayampa River at the Maricopa-Yavapai County line.

Mockingbird Wash is a tributary of the Hassayampa River approximately 2 miles southeast of Wickenburg. The wash is well defined, with steep sidewalls. Mockingbird Wash flows southwesterly, draining approximately 7 square miles of desert highland. There is some residential development upstream of the U.S. Highways 60, 70, and 89 crossing.

Little San Domingo Wash is a small, well-defined wash near the unincorporated area of Morristown in northern Maricopa County. It flows southwesterly, draining 6.2 square miles of desert highlands at the U.S. Highways 60, 70, and 89 crossing.

Wittmann Drainage flows southerly near the unincorporated community of Wittmann, approximately 25 miles northwest of Phoenix.

Aguila Farm Channel collects floodflows north of the Atchison, Topeka & Sante Fe Railway in northwestern Maricopa County and conveys them westerly across Aguila Farm to Grass Wash.

Grass Wash flows northwesterly through Aguila to its confluence with Centennial Wash in northwestern Maricopa County.

Sand Tank and Bender Washes flow northwesterly through the center of Gila Bend. Sand Tank and Bender Washes approach Gila Bend from the south in two separate channels, but during periods of heavy runoff the washes overflow their banks and the flows are intermixed. The combined flows join the Gila River 3 miles north of Gila Bend.

Rodeo Wash and Rodeo Wash Tributary flow northwesterly through eastern Gila Bend.

Airport Wash flows northwesterly through the northeastern corner of Gila Bend.

Scott Avenue Wash flows northerly through western Gila Bend.

Lower El Mirage Wash and Lower El Mirage Wash Tributary flow easterly to the Agua Fria River near El Mirage.

The Atchison, Topeka & Santa Fe Railway Channel flows easterly to the Agua Fria River through the northern part of the town.

The elevated embankments of the Atchison, Topeka & Santa Fe Railway and the Southern Pacific Railroad impede the movement of floodwaters from the east and northeast, resulting in ponding and shallow flooding along the embankments throughout the county.

Echo Canyon Wash flows southwesterly through Paradise Valley, Scottsdale, and Phoenix to its junction with Arizona Canal.

Apache Creek, near Apache Junction, is on an alluvial fan at the base of the Superstition Mountains in southeastern Maricopa County.

A system of irrigation canals crosses the southern one-half of the county nearly parallel to ground contours. The system consists of the Arizona, Grand, Western, Tempe, Highline, Kyrene Branch, Gila Bend, Southern, Buckeye, Consolidated, Roosevelt, and Eastern Canals, and the Granite Reef Aqueduct.

2.3 Principal Flood Problems

The flooding history of Maricopa County indicates that large portions of the county are subject to destructive floods.

The principal flood hazard results from overflow of the major rivers; the overflow results in the inundation of the wide, flat floodplains, including any residential, commercial, or agricultural developments located within them. Erosion, combined with the development of new channels, adds to the potential hazard from inundation.

Areas adjacent to the floodplains of the major rivers, but not subject to overflow from the rivers, may be flooded due to the failure of earthen dikes and other retarding or diverting structures (Reference 28).

The upland areas of Maricopa County are also subject to flooding. Throughout the county, broad alluvial slopes lie between the steep mountains and major watercourses. These slopes are formed by the intermingling of alluvial fans from several streams and are traversed by many small channels that divide and reconverge at many places.

These channels are usually lined with small amounts of brush. Flooding occurs as a direct result of rainfall on the slopes or is caused by streams that drain from the mountains. Floods originating in the mountains often carry substantial amounts of rock debris, which are deposited on the alluvial slope. The debris

may plug old channels and cause new ones to develop. Many of the lower slopes receive runoff only from precipitation that falls directly on the area involved because mountain runoff is completely dissipated on the upper slopes.

Much of the floodflow on the upland areas is unconfined and moves downslope as sheetflow. Generally, the sheetflow is less than 1.0 foot deep because the width of flow prevents water from building up to greater depths, except in depressions and where water ponds behind dikes, canals, and road fills that may divert the flow from its normal path. The concentrated flow may then break through at one spot, causing high velocities and deep flows immediately below the break or overflow area (Reference 30).

The type of sheetflow described above occurs on ground slopes of 1 to 5 percent. Slopes of less than 1 percent are too flat to carry water any significant distance. Ponding and rapid infiltration deplete the floodflows quickly. Slopes of more than 5 percent generally cause defined channels to form. Defined channels of minor tributaries may extend a considerable distance into slopes that are flatter than 5 percent, but will seldom reach slopes of less than 2 percent without distributary channels forming. Water in these channels is generally 2.5 to 3 feet deep (Reference 30).

Floods have plagued the Gila River basin for many years. The flood of February 1891 produced a great flood on the Salt River; the estimated peak floodflow was 300,000 cubic feet per second (cfs) at Arizona Dam (the present site of Granite Reef Dam). The largest flood involving the entire Gila River basin since that time was produced by the storms of January 1916. During that month, two Pacific storms occurring 10 days apart brought warm rain, which melted unusually heavy snowcovers. The resultant flood ravaged the entire basin (Reference 31).

Other large floods occurred in April 1905, February 1920, March 1938, August 1951, December 1965, December 1967, September 1970, and June 1972.

Maricopa County has experienced major flood losses recently. Heavy precipitation in the mountains north and east of Phoenix caused five floods in the Phoenix area from March 1978 to February 1980. The floods occurred in March 1978, December 1978, January 1979, March 1979, and February 1980 (approximately a 50-year event) when the flows in the Salt, Verde, and Agua Fria Rivers exceeded the storage capacity of the reservoirs on the rivers. These floods made almost all river crossings on the Salt River impassable for weeks and cut Maricopa County practically in half. Because of major traffic delays, businesses suffered major income losses. The nuisance of traffic jams also affected the lives of residents in the Phoenix metropolitan area. There were major physical damages to roads and bridges that crossed the Salt and Agua Fria Rivers. The Sky Harbor International Airport runways were flooded, causing partial closure of operations. The other flood damages were to agricultural fields on the flat floodplains, to the sand-and-

gravel-mining operations in the riverbed, and commercial establishments in the river floodplains. Emergency assistance costs for local fire, police, and public services increased significantly. The overall flood damage estimate for March 1978 was approximately $33.2 million; for December 1978, $51.8 million; and for February 1980, $63.6 million.

Figures 2, 3, 4, and 5 depict flooding along the Salt River during December 1965. Figure 6 shows flooding on the Agua Fria River near Goodyear during the December 1965 flood.

2.4 Flood Protection Measures

Several flood-control structures exist in Maricopa County. Painted Rock Dam, which is 20 miles northwest of Gila Bend on the Gila River, was completed in 1959. It provides flood protection for approximately 360,000 acres downstream of the dam (Reference 31).

Runoff on the Salt River and its tributary, the Verde River, has been reduced over the years by the construction of several dams: Granite Reef Dam (1908); Roosevelt Dam (1911); Mormon Flat Dam (1925); Horse Mesa Dam (1927); Stewart Mountain Dam (1930) on the Salt River; Bartlett Dam (1939); and Horseshoe Dam (1945) on the Verde River.

Carl Pleasant Dam was constructed at the Frog Tanks gage on the Agua Fria River in 1927. It controls runoff from an area of 1,457 square miles (Reference 32).

Cave Creek Dam, built in 1920, provides protection from a 25-year flood to parts of Phoenix.

The Paradise Valley detention dikes, which are a feature of the Central Arizona Project (CAP), provide flood protection for the northeastern part of Phoenix and Scottsdale in excess of the 100-year flood. The Paradise Valley detention dikes have 14 feet of freeboard to provide protection from the 100-year flood (Reference 14). Also part of the CAP is the Granite Reef Aqueduct, which consists of a concrete-lined channel and a series of levees.

Dreamy Draw detention basin (1973) and Cave Buttes Dam (1980) provide additional flood protection for the City of Phoenix.

Figure 2. Looking Downstream on the Salt River During the December 1965 Flood (Sky Harbor International Airport runways are in the center.)

Figure 3. Salt River Flooding in December 1965 (The 40th Street bridge railing is visible at lower right; flow is from right to left.)

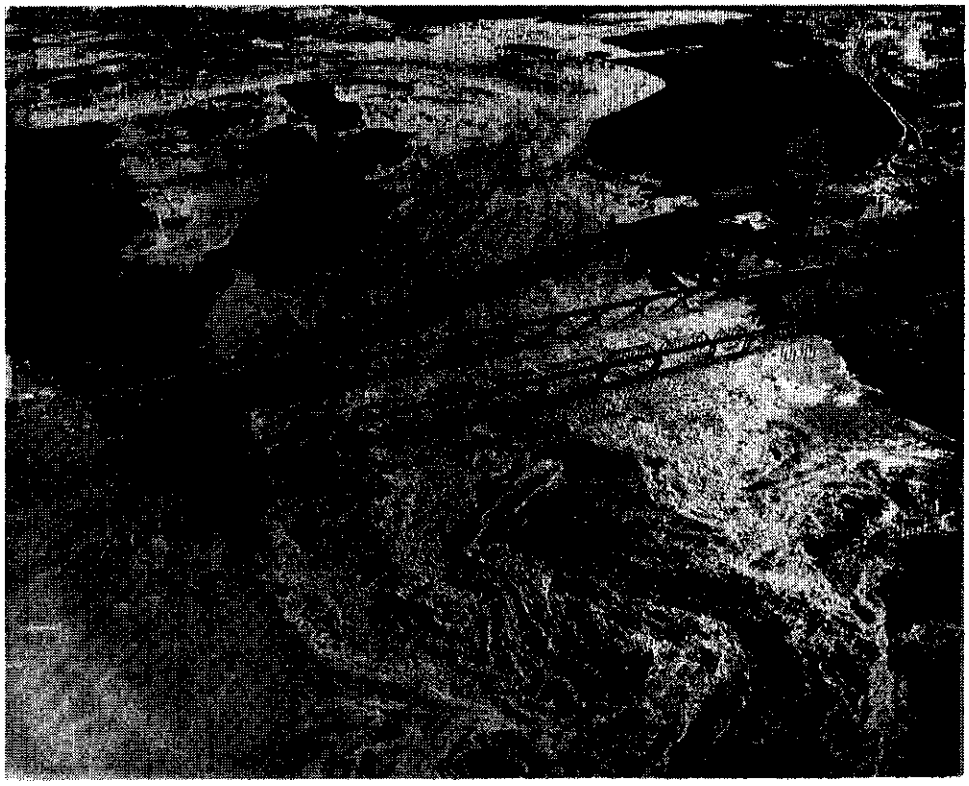


Figure 4. The Salt River Bridges in Tempe, Looking Upstream (The flooded area in the upper center is now developed into athletic fields and parking lots for Arizona State University. Photograph was taken on December 31, 1965.)

Figure 5. The Salt River in Tempe Looking Southwest (The flow is left to right. The buildings in the upper center of the photo are the Arizona State University. Scottsdale Road crosses the photo from the upper left to the lower right. Photograph was taken on December 31, 1965.)

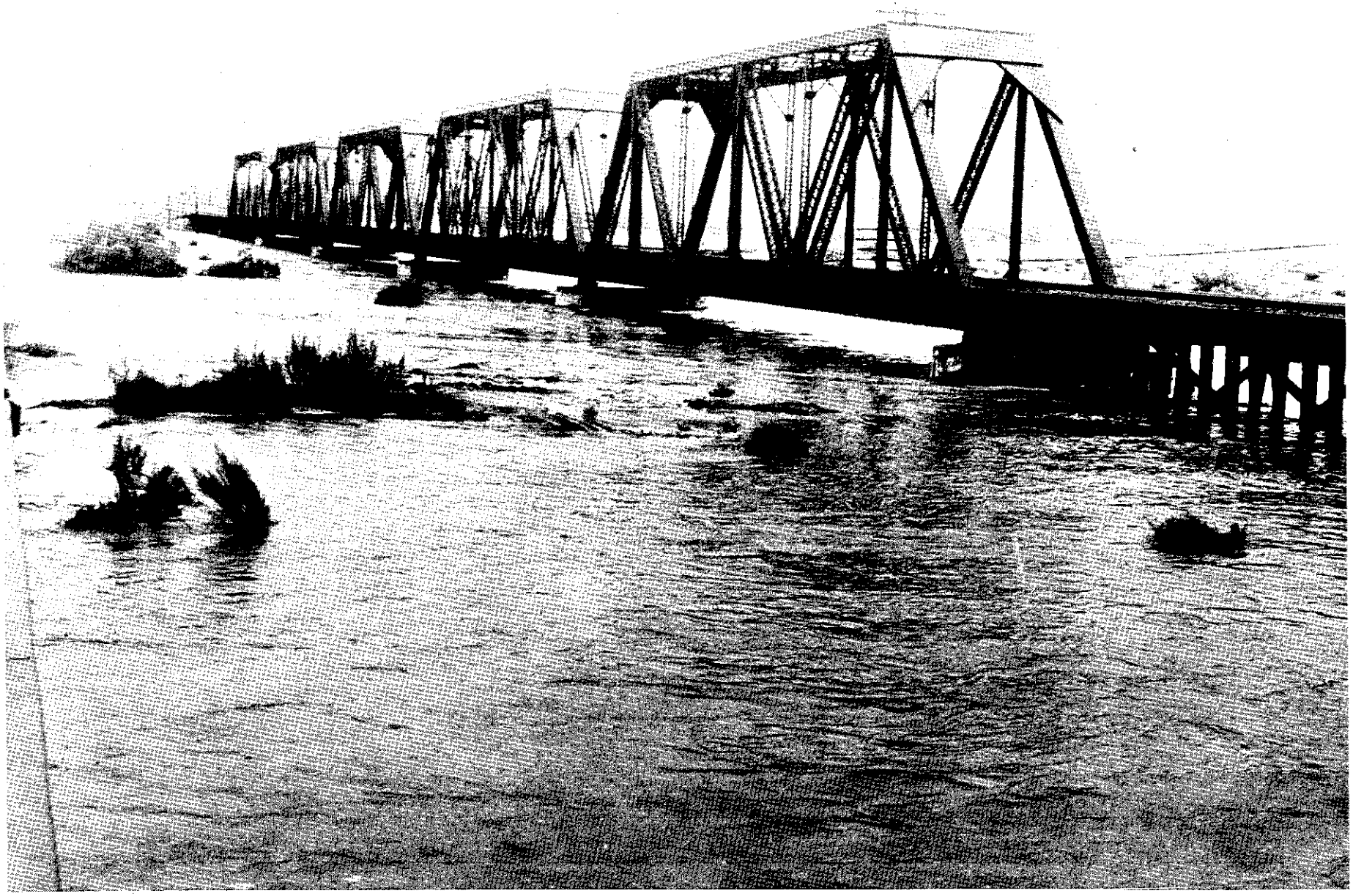


Figure 6. Agua Fria River Flooding at U.S. Highway 80 and Southern Pacific Railroad Bridge near Goodyear, Arizona, on December 22, 1965 (Direction of flow is right to left.)

Trilby Wash detention basin (McMicken Dam) was completed in 1956. The detention basin has a capacity of 19,300 acre-feet (Reference 31). A leveed outlet channel conveys flood releases from the detention basin to the Agua Fria River. The project provides some flood protection to Luke Air Force Base, Phoenix Litchfield Municipal Airport, and the Towns of Goodyear, Litchfield, Avondale, Surprise, and El Mirage.

Spookhill Dam, Signal Butte Dam, Pass Mountain Dam, Powerline Dam, a diversion structure to Powerline Dam, and Rittenhouse Dam control flooding in the southeastern part of the county (References 5 and 8).

Drainage structures in the Interstate Highway 8 embankment south of Gila Bend were designed, according to State criteria, for a 50-year storm. This provides a shielding effect to Gila Bend because floodwaters from lower frequency storms will be detained by the highway, and flows exceeding the capacity of the highway structures will be diverted to the west (Reference 7).

A storm water detention dike was built approximately 4 miles north of Buckeye under the auspices of MCFCD. This facility was designed and constructed to contain up to the 100-year frequency storm runoff from the drainage areas north of the Roosevelt Canal. This facility provides some flood protection to Buckeye (Reference 13).

The channelization of portions of the Agua Fria, Gila, New, and Salt Rivers, Skunk Creek, and Scatter Wash has significantly reduced their respective floodplain areas.

Adobe Dam was constructed in April 1982 on Skunk Creek across Deer Valley Drive, approximately 1 mile west of Black Canyon Highway. The embankment is a compacted-earthfill structure. The ungated outlet works are designed to release a discharge of 1,890 cfs when the water surface is at the spillway crest (1,377 feet). The dam is designed to reduce the Standard Project Flood peak inflow of 66,000 cfs to an outflow of 1,890 cfs. The 100-year base flood inflow of 39,000 cfs will be reduced to a 1,730-cfs outflow.

In addition, the construction of the New River Dam has reduced the peak flow downstream at the confluence with Skunk Creek from 58,000 cfs to 12,000 cfs.

Levees in the study area provide the community with some degree of protection from flooding. However, it has been ascertained that some of these levees may not provide 100-year flood protection. The criteria used to evaluate 100-year protection are: (1) adequate design, including freeboard; (2) structural stability; and (3) proper operation and maintenance. Levees that do not provide 100-year flood protection are not considered in the hydraulic analyses of the 100-year flood plain.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the county, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the county at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each flooding source studied in detail affecting the county.

Peak discharges for the Hassayampa River were developed from discharge-frequency relationships of historic floods and gage records (Reference 32).

In the absence of observed runoff data, present-condition, discharge-frequency values for Scatter Wash and the New River were used. Present-condition, discharge-frequency values for Scatter Wash and Skunk Creek below Adobe Dam were based on future condition values modified to reflect present conditions (Reference 33). Discharge-frequency values for the Agua Fria River were determined by routing balanced hydrographs, which were developed from Waddell Dam inflow-volume-frequency relationships, through the dam and downstream, and adding local flows as appropriate. Discharge-frequency relationships for the Salt River and Gila Rivers concentration points were determined by routing period-of-record flows through existing reservoirs using the HEC-5 computer model (Reference 34).

Peak discharge-frequency relationships for Cave Creek (below Cave Creek Dam), East Fork Cave Creek, and Echo Canyon Wash were taken from the Flood Insurance Study for the City of Phoenix (Reference 14).

Peak discharge-frequency relationships for Cave Creek (above Cave Creek Dam), Andora Hills Wash, Galloway Wash, Apache Creek, Rowe Wash, Grapevine Wash, Ocotillo Wash, Willow Springs Wash, Skunk Creek (above Carefree Highway), Mockingbird Wash, Little San Domingo Wash, Wittmann Drainage, Aguila Farm Channel, Grass Wash, Sand Tank Wash, Bender Wash, Rodeo Wash and its tributary, Airport Wash, Scott Avenue Wash, and Martinez Wash were developed using the U.S. Soil Conservation Service (SCS) TR-20 program (Reference 35). In addition, the SCS TR-55 computer program (Reference 36) was used to determine flood peaks for Buckeye Canal; Atchison, Topeka & Santa Fe Railway Channel; Southern Pacific Railroad Spur at Chandler; Southern Pacific Railroad at Buckeye, Chandler, Gilbert, Goodyear, Tempe, and Tolleson; and Lower El Mirage Wash and its tributary.

The Town of Wickenburg requested a restudy for Sols Wash based upon studies performed by the SCS and PRC Toups Engineering (PRC) (Reference 37). These studies yielded peak discharges significantly less than what had been assumed in the previous analysis for the effective Flood Insurance Study (Reference 19).

The SCS computer model, TR-20, was selected to be used to estimate the 10-, 50-, 100- and 500-year peak discharges for various concentration points along Sols Wash. The TR-20 model utilizes the method of analysis described in detail in the SCS National Engineering Handbook Section 4, Hydrology, 1972. This method allows for the prediction of surface water runoff, for an individual watershed, using rainfall-duration and intensity data. The TR-20 model provides a convenient means of predicting the results of storm runoff from multiple watersheds. The storm runoff for individual watersheds is computed and an outflow hydrograph simulated. Individual hydrographs may then be routed and combined to obtain the cumulative downstream effects (References 35, 38, 39, 40, 41, 42, 43, and 44).

The precipitation frequencies for the area were obtained from isopluvial maps prepared by the U.S. Weather Bureau. The SCS Type II rainfall distribution was used to model the rainfall which was adjusted using an areal reduction based upon the total drainage area. Such reduction is necessary to convert from the point areal rainfall amount. Using soils maps of the area, prepared by the SCS, and from site investigation, runoff curve numbers were selected, based upon recent information developed by the SCS. Time of concentrations for steep and incised washes were computed using the Kirpich equation. For gently sloping alluvial plains, many of which occur on the upper northwest portion of the drainage basin, travel velocities were estimated assuming broad sheetflow and utilizing Manning's equation.

Because there is no gaging station on Sols Wash, and thus no accurate record of historic flooding, there is no means to provide calibration of the rainfall-runoff model and therefore only comparison with earlier studies can be made.

The discharge estimates obtained from the TR-20 analysis for this study correspond with the results from both the SCS and PRC analyses. The discharge-frequency curve developed by the COE for the 1977 Flood Insurance Study has a steeper slope and results in a much larger 100-year peak discharge than the other studies. The SCS, PRC, and CBA studies each employed the TR-20 model which might explain, in part, the consistency of the results although the TR-20 is quite sensitive to changes in time of concentration and each model employed different input parameters.

The calibration of the TR-20 model, by PRC, using streamflow data from the Hassayampa River, lends further credence to each of the study results. Therefore, results from the TR-20 model utilized in this restudy of Sols Wash have been employed in the hydraulic analysis.

Peak discharge-frequency relationships for Casandro, South Branch Casandro, Flying E, Hospital, and Powder House Washes were taken from the Flood Insurance Study for Wickenburg (Reference 19).

Peak discharge-drainage area relationships for flooding sources studied by detailed methods are shown in Table 3.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

For areas of riverine flooding studied by detailed methods, water-surface elevations for floods of the selected recurrence intervals were computed using the COE HEC-2 computer program (Reference 45).

The cross section data for the Agua Fria River were taken from several sources of mapping. A 1981 COE topographic map for the New River (Reference 46) was used for the river section from the confluence with the Gila River to the confluence with the New River. From the New River to Northern Avenue, 1982 City of Glendale mapping was used (Reference 47). From Northern Avenue to Grand Avenue and from Beardsley Road to Jomax Road, 1983 Maricopa County maps were used (Reference 48). The topographic maps for the reach between Grand Avenue and Bell Road (Reference 49) were furnished by American Engineering Company. For the reach between Bell and Beardsley Roads, maps were provided by Cella, Barr, Evans and Associates (Reference 50).

Cross sections for the Gila River were digitized from 1983 topographic maps or taken from as-built data for the Bullard Avenue Bridge.

Table 3. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Gila River					
Below Confluence With Agua Fria River (At Bullard Avenue)	41,902	95,000	200,000	250,000	360,000
Agua Fria River					
At Bell Road	1,870	23,000	87,000	115,000	182,000
Above Confluence With New River (At Glendale Avenue)	1,929	18,000	66,000	90,000	177,000
Below Confluence With New River	2,088	28,000	69,000	95,000	184,000
At Avondale	2,241	22,000	67,000	90,000	179,000
Above Confluence With Gila River	2,250	22,000	67,000	89,000	179,000
New River					
Near Rock Springs	--[2]	--[1]	--[1]	34,500	--[1]
At New River Road	--[2]	--[1]	--[1]	32,000	--[1]
At Interstate 17	--[2]	--[1]	--[1]	33,400	--[1]
Above Confluence with Sweat Canyon Wash	--[2]	--[1]	--[1]	33,000	--[1]
At Carefree Highway	--[2]	--[1]	--[1]	35,800	--[1]
Upstream of New River Dam	--[2]	--[1]	--[1]	49,300	--[1]
At Outflow of New River Dam	0	1,700	2,200	2,350	--[1]
Above Beardsley Road	10.3	2,400	6,500	9,800	--[1]
Above Confluence With Skunk Creek	17.3	2,700	8,000	12,000	--[1]
Below Confluence With Skunk Creek	--[2]	13,500	31,000	41,000	75,000
Skunk Creek					
At Inflow of Adobe Dam	89.6	15,000	29,000	39,000	85,000
At Outflow of Adobe Dam	0.0	1,370	1,650	1,730	2,000
Above Confluence With Scatter Wash	0.9	1,600	2,200	2,600	4,600
Below Confluence With Scatter Wash (At 59th Avenue)	0.4	2,000	5,500	8,400	22,000
At Confluence With Arizona Canal	19.9	2,200	6,700	11,000	33,000

[1]Not Computed
[2]Data Not Available

Table 3. Summary of Discharges

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Buchanan Wash					
800 Feet Downstream of Central Arizona Project Canal	9.17	1,065	1,253	1,308	1,407
At Confluence With Skunk Creek	11.29	1,422	2,005	2,304	3,067
Scatter Wash					
At Mouth	8.5	580	3,500	6,100	17,000
Above Black Canyon Highway (State Highway 17)	6.3	540	3,200	5,700	16,000
Salt River					
At Gilbert Road	12,593.0	100,000	170,000	230,000	345,000
At Tempe Bridge	12,783.0	93,000	160,000	215,000	330,000
At Central Avenue	12,831.0	91,000	155,000	200,000	325,000
At 67th Avenue	12,931.0	90,000	150,000	190,000	315,000
Above Confluence With Gila River	12,962.0	85,000	145,000	185,000	310,000
Cave Creek					
At Confluence With Salt River	96.6[1]	2,800[2,3]	7,700[2,3]	10,900[2,3]	22,000[2,3]
At Grand Canal Crossing	50.4[1]	3,100[2,3]	8,600[2,3]	12,400[2,3]	26,000[2,3]
At Arizona Canal Crossing	30.4[1]	3,200[3]	9,000[3]	13,000[3]	27,000[3]
Below Confluence With Moon Valley Wash	29.3[1]	3,200[3]	9,000[3]	12,000[3]	27,000[3]
Below Confluence With East Fork Cave Creek	22.5[1]	3,100[3]	8,700[3]	11,000[3]	25,000[3]
Below Deer Valley Road	5.0[1]	1,400[3]	3,800[3]	5,400[3]	11,000[3]
Above Deer Valley Road	4.5[1]	1,300[3]	3,500[3]	5,000[3]	10,000[3]
Below Carefree Highway	126.9[4]	20,600	32,975	36,860	52,000
Above Carefree Highway	121.5[4]	20,130	32,180	35,900	51,000
At Confluence With Andora Hills Wash	115.1[4]	19,640	31,430	35,000	50,000
Above Confluence With Willow Springs Wash	80.3[4]	13,210	21,480	23,600	33,000

[1]Contributing Drainage Area Below Cave Creek Dam Only
[2]Decrease Due to Storage in Overbanks Upstream
[3]Regulated by Cave Creek Dam
[4]Contributing Drainage Area Above Cave Creek Dam

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
East Fork Cave Creek					
At Confluence With Cave Creek	14.4	2,300	6,400	9,000	19,000
Below 7th Avenue Extended	13.8	2,300	6,300	8,900	18,000
Below 7th Street	12.4	2,200	5,900	8,400	17,000
Above 7th Street	10.0	1,900	5,300	7,500	15,200
At Bell Road	3.4	1,100	2,900	4,200	8,200
Below Cave Creek Road	3.0	1,000	2,800	3,900	7,900
At Utopia Road	1.8	800	2,100	3,000	5,800
At Beardsley Road	1.0	600	1,500	2,100	4,300
Andora Hills Wash					
Above Confluence With Cave Creek	2.8	1,450	2,280	2,590	3,550
Above School House Road	1.6	1,070	1,620	1,820	2,500
Below Scottsdale Road	0.6	420	640	720	980
Galloway Wash					
At Spur Cross Road	20.5	10,870	16,920	19,180	26,400
Below Confluence With Grapevine Wash	14.6	7,470	11,800	13,430	18,700
1.4 miles Above Confluence With Grapevine Wash	0.4	170	290	330	490
Rowe Wash					
Above Confluence With Galloway Wash	5.5	4,170	6,190	6,940	9,200
2.5 Miles Above Confluence With Galloway Wash	4.8	4,030	5,940	6,650	8,800
Grapevine Wash					
At Mouth	--[1]	4,090	6,420	7,290	10,000
Ocotillo Wash					
Above Confluence With Cave Creek	3.8	3,200	4,820	5,420	7,200
Near Intersection of Rockaway Hills Drive and Fleming Springs Road	2.8	2,800	4,140	4,630	6,200

[1]Data Not Available

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Willow Springs Wash					
Above Confluence With Cave Creek	5.0	3,740	5,570	6,240	8,250
0.8 Mile Above Confluence With Cave Creek	3.1	2,920	4,300	4,800	6,220
Hassayampa River					
At Maricopa-Yavapai County Line	524.0	16,500	42,300	72,200	125,000
Sols Wash					
At River Street	5.0	4,000	16,500	24,000	59,000
Casandro Wash					
At Atchison, Topeka & Santa Fe Railway	1.5	250	1,050	1,500	3,500
At U.S. Highways 60 and 70	0.5	50	500	800	1,900
South Branch Casandro Wash					
Above Yaqui Drive	0.2	50	250	400	1,000
Flying E Wash					
At U.S. Highways 60 and 70	8.4	1,000	4,500	6,500	15,000
Hospital Wash					
At Honeysuckle Avenue	0.5	150	600	900	2,000
Powder House Wash					
At Jack Burden Road	1.9	300	1,300	1,900	4,400
Martinez Wash					
At Mouth	103.0	9,220	27,400	32,000	45,000

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Mockingbird Wash					
At U.S. Highways 60, 70, and 89	6.9	2,750	4,040	5,060	7,400
Little San Domingo Wash					
At U.S. Highways 60, 70, and 89	6.2	1,690	2,620	3,090	4,250
Wittmann Drainage					
At Atchison, Topeka & Santa Fe Railway	8.6	1,760	2,770	3,060	4,350
Aguila Farm Channel					
At Eagle Eye Avenue	216.0	5,450	12,000	16,000	--[1]
Grass Wash					
At U.S. Highways 60 and 70	83.0	6,380	11,600	14,400	--[1]
Lower El Mirage Wash					
At Cactus Road	1.9	90	200	250	--[1]
Lower El Mirage Wash Tributary					
At Mouth	1.3	53	110	150	--[1]
Sand Tank and Bender Washes					
At Gila Bend (Gillespie Canal)	261	28,200	33,000[2]	33,500[2]	34,500[2]
At Interstate Highway 8	257[3]	28,000	51,000	64,000	87,000

[1]Not Computed
[2]Decrease Due to Diversion at Interstate Highway 8
[3]An Equivalent of 128 Square Miles of Drainage Area Is Diverted to West at Interstate Highway 8

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Rodeo Wash					
At U.S. Highway 80	3.3	560	1,100	1,400	2,200
Atchison, Topeka & Santa Fe Railway Channel					
At Confluence With Agua Fria River	1.1	180	370	435	--[1]
At Olive and 75th Avenues	5.4	490	1,020	1,340	1,920
At Peoria and 83rd Avenues	2.7	280	560	730	1,060
At Hawkins Road	0.3	100	190	230	--[1]
Echo Canyon Wash					
At Mouth	5.1	2,000	4,600	6,600	18,000
200 Feet East of 40th Street	4.3	1,900	4,200	5,900	14,000
At McDonald Drive	3.5	1,600	3,500	4,900	10,200
At Tatum Road	1.9	1,200	2,550	3,600	8,650
Southern Pacific Railroad					
At Apache Road	2.6	220	450	650	--[1]
At Miller Road	2.0	50	210	410	--[1]
At Ray Road	4.7	110	270	360	--[1]
At Railroad Spur	2.2	120	280	320	--[1]
1.0 Mile North of Guadalupe Road	143.9	200	2,270	4,090	--[1]
0.25 Mile South of Western Canal	131.8	130	2,160	3,950	--[1]
At Airport Entrance	2.2	120	280	320	--[1]
Southern Pacific Railroad Spur					
At Ray Road	2.5	--[1]	--[1]	790	--[1]

[1]Not Computed
[2]Data Not Available

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Apache Creek (Apache Junction Alluvial Fan)					
At U.S. Highway 80 and 108th Street	2.64	433	831	1,021	--[1]
Dreamy Draw Wash East					
At Mouth	0.38	300	750	1,000	1,700
Flynn Lane Wash					
At Flynn Lane and Lincoln Drive	0.63	400	800	1,100	2,300
At Ocotillo Road	0.98	700	1,300	1,700	3,300
Granite Reef Wash					
Pima Road	6.2	74	278	644	1,431
McDowell Road	7.2	580	950	1,240	2,660
Van Buren Street	7.5	720	1,158	1,417	3,150
Indian Bend Wash					
Scottsdale Road	44.26	3,400	11,000	16,000	35,000
Indian Bend Road	59.6	3,500	12,000	17,000	39,000
Indian School Road	100.0	4,000	14,000	20,000	43,000
Downstream Limit of McKellips Lake, Just Upstream of McKellips Road Bridge	107.0	4,000	14,000	20,000	42,000
At 32nd Street	2.77	1,000	1,400	2,400	5,500
At 36th Street	9.17	2,000	3,500	6,000	15,500
At Cactus Road	15.07	1,500	5,600	9,000	21,000

[1]Not Computed

Table 3. Summary of Discharges (Cont'd)

Flooding Source and Location	Drainage Area (Square Miles)	Peak Discharges (cfs) 10-Year	50-Year	100-Year	500-Year
Myrtle Avenue Wash					
At Mouth	0.87	600	1,000	1,300	2,800
Tenth Street Wash					
At Cheryl Drive	0.81	385	--[1]	1,440	3,650
At Hatcher Road	1.59	910	--[1]	3,400	8,600
At Alice Avenue	2.25	1,170	--[1]	4,390	11,110
At Griswold Road	2.69	1,265	--[1]	4,740	12,000
Wash B					
At a point 1,100 Feet Downstream of 124th Street	1.95	290	1,160	1,925	4,580
At a point 4,500 Feet Downstream of 124th Street	2.25	340	1,390	2,300	5,500
At a point 4,500 Feet Downstream of 124th Street	2.25	205	835	1,380	3,300
At a point 5,500 Feet Downstream of 124th Street	2.50	190	820	1,300	3,200
Weekes Wash					
At U.S. Highway 60/89	10.60	2,015	5,485	6,680	9,605
At North Apache Trail (State Highway 88)	9.37	2,145	5,610	6,840	9,847

[1]Not Computed

Cross sections for the Salt River between Central Avenue and 115th Avenue were based on digitized data from topographic mapping. From Central Avenue to Country Club Road in Mesa, cross sections were also taken from topographic mapping (References 51 and 52).

For study purposes, Skunk Creek was divided into two sections. Lower Skunk Creek lies between Adobe Dam outlet channel and the Bell Road Bridge. Upper Skunk Creek is from the Central Arizona Project channel to Adobe Dam. Cross sections for both reaches were generated using 1974 Maricopa County topographic maps at a scale of 1:2,400 with a contour interval of 2 feet. These maps were supplemented by additional mapping from the City of Phoenix and the COE at scales of 1:1,200 and 1:2,400 respectively, both with a contour interval of 2 feet.

Cross sections for the Hassayampa River (below Carefree Highway) were field surveyed.

Cross section data for the following were developed from topographic maps (Reference 46): Skunk Creek above Carefree Highway; Cave Creek above Cave Creek Dam; Andora Hills, Galloway, Rowe, Grapevine, Ocotillo, Willow Springs, Powder House, Mockingbird, and Little San Domingo Washes; Wittmann Drainage; Aguila Farm Channel; Grass, Sand Tank, and Bender Washes; Rodeo Wash and its tributary; Airport, and Scott Avenue Washes; Lower El Mirage Wash and its tributary; Atchison, Topeka & Santa Fe Railway Channel at El Mirage; the Atchison, Topeka & Santa Fe Railway at Peoria; and the Southern Pacific Railroad and its spurs.

Cross section data for East Branch Scatter Wash and Echo Canyon Washes were developed from topographic maps provided by the City of Phoenix (Reference 47).

Cross section data for Cave Creek below Arizona Canal and for East Fork Cave Creek were developed from aerial photographs flown in March 1980 (Reference 48). Cross section data for Cave Creek between Arizona Canal and Cave Creek Dam were developed from aerial photographs flown in March 1978 (Reference 49).

Cross section data for the Sols Wash backwater analyses were obtained from topographic maps, at a scale of 1:200, with contour intervals of 2 feet, prepared specifically for this project by Cooper Aerial Survey in March 1986 (Reference 53). Culvert and bridge data were obtained from the topographic maps and were field-checked to verify structural geometry.

Cross section data for Casandro, South Branch Casandro, Flying E, and Hospital Washes were taken from a COE Flood Plain Information report for Wickenburg (Reference 50) and from topographic maps (Reference 54).

Cross section data for Martinez Wash were digitized from topographic maps (Reference 26).

Cross sections were located at close intervals above and below bridges in order to compute the significant backwater effects of these structures. All bridges and culverts were investigated to obtain elevation data and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1). For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 2).

Hydraulic roughness coefficients (Manning's "n") were selected on the basis of field inspection and engineering judgment. Table 4 gives the range of Manning's "n" values for each flooding source studied by detailed methods.

Starting water-surface elevations for all riverine flooding sources, except as noted below, were developed using the slope-area method.

The Agua Fria River starting water-surface elevations were determined assuming normal depth. The Manning's "n" values used ranged from 0.03 to 0.035 for the channel and from 0.04 to 0.045 for the overbanks.

The starting water-surface elevations for the Gila River were computed by normal-depth methods. The "n" value used for the Gila River was 0.045 for both the channel and overbanks.

The starting water-surface elevations for the New River were developed through the use of 1985 topographic mapping in the area of its confluence with Skunk Creek. Manning's "n" values were based on field observations and engineering judgment. These "n" values ranged in the channel from 0.03 to 0.035.

In the overbank areas, "n" values ranged from 0.03 to 0.06. A significant feature of the New River floodplain is the channelization in the vicinity of its confluence with Skunk Creek. This channelization has occurred from approximately 1,500 feet downstream of the Thunderbird Road Bridge upstream to the Greenway Road. In addition, in the left overbank area above Union Hill Drive, a new wastewater treatment plant with improved channel banks is reflected in the hydraulic model.

For the upper reaches of Skunk Creek, the starting water-surface elevations were computed from the reservoir spillway elevation of 1,377 feet. For the lower reach, normal-depth and New River back-water computations were used. Mannings "n" values were 0.035 for the channel and 0.045 for the overbanks on the lower reach. For the upper reach, the "n" values ranged from 0.035 to 0.040 in the channel and from 0.035 to 0.05 in the overbank.

Table 4. Range of Hydraulic Roughness Coefficients (Manning's "n")

Flooding Source	Channel	Overbanks
Agua Fria River	0.030 - 0.035	0.040 - 0.045
Gila River	0.045	0.045
Hassayampa River	0.030 - 0.060	0.040 - 0.060
New River	0.030 - 0.035	0.030 - 0.060
Salt River	0.030 - 0.035	0.040 - 0.050
Skunk Creek	0.035	0.045 - 0.050
Scatter Wash, North Branch	0.020 - 0.050	0.070 - 0.150
Scatter Wash, South Branch	0.035	0.045
Aguila Farm Channel	0.030	0.040
Airport Wash	0.025	0.035
Andora Hills Wash	0.020 - 0.045	0.020 - 0.052
Atchison, Topeka & Santa Fe Railway Channel	0.032 - 0.037	0.032 - 0.047
Atchison, Topeka & Santa Fe Railway Ponding	0.035 - 0.040	0.035 - 0.040
Bender and Sand Tank Washes	0.025	0.035
Casandro Wash	0.030 - 0.060	0.040 - 0.060
South Branch Casandro Wash	0.030 - 0.060	0.040 - 0.060
Cave Creek	0.020 - 0.045	0.020 - 0.052
East Fork Cave Creek	0.015 - 0.050	0.015 - 0.070
Echo Canyon Wash	0.018 - 0.025	0.012 - 0.035
Flying "E" Wash	0.030 - 0.060	0.040 - 0.060
Galloway Wash	0.020 - 0.045	0.020 - 0.052
Grapevine Wash	0.020 - 0.045	0.020 - 0.052
Grass Wash	0.025 - 0.040	0.025 - 0.045
Hospital Wash	0.030 - 0.060	0.040 - 0.060
Little San Domingo Wash	0.030	0.040

Table 4. Range of Hydraulic Roughness Coefficients (Manning's "n")

Flooding Source	Channel	Overbanks
Lower El Mirage Wash	0.044	0.044
Lower El Mirage Wash Tributary	0.044	0.044
Martinez Wash	0.025 - 0.060	0.060 - 0.100
Mockingbird Wash	0.030 - 0.037	0.035 - 0.042
Ocotillo Wash	0.020 - 0.045	0.020 - 0.052
Powder House Wash	0.030 - 0.060	0.040 - 0.060
Rodeo Wash	0.025	0.035
Rodeo Wash Tributary	0.025	0.035
Rowe Wash	0.020 - 0.045	0.020 - 0.052
Sols Wash	.025 - .065	.025 - 0.1
Scott Avenue Wash	0.025	0.035
Willow Springs Wash	0.020 - 0.045	0.020 - 0.052
Wittmann Drainage	0.033	0.035

Salt River photos for the 1978 and 1980 flooding events were extensively used in establishing channel parameters for bank station identification, "n" values, and flood flow conveyance patterns. Information from the current Airport channelization project was also transferred to the maps. The Salt River model also includes the proposed south dike on the Salt River, which represents an extension of the airport channelization project. This dike is located between Hohokam Expressway (48th Street) and Priest Road on the southern bank of the Salt River.

Water-surface elevations computed in the HEC-2 hydraulic model were calibrated with the known floodplains of the 1978 and 1980 flooding events. This technique involved the adjustment at conveyance boundaries and "n" values. The calibrated "n" values ranged from 0.03 to 0.035 for the channel and from 0.04 to 0.05 for the overbanks.

The starting water-surface elevation for Scatter Wash was taken from Skunk Creek. Manning's "n" values were determined through field investigations and engineering judgment. Scatter Wash is a relatively flat floodplain for the majority of its reach, with a substantial amount of development in some overbank areas. Manning's "n" values for the channel ranged between 0.02 at Deer Valley underpass to 0.05 for heavy brush areas.

In the upper Scatter Wash drainage basin it was determined that floodflows would proceed along the many braided streamlines, until they reach Interstate Highway 17 (I-17). At I-17, the flows will begin to concentrate in the area north of Williams Road. The 100-year flows at this point will separate into a north and south branch of Scatter Wash. The Scatter Wash, North Branch, passes under I-17 through two culverts, and over I-17 via sheet-flow action. Scatter Wash, South Branch, continues to flow southerly along the eastern side of I-17, until it eventually ponds and passes under I-17 at Deer Valley Road. Both branches of Scatter Wash join in the vicinity of Rose Garden Lane and 33rd Avenue. At this location, the flows proceed downstream to their confluence with Skunk Creek.

During periods of heavy runoff, flows from Sand Tank and Bender Washes near Gila Bend are intermixed. Highway and railroad bridges traverse both washes. These structures cannot pass a 100-year flood, resulting in extensive ponding at each obstruction during floods of low frequency.

Apache Creek is located on an alluvial fan near Apache Junction at the base of the Superstition Mountains. A vast network of intermingling channels exists on the fan. Flooding on alluvial fans is often erratic and unpredictable, and flow may occur on separate parts of an alluvial fan during sequent flood events. Flooding in this area was analyzed using alluvial fan methodology developed by FEMA.

Much of the flooding in the county is caused by sheetflow that originates from alluvial fans. Flows are intercepted by canal levees, railroad embankments, and elevated roads, causing water to pond behind the embankments. Depths of ponding depend on the elevation of the embankments. When the intercepted runoff exceeds ponding storage capacity, the flow will overtop the embankment, thus eroding the levee. Areas immediately downslope of the breakout will be affected by high water. However, flows will fan out to again become shallow sheetflow that is less than 1 foot in depth. Therefore, many areas in the county have been designated Zone B. (See Section 5)

Approximate hydraulic analyses for Bulldog, Apache, and Goldfield Washes and the downstream reach of Weekes Wash were carried out using approximate flow velocities and normal-depth calculations. These analyses revealed that the channels have very little capacity relative to the 100-year flood and, in some cases, the channels are nonexistent. Furthermore, the overbank flow is not confined to a well-defined floodplain, causing shallow flooding. The average depth of flooding for the overbank areas was determined to be less than 1 foot.

Areas of ponding on the upstream side of U.S. Highway 60/89 were also studied. Water-surface elevations for these areas were based on the elevation of the highway grade with shallow flows over the highway of less than 1 foot. This results in average shallow flooding depths behind the highway between 1 and 3 feet.

Cross sections were taken perpendicular to the canals and railroad embankments using topographic maps (Reference 55). The top of the embankments were assumed to be the maximum ponding elevation upslope of the embankment. Flood hazard areas were then determined by projecting this elevation upslope to intersect the natural ground.

The canal levees and railroad embankments do not permanently retain stormflows, but divert them along the embankments. Most of the canal levees consist of unconsolidated material. These levees are subject to failure when runoff volumes exceed storage capacity. Potential flood hazard areas on the downslope side of the canals were analyzed for levees exceeding 2 feet in height. This analysis determined the distance required for flow through a break in a levee to spread and be reduced to an average depth of 1 foot, using Manning's equation. This analysis assumed the following:

1. A canal breach could occur at any point.

2. A broad, cresting horizontal weir equation with a head of 3 feet could be used to determine the length of a breach, resulting in a weir from 50 to 100 feet long.

3. Floodwaters would spread at a 45 degree angle from the breach in the levee.

4. The peak discharge at a potential levee break was the maximum canal capacity or the concentration of peak flows from runoff in the watershed, whichever was greater.

Due to the nature of flooding along the New River, Skunk Creek below Carefree Highway, Lower El Mirage Wash, Scatter Wash below Black Canyon Highway, and East Branch Scatter Wash, no 500-year flood profiles were developed. The floodplains of these streams are wide; therefore, flow could increase substantially without significantly raising the water-surface elevation or increasing the velocity of flow. Moreover, most of the area contiguous to the floodplains is subject to sheetflow during a 100-year flood.

In addition, 50-year flood profiles for the Agua Fria and New River, Skunk Creek below Carefree Highway, Cave Creek below Cave Creek Dam, East Fork Cave Creek, and Echo Canyon, Scatter, and East Branch Scatter Washes were not computed.

Flood profiles are not applicable for areas of shallow flooding and ponding; therefore, flood profiles are not presented for any of the canals or other areas of shallow flooding, including Sand Tank and Bender Washes, Rodeo Wash and its tributary, Lower El Mirage Wash Tributary, and Airport and Scott Avenue Washes.

For flooding sources studied by approximate methods, 100-year flood elevations were computed using Manning's equation, COE Flood Plain Information reports (References 19, 27, 50, and 56), USGS Flood-Prone Area Maps (Reference 57), USGS slope maps (Reference 58), high-resolution Skylab photographs (References 59 and 60), and USGS topographic maps (Reference 61).

The study was limited to the uses of fixed-bed modeling for the hydraulic analyses. However, with the occurrence of a large flood, substantial changes in the riverbed are expected to occur, particularly where the bottom slope is very non-uniform and/or where other structures, such as bridges, cause local increases in the velocity. Resultant changes in the water-surface elevations can be expected.

The hydraulic analyses for this study were based on unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929. Elevation reference marks used in this study are shown on the maps.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The NFIP encourages State and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing flood plain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at scales of 1:1,200, 1:2,400, 1:4,800, and 1:6,000, with contour intervals of 2 and 4 feet (References 46, 47, 54, and 55).

The 100- and 500-year floodplain boundaries are shown on the Flood Boundary and Floodway Map (Exhibit 2). In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

Approximate flood boundaries were delineated using USGS topographic maps and Flood-Prone Areas Maps (References 57 and 61), and high-resolution Skylab photographs (References 59 and 60).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces flood-carrying capacity, increases flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the NFIP, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream, plus any adjacent floodplain areas, that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed on the basis of equal-conveyance reduction from each side of the floodplain. The results of these computations are tabulated at selected cross sections for each stream segment for which a floodway is computed (Table 5).

As shown on the Flood Boundary and Floodway Map (Exhibit 2), the floodway boundaries were computed at cross sections. Between cross sections, the boundaries were interpolated. In cases where the floodway and 100-year floodplain boundaries are either close together or collinear, only the floodway boundary has been shown.

The floodways for Little San Domingo, Mockingbird, and Powder House Washes are shown coincident with the 100-year floodplain boundaries because of high, hazardous velocities in their respective flood plains.

No floodway was computed for Wash B downstream of Granite Reef Aqueduct. Also, no floodway was computed for Cave Creek below Arizona Canal.

No floodway was computed for Wittmann Drainage due to the split flow below Center Street.

Floodways for Grass Wash below the U.S. Highway 60 bridge and for Aguila Farm Channel were not computed due to excessive overbank losses.

Floodways are not applicable for areas of shallow flooding; therefore, floodways were not computed for any of the canals, railroad embankments, or for San Tank and Bender Washes, Rodeo Wash and its tributary, Airport and Scott Avenue Washes, Lower El Mirage Wash Tributary, and Apache Creek.

The area between the floodway and 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood by more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 7.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Agua Fria River								
A	2,675	2,960	14,542	6.1	923.6	921.1[2]	922.0[2]	0.9
B	5,335	2,200	12,012	7.4	926.7	926.7	027.6	0.9
C	6,165	1,807	10,874	8.2	929.2	929.2	930.1	0.9
D	7,005	2,416	13,849	6.4	933.2	933.2	933.2	0.0
E	9,355	3,288	19,239	4.6	937.0	937.0	937.5	0.5
F	11,075	3,137	14,185	6.3	940.7	940.7	941.0	0.3
G	13,040	2,235	14,088	6.3	946.7	946.7	947.2	0.5
H	14,655	2,130	14,184	6.3	949.9	949.9	950.3	0.4
I	15,870	2,500	13,318	6.8	952.2	952.2	953.2	1.0
J	17,370	2,650	16,102	5.6	955.8	955.8	956.6	0.8
K	18,995	1,960	12,077	7.5	958.8	958.8	959.6	0.8
L	19,995	1,188	9,009	10.0	962.3	962.3	962.8	0.5
M	20,200	1,202	13,534	6.7	964.1	964.1	964.3	0.2
N	22,085	2,375	17,909	5.0	967.8	967.8	968.8	1.0
O	23,950	2,970	16,624	5.4	970.9	970.9	971.9	1.0
P	25,350	2,170	12,170	7.4	973.0	973.0	974.0	1.0
Q	26,600	1,870	13,718	6.6	976.4	976.4	977.1	0.7
R	27,975	1,868	12,911	7.0	978.6	978.6	979.2	0.6
S	28,515	1,452	11,250	8.1	981.0	981.0	981.1	0.1
T	29,955	2,820	25,386	3.6	984.7	984.7	984.8	0.1
U	32,075	3,670	20,941	4.3	987.4	987.4	988.0	0.6
V	34,655	2,835	16,290	5.7	994.1	994.1	995.0	0.9
W	36,095	2,600	15,060	6.2	997.7	997.7	998.2	0.5
X	37,320	2,195	13,171	7.1	1,000.3	1,000.3	1,000.7	0.4
Y	39,470	2,915	15,995	5.8	1,003.7	1,003.7	1,004.5	0.8
Z	42,836	1,596	14,883	6.4	1,012.3	1,012.3	1,012.8	0.5

[1]Feet Above Confluence With Gila River
[2]Elevations Computed Without Consideration of Backwater From Gila River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

AGUA FRIA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Agua Fria River (Continued)								
AA	42,915	1,587	13,300	7.1	1,012.3	1,012.3	1,012.9	0.6
AB	45,441	3,190	15,994	5.9	1,017.5	1,017.5	1,107.7	0.2
AC	48,497	1,694	11,734	8.1	1,024.3	1,024.3	1,024.5	0.2
AD	50,257	2,700	14,356	6.6	1,029.1	1,029.1	1,029.4	0.3
AE	51,717	4,720	21,241	4.2	1,033.8	1,033.8	1,034.7	0.9
AF	53,647	3,400	12,757	7.1	1,037.7	1,037.7	1,037.8	0.1
AG	56,072	2,950	14,565	6.3	1,043.1	1,043.1	1,044.0	0.9
AH	59,897	4,013	13,839	6.7	1,050.8	1,050.8	1,051.3	0.5
AI	62,971	3,405	38,528	2.5	1,064.7	1,064.7	1,064.8	0.1
AJ	65,371	2,753	9,433	10.2	1,064.7	1,064.7	1,065.0	0.3
AK	66,571	2,425	11,074	8.7	1,068.9	1,068.9	1,069.2	0.3
AL	69,091	2,300	15,303	6.4	1,076.1	1,076.1	1,077.0	0.9
AM	71,091	2,441	19,658	5.0	1,080.1	1,080.1	1,080.7	0.6
AN	74,091	3,136	13,249	7.6	1,089.2	1,089.2	1,089.5	0.3
AO	76,091	2,605	13,945	7.4	1,095.4	1,095.4	1,095.9	0.5
AP	78,091	2,754	17,948	5.7	1,101.5	1,101.5	1,101.8	0.3
AQ	80,091	2,092	12,205	8.5	1,104.6	1,104.6	1,105.1	0.5
AR	82,146	2,259	14,813	7.1	1,111.4	1,111.4	1,111.9	0.5
AS	86,715	2,072	21,346	5.1	1,130.7	1,130.7	1,131.5	0.8
AT	89,081	2,520	15,707	6.9	1,133.6	1,133.6	1,134.4	0.8
AU	91,162	2,855	25,570	4.2	1,137.0	1,137.0	1,137.6	0.6
AV	92,921	2,080	11,667	9.3	1,138.4	1,138.4	1,139.0	0.6
AW	96,615	2,616	12,273	8.5	1,149.1	1,149.1	1,149.1	0.0
AX	98,198	2,143	14,516	7.5	1,154.7	1,154.7	1,154.8	0.1
AY	99,713	1,074	12,826	9.0	1,160.3	1,160.3	1,160.7	0.4
AZ	99,783	1,073	12,995	8.8	1,160.5	1,160.5	1,160.8	0.3

[1]Feet Above Confluence With Gila River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Agua Fria River								
BA	101,573	2,451	16,536	7.0	1,168.9	1,168.9	1,168.9	0.0
BB	103,973	2,796	15,544	7.5	1,174.3	1,174.3	1,174.5	0.2
BC	105,183	2,608	15,653	7.4	1,177.9	1,177.9	1,178.1	0.2
BD	106,203	2,211	14,947	7.8	1,180.7	1,180.7	1,181.1	0.4
BE	109,453	2,474	18,608	6.4	1,191.7	1,191.7	1,192.7	1.0
BF	112,113	2,550	12,570	9.5	1,196.9	1,196.9	1,197.7	0.8
BG	113,313	3,020	26,743	4.4	1,199.4	1,199.4	1,200.4	1.0
BH	114,433	2,868	19,665	6.1	1,200.4	1,200.4	1,201.3	0.9
BI	116,483	2,720	14,168	8.4	1,205.9	1,205.9	1,206.2	0.3
BJ	118,483	2,990	17,358	7.0	1,212.9	1,212.9	1,213.0	0.1
BK	119,483	3,394	20,320	6.0	1,215.9	1,215.9	1,215.9	0.0
BL	121,483	3,383	15,421	7.8	1,222.4	1,222.4	1,222.4	0.0
BM	123,483	3,314	21,455	5.7	1,228.6	1,228.6	1,228.7	0.1
BN	125,483	2,750	14,976	8.2	1,236.6	1,236.6	1,237.1	0.5
BO	127,483	3,015	18,164	6.8	1,244.1	1,244.1	1,244.8	0.7
BP	129,483	3,970	22,373	5.6	1,249.1	1,249.1	1,249.6	0.5
BQ	131,483	3,840	20,042	6.3	1,256.7	1,256.7	1,257.4	0.7
BR	132,483	2,800	16,573	7.7	1,259.3	1,259.3	1,260.0	0.7
BS	134,383	1,272	9,169	13.9	1,266.1	1,266.1	1,266.1	0.0
BT	135,083	1,411	10,556	12.1	1,270.9	1,270.9	1,271.0	0.1

[1]Feet Above Confluence With Gila River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Gila River								
A	163.42	6,627	47,659	4.2	780.2	780.2	781.2	1.0
B	164.25	3,880	47,241	4.2	786.4	786.4	787.1	0.7
C	164.97	2,895	46,076	4.4	795.1	795.1	795.9	0.8
D	165.53	4,828	77,858	2.6	798.3	798.3	799.2	0.9
E	166.05	3,563	57,421	3.5	799.1	799.1	800.0	0.9
F	166.41	3,956	49,730	4.0	800.1	800.1	801.0	0.9
G	166.66	4,769	62,383	3.2	804.0	804.0	804.6	0.6
H	167.08	5,917	85,825	2.3	806.0	806.0	806.6	0.6
I	167.56	6,112	99,836	2.0	807.2	807.2	807.8	0.6
J	167.89	5,702	80,755	2.5	807.9	807.9	808.5	0.6
K	168.42	5,141	76,972	2.6	809.6	809.6	810.3	0.7
L	168.86	4,396	63,953	3.2	810.8	810.8	811.5	0.7
M	169.12	4,162	53,752	3.8	811.8	811.8	812.5	0.7
N	169.45	5,205	65,294	3.1	813.7	813.7	814.3	0.6
O	169.94	5,723	65,013	3.1	814.8	814.8	815.5	0.7
P	170.18	5,294	60,580	3.3	815.5	815.5	816.2	0.7
Q	171.05	5,274	60,079	3.4	818.5	818.5	819.4	0.9
R	171.78	6,418	77,314	2.6	820.4	820.4	821.3	0.9
S	172.15	6,533	69,814	2.9	821.7	821.7	822.5	0.8
T	172.81	6,366	57,194	3.5	826.7	826.7	826.8	0.1
U	173.09	6,269	46,812	4.3	827.7	827.7	828.1	0.4
V	173.37	6,570	72,449	2.8	829.3	829.3	829.9	0.6
W	173.68	6,467	61,820	3.3	830.5	830.5	831.2	0.7
X	174.28	5,474	52,810	3.9	833.5	833.5	834.3	0.8
Y	174.57	5,358	52,050	3.9	836.3	836.3	837.0	0.7
Z	174.73	5,330	56,570	3.6	838.2	838.2	838.8	0.6

[1]Miles Above Confluence With Colorado River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

GILA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Gila River (Continued)								
AA	174.95	5,070	55,822	3.7	840.1	840.1	840.6	0.5
AB	175.58	7,180	62,492	3.3	844.9	844.9	845.4	0.5
AC	176.18	7,449	62,973	3.2	848.4	848.4	849.2	0.8
AD	177.07	6,867	62,956	3.2	855.0	855.0	855.8	0.8
AE	177.66	7,494	70,738	2.9	856.8	856.8	857.7	0.9
AF	178.42	6,798	58,057	3.5	858.4	858.4	859.1	0.7
AG	179.24	5,993	49,526	4.1	861.8	861.8	862.2	0.4
AH	179.82	5,348	62,402	3.3	866.5	866.5	867.5	1.0
AI	180.36	4,570	54,953	3.7	869.0	869.0	870.0	1.0
AJ	180.71	4,330	42,780	4.8	870.2	870.2	871.0	0.8
AK	181.24	3,812	34,557	6.0	874.1	874.1	874.5	0.4
AL	181.63	4,669	46,294	4.4	876.3	876.3	877.0	0.7
AM	182.02	4,930	68,314	3.0	878.0	878.0	878.7	0.7
AN	182.62	4,984	50,702	4.1	878.9	878.9	879.7	0.8
AO	183.56	3,790	40,048	5.2	884.0	884.0	885.0	1.0
AP	184.25	4,660	40,776	5.1	887.6	887.6	888.2	0.6
AQ	184.84	5,217	42,769	4.8	891.1	891.1	892.0	0.9
AR	185.71	5,080	43,487	4.8	894.5	894.5	895.4	0.9
AS	186.68	3,548	35,335	5.9	900.9	900.9	901.9	1.0
AT	186.93	3,570	36,118	5.8	902.7	902.7	903.7	1.0
AU	187.70	3,359	39,452	5.3	908.6	908.6	909.1	0.5
AV	188.19	3,787	37,576	5.5	910.7	910.7	911.3	0.6
AW	189.27	1,794	29,932	8.4	915.5	915.5	915.7	0.2
AX	189.49	2,291	35,526	7.0	917.6	917.6	917.7	0.1
AY	189.79	2,791	33,107	7.6	919.5	919.5	919.6	0.1
AZ	190.91	4,325	49,431	5.1	925.5	925.5	926.2	0.7

[1]Miles Above Confluence With Colorado River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Gila River (Continued)								
BA	191.31	4,401	49,611	5.0	927.5	927.5	928.3	0.8
BB	191.04	5,402	44,071	5.7	930.3	930.3	931.0	0.7
BC	191.97	5,395	43,990	5.7	932.9	932.9	933.5	0.5
BD	192.14	5,104	43,271	5.8	934.1	934.1	934.8	0.7
BE	192.45	6,099	39,113	6.4	936.3	936.3	937.1	0.8
BF	192.70	6,000	46,158	5.4	938.7	938.7	939.7	1.0
BG	193.04	5,236	43,926	5.7	941.2	941.2	942.1	0.9
BH	193.21	6,197	43,115	5.8	942.4	942.4	943.3	0.9

[1]Miles Above Confluence With Colorado River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

GILA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQUARE FEET)	MEAN[2] VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Hassayampa River								
A	40.00	380			1,843.0	1,843.0	1,843.0	0.0
B	40.31	250			1,859.0	1,859.0	1,859.0	0.0
C	40.75	500			1,865.0	1,865.0	1,865.0	0.0
D	41.46	1,070			1,877.0	1,877.0	1,877.0	0.0
E	41.77	510			1,884.0	1,884.0	1,885.0	1.0
F	42.21	550			1,896.0	1,896.0	1,896.0	0.0
G	42.69	780			1,922.5	1,922.5	1,922.5	0.0
H	43.33	700			1,927.0	1,927.0	1,927.0	0.0
I	43.82	700			1,940.0	1,940.0	1,940.0	0.0
J	44.26	570			1,953.0	1,953.0	1,953.0	0.0
K	44.63	900			1,963.5	1,963.5	1,963.5	0.0
L	45.04	1,420			1,974.5	1,974.5	1,974.5	0.0
M	45.60	1,150			1,988.0	1,988.0	1,988.0	0.0
N	46.30	980			2,009.5	2,009.5	2,009.5	0.0
O	46.61	1,050			2,018.9	2,018.9	2,018.9	0.0
P	47.35	1,367			2,034.1	2,034.1	1,034.6	0.5
Q	47.79	1,452			2,050.5	2,050.5	2,051.5	1.0
R	47.98	1,000			2,051.2	2,051.2	2,052.2	1.0
S	48.17	1,070			2,057.4	2,057.4	2,058.4	1.0
T	48.38	960			2,061.9	2,061.9	2,062.9	1.0
U	48.91	2,000			2,074.0	2,074.0	2,075.0	1.0
V	49.29	1,580			2,085.5	2,085.5	2,086.5	1.0
W	49.53	2,200			2,091.5	2,091.5	2,091.5	0.0

[1]Miles Above Confluence With Gila River [2]Data Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

HASSAYAMPA RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River								
A	0.38	1345	7192	5.4	1034.2	1032.5[2]	1033.4[2]	0.9
B	0.51	1250	5892	6.6	1034.5	1033.9[2]	1034.5[2]	0.6
C	0.62	1224	5783	6.7	1035.3	1035.3	1036.1	0.8
D	0.72	1165	5479	7.1	1037.2	1037.2	1037.4	0.2
E	0.85	982	5942	6.6	1039.1	1039.1	1039.1	0.0
F	0.98	776	7085	5.5	1040.2	1040.2	1040.2	0.0
G	1.02	832	7678	5.1	1040.4	1040.4	1040.4	0.0
H	1.12	926	7223	5.4	1040.8	1040.8	1040.8	0.0
I	1.19	868	6464	6.0	1041.3	1041.3	1041.3	0.0
J	1.34	661	3239	12.0	1042.3	1042.3	1042.3	0.0
K	1.46	442	2938	13.3	1046.9	1046.9	1046.9	0.0
L	1.59	542	5782	6.7	1050.7	1050.7	1050.7	0.0
M	1.78	569	7029	5.5	1051.0	1051.0	1051.3	0.3
N	1.81	802	7111	5.5	1051.5	1051.5	1051.8	0.3
O	1.91	514	3833	10.2	1051.5	1051.5	1051.9	0.4
P	2.03	531	6820	5.7	1053.7	1053.7	1053.9	0.2
Q	2.10	458	2830	13.8	1053.7	1053.7	1053.9	0.2
R	2.13	350	3314	11.8	1058.5	1058.5	1058.5	0.0
S	2.23	350	3291	11.9	1058.9	1058.9	1058.9	0.0
T	2.27	407	5280	7.4	1061.1	1061.1	1061.1	0.0
U	2.37	452	5427	7.2	1061.6	1061.6	1061.6	0.0
V	2.49	490	2797	13.9	1062.1	1062.1	1062.1	0.0
W	2.56	357	3329	11.7	1064.8	1064.8	1064.8	0.0
X	2.65	517	5104	7.6	1066.5	1066.5	1067.3	0.8
Y	2.71	769	4846	8.0	1066.9	1066.9	1067.7	0.8
Z	2.77	1191	3862	10.1	1068.6	1068.6	1068.6	0.0

[1]Distance in miles above confluence with Agua Fria River
[2]Elevations computed without consideration of backwater effects from Agua Fria River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

NEW RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River (Continued)								
AA	2.82	1356	6707	6.0	1070.5	1070.5	1071.3	0.8
AB	2.99	1300	6239	6.4	1072.8	1072.8	1073.1	0.3
AC	3.16	1250	5450	7.3	1074.1	1074.1	1074.6	0.5
AD	3.22	1103	4874	8.2	1074.4	1074.4	1075.1	0.7
AE	3.30	1450	5217	7.7	1077.2	1077.2	1077.2	0.0
AF	3.37	1650	7870	5.1	1079.1	1079.1	1079.4	0.3
AG	3.38	1665	7797	5.1	1079.3	1079.3	1079.7	0.4
AH	3.44	1225	5099	7.8	1079.4	1079.4	1079.7	0.3
AI	3.51	651	3932	10.2	1081.0	1081.0	1081.0	0.2
AJ	3.60	597	5066	7.9	1082.4	1082.4	1083.0	0.6
AK	3.67	440	3710	10.8	1082.9	1082.9	1083.4	0.5
AL	3.76	437	4384	9.1	1085.1	1085.1	1085.3	0.2
AM	3.83	378	3389	11.8	1085.7	1085.7	1085.8	0.1
AN	3.90	416	3433	11.7	1087.4	1087.4	1087.4	0.0
AO	3.99	360	5108	7.8	1089.6	1089.6	1089.6	0.0
AP	4.09	454	5940	6.7	1090.2	1090.2	1090.3	0.1
AQ	4.13	535	7261	5.5	1090.5	1090.5	1090.6	0.1
AR	4.18	481	6543	6.1	1090.6	1090.6	1090.7	0.1
AS	4.22	495	5876	6.8	1090.7	1090.7	1090.9	0.2
AT	4.34	623	6248	6.4	1091.3	1091.3	1091.5	0.2
AU	4.38	545	5223	7.7	1091.5	1091.5	1091.7	0.2
AV	4.41	596	5666	7.1	1095.1	1095.1	1096.1	1.0
AW	4.45	551	5606	7.1	1095.5	1095.5	1096.4	0.9
AX	4.52	525	5592	7.2	1096.3	1096.3	1096.9	0.6
AY	4.56	623	5074	7.9	1096.4	1096.4	1097.1	0.7
AZ	4.66	535	4159	9.6	1097.2	1097.2	1098.0	0.8

[1]Distance in miles above confluence with Agua Fria River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River (Continued)								
BA	4.75	485	4953	8.1	1099.2	1099.2	1099.7	0.5
BB	4.85	303	3524	11.4	1099.7	1099.7	1100.0	0.3
BC	4.90	350	4350	9.2	1101.2	1101.2	1101.4	0.2
BD	4.96	342	4111	9.7	1101.7	1101.7	1101.9	0.2
BE	5.02	583	6629	6.0	1103.1	1103.1	1103.2	0.1
BF	5.12	401	4748	8.4	1103.3	1103.3	1103.4	0.1
BG	5.18	430	5345	7.5	1103.9	1103.9	1104.0	0.1
BH	5,25	275	2706	14.8	1103.9	1103.9	1104.0	0.1
BI	5.34	239	2529	15.8	1105.5	1105.5	1105.5	0.0
BJ	5.45	340	4316	9.3	1110.6	1110.6	1110.6	0.0
BK	5.49	290	4351	9.4	1110.9	1110.9	1110.9	0.0
BL	5.51	268	3916	10.5	1111.1	1111.1	1111.1	0.0
BM	5.55	344	3627	11.3	1111.4	1111.4	1111.4	0.0
BN	5.63	336	3535	11.6	1112.6	1112.6	1112.6	0.0
BO	5.72	211	2252	18.2	1112.9	1112.9	1112.9	0.0
BP	5.78	217	2886	14.2	1116.7	1116.7	1116.7	0.0
BQ	5.81	238	3319	12.4	1118.5	1118.5	1118.5	0.0
BR	5.90	425	6415	6.4	1120.6	1120.6	1120.6	0.0
BS	5.95	657	7882	5.2	1120.9	1120.9	1120.9	0.0
BT	6.02	785	6820	6.0	1121.0	1121.0	1121.2	0.2
BU	6.12	891	6216	6.6	1121.7	1121.7	1121.8	0.1
BV	6.21	462	4869	8.4	1122.3	1122.3	1122.4	0.1
BW	6.25	400	4050	10.1	1122.3	1122.3	1122.4	0.1
BX	6.33	352	3821	10.7	1123.2	1123.2	1123.3	0.1
BY	6.38	352	3708	11.1	1124.1	1124.1	1124.1	0.0
BZ	6.45	351	3658	11.2	1125.1	1125.1	1125.1	0.0

[1]Distance in Miles Above Agua Fria River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQUARE FEET)	MEAN[2] VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River (Continued)								
CA	6.48	351	3646	11.2	1125.6	1125.6	1125.6	0.0
CB	6.50	351	3654	11.2	1125.9	1125.9	1125.9	0.0
CC	6.53	346	3459	11.9	1126.5	1126.5	1126.5	0.0
CD	6.54	347	3555	11.5	1126.8	1126.8	1126.8	0.0
CE	6.56	349	3831	10.7	1128.3	1128.3	1128.3	0.0
CF	6.57	350	3468	11.8	1128.3	1128.3	1128.3	0.0
CG	6.57	347	3913	10.5	1129.3	1129.3	1129.3	0.0
CH	6.61	381	3871	10.6	1130.0	1130.0	1130.0	0.0
CI	6.67	364	3251	12.6	1130.6	1130.6	1130.6	0.0
CJ	6.78	630	2990	13.7	1136.1	1136.1	1136.1	0.5
CK	6.91	950	5511	7.4	1140.0	1140.0	1140.7	0.7
CL	7.01	677	4292	9.6	1141.6	1141.6	1141.8	0.2
CM	7.06	700	4267	9.6	1142.3	1142.3	1142.7	0.4
CN	7.14	690	3937	10.4	1143.1	1143.1	1143.7	0.6
CO	7.27	356	4012	10.2	1145.1	1145.1	1146.1	1.0
CP	7.35	352	4372	9.4	1146.5	1146.5	1147.1	0.6
CQ	7.40	397	4225	9.7	1147.3	1147.3	1147.9	0.6
CR	7.48	386	4473	9.2	1148.3	1148.3	1148.7	0.4
CS	7.61	385	4644	8.8	1149.7	1149.7	1150.0	0.3
CT	7.69	379	4384	9.4	1150.3	1150.3	1150.6	0.3
CU	7.75	252	3304	12.4	1150.5	1150.5	1150.7	0.2
CV	7.75	233	3166	13.0	1150.4	1150.4	1150.6	0.2
CW	7.76	232	3258	12.6	1151.5	1151.5	1151.6	0.1
CX	7.77	244	3368	12.2	1151.8	1151.8	1151.9	0.1
CY	7.80	282	3601	11.4	1152.6	1152.6	1152.7	0.1
CZ	7.92	336	3946	10.4	1154.5	1154.5	1154.6	0.1

[1]Distance in Miles Above Agua Fria River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River (Continued)								
DA	8.01	326	3838	10.7	1155.6	1155.6	1155.6	0.0
DB	8.05	342	4196	9.8	1156.4	1156.4	1156.4	0.0
DC	8.11	353	4481	9.2	1157.1	1157.1	1157.1	0.0
DD	8.22	385	4558	9.0	1158.1	1158.1	1158.1	0.0
DE	8.33	386	4983	8.2	1159.2	1159.2	1159.2	0.0
DF	8.39	397	4757	8.6	1159.6	1159.6	1159.6	0.0
DG	8.51	466	2729	15.0	1161.2	1161.2	1161.2	0.0
DH	8.54	487	2726	15.0	1165.6	1165.6	1165.6	0.0
DI	8.73	434	5389	2.2	1171.5	1171.5	1171.5	0.0
DJ	8.81	423	4724	2.5	1171.5	1171.5	1171.5	0.0
DK	8.88	344	2738	4.4	1171.5	1171.5	1171.5	0.0
DL	8.98	286	1884	6.4	1171.8	1171.8	1171.8	0.0
DM	9.13	407	2575	4.7	1172.7	1172.7	1172.7	0.0
DN	9.32	315	1103	10.9	1180.5	1180.5	1180.5	0.0
DO	9.50	381	1730	6.6	1187.2	1187.2	1187.2	0.0
DP	9.69	188	991	11.6	1191.4	1191.4	1191.4	0.0
DQ	9.95	232	1467	7.8	1198.2	1198.2	1198.2	0.0
DR	9.97	243	1438	8.0	1198.4	1198.4	1198.4	0.0
DS	10.27	438	1554	7.0	1205.1	1205.1	1205.1	0.0
DT	10.80	264	1076	10.1	1219.7	1219.7	1219.7	0.0
DU	10.99	319	1352	8.1	1225.2	1255.2	1225.2	0.0
DV	11.19	197	1049	9.9	1228.1	1228.1	1228.1	0.0
DW	11.57	822	3164	3.3	1236.0	1236.0	1236.0	0.0
DX	11.95	544	1691	6.1	1246.3	1246.3	1246.3	0.0
DY	12.12	664	1608	6.4	1251.5	1251.5	1251.5	0.0
DZ	12.31	372	1326	7.4	1257.6	1257.6	1257.6	0.0

[1]Miles Above Confluence With Agua Fria River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
New River (Continued)								
EA	12.51	459	1,424	6.9	1,263.1	1,263.1	1,263.1	0.0
EB	12.70	514	1,411	6.9	1,268.8	1,268.8	1,268.8	0.0
EC	12.90	514	1,797	5.5	1,273.7	1,273.7	1,273.7	0.0
ED	13.23	284	1,357	5.8	1,280.2	1,280.2	1,280.2	0.0
EE	13.62	561	1,753	4.5	1,292.4	1,292.4	1,292.5	0.1
EF	13.82	430	935	8.5	1,297.4	1,297.4	1,297.6	0.2
EG	14.01	355	1,198	5.1	1,303.9	1,303.9	1,304.7	0.8
EH	14.20	296	790	7.7	1,308.8	1,308.8	1,308.8	0.0
EI	14.38	710	1,371	4.5	1,315.1	1,315.1	1,316.1	1.0
EJ	14.75	462	1,179	5.2	1,324.6	1,324.6	1,342.6	0.0
EK	14.95	158	524	8.0	1,329.0	1,329.0	1,329.4	0.4
EL	15.14	299	854	4.9	1,335.1	1,335.1	1,335.1	0.0
EM	15.52	287	731	5.7	1,344.0	1,344.0	1,344.0	0.0
EN	15.96	434	838	2.8	1,356.3	1,356.3	1,356.7	0.4
EO	16.17	248	562	4.2	1,362.4	1,362.4	1,363.2	0.8
EP	16.41	139	350	6.7	1,368.2	1,368.2	1,368.3	0.1
EQ	16.61	163	403	5.8	1,372.2	1,372.2	1,372.2	0.0
ER	16.82	102	388	6.0	1,380.6	1,380.6	1,380.9	0.3

[1]Miles Above Confluence With Agua Fria River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Salt River								
A	0.23	4,724	36,542	6.7	944.0	944.0	944.9	0.9
B	0.48	5,200/ 4,290[2]	37,486	6.3	946.3	946.3	947.2	0.9
C	0.77	4,700/ 3,780[2]	31,748	6.9	948.6	948.6	949.4	0.8
D	0.95	5,000/ 3,550[2]	31,557	6.7	950.4	950.4	951.0	0.6
E	1.20	4,676/ 2,730[2]	33,348	5.8	952.1	952.1	953.1	1.0
F	1.44	3,905/ 1,930[2]	32,929	5.6	954.2	954.2	954.6	0.4
G	1.87	3,841/ 2,210[2]	30,004	6.2	956.9	956.9	957.0	0.1
H	2.10	3,337/ 1,805[2]	22,643	8.2	959.1	959.1	959.1	0.0
I	2.44	3,481/ 1,988[2]	27,719	6.7	962.3	962.3	962.3	0.0
J	2.75	4,022/ 2,200[2]	30,442	6.1	964.3	964.3	964.3	0.0
K	2.99	4,618/ 2,210[2]	32,064	5.8	966.5	966.5	966.5	0.0
L	3.21	4,122/ 1,680[2]	25,397	7.3	968.2	968.2	968.2	0.0
M	3.46	3,870/ 1,170[2]	25,875	7.1	971.2	971.2	971.2	0.0

[1]Miles Above Confluence With Gila River [2]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SALT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Salt River (Continued)								
N	3.71	3,870/ 1,170[2]	25,360	7.3	973.3	973.3	973.3	0.0
O	3.94	3,988/ 1,410[2]	27,616	6.7	975.8	975.8	975.8	0.0
P	4.22	3,361/ 1,300[2]	25,644	7.2	978.2	978.2	978.2	0.0
Q	4.52	3,380	22,032	8.4	981.9	981.9	981.9	0.0
R	4.82	2,964	27,872	6.6	984.8	984.8	984.8	0.0
S	5.24	1,950	21,016	8.8	988.2	988.2	988.6	0.4
T	5.54	2,625	33,048	5.6	990.4	990.4	991.1	0.7
U	5.83	2,699	26,800	6.9	991.7	991.7	992.3	0.6
V	6.21	2,496	26,814	7.1	994.9	994.9	995.3	0.4
W	6.48	3,766	29,417	6.5	997.3	997.3	997.5	0.2
X	6.83	3,352	25,625	7.4	1,000.5	1,000.5	1,000.5	0.0
Y	7.31	3,037	26,321	7.2	1,004.5	1,004.5	1,004.7	0.2
Z	7.60	2,800	23,138	8.2	1,007.3	1,007.3	1,007.4	0.1
AA	7.94	2,302	22,626	8.4	1,010.8	1,010.8	1,010.9	0.1
AB	8.17	1,950	22,575	8.4	1,013.0	1,013.0	1,013.3	0.3
AC	8.42	2,580	23,065	8.2	1,016.1	1,016.1	1,016.2	0.1
AD	8.71	3,071	25,029	7.6	1,018.5	1,018.5	1,018.6	0.1
AE	8.95	2,385	21,067	9.0	1,020.4	1,020.4	1,020.4	0.0
AF	9.20	2,500	25,000	7.6	1,023.6	1,023.6	1,023.6	0.0
AG	9.48	2,360	21,279	8.9	1,026.6	1,026.6	1,026.6	0.0
AH	9.97	1,429	16,306	11.7	1,030.4	1,030.4	1,030.6	0.2
AI	10.30	2,100	33,258	5.9	1,040.6	1,040.6	1,040.6	0.0

[1]Miles Above Confluence With Gila River [2]Width Does Not Include Zone B Area

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SALT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Salt River (Continued)								
AJ	10.66	1,901	31,404	6.2	1,041.5	1,041.5	1,041.5	0.0
AK	10.99	2,045	36,169	5.4	1,042.0	1,042.0	1,042.1	0.1
AL	11.23	2,023[2]	28,710	6.8	1,042.4	1,042.4	1,042.5	0.1
AM	11.95	1,065	20,252	9.6	1,048.8	1,048.8	1,048.8	0.0
AN	11.69	2,250	23,643	8.2	1,045.2	1,045.2	1,045.3	0.1
AN	11.95	1,065	20,252	9.6	1,048.8	1,048.8	1,048.8	0.0
AO	12.23	1,226	26,436	7.4	1,054.5	1,054.5	1,054.6	0.1
AP	12.58	1,208	16,247	12.0	1,054.5	1,054.5	1,054.6	0.1
AQ	12.88	637	13,796	14.1	1,057.1	1,057.1	1,057.3	0.2
AR	13.15	745	14,943	13.0	1,060.0	1,060.0	1,060.1	0.1
AS	13.49	903	18,684	10.4	1,065.6	1,065.6	1,065.6	0.0
AT	13.78	844	19,529	10.2	1,067.0	1,067.0	1,067.0	0.0
AU	14.05	806	12,392	16.1	1,067.3	1,067.3	1,067.3	0.0
AV	14.25	603	14,506	13.8	1,070.5	1,070.5	1,070.6	0.1
AW	14.45	543	11,413	17.5	1,071.8	1,071.8	1,071.8	0.0
AX	14.65	720	15,153	13.2	1,075.5	1,075.5	1,075.8	0.3
AY	14.95	933	19,758	10.1	1,078.8	1,078.8	1,078.9	0.1
AZ	15.15	759	15,025	13.3	1,079.0	1,079.0	1,079.2	0.2
BA	15.31	928	19,183	10.4	1,082.6	1,082.6	1,082.7	0.1
BB	15.56	810	14,476	13.8	1,083.9	1,083.9	1,084.0	0.1
BC	15.85	1,220	21,367	9.4	1,091.6	1,091.6	1,091.6	0.0
BD	16.15	1,550	24,646	8.1	1,093.3	1,093.3	1,093.3	0.0
BE	16.40	919	15,489	13.2	1,093.3	1,093.3	1,093.8	0.5
BF	16.57	750	9,916	20.7	1,096.8	1,096.8	1,096.8	0.0
BG	16.75	1,300	19,603	10.5	1,102.3	1,102.3	1,103.3	1.0

[1]Miles Above Confluence With Gila River [2]Width Does Not Include Zone B Area

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SALT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Salt River (Continued)								
BH	16.95	1,089	25,180	8.1	1,105.8	1,105.8	1,106.3	0.5
BI	17.35	1,295	30,186	6.8	1,107.9	1,107.9	1,108.2	0.3
BJ	17.50	1,421	31,053	6.6	1,108.3	1,108.3	1,108.6	0.3
BK	17.69	1,316	24,570	8.3	1,108.6	1,108.6	1,109.0	0.4
BL	17.94	1,216	16,825	12.2	1,109.3	1,109.3	1,109.6	0.3
BM	18.13	1,100	16,313	12.6	1,111.6	1,111.6	1,111.8	0.2
BN	18.29	1,057	17,449	11.7	1,114.7	1,114.7	1,114.8	0.1
BO	18.47	1,070	16,465	12.5	1,117.2	1,117.2	1,117.2	0.0
BP	18.75	1,055	16,611	12.3	1,120.0	1,120.0	1,120.2	0.2
BQ	19.05	1,440	19,776	10.4	1,124.4	1,124.4	1,124.5	0.1
BR	19.67	3,495	27,825	7.5	1,131.7	1,131.7	1,131.7	0.0
BS	19.94	3,660	22,248	9.4	1,135.9	1,135.9	1,135.9	0.0
BT	20.21	3,340	25,735	8.2	1,139.8	1,139.8	1,139.8	0.0
BU	20.49	3,148	28,045	7.5	1,143.1	1,143.1	1,143.1	0.0
BV	20.71	2,428	25,749	8.2	1,145.2	1,145.2	1,145.2	0.0
BW	20.98	1,648	17,361	12.1	1,148.1	1,148.1	1,148.1	0.0
BX	21.34	1,400	21,785	9.6	1,153.3	1,153.3	1,153.6	0.3
BY	21.64	1,677	27,805	7.6	1,155.1	1,155.1	1,155.4	0.3
BZ	22.08	1,255	19,167	11.2	1,157.3	1,157.3	1,157.4	0.1
CA	22.48	1,610	22,393	9.6	1,160.1	1,160.1	1,160.3	0.2
CB	23.14	2,118	25,275	8.5	1,165.0	1,165.0	1,165.5	0.5
CC	23.54	1,458	20,382	10.5	1,169.8	1,169.8	1,169.9	0.1
CD	23.94	1,594	21,382	10.1	1,173.1	1,173.1	1,173.4	0.3
CE	24.54	1,671/ 1,060[2]	28,038	7.7	1,181.3	1,181.3	1,182.1	0.8

[1]Miles Above Confluence With Gila River [2]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SALT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Salt River (Continued)								
CF	24.94	1,770/ 250[2]	29,788	7.4	1,182.8	1,182.8	1,183.4	0.6
CG	25.33	3,345/ 720[2]	30,190	7.3	1,184.7	1,184.7	1,185.2	0.5
CH	25.93	3,977/ 280[2]	26,558	8.3	1,190.5	1,190.5	1,190.6	0.1
CI	26.53	2,143/ 530[2]	22,145	9.9	1,195.0	1,195.0	1,195.0	0.0
CJ	27.13	2,938/ 650[2]	35,117	6.3	1,202.1	1,202.1	1,202.4	0.3
CK	27.57	2,540/ 1,100[2]	25,295	8.7	1,206.3	1,206.3	1,206.6	0.3
CL	28.09	1,179/ 1,660[2]	16,658	13.2	1,212.0	1,212.0	1,212.0	0.0
CM	28.44	1,090/ 650[2]	21,105	10.4	1,216.4	1,216.4	1,216.4	0.0
CN	28.63	1,820/ 520[2]	23,759	9.5	1,218.7	1,218.7	1,218.7	0.0
CO	29.30	5,175/ 1,000[2]	62,626	3.1	1,227.1	1,227.1	1,228.1	1.0

[1]Miles Above Confluence With Gila River [2]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SALT RIVER

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Skunk Creek								
A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
C	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
D	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
E	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
F	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
G	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
H	10,023	117	1,065	10.3	1,196.8	1,196.8	1,196.8	0.0
I	10,833	146	1,114	9.9	1,199.5	1,199.5	1,199.5	0.0
J	11,363	122	899	12.2	1,201.4	1,201.4	1,201.4	0.0
K	12,411	257	1,572	6.9	1,212.7	1,212.7	1,212.7	0.0
L	13,489	223	1,558	6.9	1,214.7	1,214.7	1,215.0	0.3
M	13,999	192	1,029	10.3	1,216.6	1,216.6	1,216.6	0.0
N	15,559	277	1,164	9.0	1,223.6	1,223.6	1,223.6	0.0
O	17,149	299	1,414	7.3	1,230.4	1,230.4	1,230.4	0.0
P	18,202	165	1,156	8.8	1,235.1	1,235.1	1,235.1	0.0
Q	19,255	195	1,268	7.9	1,239.6	1,239.6	1,239.6	0.0
R	20,310	174	806	12.3	1,245.5	1,245.5	1,245.5	0.0
S	21,880	197	1,198	8.1	1,252.0	1,252.0	1,252.4	0.4
T	22,920	148	806	12.0	1,256.7	1,256.7	1,256.7	0.0
U	23,980	270	1,408	6.8	1,262.4	1,262.4	1,262.5	0.1
V	25,025	290	1,507	6.2	1,269.3	1,269.3	1,269.8	0.5
W	26,605	355	1,167	7.9	1,277.2	1,277.2	1,277.2	0.0
X	28,185	283	1,679	5.4	1,283.4	1,283.4	1,284.4	1.0
Y	29,235	279	1,409	6.3	1,289.3	1,289.3	1,290.2	0.9
Z	30,295	316	1,099	8.0	1,295.9	1,295.9	1,295.9	0.0

[1]Feet Above Confluence With New River

N/A - Data Not Available (Zone A)

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SKUNK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Skunk Creek (Continued)								
AA	31,820	295	2,152	4.0	1,303.4	1,303.4	1,303.5	0.1
AB	32,836	286	1,724	4.9	1,306.3	1,306.3	1,306.3	0.0
AC	33,893	124	580	4.5	1,310.0	1,310.0	1,310.0	0.0
AD	34,815	100	413	5.3	1,316.0	1,316.0	1,316.0	0.0
AE	36,270	194	340	5.3	1,320.8	1,320.8	1,320.8	0.0
AF	37,780	124	271	6.4	1,327.0	1,327.0	1,327.0	0.0
AG	46,200	1,390	4,840	8.1	1,383.3	1,383.3	1,383.5	0.2
AH	47,780	1,150	6,278	6.2	1,393.1	1,393.1	1,394.0	0.9
AI	49,160	1,120	4,720	8.3	1,401.2	1,401.2	1,401.8	0.6
AJ	50,090	930	4,742	8.2	1,406.4	1,406.4	1,407.0	0.6
AK	51,080	591	3,292	11.8	1,411.7	1,411.7	1,411.7	0.0
AL	51,990	529	3,918	10.0	1,418.7	1,418.7	1,418.7	0.0
AM	53,010	554	3,983	9.8	1,422.2	1,422.2	1,422.2	0.0
AN	53,910	523	3,265	11.9	1,426.6	1,426.6	1,426.6	0.0
AO	54,850	1,540	7,024	5.6	1,434.0	1,434.0	1,434.0	0.0
AP	55,980	1,316	4,570	8.5	1,440.4	1,440.4	1,440.4	0.0
AQ	57,040	1,285	6,088	6.4	1,447.9	1,447.9	1,447.9	0.0
AR	58,140	1,093	5,300	7.4	1,454.7	1,454.7	1,454.7	0.0
AS	64,460	910	4,132	8.5	1,493.4	1,493.4	1,493.4	0.0
AT	65,960	1,100	4,128	8.5	1,503.1	1,503.1	1,503.1	0.0
AU	67,460	1,960	4,481	7.8	1,512.2	1,512.2	1,512.2	0.0

[1]Feet Above Confluence With New River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SKUNK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Skunk Creek (Continued)								
AV	13.05	1,420	--[2]	6.9	1,522.9	1,522.9	1,523.6	0.7
AW	13.55	940	--[2]	7.0	1,544.7	1,544.7	1,545.6	0.9
AX	14.05	1,280	--[2]	6.9	1,565.7	1,565.7	1,566.7	1.0
AY	14.45	840	--[2]	10.7	1,581.1	1,581.1	1,581.8	0.7
AZ	15.05	993	--[2]	9.3	1,606.2	1,606.2	1,606.3	0.1
BA	15.55	870	--[2]	6.5	1,627.3	1,627.3	1,627.3	0.0
BB	16.05	779	--[2]	9.2	1,649.8	1,649.8	1,649.8	0.0
BC	16.55	710	--[2]	9.5	1,670.7	1,670.7	1,670.7	0.0
BD	16.75	688	--[2]	11.3	1,678.0	1,678.0	1,678.0	0.0
BE	16.92	900	3,169	9.9	1,690.1	1,690.1	1,690.7	0.6
BF	17.15	949	3,958	7.9	1,701.7	1,701.7	1,702.7	1.0
BG	17.35	870	3,224	9.7	1,711.8	1,711.8	1,712.4	0.6
BH	17.61	950	4,982	6.3	1,721.8	1,721.8	1,722.5	0.7
BI	17.83	809	3,083	10.2	1,731.0	1,731.0	1,731.0	0.0
BJ	18.11	610	4,109	7.6	1,743.5	1,743.5	1,744.0	0.5
BK	18.39	910	3,801	8.2	1,754.2	1,754.2	1,754.2	0.0
BL	18.77	770	4,037	7.0	1,769.5	1,769.5	1,769.9	0.4
BM	19.00	790	2,867	9.8	1,780.6	1,780.6	1,780.7	0.1
BN	19.21	680	4,109	6.8	1,790.4	1,790.4	1,790.6	0.2
BO	19.43	700	2,535	11.1	1,800.0	1,800.0	1,800.0	0.0
BP	19.63	730	3,384	8.3	1,812.9	1,812.9	1,812.9	0.0
BQ	19.97	1,170	4,200	6.7	1,826.1	1,826.1	1,826.3	0.2
BR	20.28	800	2,870	7.8	1,841.3	1,841.3	1,841.8	0.5

[1]Miles Above Confluence With New River [2]Data Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SKUNK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Skunk Creek (Continued)								
BS	20.44	850	3,761	7.5	1,849.8	1,849.8	1,850.6	0.8
BT	20.78	780	3,075	9.1	1,865.2	1,865.2	1,865.5	0.3
BU	21.05	700	3,242	8.7	1,878.7	1,878.7	1,879.3	0.6
BV	21.29	660	3,456	8.1	1,889.1	1,889.1	1,889.5	0.4
BW	21.64	1,410	4,125	6.8	1,907.4	1,907.4	1,907.4	0.0
BX	21.90	1,330	4,214	6.7	1,921.7	1,921.7	1,922.1	0.4
BY	22.11	1,097	3,871	7.3	1,932.0	1,932.0	1,932.1	0.1
BZ	22.30	1,230	3,535	7.9	1,940.4	1,940.4	1,940.8	0.4
CA	22.67	730	2,606	9.1	1,963.2	1,963.2	1,963.2	0.0
CB	22.86	600	3,137	7.6	1,972.8	1,972.8	1,973.4	0.6
CC	23.14	630	2,958	8.0	1,984.2	1,984.2	1,984.5	0.3
CD	23.47	420	2,205	10.8	2,002.0	2,002.0	2,002.6	0.6
CE	23.77	460	2,228	5.7	2,017.0	2,017.0	2,017.3	0.3
CF	24.03	210	1,086	11.6	2,026.7	2,026.7	2,026.7	0.0
CG	24.36	450	1,989	6.3	2,043.9	2,043.9	2,044.4	0.5
CH	24.60	340	1,356	9.3	2,054.8	2,054.8	2,055.2	0.4
CG	24.83	280	1,413	6.6	2,065.2	2,065.2	2,066.1	0.9
CJ	25.04	300	1,030	9.1	2,076.7	2,076.7	2,076.7	0.0
CK	25.32	710	1,916	4.9	2,088.9	2,088.9	2,089.8	0.9
CL	25.53	750	1,620	5.8	2,098.0	2,098.0	2,098.9	0.9
CM	25.82	650	1,045	6.9	2,120.1	2,120.1	2,121.1	1.0
CN	25.97	685	1,362	5.3	2,131.5	2,131.5	2,131.6	0.1
CO	26.19	418	1,252	5.7	2,143.7	2,143.7	2,143.7	0.0

[1]Miles Above Confluence With New River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Skunk Creek (Continued)								
CP	26.35	383	1,047	6.9	2,153.6	2,153.6	2,153.6	0.0
CQ	26.53	487	1,039	6.9	2,164.4	2,164.4	2,164.4	0.0
CR	26.77	273	856	8.4	2,179.1	2,179.1	2,179.1	0.0
CS	26.94	449	1,067	6.7	2,190.4	2,190.4	2,190.4	0.0
CT	27.05	249	873	8.2	2,196.4	2,196.4	2,196.4	0.0
CU	27.37	193	461	7.9	2,220.3	2,220.3	2,220.3	0.0
CV	27.56	288	608	6.0	2,235.7	2,235.7	2,235.7	0.0
CW	27.69	137	375	9.7	2,245.5	2,245.5	2,245.5	0.0
CX	27.81	80	320	11.4	2,254.7	2,254.7	2,254.7	0.0

[1]Miles Above Confluence With New River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SKUNK CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Buchanan Wash								
A	0.710	658	4041	0.6	1460.4	1460.4	1461.4	1.0
B	0.782	557	2637	0.9	1460.4	1460.4	1461.4	1.0
C	0.890	178	518	4.4	1460.5	1460.5	1461.4	0.9
D	0.985	124	507	4.5	1463.2	1463.2	1464.2	1.0
E	1.120	93	438	5.3	1466.6	1466.6	1467.4	0.8
F	1.207	96	401	5.7	1469.0	1469.0	1470.0	1.0
G	1.288	103	469	4.9	1471.6	1471.6	1472.5	0.9
H	1.383	69	351	6.6	1474.3	1473.3	1475.1	0.8
I	1.483	69	358	4.5	1477.3	1477.3	1478.3	1.0
J	1.572	113	430	3.7	1479.0	1479.0	1479.9	0.9
K	1.638	62	244	6.6	1480.6	1480.6	1481.4	0.8
L	1.695	122	418	3.8	1482.6	1482.6	1483.6	1.0
M	1.761	61	239	6.7	1484.5	1484.5	1485.2	0.7
N	1.856	50	298	5.4	1487.5	1487.5	1488.5	1.0
O	1.951	66	353	4.6	1489.5	1489.5	1490.5	1.0
P	2.045	111	352	4.6	1491.9	1491.9	1492.8	0.9
Q	2.121	43	205	6.4	1494.4	1494.4	1495.2	0.8
R	2.200	187	587	2.2	1496.0	1496.0	1496.9	0.9

[1]Miles Above Confluence With Skunk Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

BUCHANAN WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Scatter Wash								
A	1,185	128	526	11.6	1,314.3	1,314.3	1,314.3	0.0
B	2,180	310	1,136	5.4	1,317.1	1,317.1	1,317.1	0.0
C	4,385	240	1,022	6.0	1,329.9	1,329.9	1,330.7	0.8
D	5,969	380	1,171	5.2	1,336.4	1,336.4	1,337.2	0.8
E	7,553	350	1,277	4.8	1,344.2	1,344.2	1,345.0	0.8
F	8,609	320	993	6.1	1,349.6	1,349.6	1,350.4	0.8
G	10,721	250	1,423	4.3	1,360.1	1,360.1	1,361.1	1.0

[1]Feet Above Confluence With Skunk Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SCATTER WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Scatter Wash, North Branch								
A	1,056	115	619	5.7	1,363.8	1,363.8	1,364.6	0.8
B	2,112	150	695	5.0	1,368.8	1,368.8	1,369.3	0.5
C	3,168	60	318	11.0	1,374.6	1,374.6	1,375.2	0.6
D	4,224	100	473	7.0	1,379.9	1,379.9	1,380.2	0.3
E	6,864	200	783	4.2	1,395.7	1,395.7	1,395.9	0.2
F	7,920	210	852	3.6	1,402.2	1,402.2	1,403.2	1.0
Scatter Wash, South Branch								
A	1,584	440	1,011	2.6	1,368.9	1,368.9	1,369.8	0.9
B	3,168	300	528	4.9	1,379.3	1,379.3	1,379.7	0.4
C	4,752	400	897	2.9	1,390.1	1,390.1	1,390.9	0.8
D	6,080	400	627	3.6	1,398.1	1,398.1	1,398.6	0.5
E	8,885	200	497	4.6	1,411.3	1,411.3	1,411.9	0.6

[1]Feet Above Confluence With Scatter Wash

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SCATTER WASH, NORTH BRANCH - SCATTER WASH, SOUTH BRANCH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Andora Hills Wash								
A	0.15	125	292	8.8	2,013.3	2,013.3	2,013.3	0.0
B	0.23	269	318	8.1	2,022.6	2,022.6	2,022.6	0.0
C	0.29	104	275	9.4	2,032.1	2,032.1	2,032.1	0.0
D	0.44	222	322	8.0	2,048.4	2,048.4	2,048.4	0.0
E	0.59	280	382	6.8	2,066.5	2,066.5	2,066.5	0.0
F	0.73	113	313	8.2	2,079.4	2,079.4	2,079.4	0.0
G	0.85	321	384	6.7	2,097.0	2,097.0	2,097.0	0.0
H	0.90	849	7,884	0.3	2,111.0	2,111.0	2,111.0	0.0
I	0.97	215	322	8.0	2,111.5	2,111.5	2,111.5	0.0
J	1.06	96	222	9.2	2,120.4	2,120.4	2,120.4	0.0
K	1.13	67	205	10.0	2,127.1	2,127.1	2,127.1	0.0
L	1.22	79	245	8.4	2,134.0	2,134.0	2,134.0	0.0
M	1.33	137	276	7.4	2,142.8	2,142.8	2,142.8	0.0
N	1.42	69	226	9.1	2,152.0	2,152.0	2,152.0	0.0
O	1.57	88	207	8.8	2,166.9	2,166.9	2,166.9	0.0
P	1.67	87	221	8.2	2,174.1	2,174.1	2,174.1	0.0
Q	1.82	93	216	8.4	2,186.5	2,186.5	2,186.5	0.0
R	1.88	148	361	5.0	2,191.2	2,191.2	2,191.2	0.0
S	1.99	82	201	9.0	2,201.1	2,201.1	2,201.1	0.0
T	2.07	61	184	9.9	2,214.1	2,214.1	2,214.1	0.0
U	2.23	72	151	8.4	2,240.9	2,240.9	2,240.9	0.0
V	2.35	90	178	7.1	2,253.4	2,253.4	2,253.4	0.0
W	2.46	93	184	6.9	2,261.6	2,261.6	2,261.6	0.0
X	2.58	107	171	7.4	2,272.2	2,272.2	2,272.2	0.0
Y	2.68	59	173	7.4	2,279.8	2,279.8	2,279.8	0.0
Z	2.76	77	162	7.8	2,287.0	2,287.0	2,287.0	0.0
AA	2.92	117	217	3.3	2,295.7	2,295.7	2,295.7	0.0

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

ANDORA HILLS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Atchison, Topeka & Santa Fe Railway Channel								
A	0.24[1]	30	112	3.9	1,128.8	1,127.2[2]	1,127.7[2]	0.5
B	0.46[1]	30	128	3.1	1,128.8	1,128.7[2]	1,129.4[2]	0.7
C	0.63[1]	30	83	4.8	1,130.5	1,130.5	1,131.3	0.8
D	0.86[1]	30	73	4.6	1,136.0	1,136.0	1,136.6	0.6
E	1.11[1]	30	66	4.6	1,141.6	1,141.6	1,142.3	0.7
F	1.27[1]	30	41	6.7	1,148.1	1,148.1	1,148.7	0.6
Casandro Wash								
A	0.355[3]	190	236	6.35	2,076.3	2,076.3	2,076.5	0.2
B	0.555[3]	271	259	5.78	2,092.0	2,092.0	2,092.0	0.0
C	0.755[3]	273	267	5.63	2,110.0	2,110.0	2,110.0	0.0
D	0.955[3]	105	194	7.72	2,127.5	2,127.5	2,127.5	0.0
E	1.455[3]	126	206	7.28	2,181.9	2,181.9	2,181.9	0.0
F	1.900[3]	196	254	3.50	2,215.5	2,215.5	2,215.5	0.0
G	2.460[3]	164	271	2.95	2,253.0	2,253.0	2,253.0	0.0
H	2.560[3]	169	378	2.21	2,258.8	2,258.8	2,258.8	0.0
South Branch Casandro Wash								
A	0.375[3]	157	122	4.50	2,245.5	2,245.5	2,245.5	0.0
B	0.565[3]	105	128	3.91	2,257.4	2,257.4	2,257.4	0.0
C	0.730[3]	98	104	4.81	2,272.1	2,272.1	2,272.1	0.0

[1]Miles Above Confluence With Agua Fria River
[2]Elevation Computed Without Consideration of Backwater From Agua Fria River
[3]Miles Above Mouth

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

ATCHISON, TOPEKA & SANTA FE RAILWAY CHANNEL - CASANDRO WASH - SOUTH BRANCH CASANDRO WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Cave Creek								
A	15.28	974	2,201	5.5	1,237.2	1,237.2	1,238.2	1.0
B	15.53	723	2,346	5.1	1,241.4	1,241.4	1,242.3	0.9
C	15.64	672	2,474	4.9	1,243.0	1,243.0	1,243.8	0.8
D	15.85	348	1,516	7.9	1,248.2	1,248.2	1,249.0	0.8
E	15.94	300	2,070	5.8	1,252.3	1,252.3	1,252.9	0.6
F	16.00	202	1,412	8.5	1,253.1	1,253.1	1,253.3	0.2
G	16.12	267	1,664	7.2	1,254.5	1,254.5	1,255.1	0.6
H	16.23	229	1,114	10.8	1,256.6	1,256.6	1,256.6	0.0
I	16.35	254	1,318	9.1	1,259.7	1,259.7	1,260.3	0.6
J	16.46	160	1,365	8.8	1,261.8	1,261.8	1,262.6	0.8
K	16.58	205	1,534	7.8	1,264.2	1,264.2	1,264.5	0.3
L	16.70	324	1,669	7.2	1,266.0	1,266.0	1,266.1	0.1
M	16.83	167	943	12.7	1,268.2	1,268.2	1,268.2	0.0
N	16.92	172	1,306	10.0	1,271.7	1,271.7	1,272.1	0.4
O	17.00	124	866	15.0	1,273.3	1,273.3	1,273.6	0.3
P	17.06	290	2,620	5.0	1,277.8	1,277.8	1,278.3	0.5
Q	17.26	196	1,307	9.9	1,278.0	1,278.0	1,278.8	0.8
R	17.37	225	2,062	6.3	1,280.2	1,280.2	1,281.0	0.8
S	17.49	210	1,090	11.9	1,281.1	1,281.1	1,281.6	0.5
T	17.57	357	2,067	5.8	1,284.4	1,284.4	1,284.9	0.5
U	17.67	280	2,243	5.4	1,285.0	1,285.0	1,285.8	0.8
V	17.77	195	946	12.7	1,286.2	1,286.2	1,286.5	0.3
W	17.93	200	1,316	9.1	1,293.9	1,293.9	1,294.3	0.4
X	18.05	86	1,201	10.0	1,297.6	1,297.6	1,298.3	0.7
Y	18.39	--[2]	1,510	7.3	1,299.7	1,299.7	1,300.1	0.4
Z	18.53	--[2]	1,205	9.1	1,301.0	1,301.0	1,301.2	0.2

[1]Miles Above Confluence With Salt River [2]Floodway Contained In Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Cave Creek								
AA	18.68	--[2]	843	13.1	1,303.4	1,303.4	1,303.4	0.0
AB	18.75	--[2]	1,203	9.1	1,306.2	1,306.2	1,306.2	0.0
AC	18.89	--[2]	1,097	10.0	1,308.0	1,308.0	1,308.0	0.0
AD	18.96	--[2]	1,461	7.5	1,309.6	1,309.6	1,309.6	0.0
AE	19.05	--[2]	818	13.4	1,309.8	1,309.8	1,309.8	0.0
AF	19.16	--[2]	1,058	10.4	1,315.3	1,315.3	1,315.3	0.0
AG	19.24	--[2]	1,089	10.1	1,316.6	1,316.6	1,316.6	0.0
AH	19.28	--[2]	959	11.5	1,317.1	1,317.1	1,317.1	0.0
AI	19.30	--[2]	740	14.9	1,319.9	1,319.9	1,319.9	0.0
AJ	19.33	--[2]	1,432	7.7	1,324.0	1,324.0	1,324.0	0.0
AK	19.42	--[2]	1,180	9.3	1,324.6	1,324.6	1,324.6	0.0
AL	19.56	115	827	14.5	1,326.4	1,326.4	1,326.7	0.3
AM	19.65	327[3]	1,336	4.3	1,331.7	1,331.7	1,332.2	0.5
AN	19.73	103	787	7.4	1,332.0	1,332.0	1,332.6	0.6
AO	19.83	87	676	8.6	1,332.8	1,332.8	1,333.7	0.9
AP	19.98	--[2]	440	9.5	1,336.0	1,336.0	1,336.0	0.0
AQ	20.04	158	400	10.5	1,338.8	1,338.8	1,338.8	0.0

[1]Miles Above Confluence With Salt River [2]Floodway Contained In Channel
[3]Combined Floodway for Cave Creek and East Fork Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Cave Creek (Cont'd)								
BA	20.81	141	810	5.2	1,365.5	1,365.5	1,365.5	0.0
BB	20.88	--[2]	763	5.5	1,366.4	1,366.4	1,366.4	0.0
BC	20.95	--[2]	438	9.6	1,368.4	1,368.4	1,368.4	0.0
BD	21.01	163	427	9.8	1,372.8	1,372.8	1,372.8	0.0
BE	21.09	65	441	9.5	1,374.9	1,374.9	1,375.1	0.2
BF	21.15	--[2]	546	7.7	1,376.3	1,376.3	1,376.8	0.5
BG	21.28	--[2]	504	8.3	1,380.8	1,380.8	1,380.8	0.0
BH	21.35	123	668	6.3	1,382.4	1,382.4	1,382.5	0.1
BI	21.37	151	555	7.6	1,382.7	1,382.7	1,382.7	0.0
BJ	21.46	357	753	5.6	1,385.4	1,385.4	1,385.5	0.1
BK	21.55	110	482	8.7	1,387.9	1,387.9	1,387.9	0.0
BL	21.63	205	490	8.6	1,391.9	1,391.9	1,391.9	0.0
BM	21.70	83	432	9.7	1,393.6	1,393.6	1,394.0	0.4
BN	21.81	121	589	7.1	1,397.0	1,397.0	1,397.4	0.4
BO	21.88	371	681	6.2	1,398.8	1,398.8	1,399.3	0.5
BP	21.92	361	1,644	2.6	1,399.7	1,399.7	1,400.5	0.8
BQ	22.05	263	956	4.4	1,402.8	1,402.8	1,403.6	0.8
BR	22.25	299	906	4.6	1,408.2	1,408.2	1,409.1	0.9
BS	22.37	139	484	8.7	1,412.3	1,412.3	1,412.6	0.3
BT	22.44	307	1,580	2.7	1,414.7	1,414.7	1,415.5	0.8
BU	22.53	180	1,522	2.8	1,414.9	1,414.9	1,415.6	0.7
BV	23.18	--[2]	581	6.5	1,434.1	1,434.1	1,434.1	0.0
BW	23.36	212	799	4.8	1,443.5	1,443.5	1,444.2	0.7
BX	23.46	--[2]	297	12.1	1,449.3	1,449.3	1,449.3	0.0
BY	23.61	--[2]	341	10.6	1,454.6	1,454.6	1,454.6	0.0
BZ	23.64	87	478	7.5	1,456.1	1,456.1	1,456.1	0.0

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Cave Creek (Cont'd)								
CA	23.69	--[2]	398	9.0	1,456.5	1,456.5	1,456.5	0.0
CB	23.89	76	466	7.7	1,458.9	1,458.9	1,458.9	0.0
CC	23.99	--[2]	599	9.0	1,459.9	1,459.9	1,459.9	0.0
CD	24.05	--[2]	628	8.6	1,462.5	1,462.5	1,462.5	0.0
CE	24.07	88	1,500	3.6	1,463.5	1,463.5	1,463.5	0.0
CF	24.16	--[2]	2,353	2.3	1,463.8	1,463.8	1,463.9	0.1
CG	24.61	87	405	12.4	1,474.0	1,474.0	1,474.0	0.0
CH	24.71	210	868	5.8	1,480.5	1,480.5	1,480.8	0.3
CI	24.86	280	1,116	4.5	1,483.4	1,483.4	1,484.1	0.7
CJ	25.06	205	541	9.2	1,489.9	1,489.9	1,490.4	0.5
CK	25.12	225	1,077	4.6	1,492.2	1,492.2	1,493.2	1.0
CL	25.22	130	463	10.8	1,495.1	1,495.1	1,496.0	0.9
CM	25.29	185	810	6.2	1,499.7	1,499.7	1,500.7	1.0
CN	25.37	137	672	7.4	1,503.2	1,503.2	1,503.2	0.0
CO	25.42	86	472	10.6	1,504.1	1,504.1	1,504.5	0.4
CP	25.46	75	520	9.6	1,507.1	1,507.1	1,507.1	0.0
CQ	25.50	100	810	6.2	1,515.1	1,515.1	1,515.1	0.0
CR	25.57	150	965	4.1	1,515.4	1,515.4	1,515.8	0.4
CS	25.72	178	553	7.2	1,516.7	1,516.7	1,517.6	0.9
CT	29.000	450	3,088	11.9	1,833.3	1,833.3	1,833.3	0.0
CU	29.193	446	2,892	12.7	1,841.1	1,841.1	1,841.1	0.0
CV	29.386	551	4,316	8.5	1,848.6	1,848.6	1,849.6	1.0
CW	29.574	530	2,974	12.4	1,859.0	1,859.0	1,859.0	0.0
CX	29.703	535	3,064	12.0	1,866.2	1,866.2	1,866.3	0.1
CY	29.795	500	3,355	11.0	1,869.6	1,869.6	1,870.4	0.8
CZ	29.938	791	4,680	7.9	1,875.2	1,875.2	1,875.7	0.5

[1]Miles Above Confluence With Salt River [2]Floodway Contained in Channel

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Cave Creek (Cont'd)								
DA	30.104	730	3,553	10.4	1,880.2	1,880.2	1,880.2	0.0
DB	30.331	579	3,233	11.1	1,891.7	1,891.7	1,891.9	0.2
DC	30.644	327	2,596	13.8	1,909.9	1,909.9	1,909.9	0.0
DD	30.862	691	4,622	7.8	1,918.7	1,918.7	1,919.7	1.0
DE	31.057	783	3,220	11.2	1,928.2	1,928.2	1,928.8	0.6
DF	31.303	555	3,902	9.2	1,941.5	1,941.5	1,942.0	0.5
DG	31.485	551	3,128	11.5	1,949.4	1,949.4	1,949.9	0.5
DH	31.646	501	3,389	10.6	1,957.5	1,957.5	1,958.0	0.5
DI	31.820	301	2,573	14.0	1,965.0	1,965.0	1,965.5	0.5
DJ	32.032	435	4,406	8.1	1,973.4	1,973.4	1,974.2	0.8
DK	32.237	367	2,541	14.1	1,979.3	1,979.3	1,979.7	0.4
DL	32.466	502	3,929	9.1	1,991.6	1,991.6	1,992.3	0.7
DM	32.655	370	2,594	13.5	2,001.0	2,001.0	2,001.0	0.0
DN	32.911	461	3,848	10.0	2,013.1	2,013.1	2,013.9	0.8
DO	33.112	404	2,655	13.2	2,024.5	2,024.5	2,024.5	0.0
DP	33.316	338	3,204	10.9	2,033.9	2,033.9	2,034.0	0.1
DQ	33.468	279	2,444	14.3	2,042.7	2,042.7	2,042.7	0.0
DR	33.646	151	1,910	18.3	2,055.0	2,055.0	2,055.2	0.2
DS	33.741	283	3,832	9.1	2,062.4	2,062.4	2,062.4	0.0
DT	34.032	454	2,309	10.2	2,068.5	2,068.5	2,068.5	0.0
DU	34.202	259	1,730	13.6	2,078.1	2,078.1	2,078.1	0.0
DV	34.416	444	2,958	8.0	2,088.8	2,088.8	2,088.8	0.0
DW	34.615	362	1,990	11.9	2,099.6	2,099.6	2,099.6	0.0
DX	34.812	431	2,343	10.1	2,115.1	2,115.1	2,115.1	0.0
DY	35.005	580	2,596	9.1	2,124.9	2,124.9	2,124.9	0.0
DZ	35.204	715	2,613	9.0	2,137.0	2,137.0	2,137.0	0.0
EA	35.460	425	2,188	10.8	2,148.5	2,148.5	2,148.5	0.0

[1]Miles Above Confluence With Salt River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
East Fork Cave Creek								
A	0.080	377	1,276	7.1	1,332.8	1,332.8	1,332.8	0.0
B	0.120	260	760	11.8	1,332.8	1,332.8	1,332.8	0.0
C	0.170	255	1,498	6.0	1,335.4	1,335.4	1,335.4	0.0
D	0.240	166	1,402	6.4	1,335.8	1,335.8	1,335.8	0.0
E	0.310	213	1,552	5.8	1,338.6	1,338.6	1,339.1	0.5
F	0.405	270	1,657	5.4	1,339.4	1,339.4	1,340.1	0.7
G	0.495	169	726	12.4	1,342.5	1,342.5	1,342.5	0.0
H	0.845	180	1,181	7.5	1,350.4	1,350.4	1,351.1	0.7
I	0.965	230	1,603	5.6	1,352.0	1,352.0	1,353.0	1.0
J	1.145	170	1,306	6.8	1,355.0	1,355.0	1,355.4	0.4
K	1.225	220	1,044	8.0	1,356.0	1,356.0	1,356.6	0.6
L	1.345	460	1,684	5.0	1,359.0	1,359.0	1,359.6	0.6
M	1.445	400	1,343	6.3	1,361.0	1,361.0	1,361.6	0.6
N	1.805	449	1,617	5.2	1,372.8	1,372.8	1,373.7	0.9

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

EAST FORK CAVE CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Dreamy Draw Wash East								
A	0.04	250[2]	--[3]	--[3]	1,242.0	1,242.0	1,242.9	0.9
Echo Canyon Wash								
A	0.23	400	750	7.9	1,258.7	1,258.7	1,258.7	0.0
B	0.37	200	680	8.8	1,264.3	1,264.3	1,264.6	0.3
C	0.51	150	1,432	4.1	1,271.7	1,271.7	1,272.7	1.0
D	0.71	180	1,466	4.0	1,278.0	1,278.0	1,278.8	0.8
E	1.04	210	1,501	3.9	1,293.1	1,293.1	1,293.5	0.4
F	1.19	180	1,169	5.0	1,298.0	1,298.0	1,298.3	0.3
G	1.43	150	635	7.8	1,308.4	1,308.4	1,308.9	0.5
H	1.49	150	377	11.9	1,310.2	1,310.2	1,310.7	0.5
I	1.54	150	734	6.1	1,314.4	1,314.4	1,314.4	0.0
J	1.60	150	774	5.8	1,316.1	1,316.1	1,316.1	0.0
K	1.71	150	729	6.2	1,317.6	1,317.6	1,318.0	0.4
L	1.86	150	451	8.0	1,321.9	1,321.9	1,322.8	0.9
M	2.02	150	609	4.9	1,327.5	1,327.5	1,327.5	0.0
Flynn Lane Wash								
A	0.05	350	--[3]	--[3]	1,244.3	1,244.3	1,244.7	0.4
B	0.21	250	--[3]	--[3]	1,259.8	1,259.8	1,259.9	0.1
C	0.34	200	--[3]	--[3]	1,272.5	1,272.5	1,273.0	0.5
D	0.53	400	--[3]	--[3]	1,290.1	1,290.1	1,291.1	1.0

[1]Miles Above Mouth
[2]Combined Floodway for Dreamy Draw Wash East and Myrtle Avenue Wash
[3]Data Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

DREAMY DRAW WASH EAST - ECHO CANYON WASH - FLYNN LANE WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Flying "E" Wash								
A	1.800[1]	237	676	9.62	2,278.2	2,278.2	2,278.2	0.0
B	1.881[1]	484	1,148	5.66	2,286.4	2,286.4	2,286.4	0.0
C	1.955[1]	476	1,243	5.23	2,290.4	2,290.4	2,290.4	0.0
D	2.080[1]	474	1,356	4.79	2,297.2	2,297.2	2,297.2	0.0
E	2.234[1]	142	561	11.59	2,309.6	2,309.6	2,309.6	0.0
F	2.434[1]	499	943	6.89	2,322.0	2,322.0	2,322.0	0.0
Galloway Wash								
A	240[2]	206	1,320	14.3	2,032.3	2,032.3	2,032.3	0.0
B	630[2]	175	1,243	15.2	2,041.0	2,041.0	2,041.0	0.0
C	1,110[2]	259	1,431	13.2	2,050.1	2,050.1	2,050.1	0.0
D	1,780[2]	189	1,264	15.0	2,065.0	2,065.0	2,065.0	0.0
E	2,655[2]	392	1,688	11.3	2,080.2	2,080.2	2,080.2	0.0
F	3,770[2]	261	1,570	12.1	2,102.1	2,102.1	2,102.1	0.0
G	4,940[2]	251	1,107	12.1	2,122.5	2,122.5	2,122.5	0.0
H	5,700[2]	632	1,671	8.0	2,142.9	2,142.9	2,142.9	0.0
I	6,060[2]	525	1,476	9.1	2,149.9	2,149.9	2,149.9	0.0
J	6,830[2]	346	1,398	9.6	2,168.1	2,168.1	2,168.1	0.0
K	7,340[2]	242	1,147	11.7	2,179.2	2,179.2	2,179.2	0.0
L	8,180[2]	114	537	11.9	2,199.9	2,199.9	2,199.9	0.0
M	8,745[2]	118	562	11.4	2,209.8	2,209.8	2,209.8	0.0
N	8,995[2]	133	578	11.1	2,213.7	2,213.7	2,213.7	0.0
O	9,235[2]	104	516	12.4	2,220.3	2,220.3	2,220.3	0.0
P	9,615[2]	94	494	12.9	2,227.4	2,227.4	2,227.4	0.0
Q	9,805[2]	124	552	11.6	2,232.5	2,232.5	2,232.5	0.0
R	10,240[2]	433	845	7.6	2,241.3	2,241.3	2,241.3	0.0

[1]Miles Above Mouth [2]Feet Above Confluence Wtih Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

FLYING "E" WASH - GALLOWAY WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Galloway Wash (Cont'd)								
S	10,710[1]	212	520	8.4	2,250.6	2,250.6	2,250.6	0.0
T	11,290[1]	316	575	7.6	2,265.8	2,265.8	2,265.8	0.0
U	11,890[1]	176	466	9.4	2,281.7	2,281.7	2,281.7	0.0
V	12,240[1]	163	458	9.6	2,288.4	2,288.4	2,288.4	0.0
W	12,880[1]	291	610	7.2	2,303.5	2,303.5	2,303.5	0.0
X	13,310[1]	112	261	9.0	2,312.6	2,312.6	2,312.6	0.0
Y	13,990[1]	137	367	6.4	2,322.0	2,322.0	2,322.0	0.0
Z	14,840[1]	399	339	6.9	2,348.4	2,348.4	2,348.4	0.0
AA	15,690[1]	59	58	5.7	2,368.9	2,368.9	2,368.9	0.0
AB	16,730[1]	51	59	5.6	2,392.8	2,392.8	2,392.8	0.0
Granite Reef Wash								
A	6,600[2]	40	135	10.5	1,203.4	1,203.4	1,203.4	0.0
B	7,700[2]	50	177	8.0	1,207.2	1,207.2	1,207.8	0.6
C	8,400[2]	63	216	6.6	1,208.7	1,208.7	1,209.3	0.6
D	9,300[2]	66	273	4.5	1,210.7	1,210.7	1,211.1	0.4
E	9,900[2]	47	373	3.3	1,213.6	1,213.6	1,213.6	0.0
F	11,200[2]	40	175	7.1	1,216.0	1,216.0	1,216.2	0.2
G	12,500[2]	40	162	7.6	1,218.7	1,218.7	1,218.9	0.2
H	13,700[2]	40	147	8.4	1,221.2	1,221.2	1,221.5	0.3
I	14,600[2]	40	211	5.9	1,223.3	1,223.3	1,223.5	0.2
J	15,700[2]	80	179	6.9	1,224.9	1,224.9	1,225.2	0.3

[1]Feet Above Confluence With Cave Creek [2]Feet Above Confluence With Salt River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

GALLOWAY WASH - GRANITE REEF WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Grapevine Wash								
A	0.15[1]	384	1,023	7.1	2,197.2	2,197.2	2,197.2	0.0
B	0.26[1]	291	779	9.4	2,207.3	2,207.3	2,207.3	0.0
C	0.32[1]	376	885	8.2	2,215.7	2,215.7	2,215.7	0.0
D	0.44[1]	238	495	7.5	2,229.8	2,229.8	2,229.8	0.0
E	0.58[1]	125	413	9.0	2,248.1	2,248.1	2,248.1	0.0
F	0.71[1]	127	393	9.5	2,263.6	2,263.6	2,263.6	0.0
G	0.78[1]	96	348	10.7	2,270.9	2,270.9	2,270.9	0.0
H	0.84[1]	90	105	2.1	2,277.5	2,277.5	2,277.5	0.0
I	0.89[1]	27	28	5.8	2,283.1	2,283.1	2,283.1	0.0
J	0.99[1]	55	42	4.0	2,296.8	2,296.8	2,296.8	0.0
Grass Wash								
A	5.54[2]	224	1,471	9.5	2,157.3	2,157.3	2,157.3	0.0
B	5.76[2]	1,030	5,350	2.6	2,159.6	2,159.6	2,160.1	0.5
C	6.14[2]	1,100	2,824	5.0	2,161.5	2,161.5	2,162.5	1.0
D	6.45[2]	1,000	3,666	3.8	2,166.8	2,166.8	2,167.4	0.6
E	6.81[2]	1,300	4,848	2.9	2,169.2	2,169.2	2,170.1	0.9
F	7.11[2]	1,050	2,953	4.7	2,172.7	2,172.7	2,173.0	0.3

[1]Miles Above Confluence With Galloway Wash [2]Miles Above Confluence With Centennial Wash

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

GRAPEVINE WASH - GRASS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Indian Bend Wash								
A	12,400	787	2,753	7.3	1,199.1	1,199.1	1,199.1	0.0
B	13,540	700	3,174	6.3	1,202.7	1,202.7	1,202.7	0.0
C	14,150	498	3,117	6.4	1,203.7	1,203.7	1,203.8	0.1
D	15,000	395	4,028	5.0	1,204.8	1,204.8	1,204.9	0.1
E	15,400	386	3,683	5.4	1,207.0	1,207.0	1,207.0	0.0
F	16,500	503	2,626	7.6	1,212.3	1,212.3	1,212.6	0.3
G	17,500	867	4,368	4.6	1,214.0	1,214.0	1,214.3	0.3
H	18,700	685	2,054	9.7	1,217.3	1,217.3	1,217.3	0.0
I	19,600	719	2,379	8.4	1,219.8	1,219.8	1,219.9	0.1
J	20,724	258	1,989	10.1	1,223.1	1,223.1	1,223.2	0.1
K	21,403	648	4,565	4.4	1,225.7	1,225.7	1,225.7	0.0
L	22,623	660	3,947	5.1	1,227.1	1,227.1	1,227.1	0.0
M	24,116	660	4,528	4.4	1,229.5	1,229.5	1,229.5	0.0
N	25,000	640	2,731	7.3	1,231.9	1,231.9	1,231.9	0.0
O	26,112	140	3,307	5.1	1,238.7	1,238.7	1,238.7	0.0
P	27,664	500	3,615	4.6	1,239.5	1,239.5	1,239.5	0.0
Q	30,000	470	2,875	5.8	1,245.0	1,245.0	1,245.0	0.0
R	31,000	470	2,590	6.4	1,246.0	1,246.0	1,246.0	0.0
S	31,982	745	4,011	4.0	1,255.5	1,255.5	1,255.5	0.0
T	32,950	685	3,704	4.2	1,255.8	1,255.8	1,255.8	0.0
U	34,100	638	1,644	9.4	1,259.2	1,259.2	1,259.2	0.0
V	35,400	817	3,144	4.4	1,263.1	1,263.1	1,263.1	0.0
W	42,900	1,350	7,226	2.4	1,284.4	1,284.4	1,285.1	0.7
X	45,000	1,710	4,166	4.1	1,290.2	1,290.2	1,290.2	0.0
Y	47,300	700	8,789	1.9	1,296.2	1,296.2	1,296.3	0.1
Z	48,325	870	2,026	7.9	1,298.7	1,298.7	1,299.0	0.3

[1]Feet Above Confluence With Salt River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

INDIAN BEND WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Indian Bend Wash (Cont'd)								
AA	48,748	710	2,880	5.6	1,300.3	1,300.3	1,300.8	0.5
AB	49,328	740	3,496	4.6	1,301.3	1,301.3	1,302.2	0.9
AC	50,331	800	2,855	5.6	1,303.8	1,303.8	1,304.6	0.8
AD	51,282	710	3,289	4.9	1,307.6	1,307.6	1,307.6	0.0
AE	52,282	760	2,894	5.5	1,310.0	1,310.0	1,310.2	0.2
AF	53,341	725	2,291	7.0	1,314.6	1,314.6	1,314.6	0.0
AG	54,344	688	3,321	4.8	1,317.7	1,317.7	1,317.9	0.2
AH	54,925	780	3,171	5.0	1,318.7	1,318.7	1,318.8	0.1
AI	55,099	706	2,060	7.8	1,319.0	1,319.0	1,319.1	0.1
AJ	55,105	746	2,330	6.9	1,319.2	1,319.2	1,319.2	0.0
AK	55,348	652	3,999	4.0	1,320.1	1,310.1	1,320.1	0.0
AL	56,298	648	1,797	8.9	1,321.7	1,321.7	1,321.7	0.0
AM	57,301	637	3,412	4.7	1,325.3	1,325.3	1,325.3	0.0
AN	58,304	652	1,719	8.4	1,327.1	1,327.1	1,327.1	0.0
AO	58,674	684	3,049	4.8	1,329.2	1,329.2	1,329.2	0.0
AP	58,954	666	2,159	6.7	1,329.4	1,329.4	1,329.4	0.0
AQ	58,959	595	1,779	8.2	1,329.4	1,329.4	1,329.4	0.0
AR	59,360	670	1,807	8.0	1,331.5	1,331.5	1,331.5	0.0
AS	60,364	651	2,387	6.1	1,336.5	1,336.5	1,336.5	0.0
AT	61,472	629	2,622	5.5	1,339.4	1,339.4	1,339.4	0.0
AU	62,317	659	1,683	8.6	1,342.8	1,342.8	1,342.8	0.0
AV	62,476	645	2,303	6.3	1,344.1	1,344.1	1,344.1	0.0
AW	63,479	658	3,408	4.3	1,346.2	1,346.2	1,346.2	0.0
AX	64,588	441	1,415	10.2	1,350.8	1,350.8	1,350.8	0.0

[1]Feet Above Confluence With Salt River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Indian Bend Wash (Cont'd)								
AY	0.210	270	1,658	5.4	1,385.7	1,385.7	1,386.2	0.5
AZ	0.296	385	980	9.2	1,388.6	1,388.6	1,388.6	0.0
BA	0.408	399	1,686	5.3	1,391.5	1,391.5	1,391.5	0.0
BB	0.895	617	1,474	4.1	1,398.1	1,398.1	1,398.2	0.1
BC	1.013	408	1,406	4.3	1,399.9	1,399.9	1,400.0	0.1
BD	1.285	397	885	6.8	1,404.3	1,404.3	1,404.3	0.0
BE	1.430	390	1,179	5.1	1,407.3	1,407.3	1,407.5	0.2
BF	1.674	430	1,218	4.9	1,411.9	1,411.9	1,411.9	0.0
BG	1.825	369	1,295	4.6	1,413.7	1,413.7	1,414.0	0.3
BH	1.973	--[2]	538	4.5	1,414.8	1,414.8	1,415.2	0.4
BI	2.060	404	509	4.7	1,418.0	1,418.0	1,418.0	0.0

[1]Miles Above Cactus Road [2]Coincident With Channel Banks

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

INDIAN BEND WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Indian Bend Wash-Low Flow Channel								
O	26,112	720	891	3.6	1,234.2	1,234.2	1,234.2	0.0
P	27,664	350	65	4.8	1,240.2	1,240.2	1,240.3	0.1
Q	30,000	180	563	5.7	1,246.6	1,246.6	1,246.6	0.0
R	31,000	250	834	4.0	1,250.0	1,250.0	1,250.0	0.0
S	31,982	270	1,240	3.2	1,253.7	1,253.7	1,253.7	0.0
T	32,950	265	886	5.1	1,254.9	1,254.9	1,254.9	0.0
U	34,100	232	725	6.3	1,258.9	1,258.9	1,258.9	0.0
V	35,400	163	885	7.8	1,263.3	1,263.3	1,263.3	0.0

[1]Feet Above Confluence With Salt River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

INDIAN BEND WASH - LOW FLOW CHANNEL

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Little San Domingo Wash								
A	0	40	400	7.7	1,962.0	1,962.0	1,962.0	0.0
B	80	148	1,119	2.8	1,963.1	1,963.1	1,963.1	0.0
C	370	131	547	5.6	1,963.1	1,963.1	1,963.1	0.0
D	650	77	312	9.9	1,965.5	1,965.5	1,965.5	0.0
E	920	125	383	8.1	1,968.8	1,968.8	1,968.8	0.0
F	1,140	123	479	6.5	1,970.7	1,970.7	1,970.7	0.0
G	1,430	117	355	8.7	1,973.3	1,973.3	1,973.3	0.0
H	1,670	78	311	9.9	1,977.9	1,977.9	1,977.9	0.0
I	2,105	94	335	9.2	1,981.8	1,981.8	1,981.8	0.0
J	2,525	76	318	9.7	1,986.0	1,986.0	1,986.0	0.0
K	2,815	109	348	8.3	1,989.1	1,989.1	1,989.1	0.0
L	3,100	79	295	9.8	1,992.3	1,992.3	1,992.3	0.0
M	3,515	78	300	9.6	1,998.2	1,998.2	1,998.2	0.0
N	3,865	100	383	7.5	2,001.1	2,001.1	2,001.1	0.0

[1]Stream Distance In Feet Above U.S. Highways 60, 70 and 89

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

LITTLE SAN DOMINGO WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Lower El Mirage Wash								
A	0.05[1]	50	99	2.5	1,115.4	1,115.4	1,116.4	1.0
B	0.21[1]	50	74	1.6	1,117.4	1,117.4	1,118.0	0.6
C	0.38[1]	50	28	4.3	1,122.9	1,122.9	1,122.9	0.0
Martinez Wash								
A	2,140[2]	1,365[3]	5,129	6.2	2,117.8	2,117.8	2,118.0	0.2
Mockingbird Wash								
A	1,425[2]	1,508	6,959	0.8	1,996.0	1,996.0	1,996.0	0.0
B	1,615[2]	1,380	3,734	1.4	1,996.0	1,996.0	1,996.0	0.0
C	1,905[2]	930	848	6.9	2,000.9	2,000.9	2,000.9	0.0
D	2,300[2]	392	712	7.8	2,012.3	2,012.3	2,012.3	0.0
E	2,580[2]	320	742	8.0	2,017.5	2,017.5	2,017.5	0.0
F	2,900[2]	411	678	7.8	2,023.0	2,023.0	2,023.0	0.0
G	3,325[2]	429	696	7.3	2,033.3	2,033.3	2,033.3	0.0
H	3,735[2]	566	765	6.7	2,041.9	2,041.9	2,041.9	0.0
I	4,085[2]	456	721	7.1	2,049.4	2,049.4	2,049.4	0.0
J	4,635[2]	465	595	6.5	2,064.4	2,064.4	2,064.4	0.0
K	4,960[2]	206	427	8.6	2,071.4	2,071.4	2,071.4	0.0
Moon Valley Wash								
A	0.45[4]	49	295	12.8	1,288.1	1,288.1	1,288.2	0.1
B	0.75[4]	66	347	10.9	1,299.0	1,299.0	1,299.0	0.0
C	0.88[4]	70	312	12.1	1,305.0	1,305.0	1,305.0	0.0

[1]Miles Above Cactus Road
[2]Feet Above Confluence With Hassayampa River
[3]Floodway Lies Entirely Outside County Limits
[4]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

LOWER EL MIRAGE WASH - MARTINEZ WASH - MOCKINGBIRD WASH - MOON VALLEY WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Myrtle Avenue Wash								
A	0.04[1]	250[2]	--[3]	--[3]	1,242.0	1,242.0	1,242.9	0.9
B	0.22[1]	250	--[3]	--[3]	1,260.2	1,260.2	1,260.8	0.6
Ocotillo Wash								
A	0.05[4]	98	449	12.1	2,039.2	2,039.2	2,039.2	0.0
B	0.13[4]	88	443	12.2	2,045.5	2,045.5	2,045.5	0.0
C	0.18[4]	104	452	12.0	2,049.1	2,049.1	2,049.1	0.0
D	0.23[4]	305	735	7.4	2,053.7	2,053.7	2,053.7	0.0
E	0.31[4]	204	596	9.1	2,064.6	2,064.6	2,064.6	0.0
F	0.39[4]	121	523	10.4	2,074.1	2,074.1	2,074.1	0.0
G	0.46[4]	89	460	11.8	2,080.4	2,080.4	2,080.4	0.0
H	0.55[4]	102	459	11.4	2,086.6	2,086.6	2,086.6	0.0
I	0.70[4]	87	426	12.3	2,099.6	2,099.6	2,099.6	0.0
J	0.78[4]	162	617	8.5	2,105.6	2,105.6	2,105.6	0.0
K	0.89[4]	187	542	9.6	2,114.2	2,114.2	2,114.2	0.0
L	0.92[4]	277	628	8.3	2,117.0	2,117.0	2,117.0	0.0
M	0.97[4]	454	806	6.2	2,123.2	2,123.2	2,123.2	0.0
N	1.14[4]	293	614	8.2	2,142.7	2,142.7	2,142.7	0.0
O	1.36[4]	390	679	7.4	2,165.4	2,165.4	2,165.4	0.0
P	1.47[4]	297	632	7.6	2,177.9	2,177.9	2,177.9	0.0
Q	1.56[4]	416	723	6.7	2,189.1	2,189.1	2,189.1	0.0
R	1.71[4]	188	515	9.4	2,207.0	2,207.0	2,207.0	0.0
S	1.83[4]	196	579	8.3	2,220.7	2,220.7	2,220.7	0.0
T	2.03[4]	186	528	8.8	2,243.7	2,243.7	2,243.7	0.0

[1]Miles Above Mouth
[2]Combined Floodway for Myrtle Avenue Wash and Dreamy Draw Wash East
[3]Data Not Available
[4]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

MYRTLE AVENUE WASH - OCOTILLO WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Powder House Wash								
A	1,230	43	123	15.5	2,057.9	2,057.9	2,057.9	0.0
B	1,540	80	278	6.8	2,066.4	2,066.4	2,066.4	0.0
C	1,690	70	199	9.6	2,070.1	2,070.1	2,070.1	0.0
D	2,020	88	214	8.9	2,075.7	2,075.7	2,075.7	0.0
E	2,184	98	221	8.6	2,079.2	2,079.2	2,079.7	0.5
F	2,494	50	177	10.7	2,087.3	2,087.3	2,087.6	0.3
G	2,814	85	210	9.0	2,095.2	2,095.2	2,095.7	0.5
H	3,034	70	199	9.6	2,098.6	2,098.6	2,098.7	0.1
I	3,294	152	279	7.5	2,102.5	2,102.5	2,102.5	0.0
J	3,504	122	250	8.3	2,108.3	2,108.3	2,108.3	0.0
K	3,814	132	253	7.8	2,115.8	2,115.8	2,115.8	0.0
L	4,439	122	251	8.0	2,130.2	2,130.2	2,130.2	0.0
M	4,724	104	229	8.5	2,137.1	2,137.1	2,137.1	0.0
N	4,989	110	231	8.3	2,141.7	2,141.7	2,141.7	0.0
O	5,154	110	233	8.3	2,144.3	2,144.3	2,144.3	0.0
P	5,379	117	236	8.1	2,148.6	2,148.6	2,148.6	0.0
Q	5,769	135	247	7.7	2,157.9	2,157.9	2,157.9	0.0
R	6,179	90	217	8.9	2,166.9	2,166.9	2,166.9	0.0
S	6,579	65	198	10.0	2,178.6	2,178.6	2,178.6	0.0

[1]Feet Above Confluence With Hassayampa River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

POWDER HOUSE WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Rowe Wash								
A	280[1]	209	770	9.0	2,113.5	2,113.5	2,113.5	0.0
B	640[1]	184	692	10.0	2,120.9	2,120.9	2,120.9	0.0
C	1,180[1]	212	677	10.3	2,133.3	2,133.3	2,133.3	0.0
D	1,580[1]	346	849	8.2	2,145.0	2,145.0	2,145.0	0.0
E	2,020[1]	320	790	8.8	2,156.3	2,156.3	2,156.3	0.0
F	2,540[1]	335	855	8.0	2,170.0	2,170.0	2,170.0	0.0
G	3,340[1]	505	1,003	6.8	2,194.0	2,194.0	2,194.0	0.0
H	3,930[1]	625	1,026	6.7	2,209.7	2,209.7	2,209.7	0.0
I	4,580[1]	309	794	8.6	2,227.7	2,227.7	2,227.7	0.0
J	4,960[1]	463	981	7.0	2,238.2	2,238.2	2,238.2	0.0
K	5,410[1]	660	1,073	6.3	2,249.7	2,249.7	2,249.7	0.0
L	5,970[1]	587	928	7.3	2,265.6	2,265.6	2,265.6	0.0
M	6,480[1]	558	959	7.0	2,277.7	2,277.7	2,277.7	0.0
N	6,910[1]	476	951	7.1	2,291.7	2,291.7	2,291.7	0.0
O	7,440[1]	290	785	8.5	2,304.1	2,304.1	2,304.1	0.0
P	7,840[1]	328	775	8.6	2,314.5	2,314.5	2,314.5	0.0

[1]Feet Above Confluence With Galloway Wash

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

ROWE WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Sols Wash								
A	1,005	250	1,223	12.3	2,052.8	2,052.8	2,052.8	0.0
B	1,775	215	1,166	12.9	2,058.2	2,058.2	2,058.2	0.0
C	1,945	255	1,016	14.8	2,058.3	2,058.3	2,058.5	0.2
D	2,080	270	1,119	13.4	2,059.4	2,059.4	2,059.4	0.0
E	2,310	548	2,092	7.2	2,061.6	2,061.6	2,061.8	0.2
F	2,510	795	2,490	6.0	2,063.6	2,063.6	2,063.6	0.0
G	3,015	800[2]	1,997	7.2	2,067.7	2,067.7	2,067.8	0.1
H	3,525	940[2]	1,895	7.6	2,070.7	2,070.7	2,071.0	0.3
I	4,025	1,020[2]	1,561	9.2	2,074.9	2,074.9	2,075.2	0.3
J	4,590	1,280[2]	1,840	7.8	2,078.8	2,078.8	2,079.3	0.5
K	5,150	1,050[2]	1,843	7.8	2,084.0	2,084.0	2,084.0	0.0
L	5,770	880	1,954	7.4	2,088.4	2,088.4	2,088.4	0.0
M	6,705	1,120/ 790[3]	2,049	7.0	2,097.0	2,097.0	2,097.0	0.0
N	7,205	1,250/ 630[3]	2,103	6.9	2,101.1	2,101.1	2,101.1	0.0
O	7,705	1,084	2,184	6.6	2,105.9	2,105.9	2,106.4	0.5
P	8,195	1,003	2,192	6.6	2,111.0	2,111.0	2,111.0	0.0
Q	8,685	1,090	2,166	6.7	2,115.9	2,115.9	2,115.9	0.0
R	9,380	740	1,811	8.0	2,122.5	2,122.5	2,122.5	0.0
S	9,685	670	1,925	7.5	2,126.4	2,126.4	2,126.6	0.2
T	10,180	597	1,832	7.9	2,130.5	2,130.5	2,130.8	0.3
U	10,680	730	1,924	6.7	2,135.1	2,135.1	2,135.2	0.1
V	11,255	534	1,795	7.2	2,140.7	2,140.7	2,141.1	0.4

[1]Stream Distance In Feet Above Confluence With Hassayampa River
[2]Width Includes Floodway Width From Hospital Wash
[3]Total Width/Width Within Corporate Limits Of Town Of Wickenburg

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SOLS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Sols Wash (Cont'd)								
W	11,685	289	1,367	9.5	2,145.5	2,145.5	2,145.6	0.1
X	12,300	305	1,371	9.4	2,149.9	2,149.9	2,150.3	0.4
Y	12,770	402	1,604	8.1	2,153.3	2,153.3	2,153.7	0.4
Z	13,425	508/0[2]	1,747	7.4	2,158.7	2,158.7	2,158.8	0.1
AA	13,975	490/0[2]	1,582	8.2	2,163.0	2,163.0	2,163.0	0.0
AB	14,215	470	1,341	9.7	2,166.2	2,166.2	2,166.3	0.1
AC	14,475	635	2,037	6.3	2,168.2	2,168.2	2,168.3	0.1
AD	14,970	790	1,594	8.0	2,171.7	2,171.7	2,172.0	0.3
AE	15,470	870/780[2]	1,523	8.4	2,175.9	2,175.9	2,176.0	0.1
AF	15,970	830/780[2]	1,354	9.5	2,180.5	2,180.5	2,180.5	0.0
AG	16,590	480	1,608	8.0	2,183.8	2,183.8	2,184.4	0.6
AH	17,050	602	1,783	7.0	2,186.9	2,186.9	2,187.4	0.5
AI	17,480	540	2,163	5.8	2,189.8	2,189.8	2,190.2	0.4
AJ	18,025	380	1,249	10.0	2,194.5	2,194.5	2,195.0	0.5
AK	18,550	403	1,646	7.6	2,199.5	2,199.5	2,199.5	0.0
AL	19,120	564	1,869	6.7	2,204.5	2,204.5	2,204.5	0.0
AM	19,795	447	1,467	8.5	2,209.6	2,209.6	2,209.6	0.0
AN	20,515	331	1,435	8.7	2,215.8	2,215.8	2,216.1	0.3

[1]Stream Distance in Feet Above Confluence With Hassayampa River
[2]Total Width/Width Within Corporate Limits of Town of Wickenburg

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SOLS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Sols Wash (Cont'd)								
AO	21,285	398	1,465	8.5	2,222.4	2,222.4	2,222.4	0.0
AP	21,715	444	1,545	8.1	2,224.5	2,224.5	2,225.2	0.7
AQ	21,965	350	1,209	10.3	2,227.3	2,227.3	2,227.6	0.3
AR	22,525	200	1,490	8.2	2,233.3	2,233.3	2,233.3	0.0
AS	22,695	281	1,272	9.6	2,234.0	2,234.0	2,234.4	0.4
AT	22,735	290	1,384	8.8	2,235.1	2,235.1	2,235.1	0.0
AU	23,105	345	1,443	8.5	2,239.2	2,239.2	2,239.5	0.3
AV	23,715	750	2,095	5.8	2,241.7	2,241.7	2,242.6	0.9
AW	24,105	425	1,545	7.9	2,245.2	2,245.2	2,245.2	0.0
AX	24,640	309	1,128	10.9	2,248.8	2,248.8	2,249.0	0.2
AY	25,110	214	1,012	12.1	2,253.5	2,253.5	2,253.5	0.0
AZ	25,525	306	1,385	8.8	2,255.9	2,255.9	2,256.3	0.4
BA	26,105	304	1,151	10.5	2,259.8	2,259.8	2,259.9	0.1
BB	26,610	321	1,209	10.0	2,263.1	2,263.1	2,263.3	0.2
BC	27,105	344	1,162	10.4	2,267.4	2,267.4	2,267.6	0.2
BD	27,610	446	1,499	8.1	2,273.0	2,273.0	2,273.0	0.0
BE	28,045	601	1,958	5.3	2,275.3	2,275.3	2,275.7	0.4
BF	28,655	646	1,710	6.1	2,279.2	2,279.2	2,279.4	0.2
BG	29,170	497	1,531	6.8	2,282.8	2,282.8	2,283.0	0.2

[1]Stream Distance In Feet Above Confluence With Hassayampa River

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SOLS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Sols Wash (Cont'd)								
BH	29,505	527	1,539	6.7	2,284.7	2,284.7	2,284.8	0.1
BI	30,005	450	1,248	8.3	2,287.8	2,287.8	2,288.0	0.2
BJ	30,575	390	927	11.2	2,291.3	2,291.3	2,291.3	0.0
BK	30,975	442	1,202	8.6	2,295.5	2,295.5	2,295.5	0.0
BL	31,455	381	1,461	7.1	2,298.1	2,298.1	2,298.2	0.1
BM	31,885	278	1,100	9.4	2,300.8	2,300.8	2,301.3	0.5
BN	32,415	295	1,186	8.7	2,305.4	2,305.4	2,305.6	0.2
BO	32,915	231	1,050	9.9	2,307.6	2,307.6	2,307.6	0.0
BP	33,415	287	1,252	8.3	2,310.1	2,310.1	2,310.2	0.1
BQ	33,915	287	1,097	9.5	2,315.4	2,315.4	2,315.5	0.1
BR	34,485	409	1,413	7.3	2,318.2	2,318.2	2,318.5	0.3
BS	34,910	308	1,027	10.1	2,320.4	2,320.4	2,320.4	0.0
BT	35,280	304	1,234	8.4	2,322.7	2,322.7	2,322.8	0.1
BU	35,900	396	1,394	7.4	2,326.9	2,326.9	2,327.0	0.1
BV	36,510	305	1,275	8.1	2,330.2	2,330.2	2,330.8	0.6
BW	37,235	236	1,124	9.2	2,335.8	2,335.8	2,336.0	0.2
BX	37,655	150	907	11.4	2,337.8	2,337.8	2,338.4	0.6
BY	38,135	201	1,025	10.1	2,341.1	2,341.1	2,341.1	0.0
BZ	38,880	415	1,309	7.9	2,345.5	2,345.5	2,345.5	0.0

[1]Stream Distance In Feet Above Confluence With Hassayampa River

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Sols Wash (Cont'd)								
CA	39,380	270	1,000	10.4	2,348.7	2,348.7	2,349.4	0.7
CB	39,615	300[2]	608	17.1	2,352.7	2,352.7	2,352.7	0.0
CC	39,665	300[2]	707	14.7	2,353.7	2,353.7	2,354.2	0.5
CD	42,335	781[2]	4,340	2.4	2,369.0	2,369.0	2,369.1	0.1
CE	42,835	657[2]	2,457	4.2	2,369.1	2,369.1	2,369.2	0.1
CF	43,335	476[2]	1,560	6.6	2,370.0	2,370.0	2,370.0	0.0
CG	43,950	300[2]	1,215	8.5	2,372.4	2,372.4	2,372.5	0.1
CH	44,340	259[2]	1,050	9.4	2,376.2	2,376.2	2,376.2	0.0
CI	44,840	480/270[3]	1,922	5.1	2,379.3	2,379.3	2,379.6	0.3
CJ	45,340	596/400[3]	1,503	6.6	2,380.8	2,380.8	2,380.9	0.1
CK	45,840	681/400[3]	1,503	6.3	2,383.3	2,383.3	2,383.4	0.1
CL	46,350	638/0[2]	1,476	5.6	2,386.2	2,386.2	2,386.5	0.3

[1]Feet Above Confluence With Hassayampa River
[2]Floodway Lies Entirely Outside County Limits
[3]Width/Width Within County

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

SOLS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION (FEET NGVD)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION[2] AREA (SQUARE FEET)	MEAN[2] VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Tenth Street Wash								
A	0.09	1,590	--[2]	--[2]	1,241.8	1,241.8	1,242.8	1.0
B	0.31	370	--[2]	--[2]	1,246.5	1,246.5	1,247.4	0.9
C	0.54	530	--[2]	--[2]	1,257.6	1,257.6	1,258.5	0.9
D	0.74	400	--[2]	--[2]	1,267.7	1,267.7	1,268.7	1.0
E	0.92	140	--[2]	--[2]	1,278.6	1,278.6	1,279.6	1.0
F	1.12	260	--[2]	--[2]	1,287.5	1,287.5	1,288.5	1.0
G	1.37	80	--[2]	--[2]	1,297.3	1,297.3	1,298.3	1.0
H	1.50	250	--[2]	--[2]	1,306.0	1,306.0	1,306.0	0.0

[1]Miles Above Mouth [2]Data Not Available

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

TENTH STREET WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Willow Springs Wash								
A	0.25	82	496	12.6	2,067.3	2,067.3	2,067.3	0.0
B	0.32	77	551	11.3	2,071.4	2,071.4	2,071.4	0.0
C	0.39	60	412	15.1	2,074.0	2,074.0	2,074.0	0.0
D	0.47	65	445	14.1	2,078.6	2,078.6	2,078.6	0.0
E	0.54	59	413	15.2	2,082.3	2,082.3	2,082.3	0.0
F	0.60	78	454	13.8	2,087.4	2,087.4	2,087.4	0.0
G	0.70	109	524	12.0	2,095.3	2,095.3	2,095.3	0.0
H	0.79	183	756	8.4	2,100.8	2,100.8	2,100.8	0.0
I	0.84	260	459	10.5	2,103.3	2,103.3	2,103.3	0.0
J	0.89	292	725	6.6	2,110.3	2,110.3	2,110.3	0.0
K	1.02	177	588	8.2	2,120.7	2,120.7	2,120.7	0.0
L	1.09	279	656	7.3	2,126.5	2,126.5	2,126.5	0.0
M	1.19	332	698	6.9	2,135.1	2,135.1	2,135.1	0.0
N	1.27	299	660	7.3	2,142.3	2,142.3	2,142.3	0.0
O	1.34	346	732	6.6	2,147.8	2,147.8	2,147.8	0.0
P	1.40	429	745	6.4	2,154.4	2,154.4	2,154.4	0.0
Q	1.48	403	709	6.8	2,162.2	2,162.2	2,162.2	0.0
R	1.57	160	494	9.7	2,169.4	2,169.4	2,169.4	0.0
S	1.70	78	373	12.9	2,179.2	2,179.2	2,179.2	0.0
T	1.78	53	337	14.3	2,188.4	2,188.4	2,188.4	0.0

[1]Miles Above Confluence With Cave Creek

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

WILLOW SPRINGS WASH

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
					(FEET NGVD)			
Weekes Wash								
A	5,500	439	807	8.5	1,778.3	1,778.3	1,779.0	0.7
B	6,380	220	818	8.4	1,788.1	1,788.1	1,789.1	1.0
C	7,290	297	867	7.9	1,796.5	1,796.5	1,797.4	0.9
D	8,010	725	1,352	5.1	1,803.9	1,803.9	1,804.2	0.3
E	8,910	793	1,139	6.0	1,814.5	1,814.5	1,815.3	0.8
F	9,660	267	807	8.5	1,823.5	1,823.5	1,824.4	0.9
G	10,460	199	767	8.9	1,831.7	1,831.7	1,832.6	0.9
H	11,140	320	854	8.0	1,840.2	1,840.2	1,840.3	0.1
I	12,090	449	962	7.1	1,851.3	1,851.3	1,852.3	1.0
J	12,990	385	1,046	6.5	1,860.3	1,860.3	1,861.2	0.9

[1]Feet Above U.S. Highway 60/89

TABLE 5

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

FLOODWAY DATA

WEEKES WASH

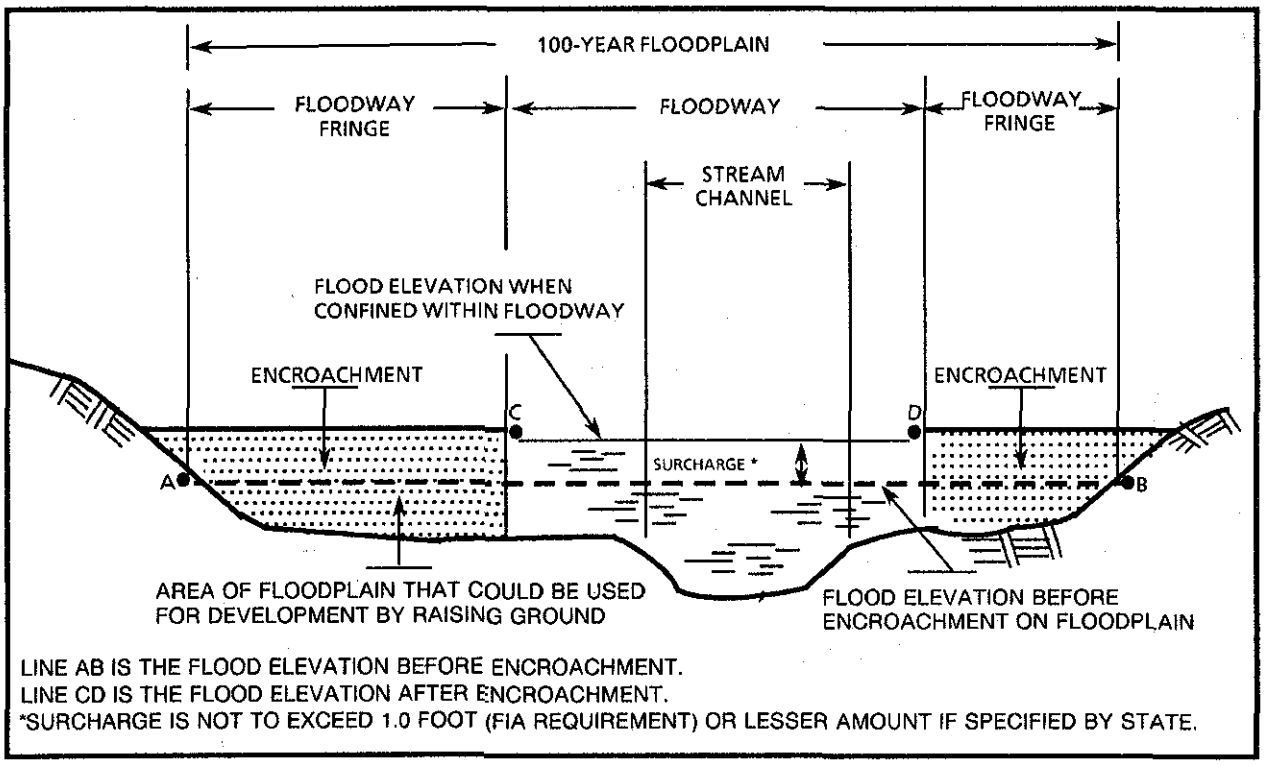


Figure 7. Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A:

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations (BFEs) or depths are shown within this zone.

Zone AE:

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone AH:

Zone AH is the flood insurance rate zone that corresponds to the areas of 100-year shallow flooding (usually areas of ponding) where average depths are between 1 and 3 feet. Whole-foot BFEs derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zones A1-A15, A17, A19, and A23:

Special Flood Hazard Areas (SFHAs) inundated by the 100-year flood; with BFEs shown.

Zone B:

Areas between the SFHAs and the limits of the 500-year flood; areas that are protected from the 100- or 500-year floods by dike, levee, or other local water-control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.

Zone C:

Areas of minimal flood hazard; not subdivided.

Zone X:

Zone X is the flood insurance rate zone that corresponds to areas outside the 500-year floodplain, areas within the 500-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No BFEs or depths are shown within this zone.

Zone D:

Areas of undetermined, but possible flood hazard.

For all irrigation canals, Zone A is designated for the upslope side of canals and Zone B for the downslope. Alluvial fan flood hazard areas are shown on the Flood Insurance Rate Map (published separately) as AO zones, with average depths and velocities of flow given. In these areas, depths of the 100-year flood may exceed 3 feet. Development on alluvial fans is subject to a more severe flood hazard than would normally be encountered in an AO zone due to high velocities and unpredictability of the location of the stream channel across the width of the fan.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot BFEs or average depths. Insurance agents use the zones and BFEs in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols, the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

7.0 OTHER STUDIES

Flood Insurance Studies have been published for the following: City of Apache Junction (Reference 1), City of Avondale (Reference 2), Town of Buckeye (Reference 3), Town of Carefree (Reference 4), City of Chandler (Reference 5), Town of El Mirage (Reference 6), Town of Gila Bend (Reference 7), Town of Gilbert (Reference 8), City of Glendale (Reference 9), Town of Goodyear (Reference 10), City of Mesa (Reference 11), City of Peoria (Reference 13), City of Phoenix (Reference 14), City of Tempe (Reference 17), City of Scottsdale (Reference 15), City of Tolleson (Reference 18), Town of Surprise (Reference 16), Town of Wickenburg (Reference 19), Town of Youngtown (Reference 20), and the unincorporated areas of Maricopa County (Reference 53). Information from all of these studies has been incorporated into this study.

Flood Insurance Studies have been published for adjacent areas of La Paz County (Reference 54), Yavapai County (Reference 55), and Yuma County (Reference 56), Revised Flood Insurance Studies are being prepared for Pinal County (Reference 59) and Pima County (Reference 58). Approximate flooding areas in Yavapai and Pinal Counties were not studied in Maricopa County. All other county studies are in agreement with this study.

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, Building 105, Presidio of San Francisco, San Francisco, California 94129.

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Apache Junction, City of	June 10, 1980		September 30, 1982	
Avondale, City of	February 15, 1974	January 16, 1976	June 15, 1979	August 3, 1982
Buckeye, Town of	February 15, 1980		February 15, 1980	
Carefree, Town of	July 2, 1979		July 2, 1979	
Cave Creek, Town of	June 9, 1988		September 29, 1989	
Chandler, City of	May 24, 1977	January 17, 1978	July 16, 1980	
El Mirage, City of	February 15, 1974		December 1, 1978	
Gila Bend, Town of	January 23, 1974	December 24, 1976	December 4, 1979	
Gilbert, Town of	April 5, 1974	October 15, 1976	January 16, 1980	September 30, 1983
Glendale, City of	July 26, 1974	April 9, 1976	April 16, 1979	September 22, 1981
Goodyear, Town of	March 15, 1974	April 30, 1976	July 16, 1979	October 18, 1983
Guadalupe, Town of	April 15, 1988		April 15, 1988	
Litchfield Park, City of	September 29, 1989		September 29, 1989	
Mesa, City of	April 13, 1973	April 22, 1977	May 15, 1980	
Paradise Valley, Town of	December 7, 1973	May 21, 1976	May 1, 1980	June 3, 1986
Peoria, Town of	September 4, 1979		September 4, 1979	January 16, 1981
Phoenix, City of	June 28, 1974	September 12, 1975	December 4, 1979	June 1, 1984
Scottsdale, City of	September 21, 1973		December 31, 1977	December 4, 1984
Surprise, Town of	June 28, 1974	December 5, 1975	January 15, 1978	March 1, 1983
Tempe, City of	June 28, 1974	September 5, 1978	August 15, 1980	December 14, 1982
Tolleson, City of	April 12, 1974	December 19, 1975	January 16, 1980	
Wickenburg, Town of	February 1, 1974	October 10, 1975	January 5, 1978	March 29, 1983
Youngtown, Town of	December 28, 1973		November 15, 1978	
Unincorporated Areas	July 2, 1979		July 2, 1979	

TABLE 6

FEDERAL EMERGENCY MANAGEMENT AGENCY

MARICOPA COUNTY, AZ
AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

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15. Federal Emergency Management Agency, Flood Insurance Study, City of Scottsdale, Arizona, Revised December 4, 1984

16. Federal Emergency Management Agency, Flood Insurance Study, Town of Surprise, Arizona, Revised March 1, 1983

17. Federal Emergency Management Agency, Flood Insurance Study, City of Tempe, Arizona, Revised December 14, 1982

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10.0 REVISIONS DESCRIPTION

This section has been added to provide information regarding significant revisions made since the original Flood Insurance Study was printed. Future revisions may be made that do not result in the republishing of the Flood Insurance Study report. To assure that any user is aware of all revision, it is advisable to contact the community repository.

10.1 First Revision

This study was revised on September 29, 1989, to include the restudy conducted for the City of Wickenburg and surrounding unincorporated areas of Maricopa County; to include the newly incorporated town of Cave Creek; and to include the revisions described below. As part of this revision, the conversion of the Flood Insurance Rate Map for Maricopa County, Arizona, and Incorporated Areas to the Map Initiatives Format on a panel-to-panel basis was initiated. In the Map Initiatives Format, all BFEs, cross sections, and floodplain and floodway boundaries are shown on the Flood Insurance Rate Map. The flood insurance zone designations were changed to reflect the Map Initiatives Format. Areas previously shown as numbered Zone A were revised to Zone AE, Zone B was revised to Zone X (shaded), and Zone C was revised to Zone X (unshaded). In addition, all Flood Insurance Zone Data Tables were removed from the Flood Insurance Study report and all zone designations and reach determinations were removed from the profiles. The Flood Insurance Rate Map Index was revised to reflect the 100-year flooding shown on all Flood Insurance Rate Map panels. In addition, the Township and Range Lines for Maricopa County and Incorporated Areas have been added to the Flood Insurance Rate Map and Flood Boundary and Floodway Map Index as requested by the FCDMC.

New River below Skunk Creek:

For the reach of the New River from the confluence with the Agua Fria River upstream to Skunk Creek, revised hydrologic and hydraulic analyses were developed by Coe and Van Loo Consulting Engineers, Inc. (CVL).

The hydrologic analysis developed by CVL for the reach of the New River between the confluence of the Agua Fria River and Skunk Creek was based on the 1984 COE study. CVL modified the COE study to reflect existing floodplain conditions, and developed the 10-, 50-, and 500-year discharges for this reach. These revised discharges are presented in Table 3 entitled "Summary of Discharges." The revised discharges reflect the construction of the Adobe, New River, and Cave Buttes Dams and the Arizona Canal Diversion Channel. These data are presented in the technical report entitled "Hydrology Update, November 15, 1986, New River Below Skunk Creek, Maricopa County, Arizona," prepared by CVL for the FCDMC.

The revised HEC-2 hydraulic analyses for this reach of the New River utilized cross sectional data from the original COE model for the New

River based on 1982 topography. These cross sections were modified to include the following channelization projects:

- Glendale Municipal Airport
- Plaza Del Rio Development located South of Thunderbird Road
- Desert Harbor Development located from approximately 3,600 feet downstream of the Thunderbird Road Bridge to North of Greenway Road

The starting water surface elevations were based on the slope-area method. The roughness factors ("n" values) were originally established by the COE. CVL conducted a field investigation of the river and revised these factors. Based on the field investigation, CVL utilized the values established by the COE. The revised floodway analysis was also based on the COE model and utilized Method 1 encroachment. These data are presented in the technical report entitled "Flood Insurance Study, New River Below Skunk Creek, Maricopa County, Arizona," prepared by CVL for FCDMC, dated December 30, 1986.

The 100-, and 500-year floodplain and the 100-year floodway boundaries were delineated on topographic maps at a scale of 1" = 200', contour interval of 2 feet, entitled "New River Floodplain Delineation, Agua Fria River to Skunk Creek Wash," prepared by CVL and revised July 1987. The maps were based on aerial mapping flown by Aerial Mapping Company, Inc. on November 20, 1981, at a scale of 1" = 100', contour interval of 2 feet.

New River Upstream of New River Dam:

The revised 100-year hydrologic analysis for the reach of the New River upstream of the New River Dam to Rock Springs was developed by CVL using the COE HEC-1 hydrologic computer model. These data are presented in the technical report entitled '"Hydrology Report, Including Approval Letters For Flood Insurance Study, New River, from New River Dam to Rock Springs, Maricopa County, Arizona," prepared by CVL for FCDMC, dated December 1987. Only the 100-year discharge was developed because the channel geometry for this reach of the New River is characterized by wide floodplains with numerous low flow channels which are highly unstable. These channels change significantly during low flow floods. The revised 100-year discharge is presented in Table 3.

The hydraulic analyses were conducted by CVL utilizing the COE HEC-2 hydraulic computer model. The starting water-surface elevations were based on the slope-area method. The high water level in the New River Dam was not used due to difference in the time of peak flow. Cross sectional data were based on 1" = 200' topographic mapping prepared by Aerial Mapping Company, Inc. in March 1985 and December 1986.

Three split flow reaches of the New River, and Sweat Canyon Wash were analyzed in addition to the main channel of the New River. The three split flow reaches of the New River are identified as New River East Split, New River Middle Split, and New River West Split. Roughness factors ("n" values) for the New River, the split flows of the New River, and Sweat Canyon Wash were established based on field

investigation, topography, and photographs of the area. These values are presented in Table 4. No floodways were computed for these areas because of the unique topography.

The 100-year floodplain boundaries were delineated using topographic maps at a scale of 1" = 400', contour interval of 4 feet, entitled "New River Floodplain Delineation, New River Dam Reservoir to Rock Springs," and prepared by CVL.

Tables 1, 2, 3, and 4 have been revised to reflect these modifications to the flooding along the New River. The Floodway Data Table for the New River was also revised to reflect the revised hydraulic analysis. Due to the addition of cross sections for the reach between the Agua Fria River and Skunk Creek, the cross sections located upstream of Skunk Creek to the New River Dam were relabeled. Profile Panels 24P through 59P were revised to reflect these changes and to show the split flow reaches. Profile Panels 60P and 61P for Sweat Canyon Wash were added to the Flood Insurance Study report.

East Fork Cave Creek:

The SFHA along a reach of East Fork Cave Creek, east of 7th Street, was modified based on a revised hydrologic analysis of the 100-year discharge performed by NBS/Lowry Engineers and Planners (NBS/Lowry). This analysis is presented in reports prepared by NBS/Lowry entitled: "Upper East Fork Cave Creek, Area Drainage Master Study, Technical Submittals," submittal number 4, dated June 30, 1987; "Upper East Fork Cave Creek, Area Drainage Master Study, Technical Submittals (Executive Summary), undated, and "Upper East Fork Cave Creek, Area Drainage Master Study, Technical Submittals," undated.

The revised hydrologic analysis was developed using the SCS TR-20 hydrologic computer model. The routing used in the analysis more accurately represents the existing flow conditions in the Upper East Fork Cave Creek Drainage Basin than that developed for the existing Flood Insurance Study. As a result of this analysis, the floodway was eliminated for the reach of East Fork Cave Creek east of 7th Street. The SFHA east of the 7th Street was revised to Zone A approximate with the floodplain boundaries remaining as shown on the April 15, 1988 Flood Insurance Rate Map. The area located between Cave Creek and East Fork Cave Creek, which was designated as Zone C on the April 15, 1988, Flood Insurance Rate Map, was revised to Zone X (shaded). These changes are reflected on Flood Insurance Rate Map Panels 1215 and 1220. The Floodway Data Table and profile panels have also been modified to reflect these changes.

The Letter of Map Amendment (LOMA) issued on August 1, 1986, for the City of Phoenix for Lots 117 to 136 of Coral Gable Estates is shown on Flood Insurance Rate Map Panels 1655 and 1255. The LOMA stated that this property was not within the SFHA. The 100-year floodplain delineation along East Fork Cave Creek was revised to reflect this LOMA.

Buchanan Wash:

Hydrologic and hydraulic analyses for Buchanan Wash from its confluence with Skunk Creek to the CAP Canal were conducted by AGK Engineers, Inc. for the FCDMC. These analyses are presented in the technical reports entitled "Hydrologic Analyses for Buchanan Wash, Maricopa County, Arizona, and "Flood Insurance Study for Buchanan Wash, from Skunk Creek to CAP Canal, Maricopa County, Arizona," both dated November 1987 and prepared by AGK Engineers, Inc. As a result of these analyses, new detailed flooding and a floodway for Buchanan Wash are shown on Flood Insurance Rate Map Panel 1185.

Discharge-frequency relationships from historical flood records could not be developed for Buchanan Wash because no gaging stations are available in the watershed. Therefore, the COE HEC-1 hydrologic computer model was utilized to develop the peak discharges, which are shown in Table 3.

Cross sectional data for the HEC-2 hydraulic analyses were obtained from topographic maps at a scale of 1" = 200' contour interval of 2 feet, prepared by Aerial Mapping Company, Inc., and flown in September 1986. Roughness factors ("n" values) were selected using engineering judgment and field observations. These values are listed in Table 4.

The COE HEC-2 hydraulic computer model was used to develop the water-surface profiles. Starting water-surface elevations were obtained from the 1981 COE study for Skunk Creek. The floodway was computed on the basis of equal conveyance reduction from each side of the flooplain.

Floodway Data Tables and profile panels have been added to the Flood Insurance Study report to reflect this new detailed flooding information.

Andora Hills Wash:

The SFHA along a reach of Andora Hills Wash located between a point north of Rancho Manana Boulevard and a point approximately 690 feet downstream of Rancho Manana Boulevard has been modified as shown on Flood Insurance Rate Map Panel 0805. This modification reflects the construction of a roadway crossing and culvert. In support of this revision, a technical report entitled "Application for Flood Plain Variance for Rancho Manana," undated, and Sheet 8 of 8 of certified "as-built" construction plans entitled "Rancho Manana Country Club Lots-Water, Sewer, Paving Plans," dated March 28, 1988, were prepared by American Engineering Company. The technical report contained a revised HEC-2 hydraulic computer model for this reach of Andora Hills Wash.

As a result of the roadway crossing and culvert construction, the BFEs and the floodway width increased between cross sections E and F. These modifications are reflected on the profile panel and Floodway Data Table for Andora Hills Wash.

Agua Fria River:

The floodway boundary along a reach of the Agua Fria River in the vicinity of the Brookview Country Club was modified as shown on Flood Insurance Rate Map Panels 1165 and 1170. The basis for the revision was a revised HEC-2 hydraulic analysis presented in a technical report entitled "Request for Letter of Map Revision-Agua Fria River Floodway (Brookview Country Club)," prepared by Willdan Associates and dated December 1987. As a result of this analysis, the floodway boundary delineation was modified between cross sections BE and BF. The Floodway Data Table reflects this change.

Granite Reef Aqueduct:

The SFHA designated as Zone A along a reach of the Granite Reef Aqueduct, part of the CAP, as shown on Flood Insurance Rate Map Panel 1475, was revised to reflect the correct alignment of the Granite Reef Aqueduct. The basis for this modification was a topographic map submitted by the FCDMC which showed the correct alignment.

Cave Creek:

The Letter of Map Revision (LOMR) issued on May 12, 1988, for the City of Phoenix to reflect a channelization project along Cave Creek from 11th Avenue to Bell Road is shown on Flood Insurance Rate Map Panel 1215. In support of this request, certified "as-built" plans entitled "Grading, Drainage, Channel Grading, and Culvert Details, Bell Road Autopark," dated September 30, 1987, and a revised HEC-2 hydraulic analysis of Cave Creek were submitted by Amwest Engineering Company, Inc. As a result of this channelization project, the 100-year flood is contained within the channel for this reach of Cave Creek. The profile panels and Floodway Data Table have been revised to reflect this modification.

Arizona Canal Diversion Channel (ACDC):

The LOMRs issued on May 17, 1988, for the cities of Phoenix and Glendale, and the unincorporated areas of Maricopa County, to reflect the construction of the ACDC from the confluence with Skunk Creek to 47th Avenue are shown on Flood Insurance Rate Map Panels 1190, 1630, and 1635. To support this request, the following data were submitted:

- Sheets 2 and 15 through 19 of 74 of the final construction drawings, entitled "Arizona Canal Diversion Channel, 29th Avenue to 47th Drive," prepared by the COE, Los Angeles District, and dated July 19, 1987

- Sheets 2 and 4 through 8 of 30 of the final construction drawings, entitled "Arizona Canal Diversion Channel, 47th Drive to Cactus Road," prepared by the COE, Los Angeles District, and dated September 10, 1986

- Sheets 2, 6 through 19, 27, and 27A of 38 of the final construction drawings, entitled "Arizona Canal Diversion Channel, Cactus Road to Skunk Creek," prepared by the COE, Los Angeles District, and dated June 24, 1986

- A letter of certification, dated December 31, 1987, from the COE, Los Angeles District, stating that the reach of the ACDC from Skunk Creek to 47th Avenue was built in conformance with the above-referenced construction drawings

The 100-year flood is contained within the right-of-way of the ACDC in this reach. The Zone A floodplain boundaries along the north side of the ACDC have been revised to coincide with the right-of-way limits for the ACDC. The areas outside of the right-of-way limits on the north side of the ACDC have been redesignated as Zone X (shaded).

The LOMRs issued on September 15, 1988, for the cities of Peoria and Glendale to reflect the completed portion of the ACDC at the confluence with Skunk Creek are shown on Flood Insurance Rate Map Panel 1190. To support these LOMRs, Sheets 2 and 3 of 10 of workmaps entitled "Lower Skunk Creek, New River and Skunk Creek Areas, Arizona," prepared by the COE and dated February 4, 1980, were submitted by the FCDMC. As a result of the construction of the ACDC, the area previously designated as Zone A at the confluence of Skunk Creek and the ACDC has been revised to Zone X. (shaded)

The LOMR issued on October 4, 1988, for the City of Phoenix to reflect the construction of the ACDC from 47th Avenue to 29th Avenue is shown on Flood Insurance Rate Map Panels 1635 and 1655. In support of this request, the following data were submitted:

- Sheets 2, 4, and 5 of 30 of the final construction drawings, entitled "Arizona Canal Diversion Channel, 47th Drive To Cactus Road," prepared by the COE, Los Angeles District, and dated September 10, 1986

- Sheets 2 and 5 through 19 of 74 of the final construction drawings, entitled "Arizona Canal Diversion Channel, 29th Avenue to 47th Drive," prepared by the COE, Los Angeles District, and dated July 17, 1987

- A letter of certification, dated August 19, 1988, from the COE, Los Angeles District, stating that the reach of the ACDC from 47th Avenue to 29th Avenue was built in conformance with the above-referenced construction drawings

The 100-year flood is contained within the right-of-way of the ACDC in this reach. The Zone A floodplain boundaries for the above-referenced reach of the ACDC have been revised to coincide with the right-of-way limits for the ACDC. The areas outside the right-of-way limits on the north side of the reach of the ACDC have been redesignated as Zone X (shaded).

The construction of the ACDC from 29th Avenue East to Black Canyon Freeway is also shown on Flood Insurance Rate Map Panel 1655 based on data provided by the COE.

Indian Bend Wash:

The LOMA issued on June 16, 1981, for the City of Phoenix for Phases 1 and 2 of Eagles Eyre III is shown on Flood Insurance Rate Map Panel 1680. The LOMA stated that Lots 1 to 5 and 27 to 36 were not within the SFHA as shown and that Lots 6 to 26 and 37 to 47 were determined not to be within the SFHA. The 100-year floodplain delineation along Indian Bend Wash was revised to reflect this LOMA.

Tenth Street Wash:

The LOMR issued on October 13, 1983, and LOMA issued on October 31, 1983, for the City of Phoenix are shown on Flood Insurance Rate Map Panel 1660. Based on data submitted by Curtis Engineering on behalf of Villa Santa Fe Condominiums, the SFHA located along Tenth Street Wash upstream of Cheryl Drive was reduced and the floodway eliminated. The LOMA issued for Villa Santa Fe, a condominium conversion of Desert Cove Apartments, stated that the property was not within the SFHA. The 100-year floodplain delineation has been revised to reflect this LOMR and LOMA. In addition, the Floodway Data Table and Profile Panels for Tenth Street Wash have been revised to reflect the LOMR.

Skunk Creek:

The LOMA issued on January 15, 1988, for the City of Glendale as shown on Flood Insurance Rate Map Panel 1190. The LOMA stated that Creekside Market Place located at 67th Avenue and Bell Road was not in the SFHA. The 100-year floodplain delineations along Skunk Creek were revised to reflect this LOMA.

*U.S. Government Printing Office: 1989-241-146/00356