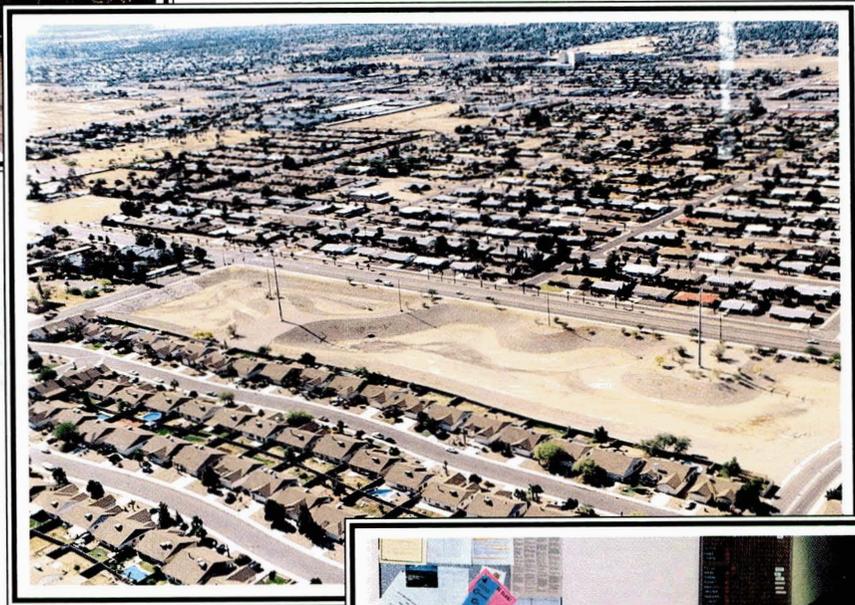
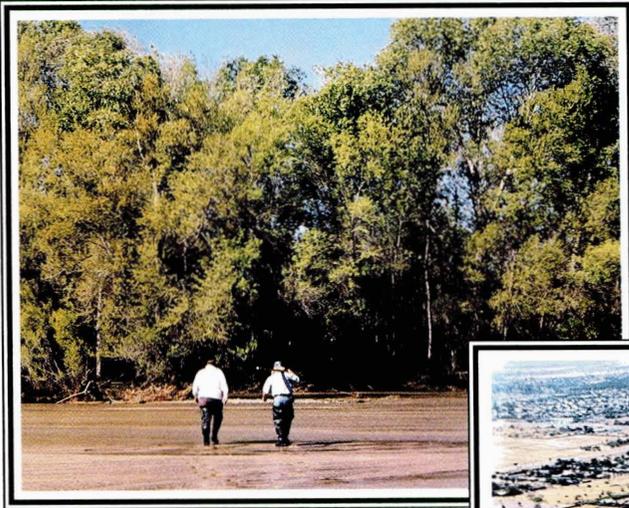
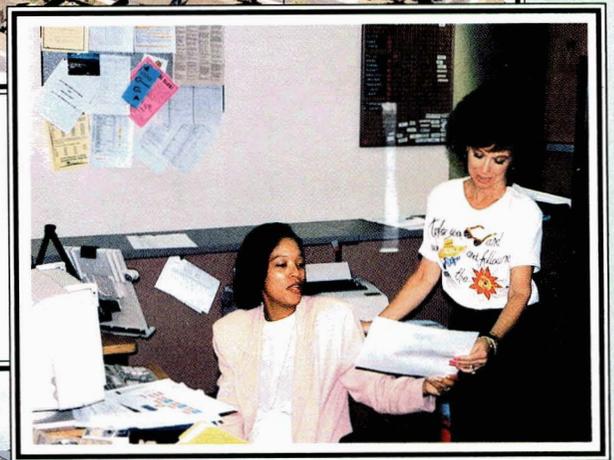


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# Flood Control District of Maricopa County



## Annual Report 1994/1995



# Financial Highlights

Fiscal Year Ended June 30, 1995

Preliminary and Unaudited. Amounts are rounded to nearest thousand

	DOLLARS	PERCENT
<b>REVENUES</b>		
FLOOD CONTROL TAX	\$ 35,281,000	79
LOCAL PARTICIPATION	2,558,000	6
RENTAL INCOME	242,000	1
INTEREST INCOME	1,518,000	3
OTHER LAND REVENUE	4,321,000	10
MISCELLANEOUS	572,000	1
<b>TOTAL REVENUE</b>	<b>44,492,000</b>	<b>100</b>
<b>EXPENDITURES</b>		
FLOOD CONTROL CAPITAL IMPROVEMENTS	31,237,000	65
OTHER EXPENDITURES	16,565,000	35
<b>TOTAL EXPENDITURES</b>	<b>47,802,000</b>	<b>100</b>
EXCESS (Deficiency of Revenues over Expenditures)	-3,310,000	
FUND BALANCE AT BEGINNING OF YEAR	16,999,000	
FUND BALANCE AT END OF YEAR	<u>\$ 13,689,000</u>	
<b>BREAK DOWN OF EXPENDITURES</b>		
<b>CAPITAL IMPROVEMENTS</b>		
PERSONNEL SERVICES	\$ 870,000	2
REAL ESTATE	3,344,000	7
ENGINEERING	3,403,000	7
CONSTRUCTION	23,620,000	49
<b>TOTAL CAPITAL IMPROVEMENTS</b>	<b>31,237,000</b>	<b>65</b>
<b>OTHER EXPENDITURES</b>		
ENGINEERING	2,094,000	4
NPDES	658,000	1
HYDROLOGY	1,394,000	3
FIXED ASSETS	966,000	2
MAINTENANCE	5,811,000	13
ADMINISTRATION	5,642,000	12
<b>TOTAL OTHER EXPENDITURES</b>	<b>16,565,000</b>	<b>35</b>
<b>TOTAL EXPENDITURES</b>	<b>\$ 47,802,000</b>	<b>100</b>

NOTE: Capital Improvements Expenditures do not include Capital Outlay for Vehicles and Equipment.

## Flood Control District Tax Levy Rate 1961 to 1995

Fiscal Year Ending	Levy Rate*	Tax Revenue, \$
1961	0.05	253,000
1962	0.05	288,000
1963	0.02	126,000
1964	0.02	135,000
1965	0.02	145,000
1966	0.02	153,000
1967	0.02	158,000
1968	0.02	164,000
1969	0.05	446,000
1970	0.05	454,000
1971	0.05	480,000
1972	0.04	425,000
1973	0.05	645,000
1974	0.20	3,428,000
1975	0.20	3,747,000
1976	0.20	4,154,000
1977	0.20	4,395,000
1978	0.20	4,675,000
1979	0.20	5,026,000
1980	0.20	5,342,000
1981	0.43	11,825,000
1982	0.34	13,720,000
1983	0.50	21,779,000
1984	0.48	25,780,000
1985	0.50	28,697,000
1986	0.50	33,644,000
1987	0.50	41,556,000
1988	0.50	46,059,000
1989	0.50	51,345,000
1990	0.43	46,408,000
1991	0.42	45,797,000
1992	0.44	46,879,000
1993	0.39	39,715,000
1994	0.36	35,386,000
1995	0.36	35,300,000

\*per \$100 assessed value

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of Maricopa County**  
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Phoenix, Arizona 85009

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## Continuing Challenges

by Dan Sagramoso



In last year's annual report, I called Fiscal Year 1993-94 "A Year to Remember", because of Maricopa County's financial crisis. While the Flood Control District in no way contributed to the crisis, we were affected primarily by the fear that our five-year capital improvement program would not be fully funded. This caused anxiety in our work force, and some of our customer cities lost confidence in our ability to deliver the expected services, in the long run.

At the end of Fiscal Year 1994-95, the County appears to have handled the crisis, and emerged in healthy financial condition. The District has remained financially healthy, has been able to accelerate some of its projects, and has actually accomplished more work than was projected two years ago.

The traditional program-by-program approach to our report was revised this year to reflect the categories of Operational Performance, Organizational Improvements, Leadership, and Commitment To Customers. We have, again, accomplished a lot, and here are some highlights:

- Our strategic plan was completely revised.
- We restructured to flatten the levels of management, group functions more effectively, and reduce staff by 18 positions.
- In cooperation with other agencies and cities, we completed five major flood control projects. Another seven are under construction, and over 20 are in the design or study phases. We managed \$17 million worth of construction.
- An important drainage study of central Phoenix was completed, which is one of 24 such studies completed, in progress, or planned throughout the County. One project to be built next year will remove over 400 homes and businesses from the floodplain.
- Construction began on a \$13 million project to protect Luke Air Force from flooding.
- Construction began on the first phase of a flood control channel along Rittenhouse Road near Queen Creek. The District is saving over \$700,000, thanks to an agreement with the Williams Air Force Base Closure Agency.
- The District mapped 117 miles of new floodplains, bringing the county-wide total to 1,040 miles.
- Staff made over 5,400 flood hazard determinations, responded to 2,823 phone requests for information, and assisted 517 walk-in customers.
- A new East Valley maintenance yard was completed, which will save taxpayers \$117,000 annually by locating crews and equipment closer to their job sites.
- The District sold over \$4 million in excess land.

This year, we have been successful in meeting many challenges, and look forward to both continuing and new challenges and opportunities in the future.

## ABOUT THE DISTRICT

The Flood Control District of Maricopa County was formed on August 3, 1959. Our formation followed passage in March, 1959, of legislation which empowered counties to set up special districts for the purpose of providing flood protection for their residents.

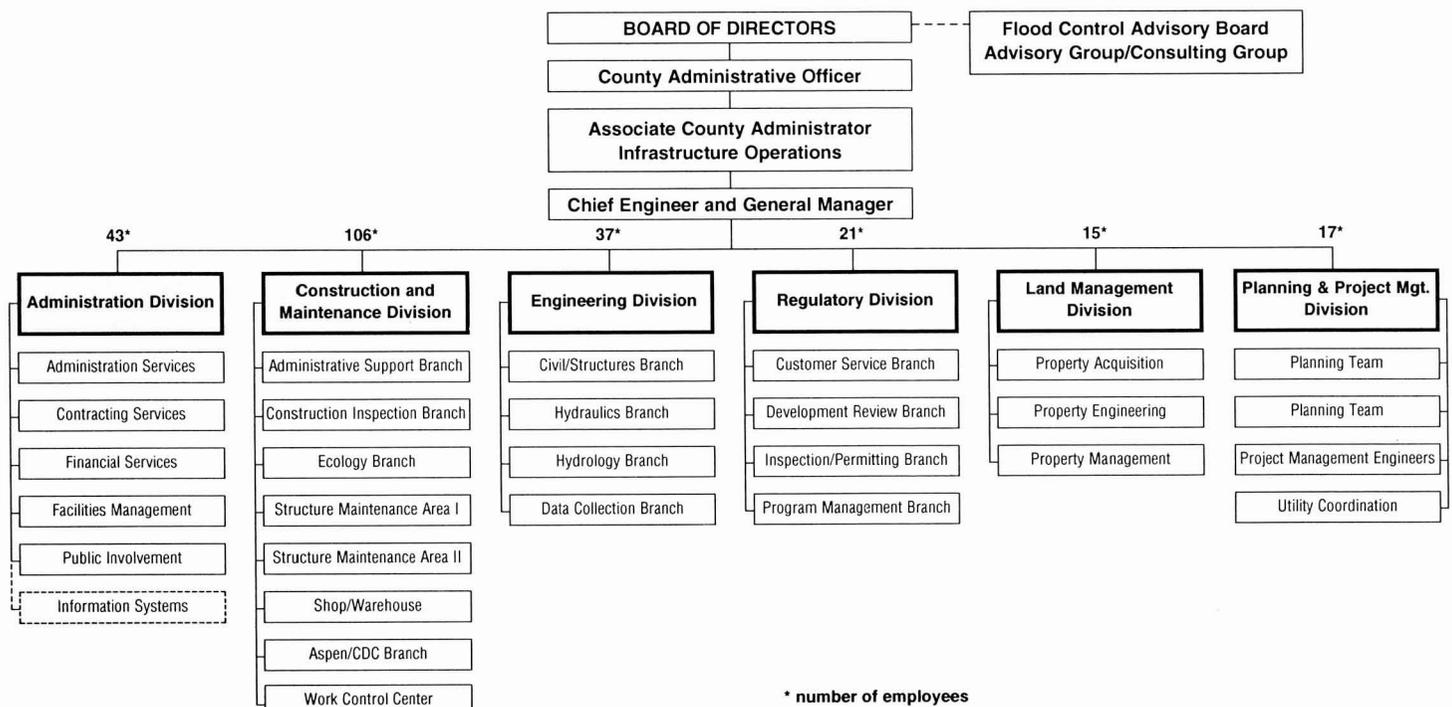
Flood control districts are political subdivisions of the State and have all the powers, privileges and immunities generally given to incorporated cities and towns. We are governed by a Board of Directors who are the elected Board of Supervisors for Maricopa County. This board in turn is advised by a seven member Flood Control Advisory Board.

The activities of the District are funded by a flood control tax levy assessed on all real property within Maricopa County and a variety of cost-sharing arrangements with federal, state, county and local governments. The tax levy rate for Fiscal year 1994/95 was \$.3632 per \$100 of assessed value.

The District is organized into six functional areas comprised of the following divisions: Administration, Construction & Maintenance, Engineering, Regulatory, Land Management and Planning & Project Management.



## FLOOD CONTROL DISTRICT ORGANIZATIONAL CHART (240 total authorized positions as of June 30, 1995)





## *MISSION*

To reduce flood risks for the people of Maricopa County by providing comprehensive flood and stormwater management services. These services are provided through regulatory activities, master planning, regional coordination, technical assistance, and implementation and maintenance of non-structural and structural projects. Our clients include citizens, municipalities and other government agencies.

Examples of Structural and Non Structural Projects are:

### STRUCTURAL

Dams  
Channels  
Storm Drains  
Bank/Bed Stabilization  
Basins  
Levees

### NON-STRUCTURAL

Floodplain Management  
Drainage Management  
Water Quality Management  
Vegetative Management  
Acquisition of Flood-prone Property  
Development Review  
Flood Detection & Data Collection

## *VISION*

We will be known and supported by our customers and employees as the agency of choice for accomplishing our mission.

## *VALUES*

The Flood Control District values are: Fiscal stability, efficient management, appropriate organization size, technical proficiency, quality orientation, high ethics, visionary thinking, environmental responsibility, and aesthetic awareness.

# Programs

Eight important programs work together to accomplish the District's mission:

## Maintenance Program:

- ❖ Maintains over 70 flood control structures and facilities, including 22 dams and numerous channels, basins, levees, culverts, storm drains, and washes.
- ❖ Provides erosion and vegetation control and maintenance of roads, landscaping, fencing, gates and signage.
- ❖ Monitors structures and provides emergency services during flood events.

## Environmental Program:

- ❖ Provides guidance and coordination in meeting federal stormwater quality regulations.
- ❖ Performs research and provides educational outreach and technical assistance to local municipalities, County agencies and industries impacted by these regulations.

## Floodplain Management Program:

- ❖ Administers the Floodplain Regulation for the unincorporated areas of Maricopa County, plus 11 municipalities.
- ❖ Delineates areas subject to the 100-year flood, evaluates applications and issues permits for use of the floodplain, and identifies violators.
- ❖ Provides floodplain information to real estate and insurance agents and the general public.
- ❖ Maintains good standing in the National Flood Insurance Program to insure eligibility for Federal Disaster Relief and so that citizens may purchase federally-sponsored flood insurance.
- ❖ Participates in the Community Rating System that provides flood insurance discounts to citizens.

## Drainage Administration Program:

- ❖ Administers the County Drainage Regulation to reduce existing and potential flooding caused by local stormwater.
- ❖ Coordinates with County Planning, Transportation, Public Health and Building Safety to insure that new development will not increase runoff, divert flows, or back water onto another property.

## Property Management Program:

- ❖ Manages all aspects of District real property interests.
- ❖ Prepares leases, joint use agreements, licenses for access, and selling excess property (after project construction).

## Flood Detection & Data Collection Program:

- ❖ Designs, implements and maintains a rainfall and stream gage system to monitor flood control structures and to provide data for use in floodplain studies, computer modeling of watersheds and design of flood control structures.
- ❖ Provides information used by the National Weather Service in issuing flood watches and warnings and by the County Emergency Management Department for flood event planning and evacuations.
- ❖ Operates and maintains nine stormwater quality sampling sites, along with the inspection and sampling of illicit connections and hazardous spills impacting our structures and the water in them.

## Planning Program:

- ❖ Identifies regional drainage problems and develops alternative solutions to protect life and property.
- ❖ This is accomplished through the Drainage Master Studies, the Comprehensive Plan, Watershed Master Plans, and a formal prioritization process that ranks candidate projects.

## Capital Improvement Program:

- ❖ Implements flood control and water management projects through the planning process recommended for inclusion in the Year Capital Improvement Program (CIP) approved by the Board of Supervisors.
- ❖ The CIP includes acquisition of right-of-way, relocation of utilities, and construction of drainage and control facilities, including aesthetic improvements.
- ❖ Coordinates public involvement to insure compliance with environmental laws and regulations integrated into projects.

## Flood Control District of Maricopa County Program Summary-Expenditures Fiscal Year Ended June 30, 1995

Program	Personnel Services		Supplies and Services		Travel		Capital Outlay		Total Budget
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	
Maintenance	\$ 3,103,000	\$ 2,889,000	\$ 3,770,000	\$ 3,098,000	\$ 43,000	\$ 19,000	\$ 449,000	\$ 458,000	\$ 7,365,000
Environmental	423,000	394,000	772,000	716,000	15,000	7,000	85,000	35,000	1,295,000
Floodplain Management	778,000	724,000	945,000	793,000	23,000	19,000	68,000	49,000	1,814,000
Drainage Administration	828,000	771,000	161,000	241,000	13,000	6,000	50,000	59,000	1,052,000
Property Management	292,000	272,000	24,000	113,000	6,000	3,000	11,000	15,000	333,000
Flood Detection and Data Collection	555,000	517,000	903,000	835,000	14,000	10,000	24,000	131,000	1,496,000
Planning	1,117,000	1,040,000	2,455,000	1,472,000	19,000	11,000	52,000	71,000	3,643,000
Capital Improvement Program	2,102,000	1,956,000	31,991,000	30,901,000	40,000	29,000	168,000	148,000	34,301,000
<b>Total Program Expenditures</b>	<b>\$ 9,198,000</b>	<b>\$ 8,563,000</b>	<b>\$ 41,021,000</b>	<b>\$ 38,169,000</b>	<b>\$ 173,000</b>	<b>\$ 104,000</b>	<b>\$ 907,000</b>	<b>\$ 966,000</b>	<b>\$ 51,299,000</b>

## Planning and Capital Improvement Programs

The Planning Program supports the District's mission of "...reducing flood risks for the people of Maricopa County..." by preparing comprehensive regional studies and analyses to identify locations and facilities that are presently at risk from flooding, or could be in the future.

Once the flooding problems have been quantified, alternative solutions are developed to determine the most cost effective and locally supported project. Recommended projects are then prioritized for inclusion in the District's Capital Improvement Program (CIP).

A CIP is an allocation of resources and a timetable for the implementation of the individual projects, including the project design, relocation of conflicting facilities, acquisition of property and construction.

The combined Planning Program and CIP account for approximately 75% of the District's annual budget. Last year the District, in cooperation with other agencies and municipalities, completed five major flood control projects. Another seven are under construction and more than 20 projects are being designed or studied.

Activities included in the Planning Program include Area Drainage Master Studies (ADMS's); Watercourse Master Plans; the Comprehensive Flood Control Program Report; pre-design studies; and the coordination of interagency cooperative projects and agreements. The District works very closely with the local communities and other county, state and federal agencies.

The cornerstone of the District's Planning Program is the project prioritization process which was put into effect for the Fiscal year 1994/1995 budget. The prioritization process solicits project requests from the District's client communities and pits project against project to ensure that staff effort and CIP dollars are allocated where the need is the greatest. The ADMS Program continues to support the planning effort by providing the physical characteristics and hydrology of the area and helps quantify the drainage and flooding problems reported by the communities from a comprehensive watershed perspective. Selected and approved alternatives to solve the problems become the Area Drainage Master Plan (ADMP) which is implemented through the CIP.

Twenty-four ADMS areas have been identified for Maricopa County, ranging in size from 15 to 280 square miles. To date, 12 ADMS's have been completed and three are underway.

Specific Planning/CIP Program highlights from this past year include;

**White Tanks/Agua Fria ADMS:** This study was completed last year and covered a 240-square-mile area located between the Agua Fria River and the White Tank Mountains and south of Grand Avenue to the Gila River. The area's population of approximately 56,000 people is expected to grow considerably, making stormwater management a critical issue.

The Pebble Creek development in Goodyear, for example, has plans for 8,566 homes. Hydrologic information developed during the White Tanks/Agua Fria ADMS was used by the developer to plan the community's drainage system. This type of up front planning will preclude the need for future flood mitigation actions.

Other on-going or planned developments in the study area include Sun Village Resort in Surprise; Clearwater Farms near Northern Avenue and Cotton Lane; Goodyear 1000 located south of State Highway 85 between Reems and Bullard Roads; and the Estrella Aerospace Center and the Airport Commerce Center near the Phoenix-Goodyear Municipal Airport.

With development comes the need for flood protection. Several major flood control projects and design studies that have been initiated or completed are the result of the White Tanks/Agua Fria ADMS. Examples include the Colter Channel project, which was completed last year, and the Dysart Drain Improvement Project to protect Luke Air Force Base, which is underway. Another \$9 million worth of projects are under design, including the Roosevelt Irrigation District Canal Overchute in Litchfield Park, the Bullard Wash Outfall Channel in Goodyear, and inlet improvements to two existing flood control dams controlling runoff from the White Tank Mountains in Buckeye.

**Bullard Wash Outfall Study:** A plan was developed to address severe flooding that threatens \$10 million in public roads and facilities near the

### Area Drainage Master Studies - Expenditures

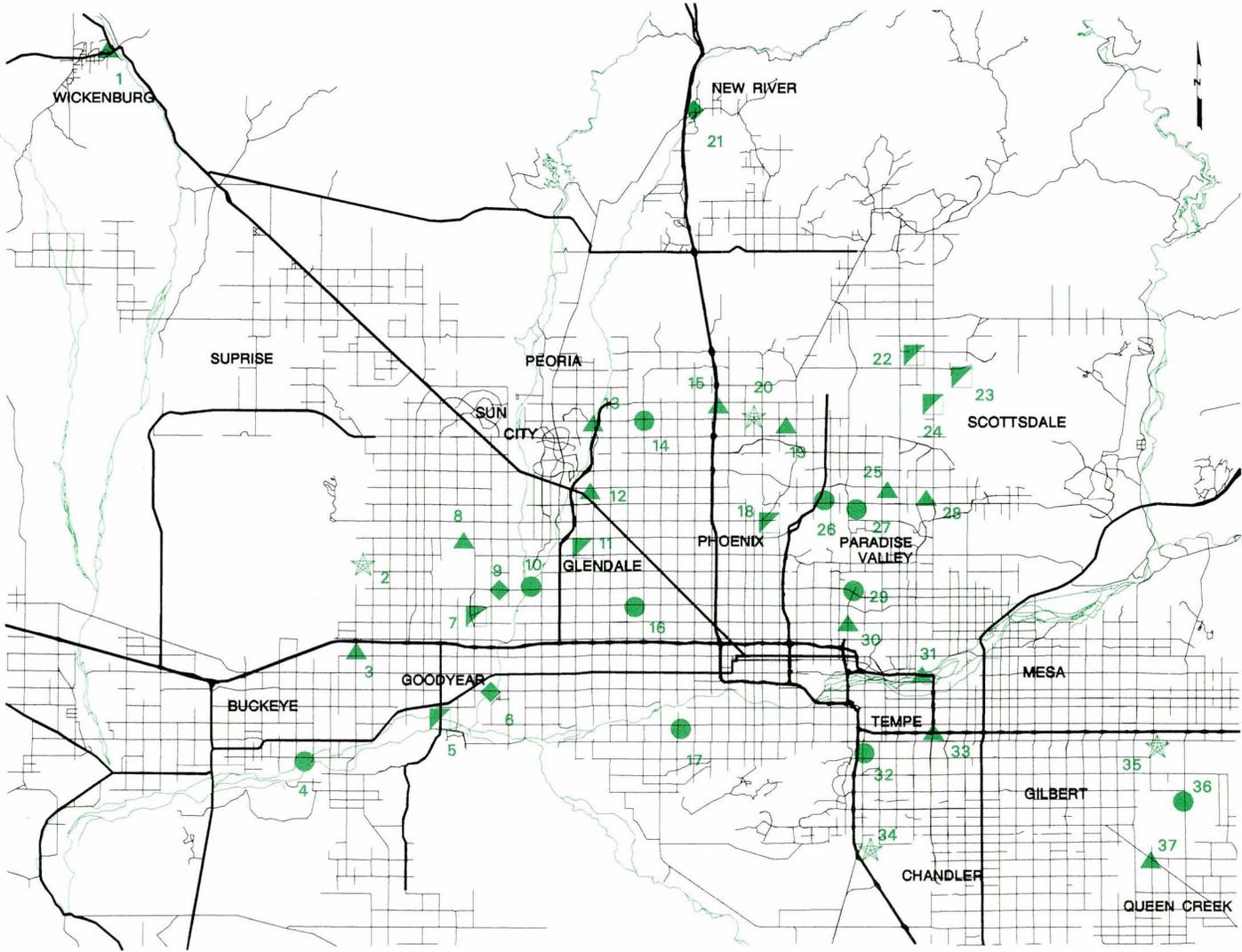
Fiscal Year Ended June 30, 1995

Preliminary and unaudited

Description	Administration	Hydrology	NPDES	Engineering	Total
Salty/Gila Master Plan	\$ 2,958	\$ 23,770		\$ 243,400	\$ 270,128
Wickenburg ADMS	4,628	4,219	\$ 321	73,025	82,193
New River ADMS	2,347			3,620	5,967
White Tanks/Agua Fria ADMS	31,579	3,037	158	104,850	139,624
ACDC ADMS	85,256	6,362	982	88,946	181,546
Maryvale ADMS	2,707	986		710,034	713,727
Metro ADMS		366		2,197	2,563
Gila Drain Floodway Study	39			67,031	67,070
ADMS under \$1,000	663	615		997	2,275
	<u>\$ 130,177</u>	<u>\$ 39,355</u>	<u>\$ 1,461</u>	<u>\$ 1,294,100</u>	<u>\$ 1,465,093</u>

# Operational Performance

## Status of Major C.I.P. Projects



### Project Index

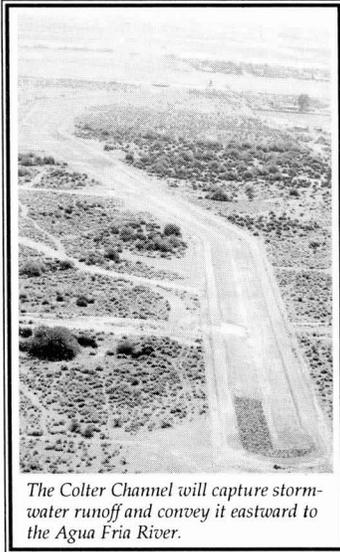
1. Casandro Wash Dam & Outlet
2. White Tanks #3 Inlet Improv.
3. White Tanks #4 Inlet Improv.
4. Salt-Gila River Study
5. Bullard Wash Overchute of BID
6. Agua Fria Flowage Easements
7. RID Canal Overchute
8. Dysart Drain/Reems Rd. Connector
9. Colter Channel
10. Camelback Ranch
11. Northern/Orangewood Storm Drain
12. Cactus Rd. Storm Drain
13. 83rd Ave/Union Hills Dr.
14. Skunk Creek Improvements
15. Beardsley Rd. Regional Drainage
16. Maryvale Flooding Mitigation
17. South Phoenix Drainage
18. 10th Street Wash Basin/Channel
19. East Fork Cave Creek ADMP
20. Cave Creek Improvements
21. New River ADMP
22. Rawhide Wash Channel
23. Reata Pass Channel
24. Plma Road Channel
25. PVSP Cactus Rd. Flood Control System
26. Tatum Wash Channel
27. Doubletree Ranch Rd. Improv.
28. 84th St/Cholla Basin & Drain
29. Arcadia Area Drainage Project
30. Old Cross Cut Canal
31. Salt River Channel
32. Town of Guadalupe
33. Price Drain
34. Southeast Valley Reg. Drainage
35. Sossaman Channel
36. Southeast Mesa ADMP
37. Rittenhouse Drainage Improv.

### Status (as of 7/26/95)

- ▲ Construction
- Study
- ◆ Land Acquisition
- Design
- ★ Planned

Status of Major C.I.P. Projects

Phoenix-Goodyear Airport. Public input was instrumental in the development of an acceptable solution to flooding problems along Bullard Wash. It was agreed that a channel should be built east of the Estrella Parkway to transport floodwaters south to the Gila River.



The Colter Channel will capture stormwater runoff and convey it eastward to the Agua Fria River.

#### **Colter Channel**

**Project:** Stormwater that previously flooded Camelback Road and threatened homes and properties in the Litchfield Park area will now safely flow into the Agua Fria River. An earthen channel nearly three miles long was excavated north of Camelback Road between Litchfield Road and the Agua Fria River. Portions of Litchfield Park and Camelback and Dysart Roads will now be protected and 20 existing homes have been removed from a federally-designated flood hazard area.

**Dysart Drain Improvement Project:** Construction began on a \$13 million project to protect Luke Air Force Base from flooding. The project is jointly funded by the District and Air Force and includes a 50-acre detention basin and the reconstruction of an existing drainage channel (Dysart Drain). The base has suffered millions of dollars in flood damages over the last few years, including \$3.2 million in damages from a flash flood in 1992 and \$300,000 in damages from flooding in January, 1993.

**Arizona Canal Diversion Channel ADMS:** Planners completed an extensive drainage study last year covering a 180-square-mile area of Phoenix, Glendale and Peoria. The ACDC ADMS identified existing drainage problems as well as potential problems within an area generally bounded by the ACDC (and Arizona Canal) on the south, the Central Arizona Project on the north, 99th Avenue on the west and 40th Street on the east. The results are being used to design numerous projects to resolve flooding problems in this area, including projects along Beardsley Road, Doubletree Ranch Road, Tatum Wash and 10th Street Wash. Information developed in this ADMS also is being used by Phoenix, the Arizona Department of Transportation (ADOT), and others to design their drainage structures.

**Beardsley Road Regional Drainage System:** 1,100 homes and commercial buildings will be protected by storm drains, a flood control channel and two detention basins being constructed along Beardsley Road between 7th and 23rd Avenues. The project is a joint effort involving the District, ADOT and the City of Phoenix. It is scheduled to be completed in November, 1995.

**Scatter Wash Channelization:** Property along Scatter Wash in north Phoenix is protected from flooding as a

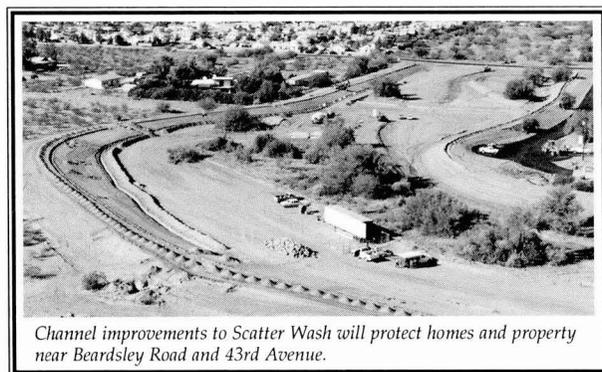
result of channel improvements completed between 40th and 43rd Avenues. The District cost-shared in the project with the City of Phoenix. The project ties together previous channelization work performed by the Arizona Department of Transportation and a private developer. There is now uninterrupted bank protection from 35th Avenue downstream to the Skunk Creek confluence near 55th Avenue.

**10th Street Wash Basins:** The threat of flooding along 10th Street Wash in Sunnyslope will be greatly reduced following community approval of a District plan to build two detention basins along the wash. Staff obtained public support for the controversial project by working closely with community leaders and neighborhood groups. The basins will remove approximately 75% of a floodplain that contains 575 homes and businesses.

**New River Channel Improvements:** Homes near the confluence of New River and Skunk Creek in Peoria are now protected from flooding thanks to channel improvements made at this location. The Desert Harbor subdivision is protected by the reinforced river banks along New River, north of Thunderbird Road, and the construction of a "drop structure" to protect the river bottom from erosion.

**Salt River Channelization:** Flood control levees funded by the District were completed along the Salt River channel between Rural Road and McClintock Drive. The project, which is being constructed as part of the Red Mountain Freeway Project, will continue east to Price Road and protects the new freeway, multiple landfill sites and light industrial and commercial developments adjacent to the river. The project may also be incorporated into the future Rio Salado project sponsored by Tempe.

**Map improvements take homes out of floodplain:** Over 200 homeowners living near Rawhide Wash in north Scottsdale had federal flood insurance requirements removed from their properties thanks to mapping improvements funded partially by the District. The homes were located in an area where new topographic maps showed 288 acres to be less floodprone than previously suspected. The new mapping is part of Scottsdale's Desert Greenbelt project planned for areas north of the Central Arizona Project canal. The District is cost-sharing in the design and construction of three channels to be built to protect existing or planned development.



Channel improvements to Scatter Wash will protect homes and property near Beardsley Road and 43rd Avenue.

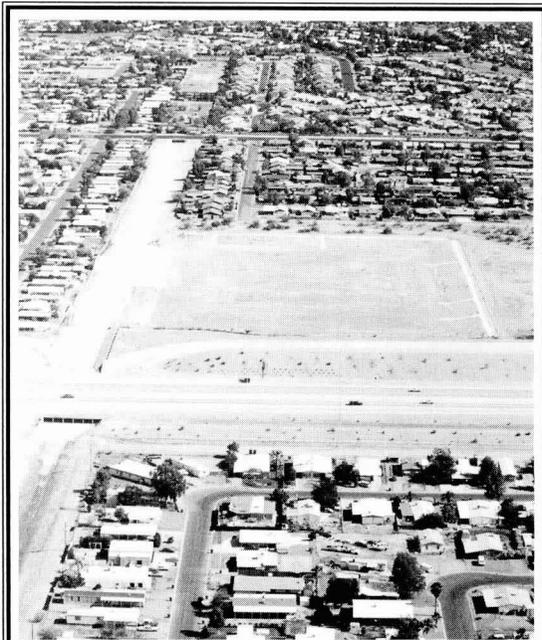
**Cactus Road Flood Control System:** Two schools and approximately 300 homes will benefit from a storm drain system completed in Scottsdale. The District contributed \$1.4 million dollars towards the drainage improvements along Cactus Road between 62nd Street and Scottsdale Road.



*This detention basin along University Drive between Recker and Power Roads will remedy historical flooding problems in this part of East Mesa.*

**University Drive Road and Drainage Improvements:** A large detention basin and storm drain system was constructed east of Higley Road along University Drive in Mesa to protect portions of East Mesa and the County island containing Dreamland Villa Estates. Streets have become impassable and numerous homes were subject to flooding during heavy seasonal rains. The project was cost-shared with the City of Mesa and the County's Transportation Department as part of a road and drainage improvement effort.

**Sossaman Channel and Basin Project:** Flood protection for homes located along an eroding earthen drainage channel was improved when the channel was enlarged and lined with



*Sossaman Channel and Basin project near the Superstition Freeway and Sossaman Road.*

concrete and a basin was excavated east of Sossaman Road, south of Southern Avenue. The basin will capture heavy flows and slowly releases the water back into the existing smaller-sized channel downstream.

**Rittenhouse Drainage Improvement Project:** Over \$700,000 in project costs were saved through advance construction of a portion of the Rittenhouse Channel by the Air Force Base Conversion Agency near Williams Gateway Airport. This first phase of the construction was completed by the Agency in exchange for the District's purchase of the necessary rights-of-way and permission to use the excavated soil to cap a land-fill on the base. When completed, the channel will provide 100-year flood protection to the Queen Creek School and provide an outfall for future storm drain construction in the area.

**Land Acquisitions:** Over \$3 million was spent last year to acquire property needed for various projects. In all, land rights for 253 parcels were purchased and 24 families were relocated. Purchases



*A large detention basin is being excavated near Reems Road and Northern Avenue as part of the Dysart Drain Improvement project to protect Luke Air Force Base from flooding.*

included farmland north of Luke Air Force Base to construct a large detention basin to protect the base from flooding. Homes and property in Sunnyslope were acquired for two stormwater basins which will protect people living along 10th Street Wash. Property and various land rights were obtained behind McMicken Dam near Sun City West, New River Dam northwest of Peoria and Cave Buttes Dam north of Phoenix to prevent development from encroaching into the reservoir areas.

All property acquired by the District involves extensive legal documentation. Hundreds of documents might be required for a single project. The documentation for each project must then be "certified", a pain-staking procedure in which each document is examined by staff and legal counsel. Five projects were certified last year: Upper East Fork Cave Creek Laterals, Skunk Creek Channel, Cactus Road Drain, Dysart Drain Improvement Project and the New River Channel Project.

In addition, site inventories, title reports and appraisals were conducted on a project involving the purchase of flood prone properties in Upper New River.



## Maintenance Program

The District maintains over 70 flood control structures and facilities, including 22 dams and numerous channels, basins, levees, dikes, culverts, storm drains and improved river bottoms and washes.

Over 400,000 man-hours were expended on the operation and maintenance of District projects last year.

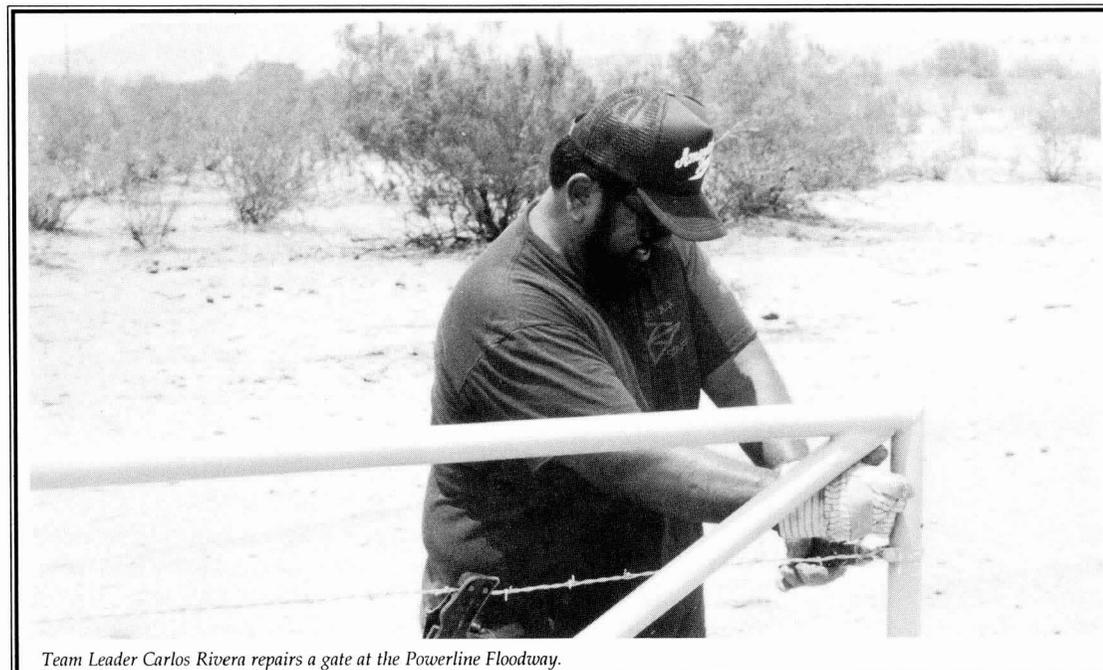
The amount of maintenance work has grown dramatically in recent years as completed structures are added to the program. Five projects added this past year include a large detention basin along University Drive in Mesa, a detention basin and channel near Sossaman Road in Mesa, a 3-mile-long floodway north of Camelback Road near Litchfield Park, and channel improvements and landscaping along New River between Bethany Home Road and Greenway Road.

Additionally, a dozen small drains and washes previously maintained by the County Department of Transportation were turned over to the District for maintenance. These drains total two-and-a-half miles in length and are located in the unincorporated areas surrounding East Mesa.

Many of the District's structures include landscaping to improve their appearance or to control erosion. Staff trained in proper plant selection, planting, pruning and watering techniques make up an Ecology Branch that helps guide the work of maintenance crews. A significant achievement this past year was the completion of a Native Plant and Wildlife Habitat area established at the eastern end of the Arizona Canal Diversion Channel.



*Maintenance crews make improvements to a service road along the ACDC near 71st Avenue.*



*Team Leader Carlos Rivera repairs a gate at the Powerline Floodway.*

## Arizona Canal Diversion Channel/Reach 4 Wildlife Habitat Restoration Project

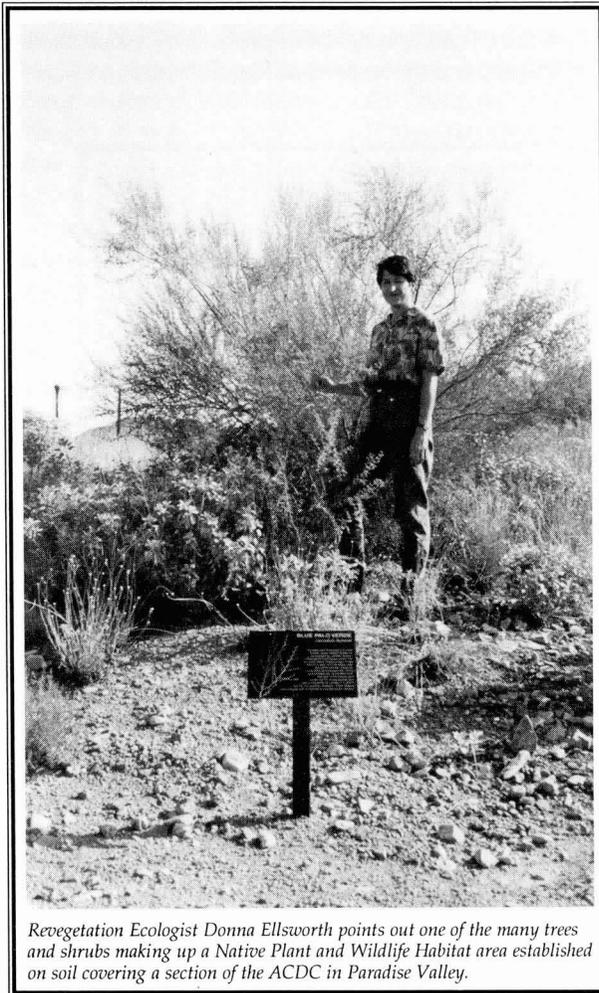
In October 1994, the installation of interpretive signs completed the restoration project at the ACDC/Reach 4 wildlife habitat. Thanks to the combined efforts of the District, Paradise Valley and Phoenix residents, City officials, County, State and Federal agencies, this reach of the ACDC project should serve as a model and inspiration for other urban conservation projects.

This innovative community resource includes the area north of the Arizona Canal from the Arizona Biltmore to the Cudia City Wash just west of 40th Street. Local residents were instrumental in obtaining the federal funding needed to cover the channel and make the wildlife project possible. They also created a landscape committee.

Because their mission was to restore the area to native Sonoran desert plant and animal life, the project gained support and additional sponsorship from the Heritage Funds granted by the Arizona Game and Fish Department. This grant provided the funding needed to replant vegetation to offer prime foraging and nesting material for wildlife. The interpretive signs along the project identify and explain the plant life.

Flood Control Project Manager, Don Rerick, and Revegetation Ecologist, Betty Dickens had the challenge of coordinating the diverse needs and interests of all of the involved governmental agencies and the public. Flood Control Construction and Maintenance staff continue maintenance responsibilities of the area, but local residents still are actively involved with the project.

Many residents and visitors use this area for recreational purposes each day. Among many other benefits, the Wildlife Habitat Restoration project provides education, restores the opportunity for wildlife viewing in an urban area, and provides a model for backyard habitats.



*Revegetation Ecologist Donna Ellsworth points out one of the many trees and shrubs making up a Native Plant and Wildlife Habitat area established on soil covering a section of the ACDC in Paradise Valley.*

## Floodplain Management Program

The Floodplain Management Program involves the mapping of 100-year floodplains in Maricopa County and the regulation of development within their boundaries. Program staff also work to maintain the County's good standing in the National Flood Insurance Program (NFIP) and the Community Rating System.

The NFIP is the federal program which establishes rules and guidelines for regulating land uses within delineated 100-year floodplains. By adhering to these rules, the citizens of the County are eligible for flood insurance and for flood disaster assistance. The federal guidelines are incorporated into local regulations adopted by the County Board of Supervisors and administered by the District (the *Floodplain Regulations for Maricopa County*).

In Maricopa County, the District regulates floodplains in the unincorporated areas and in the communities of Buckeye, Carefree, Cave Creek, Chandler, Gila Bend, Guadalupe, Litchfield Park, Queen Creek, Surprise, Tolleson and Youngtown.

Through this program, the District assists people wanting to develop floodplain property by reviewing development plans, issuing permits, correcting violations, and educating property owners in appropriate floodplain uses.

By regulating the use of floodplains and by reviewing residential, commercial and industrial development plans, the District sees that new developments will not have or cause flooding problems.

Enforcing floodplain regulations can involve on-site inspections of new construction or inspection of structural repairs to existing buildings located within a floodplain. People wishing to know if their property lies in a 100-year floodplain can call the District for a free "Flood Hazard Determination". Over 5,400 such determinations were processed by staff last year. In addition, staff assisted over 500 walk-in customers and responded to more than 2,000 phone requests for general information.

### Floodplain Delineations

Delineating the boundaries of 100-year floodplains is another responsibility of the Floodplain Management Program. These delineations are performed for previously undefined floodplains and to revise the boundaries of existing floodplains reduced or eliminated by flood control projects.

Last year, the program delineated 106 miles of new floodplains in the Wickenburg and Rio Verde areas and 11 miles along Deadman Wash north of Phoenix near 1-17 and the Desert Hills Drive alignment.

## Community Rating System

The Community Rating System is a program in which communities agree to be rated by the federal government on their effectiveness in reducing flood losses. Residents in communities with higher ratings pay less for flood insurance than those with lower ratings. The rating given to unincorporated areas of Maricopa County is dependent on the District's floodplain management efforts.

This year, the County attained the second highest rating in the nation, earning residents of unincorporated areas a **20 percent discount** on their flood insurance premiums. District efforts also contributed to lower insurance rates paid by residents

of Phoenix and other incorporated communities benefitting from District activities performed on a regional or inter-jurisdictional basis.

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*A "100-year flood" has a one percent chance of occurring or being exceeded in any given year. Property that would be flooded by such an event is said to be in the "100-year floodplain".*

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*Jim Stewart, Shanna Yager and Clarice Kimbell of the Regulatory Division help customers with questions about the flood hazard status of their property.*

## Program Activity Highlights

Fiscal Year 1994/1995

3	new floodplain delineations approved by FEMA
77	floodplain use permits processed,
62	clearances issued,
1	variance approved
10	violations investigated
517	walk-in customers assisted
2040	phone requests for general information handled
5462	flood hazard determinations made
412	flood hazard determination notices recorded

## Drainage Administration Program

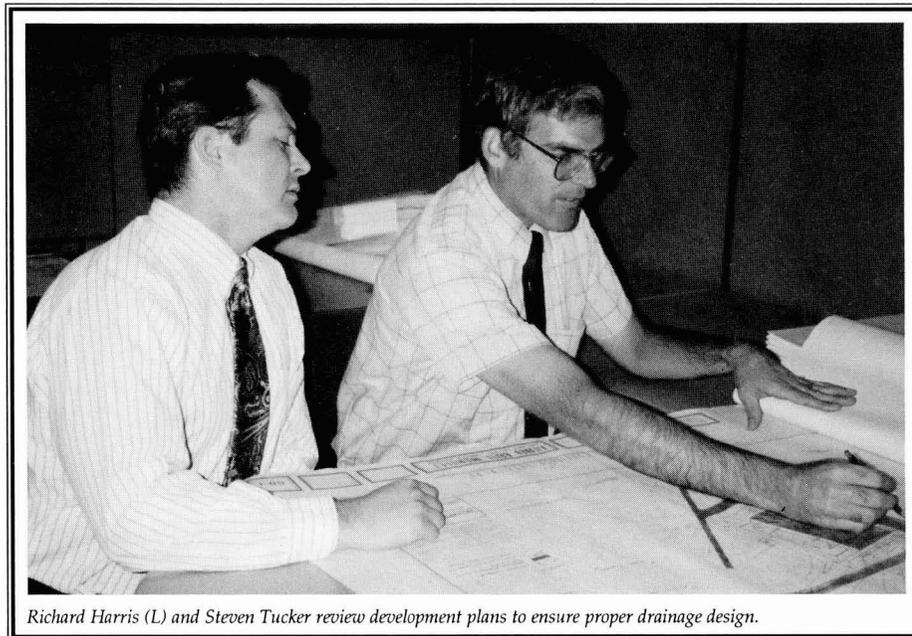
Even outside 100-year floodplains, improper development and construction practices can cause flooding problems. For this reason, the District reviews and inspects drainage facilities in unincorporated areas of the county to ensure that no development alters the direction or capacity of existing drainage corridors.

Before drainage regulations were adopted and enforced, development was occurring with little or no regard for stormwater. Left unregulated, new developments were subjected to flooding and created greater flood risk and damages to adjacent property. Floors were built too low, washes and other drainage paths were filled in or diverted onto neighbors, and runoff increased because provisions were not made for the additional runoff caused by driveways, rooftops and roads.

Today, the District works with the County's Planning and Transportation Departments to review drainage plans to ensure that new developments will not increase runoff, divert flows to another property, or cause backwater to pond onto property.

As a result of organizational restructuring, the regulatory functions associated with the Floodplain Administration and Drainage Administration programs were combined into a Regulatory Division. The consolidation is expected to improve internal coordination of the plan review, permitting, inspection and enforcement efforts common to both programs.

Of special note is the fact that District inspectors drove 116,000 miles last year. Over 620,000 miles have been logged by inspectors since 1988 with only two accidents reported (neither was the fault of the inspector).



*Richard Harris (L) and Steven Tucker review development plans to ensure proper drainage design.*

### Program Activity Highlights

for Fiscal Years 91/92 - 94/95

	<b>91/92</b>	<b>92/93</b>	<b>93/94</b>	<b>94/95</b>
Inspections	4,389	5,848	5,619	6,842
Drainage Clearances Issued	2,738	3,250	3,719	3,668
Subdivision Plan Reviews	26	29	52	59
Drainage Complaints Investigated	60	221	145	109
Miles Driven by Inspectors	91,749	103,589	100,130	116,088

## Property Management Program

Property owned by the District must be managed and maintained and in some cases sold when no longer needed. Property may be needed for construction projects, flowage easements or to establish protected habitat areas to compensate for habitat lost during the construction of flood control projects. Managing this property is the responsibility of the District's Property Management Branch.

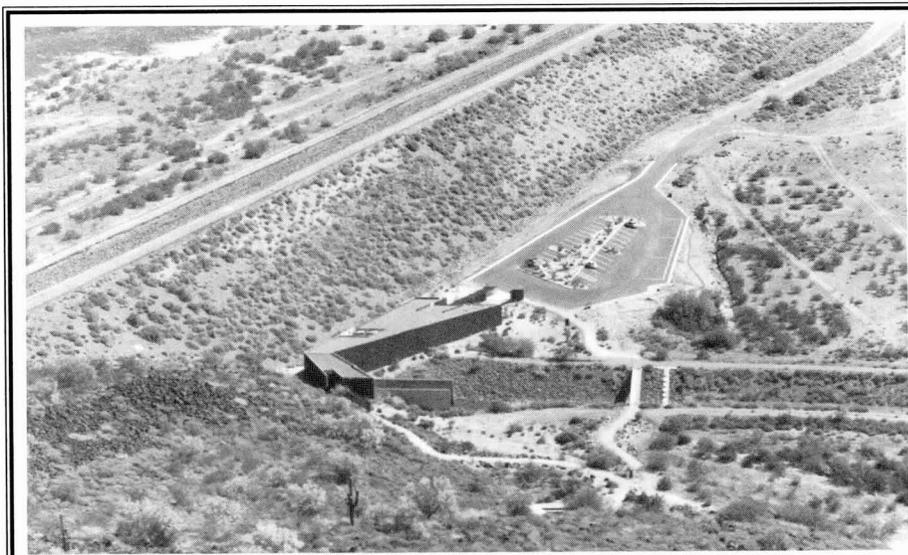
Last year the District sold over \$4 million in excess land, the bulk of which involved Peoria's purchase of District property along Skunk Creek for inclusion in their baseball stadium and regional sports complex.

Eight other sales involved several homes along the

Arizona Canal Diversion Channel near 32nd Street in Phoenix and property and homes near the Signal Butte Floodway in east Mesa.

Revenue also was generated through the lease of District property, including \$200,000 in rental income from agricultural and commercial leases.

In addition, over 60 licenses and easements were granted for use of District lands. In many instances such uses involve the development of parks or other recreational amenities in river beds, ponding areas, basins or channels owned by the District. Such uses are encouraged so long as they don't interfere with the flood control purpose of the structures.



*The Property Management Branch developed an agreement between the District, Corps of Engineers and Arizona State University for the construction, operation and maintenance of the Deer Valley Rock Art Center. This unique structure is located at the outlet of Adobe Dam and features 1000-year-old Hohokam petroglyphs discovered at the site.*



*Administrative Coordinator Shelby Brown helps keep track of the numerous licenses and agreements involving District property.*

## Flood Detection and Data Collection Program

The District operates and maintains a network of 117 rain gages, 67 stream gages and 10 weather stations that provide current or "real time" information about rainfall and runoff across the County.

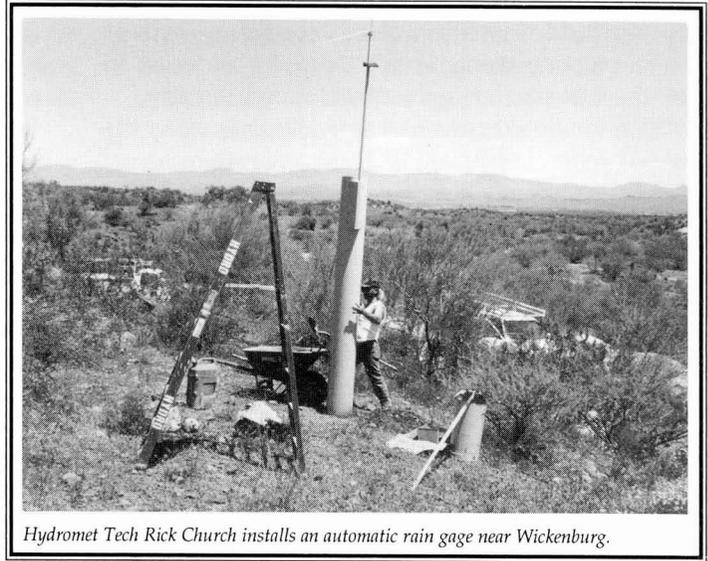
Called ALERT (Automated Local Evaluation in Real Time), the system automatically transmits information via radio waves to a base station at the District. This information is shared with the National Weather Service for use in issuing flood forecasts and advisories. The data is also used to monitor flood control structures during storm events and to calibrate hydrologic computer models used in flood-plain delineations and other studies. Decisions to evacuate flood-prone areas may also occur based on information received from the ALERT system.

Last year, 18 rain gages, 12 stream gages and two weather stations were added to the system. Most of the new gages were part of a flood warning system installed in the Wickenburg area as an alternative to building costly flood control projects. In addition, programmable transmitters were installed on many of the existing gages to improve data reporting.

Also as a result of organizational restructuring, the responsibilities of the Flood Detection and Data Collection Branch were increased to include the operation and maintenance of nine water quality sampling stations the District operates for the cities of Phoenix and Mesa as part of the National Pollutant Discharge Elimination System (NPDES). In addition to water quality sampling, the Branch also is responsible for the inspection and sampling of illicit connections and hazardous spills impacting our structures. Organizationally, the Branch consisting of six technicians and their supervisor, moved to the Engineering Division.

Two organizations wishing to link up with the District's system were added this year. The Arizona Department of Water Resources and the University of Arizona Atmospheric Sciences Department have joined 14 other outside agencies already connected to ALERT. The ALERT system was accessed over 500 times last

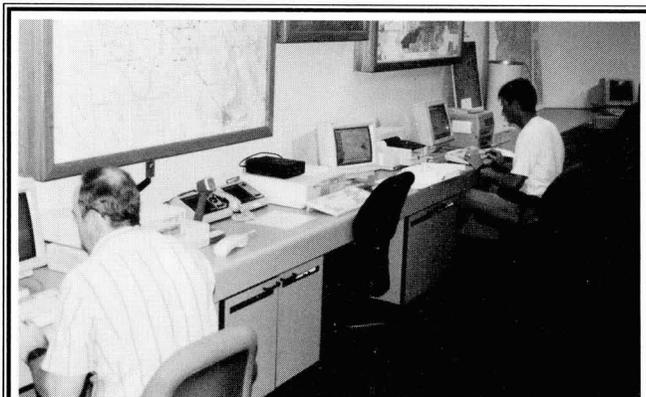
year by users outside of the District. The City of Scottsdale, for example, uses the water level information to anticipate road closures needed along Indian Bend Wash. During the same time period, over 75 formal requests for data and products were completed for our customers, along with numerous undocumented data requests received on the phone or from District staff.



*Hydromet Tech Rick Church installs an automatic rain gage near Wickenburg.*

### Other program highlights include:

- ❖ Staff initiated a program for updating the storage capacity tables which relate water depth to stored volume at District structures. Some of the information had not been updated since the structures were designed in the 1960's. The updated information will improve the accuracy of storage and outflow computations developed during flood events. In addition, the information will be used within the District for planning, land acquisition and floodplain management activities.
- ❖ The first Annual Surface Water Report was published using data obtained from the ALERT system, along with discharges and capacities from ratings developed by District hydrologists and the United State Geological Survey. The report was distributed to several local, state and federal agencies.
- ❖ Eight flood forecast models were developed last year for four dams (New River, Adobe, Sunset and Sunnycove dams) and four stream gage locations (Casandro, Flying E, Hartman and Powderhouse washes in Wickenburg). These models allow hydrologists to estimate the peak runoff rate and runoff volume of a flood before either occurs.
- ❖ An active ALERT computer was installed in the building lobby for use by visitors. The system allows users to access various types of weather-related information, including rainfall and stream flow data and National Weather Service forecasts.



*ALERT System Manager Steve Waters (L) and Hydrologist Tom Donaldson use computer terminals to monitor the District's extensive system of rain and stream gages.*

## Environmental Program

Environmental staff play a major role in a county-wide effort to comply with stormwater quality requirements of a federal program called the National Pollutant Discharge Elimination System (NPDES).

The NPDES program falls under the federal Clean Water Act and requires large metropolitan areas to monitor pollution levels in stormwater and develop programs to reduce the pollution.

The District believes a coordinated regional effort is needed to effectively respond to the new regulations. Agreements with local, state and federal agencies have been made to monitor pollution levels in stormwater runoff. Staff work with other agencies to identify and stop polluters and provide technical assistance to cities and businesses attempting to comply with the NPDES requirements.

The District headed a regional task force to develop an Erosion Control Manual which explains ways of keeping sediment from construction sites out of stormwater runoff. Staff also educate citizens through outreach programs about the importance of keeping common household pollutants out of storm drains and flood control channels.

The District has taken steps to find solutions to the stormwater pollution problem and received an award last year for one such effort. A District method of removing motor oil and other petroleum products from stormwater using plants and oil-eating bacteria received an award from the National Association of Counties.

Other environmental activities associated primarily with the District's Planning, CIP and Maintenance programs include; identifying and managing environmental hazards located on property owned or being purchased by the District; and performing environmental impact assessments on projects requiring federal environmental permits.

Last year, staff completed 11 site assessments to identify environmental hazards. Leaking underground storage tanks, soil pollution and asbestos contamination are frequently encountered. For example, large amounts of asbestos insulation had to be removed from homes purchased in Sunnyslope before the property could be readied for a future detention basin.

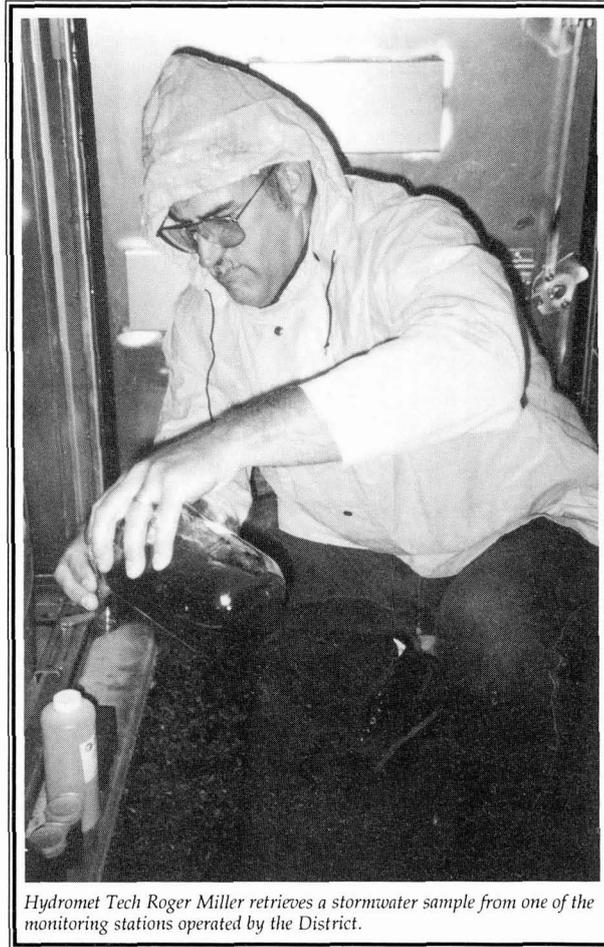
Archeological surveys are sometimes performed as well. This is done to prevent construction activity from damaging historic or prehistoric artifacts. Six such surveys were performed last year, including surveys of a detention basin site in Sunnyslope and portions of Skunk Creek, Bullard Wash and Upper New River.

In the case of the Upper New River site, a circular stone wall was discovered which was historically linked to Basque sheep herders who resided in the area in the early 1900's.

In addition to archeological surveys and hazard assessments, staff performed three exhaustive environmental impact assessments. They were for a dam being planned along Casandro Wash in

Wickenburg, a channel outlet at the Agua Fria River near Luke Air Force Base, and two detention basins planned for Sunnyslope.

These assessments must be done to obtain federal environmental permits to construct projects in rivers and washes which fall under federal jurisdiction. Such areas are called "Waters of the U.S." and include most of the rivers and streams in Maricopa County.



## Restructuring

On September 20, 1994 staff began the process of restructuring the District to provide more efficient and effective services to our customers. Our objective was to design an organization appropriate to the workload and funding, while improving the functional organization, increasing management's span of control, reducing the levels of management and facilitating better communications within and between divisions.

A "Restructuring Team" was formed consisting of the Interim Chief Engineer and General Manager, his Administrative Assistant, and the six Division Managers along with a facilitator from the County Human Resources Department.

The team met for several weeks to re-evaluate our basic functions and determine whether we had the right balance of resources among our programs. On November 18, 1994, the results of the restructuring effort were announced. The net result was a modified organizational structure and the reduction of 18 positions from 258 to 240. Employees affected by the elimination of their positions received priority consideration for any vacant positions or new positions created as part of the restructuring process.

The same number of divisions remain in the District's new structure (six), but two have new names. The Construction and Operations Division (C&O) was more appropriately titled the Construction and Maintenance Division (C&M) to better reflect the

actual services performed. The Hydrology Division became part of a new Regulatory Division which resulted from the more efficient grouping of functions previously performed in two divisions.

The new C&M Division no longer includes an Environmental Branch, which instead was transferred to other divisions with responsibilities more closely related to the functions of the branch. One branch within the old C&O Division was eliminated completely; the Operations and Maintenance Branch. This was done to "flatten" the organizational structure and increase the Division Manager's span of control.

Hydrology and Engineering Divisions were shuffled to combine the technical design and review functions in the Engineering Division, and the people serving the public in drainage review and floodplain administration in a separate Regulatory Division. Combining these functions is expected to reduce overlap in technical design and review and increase efficiency in serving the public.

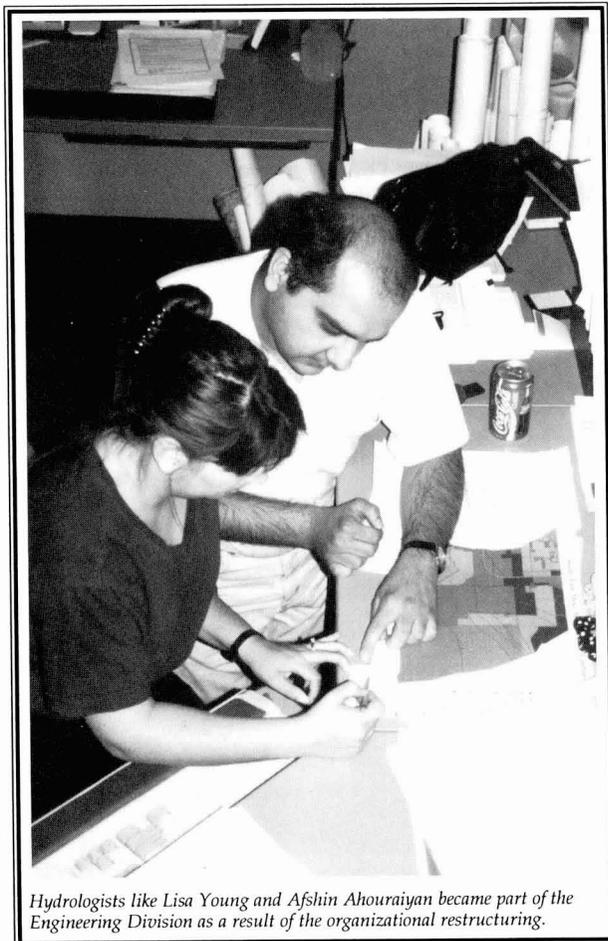
The Special Projects Branch responsible for the District's rain and stream gage network was transferred to the Engineering Division and became the Data Collection Branch. This new branch will also operate and maintain the nine stormwater quality monitoring stations previously managed by the Environmental Branch.

The Land Management Division was restructured to eliminate one level of management in the Property Management Branch and the licensing function was transferred to the Engineering Division.

In a separate restructuring effort initiated by the County's Enterprise Technology Department (ENTECH), the District's Information Systems Branch (IS) was reassigned to a division of ENTECH called Business Technology West. This is the same division that manages the information systems for the County's Department of Transportation.

Information Systems involves activities associated with the operation and maintenance of computers, including Geographic Information Systems. The move was part of a county-wide centralization of the IS function to improve standardization and coordination among IS programs. District IS staff continue to perform the same services for the District, but the branch manager now reports to the Manager for Business Technology West.

The District's restructuring effort, though uncomfortable and stressful at times, was met with great understanding and professionalism by everyone affected. The result is an organization better prepared for the challenges that lie ahead.



Hydrologists like Lisa Young and Afshin Ahouraiyan became part of the Engineering Division as a result of the organizational restructuring.

## Construction Management Savings

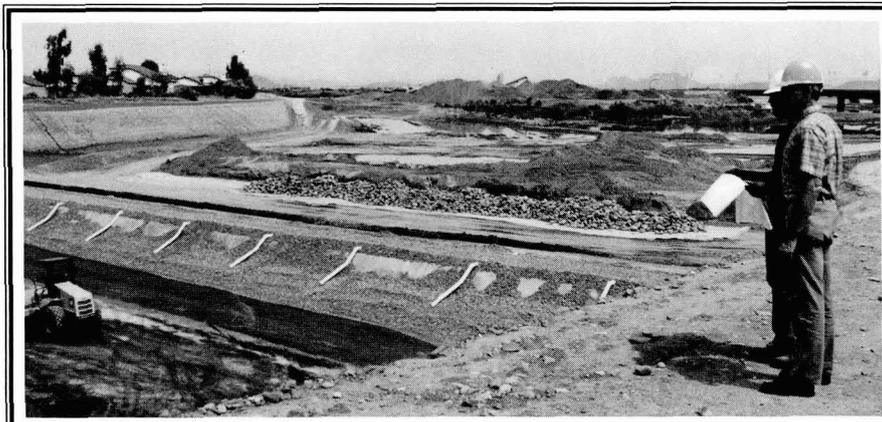
Construction inspectors at the District oversaw the construction of \$17 million in capital improvements last year. Inspectors oversee the work of construction companies on contract with the District to build flood control projects.

Prior to doing the construction management ourselves, we paid outside consultants to perform this work at an average cost of 12 percent of a project's total cost. By doing the construction management

"in-house", such costs now average less than 3 percent. In the case of the \$6.5 million Beardsley Road Regional Drainage Project begun this year, approximately \$600,000 will be saved by doing the construction management internally.

Substantial savings in time and money also have been realized by stressing teamwork in the accomplishment of a construction project. Known as "partnering",

this process of meeting with all involved parties at the outset of a project to identify and resolve potential conflicts before they cause delays is resulting in fewer change orders and a better product.



Civil Engineers Warren Rosebraugh and Scott Clement inspect a drop structure under construction in New River, south of Bell Road.

ence of New River and Skunk Creek.

The project involved bank protection and construction of a concrete drop structure. This was the first roller-compacted concrete structure ever designed and built under District contract. It involved the placement of 34,000 cubic yards of soil cement and roller-compacted concrete, a volume equal to a line of wheel barrels 77 miles long.

Last year, all projects managed by the District were completed on time and with cost overruns limited to less than one-quarter of one percent. A project of particular interest was the New River Channel project at the conflu-

## Satellite Offices Promise Improved Productivity

The upkeep of flood control projects located in the east valley was made more cost effective with the establishment of a satellite maintenance yard near Higley Road and Main Street in Mesa. Two four-person maintenance teams and two equipment operators are assigned to the new facility which formerly was leased to a taxidermy and radiator shop.

Final renovations to the facility occurred last year at a cost of \$75,000, but the new yard will save taxpayers an estimated \$117,000 annually by locating crews and equipment closer to the structures they maintain. The idea for the yard was developed the previous year by Maintenance

Program employees involved in a Total Quality Management project.

Initial efforts also were taken to establish a North Maintenance Yard using a facility previously occupied by the Army Corps of Engineers. The facility is owned by the District but was leased to the Corps for use as a construction office while building the ACDC. The diversion channel is now complete and the Corps of Engineers moved out of the offices when their lease expired in May. The maintenance of 13 large flood control structures in the north and west valley will be coordinated out of the new North Yard.



Frank Nutter, Bill Casenhiser and Fred McArthur make improvements to property along the ACDC vacated by the Army Corps of Engineers.

## Safety Program Revitalized

The importance of safely operating and maintaining District projects took on special emphasis this past year in an effort to reduce on-the-job injuries. A safety committee met monthly to formulate policies, conduct risk analysis and review accidents for trends and preventive action.

The existing safety program was revitalized to become more dynamic, educational and positive. Revisions underway or planned include:

- ❖ Publishing a monthly *Safety-Gram* newsletter that summarizes recent accidents and preventive measures and provides safety tips.
- ❖ Providing meaningful safety awards to increase staff awareness and provide incentives for working safely.
- ❖ Developing a comprehensive safety manual.
- ❖ Developing a series of workshops on selected short subjects and a yearly training schedule featuring important safety topics.

Early indications are that safety awareness efforts have made a difference. The lost-time injury rate for the second half of the year was down 82% from the previous year's rate.

## "In-house" Property Appraisals Save Money

Before any property is purchased by the District, it must be appraised. Traditionally, nearly all appraisals were performed by outside appraisers on contract with the District. Last year, staff who were qualified to perform land appraisals recommended that some of the smaller appraisal projects be performed "in-house". This recommendation was adopted in 64 out of 122 cases last year, saving over \$60,000 in appraisal fees.



*Property Acquisition Coordinator John Palmieri explains land acquisition process to residents.*

## GIS Capabilities Enhanced

Information contained in the District's Geographic Information System (GIS) was consolidated and centralized last year to make it more easily accessible. The GIS system contains such information as land uses, soil types, floodplains, property ownership, street locations, and jurisdictional boundaries. A standardized format for entering and accessing this information was implemented and the data was shifted to a land surveying standard more universally accepted. As a result of these and other improvements, the District is recognized as one of the first agencies in Arizona to have a central, clean, normalized working GIS database.



*The GIS Team: (L to R) Alicia McLaughlin, Jim Smith, Marta Dent, Mark Brewer, Eric Feldman, Kevin LaValle, Steve Bruffy, Glenn Card.*

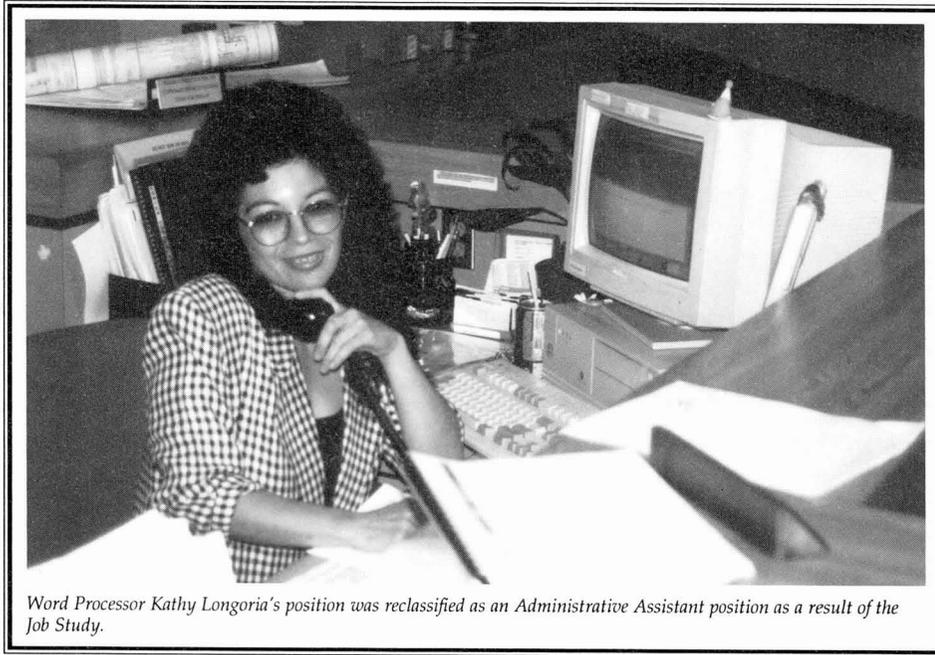
## Informative Planning Document Developed

A "Five Year Capital Improvement Program" report was published last year by the Planning and Project Management Division. The report provides a comprehensive, easy-to-read summary of the numerous flood control projects underway or planned. The document contains a short summary of each project along with a map showing its location. It was distributed to local communities, agencies and others having an interest in the activities of the District.

## Job Classifications Streamlined

The consolidation of some District job classifications occurred last year as a result of a reclassification study performed by the County Human Resources Department. The study was requested by the District and the Maricopa County Department of Transportation after concerns arose about equity between job classes. The study objectives were to provide equity among job classifications, place employees into the proper classifications, and consolidate job classes where possible.

Classifications involving Civil Engineers, Construction Inspectors, Equipment Operators, Planners and Maintenance staff were impacted most by the study. Eighty-seven separate job classifications existed at the District prior to the study. This number was reduced to 39 classifications as a result of the study. In addition, 93 positions increased in pay grade, 99 stayed the same and 18 positions went down in pay grade.



*Word Processor Kathy Longoria's position was reclassified as an Administrative Assistant position as a result of the Job Study.*

## Strategic Planning

Developing a vision for the District's future and a means of achieving it became the focus of dozens of employees this year. It was all part of a strategic planning process aggressively undertaken to develop goals and objectives to guide our operations and improve the quality of the services we provide to the public.

Strategic planning meetings began in February and were open to all employees. A committee was formed to organize the effort, with assistance from an organizational development expert on loan from the County's Human Resources Department.

A first step was to review the District's mission and vision statements. Fundamental questions about our "reason for being" were posed, along with questions about customer expectations and changing priorities. The result was a simplified vision statement and a new mission statement which more accurately describes our purpose.

Meetings were held to determine strategic issues to focus on during the year to help move the District closer to achieving its mission. Five strategic issue areas were identified and "Issue Leaders" were assigned to act as project managers.

### STRATEGIC ISSUES:

- ❖ Customer Satisfaction
- ❖ Quality Work Force
- ❖ Responsible Fiscal Management
- ❖ Flood and Stormwater Management
- ❖ Program Improvement



*Jim Schwartzmann and Stan Smith lead a strategic planning team focusing on Program Improvement.*

## Leadership Training

Improving the way employees work together to accomplish the District's mission is the goal of a new training program implemented last year. Called the Leadership Academy, the program focuses on the basic human interaction skills everyone needs to succeed.

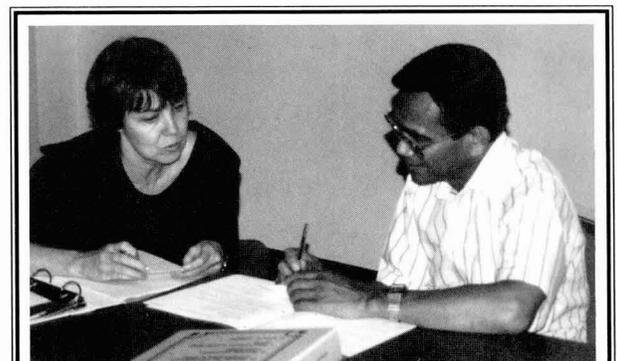
District managers and supervisors participate in a five-module program called *Frontline* and non-supervisory staff enroll in a related program entitled *Working to Win*. The program was selected by a countywide task force which included a member of the District. The impetus for the program comes from the belief that the leadership of all employees, non-managers as well as managers, is needed if the District and County are to continuously improve.

The *Frontline* modules include training in such skills as giving constructive feedback, coaching, recognizing positive results and effectively obtaining information from others. *Working to Win* modules include training in skills associated with getting your point across, requesting help, taking on a new assignment and giving feedback to help others.

Five principles of effective leadership act as the

foundation for the program. They are:

- ❖ Focus on the situation, issue or behavior, not on the person,
- ❖ Maintain the self-confidence and self-esteem of others,
- ❖ Maintain constructive relationships,
- ❖ Take initiative to make things better, and
- ❖ Lead by example.



*Hydrologist Max DeVera participates in a skills practice session with Connie Ocell of Recreation Services. In addition to enhancing communication skills, the Leadership Academy gave staff an opportunity to meet other county employees.*

## District Joins War on Graffiti

The District teamed up with the County Attorney's Office to organize a graffiti removal program using juvenile offenders arrested for defacing property. The program is intended to deter juvenile acts of vandalism by making offenders remove graffiti from various places, including flood control structures. A staff member from the District's Construction and Maintenance Division is assigned to the County Attorney's Office to help coordinate the program.

The program also will free up maintenance crews formerly assigned to graffiti removal tasks. The cost of using District staff and equipment to remove graffiti from



just one District project, the Arizona Canal Diversion Channel (ACDC), was \$16,000 in fiscal year 1993-94.

## The Challenge of Stormwater Quality Testing



*Environmental Program Manager Catesby Moore talks with an ABC News crew about EPA's WETT stormwater quality test. The interview aired on the network's "Prime Time Live" program.*

The District continued its leadership role in county-wide efforts to comply with federal stormwater quality regulations. These regulations require large communities and certain industries to obtain permits to discharge stormwater into "Waters of the United States". These "waters" include most of Maricopa County's usually dry rivers and many of their tributaries.

The District's Environmental Program Manager

chairs the Arizona Stormwater Permitting Task Force and was appointed vice-chair of the Environmental Policy Development and Advocacy Committee for the Committee on the Arizona Environment.

The District is committed to the reduction of pollutants in stormwater and has assisted communities in monitoring stormwater and developing ways to reduce pollution levels. Last year, however, the District joined other Arizona municipalities in arguing against the application of a testing method proposed by the Environmental Protection Agency (EPA).

Called Whole Effluent Toxicity Testing (WETT), the test places two sensitive aquatic organisms, the flat-head minnow and the water flea, into stormwater to see if they survive. The District and others have questioned the applicability of a test using live aquatic organisms in a region where stormwater typically finds its way into dry washes where no aquatic life is present.

The District is asking that further research be conducted using the test on arid region stormwater before it is added to the EPA's stormwater permitting program.

## District Joins Task Force to Improve Flood Warning



*District 2 Supervisor Don Stapley (beneath clock) tours the Flood ALERT room with Chief Engineer and General Manager Dan Sagramoso (left), Flood Warning Branch Manager Joe Tram and Assistant County Administrator for Infrastructure Operations, Lou Schmitt (right).*

Flooding in Arizona during January and February, 1993, was a reminder of the serious flood hazards that exist throughout the State. Record rainfall amounts and stream flows were observed across Arizona with major damage recorded in virtually every county. The floods focused special attention on a number of deficiencies involving flood warning.

To help improve flood warning, the District has joined a multi-agency task trying to develop a statewide flood warning system. Such a system would benefit local efforts because nearly half the State of Arizona consists of the Gila River Watershed which drains through Maricopa County.

Last year, the District sponsored a conceptual design study to examine similar flood warning systems in other states, and identified strategies, equipment needs and potential participants for an Arizona system. Information from the study will be incorporated into an Army Corps of Engineers report calling for the placement of 120 rain and stream gages in seven Arizona watersheds.

If such a system is approved, emergency managers from throughout the State will be linked by computer and have access to up-to-the minute weather, rainfall and stream flow data for use during flood emergencies.

## Public Involvement

The District is increasingly aware of the importance of effective public involvement if we are to accomplish our mission.

The District actively strives to include the public in its decision-making processes, especially those relating to Area Drainage Master Studies (ADMS), floodplain delineations and project planning and design.

The ADMS program analyzes watersheds to identify flooding and drainage problems. From such studies, potential solutions are developed to reduce or eliminate the flood hazard. Public involvement efforts are utilized to obtain public input on existing flooding problems and to identify possible solutions.

Public involvement also is an important component of the District's floodplain delineation program. This program identifies the limits of 100-year floodplains along rivers, streams, washes and ponding areas in Maricopa County. The District typically performs six to 10 such studies a year and has delineated an average of 65 linear miles of floodplain per year since 1986. It is important that potentially affected property owners are



*Project Manager Greg Rodzenko explains a storm drain project to residents living near Tatum Boulevard and Cholla Street in Phoenix.*

made aware of the study, offered an opportunity to provide input, and informed of the final study results.

Construction projects designed with little or no public notice or input invite opposition and may be stopped, changed or delayed as a result. Public meetings, planning workshops, site visits, and open houses all are used to encourage public participation.

A project aesthetic and landscaping policy adopted by the District calls for the formation of an Aesthetics Committee with membership to include neighborhood representatives. In addition, Citizen Advisory Committees are sometimes used to identify preferred design alternatives.

This past year, the public provided input or participated in the planning of numerous projects and studies, including; 10th Street Wash Basin Design, Upper New River Flood Mitigation Project, Town of Guadalupe Drainage Study, Bullard Wash Outfall Study, Indian Bend Wash Floodplain Delineation Study, Skunk Creek Channel Improvement Project; Tatum and Cholla Interim Drainage Improvement Project, and the Skunk Creek Improvement Project.



*Project Manager Russ Miracle (center) discusses the Bullard Wash Outfall Project with property owners during a public meeting in Goodyear.*

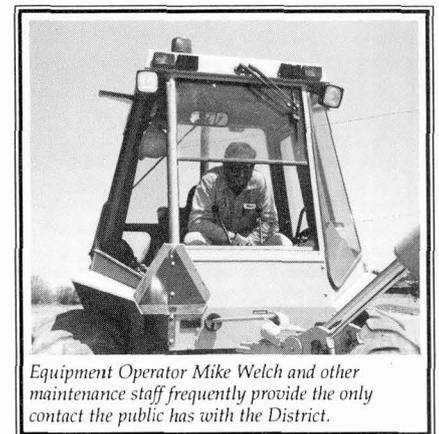
## "Good To Do" Policy

In many cases the public's first and sometimes only contact with the District involves a member of our maintenance staff. Over 40 percent of our employees are involved in the maintenance of District structures and the very nature of their job puts them in contact with hundreds of citizens each year.

The professionalism and courtesy shown by these employees has a profound impact on the public's perception of our agency. One example of this occurred in April when a crew repairing erosion damage along the East Maricopa Floodway was recognized by the Rural Metro Corporation for helping fight a brush fire that threatened nearby homes.

In his letter of thanks, Rural Metro General Manager Steve Savage stated; "Your crew was very responsive to our needs and extremely helpful in

keeping the fire from the exposed residences. After the incident, your employees advised us of your 'good to do' policy, i.e., 'If it's good for the taxpayers, we do it!'. It is refreshing to hear of such a policy..."



*Equipment Operator Mike Welch and other maintenance staff frequently provide the only contact the public has with the District.*

## Municipal Customers Rate District Performance

County municipalities were asked their opinion of the District's performance and continuing mission as part of a Comprehensive Program Budget Review undertaken this past year.

The review of the District's programs and functions was one of several evaluations of county departments/districts initiated by the Board of Supervisors under the direction of the Office of Management and Budget (OMB).

In a letter signed by Board Chairman Tom Rawles, local communities were asked to comment on "what you think the District's mission and functions should be, including comments about which programs serve you and the quality of those services to your community".

Fourteen of the cities and towns responded to the Chairman's letter. The comments were largely supportive of our programs and complimentary about our performance. Excerpts from some of the responses are reprinted below.

*"District programs, especially on the major watersheds, have greatly assisted Tempe in the past and have been directly responsible for advancing the Rio Salado Project on the Salt river. In the future, the District's service to Tempe will focus on river operation, maintenance and technical assistance."*

- Neil G. Guiliano, Mayor of Tempe

*"The City of Good-year is very supportive of the District's activities such as the District's mission and its programs....Flooding does not begin and end within the boundaries of a single city. It is a regional issue and should be addressed regionally. The District's programs bring neighboring cities together to address regional flood control problems."*

- Carl K. Gow, Mayor of Goodyear

*"The City of Glendale supports the mission of the district and appreciates the benefits that the district has provided to Glendale residents....Several examples of their efforts are in place in Glendale and provide flood water management not just to Glendale residents, but benefit citizens of the entire valley area. Examples include: Skunk Creek channelization, maintenance of the Arizona Canal Diversion Channel, the Dysart Drain project at Luke Air Force Base, channelization along New River, flood control dams at Adobe Mountain, New river, Cave Creek and others."*

- Elaine M. Scruggs, Mayor of Glendale

*"The District recently completed an Area Drainage Master Study (ADMS) that provided information and direction for systematically dealing with the stormwater problems in this area....The 'team approach' the District has taken has allowed the area communities to better coordinate and benefit from District expertise."*

- Wilburn J. Brown, Mayor of Gilbert

*"I am happy to say that we have been working with the Flood Control District on a long-term solution to the problem with flooding at the school, participating as a partner in the costs and planning, along with our neighboring communities....Based on my experience with this one project in my community, the District is fulfilling its mission and adequate levels of partnership are being required from municipalities and others."*

- Mark Schnepf, Mayor of Queen Creek

*"We feel the mission of flood control is extremely important due to our Arizona flash flood possibility. The District diligently fulfills that mission. We are fortunate to see the benefits of their work."*

- Gordon Grandy, Apache Junction City Engineer

*"My view is that the Flood Control District serves as an essential element for the overall planning, design, construction and maintenance of areawide flood control in the County. Also, as you may be aware, it serves as an essential agency for flood-plain administration and areawide management of EPA-mandated storm-water regulation."*

- Jay Tibshraeny, Mayor of Chandler

*"We feel this funding (for capital improvement projects) should be shared with the municipalities based on the tax base that generates the funds. Whenever possible, the funds should be used on a joint facility that will benefit the City and County."*

- Willie Wong, Mayor of Mesa

Comments from the cities were incorporated into OMB's review of the District and a report was made to the Board of Supervisors in April. Recommendations were made by OMB to review ongoing staffing levels, operations and internal CIP projects to ensure full utilization of District resources, but no programs were recommended for reduction or elimination. Recommendations regarding cash management procedures are being implemented, as is a recommendation to evaluate the benefits of privatizing some District functions.



West Valley dignitaries join Supervisors Mary Rose Wilcox and Ed King in a ribbon-cutting ceremony marking the completion of the Colter Channeel. (L-R): Avondale City Councilman Earl Cooper, Avondale Mayor Raymond "Bill" Bedoya, Litchfield Park Mayor Perry Hubbard, Buckeye Mayor Joseph Schettino, Supervisor Wilcox, Supervisor King, Estrella Mountain Community College Provost Homero Lopez and Goodyear Mayor Carl Gow.

Commitment to Customers

## Project Prioritization Procedure Reflects Customer Input

The procedure used by the District to prioritize capital improvement projects was revised last year in response to recommendations made by our customers.

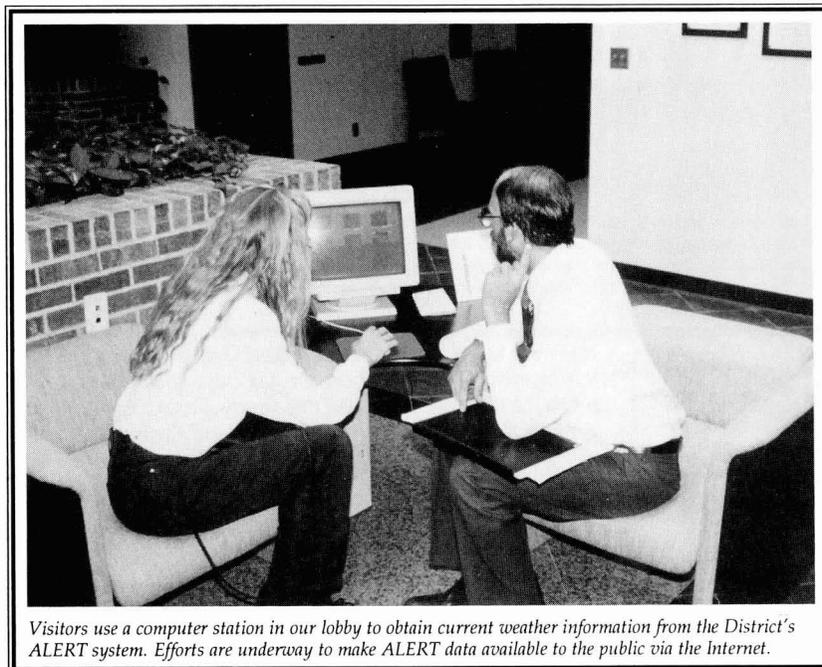
The District held a workshop to improve the Procedure for Identifying and Prioritizing Potential Five-Year CIP Projects. Ten cities and towns, the Salt-River Pima-Maricopa Indian Community and two County departments participated. The procedure uses criteria such as community priority, regional significance and public protection benefits to rank potential capital improvement projects submitted to the District by local communities and county, state and federal agencies.

Projects with high scores receive priority status when developing the District's Capital Improvement Budget and Five-Year Capital Improvement Program.

As a result of the workshop, a number of changes were made to the procedure. Two criteria, Developed Area Protected and Total Area Protected were combined into one criterion and an additional two points were added to its weighting. The criterion that rated projects higher if cost-sharing was involved was reduced by two points and the Environmental/Areawide Benefits criterion was simplified by eliminating several subcategories.

## Flood Control on the Internet

District customers now are able to obtain information about the District on the Internet. The FCD Home Page can be accessed at <http://www.maricopa.gov/flood/fcd.html>. Monthly precipitation reports, descriptions of major flood control projects and background information about the District is currently available on the Internet. It is estimated that more than 50 million people in more than 160 countries use the Internet for data gathering and communications.



*Visitors use a computer station in our lobby to obtain current weather information from the District's ALERT system. Efforts are underway to make ALERT data available to the public via the Internet.*

## National Association of Counties (NACo)

An experimental project developed to protect groundwater from petroleum contamination received a 1995 NACo Achievement Award. Roland Wass of the District's Environmental Branch designed and implemented a submerged flow vegetative treatment system to biologically clean stormwater runoff from a County vehicle maintenance yard.

## City of Tempe

The City of Tempe in April dedicated a 13-acre wildlife habitat near Papago Park and named it after former Tempe Mayor and current Flood Control Advisory Board member William LoPiano. The "LoPiano Mesquite Bosque" is home to six species of trees, plus numerous rabbits, quail, dove, ground squirrels and an occasional coyote. Dr. LoPiano has served on the District's advisory board since 1982.

## National Association of Flood and Stormwater Management Agencies (NAFSMA)

Chief Engineer and General Manager Dan Sagramoso was elected in October, 1994, to serve on the 13-member NAFSMA board. NAFSMA is an organization of state agencies, cities, counties and special districts that deal with flood protection, floodplain management and surface water quality issues.

## Employee of the Quarter

This program is administered by a selection committee with representatives from the District's six divisions. Nominations are submitted to the committee for consideration and winners are announced each quarter. Nominees are evaluated on their professionalism, productivity, customer service, attitude, teamwork and initiative. Recipients this past year were: (3rd quarter excluded-no nominees)



Employee of the Quarter winners (L-R) Mark Brewer, Duke Yager and Dave Johnson.

**Duke Yager**, Maintenance Technician I, for the quarter July through September, 1994

**Dave Johnson**, Regulatory Division Manager, for the quarter October through December, 1994

**Mark Brewer**, Decision Support Analyst I, for the quarter April through June, 1995

## Employee Suggestion Program

Several employees were recognized last year by the County's Employee Suggestion Program for ideas they developed to improve productivity and save money.

### Sal Cerbone

Recommended modifications be made to the irrigation system along a three-mile stretch of the Arizona Canal Diversion Channel to improve coverage and reduce plant mortality.

### Bob Gallup

Recommended tire repair kits be placed in vehicles to fix flat tires in the field, significantly reducing down time for equipment.

### Art Dubois

Developed a computer program to track and monitor material expenditures.

### Bob Panasewicz and Ernie Hammer

Developed a system for placing gravel mulch on high embankment slopes.

### Scott Clement

Negotiated an agreement with the Williams Air Force Base Closure Agency for partial excavation of the Rittenhouse Channel, saving the District over \$700,000.

## Certification and Professional Registration

Level II NICET Certification (National Institute of Certified Engineering Technicians)

**Ben Gregg**

Level III NICET Certification

**Chuck Feuquay**

**George Lindop**

**Bill Poppe**

Engineer in Training (E.I.T.)

**Greg Rodzenko**

Registered Professional Engineer (P.E.)

**Scott Clement**

**Maximo DeVera**

**Richard Harris**

**Shewa Shivaswamy**

American Institute of Certified Planners (A.I.C.P.)

**Bert Miller**

Certified Public Manager (Level IV)

**Mike Cuneo**

**Mike Ramirez**

**John Palmieri**

Certified Professional in Human Resources

**Gwen Loving**

Zenger-Miller Leadership Development Certification

**Lisa Young**

**Jim Phipps**

**Betty Dickens**

## Continuing Education Achievements

Arizona Governmental Training Service (AGTS)

*Supervisor's Academy*

**Mike Rosiewicz**

**Bill Craig**

**Ed Loy**

**Ben Ganados**

**John Palmieri**

**Barbara Hummell**

**Dick Perreault**

*Manager's Academy*

**Lovetta Henry**

**John Palmieri**

**Kathy Thiessen**

Maricopa County Leadership Academy

*Frontline*

**Leanna Cumberland**

**Mike Cuneo**

**Betty Dickens**

**Chuck Feuquay**

**Fred Fuller**

**Ken Green**

**Hedy Hall**

**Lovetta Henry**

**Dave Johnson**

**Michael Lopez**

**Pete Martinez**

**Michael Meng**

**Catesby Moore**

**Amir Motamedi**

**Ron Nevitt**

**Dick Perreault**

**Ed Raleigh**

**Greg Rodzenko**

**Dan Sagramoso**

**Jim Schwartzmann**

**Chuck Smith**

**Stan Smith**

**Olin Sutton**

**Kathy Thiessen**

**John Townsend**

**Joe Tram**

**Steven Tucker**

**Lenora Webb**

**Shanna Yager**

*Working to Win*

**Ana Gorbenko**

**Barbara Hummell**

**Diane Johnson**

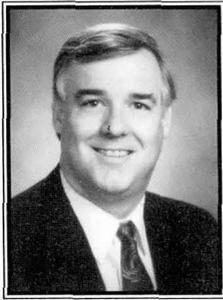
**Gwen Loving**

**Hasan Mushtaq**

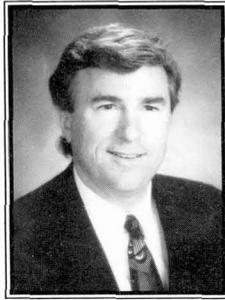
**Jan Staedicke**

**Sandy Walchuk**

## Board of Directors



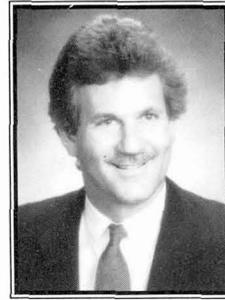
**Tom Rawles**  
District 1  
Chairman



**Don Stapley**  
District 2



**Betsey Bayless**  
District 3



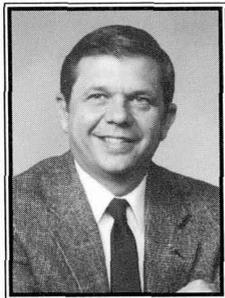
**Ed King**  
District 4



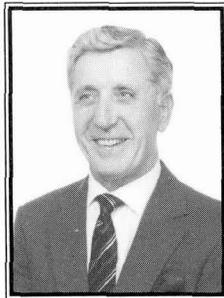
**Mary Rose Wilcox**  
District 5

The District is governed by a Board of Directors which also serves as the elected Board of Supervisors for Maricopa County. Last year, Don Stapley was elected to represent District 2. The Board of Directors exercises all the powers and duties in the acquisition and operation of District properties, contracting, and in carrying out regulatory functions as ordinarily exercised by governing bodies.

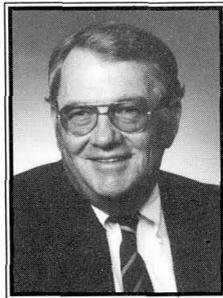
## Flood Control Advisory Board



**Ron Wheat**  
District 4  
Chairman



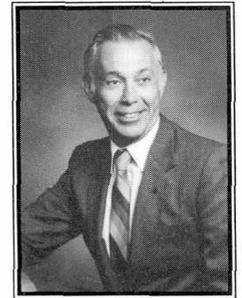
**William LoPiano**  
District 1



**John E. Miller**  
District 2



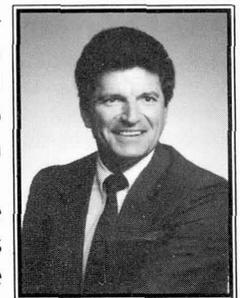
**Samuel K. Wu**  
District 3



**James Matteson**  
City of Phoenix

The Flood Control Advisory Board (FCAB) works closely with staff and the Board of Directors to accomplish the District's mission of protecting county residents and their property from flooding. The FCAB reviews proposed flood control projects and studies and makes recommendations as to their scope, necessity and priority. These recommendations are forwarded to the Board of Directors for action. Board members also recommend an annual budget to the Board of Directors and serve the District as members of the Floodplain Review Board and the Drainage Review Board.

The FCAB consists of seven members, five of whom are appointed by the Board of Supervisors to five year terms. The City of Phoenix and the Salt River Project appoint representatives who are ex-officio members of the FCAB. This year, Marcella Peters left the Advisory Board after five years of exemplary service to the District and citizens of Maricopa County. South Phoenix businessman Melvin Martin (not pictured) was appointed to fill the position for District 5.



**Paul Cherrington**  
Salt River Project



**Lynn Anderson**

*The District was saddened by the passing in 1995 of long-time FCAB member Lynn Anderson who retired from the Advisory Board in 1991.*



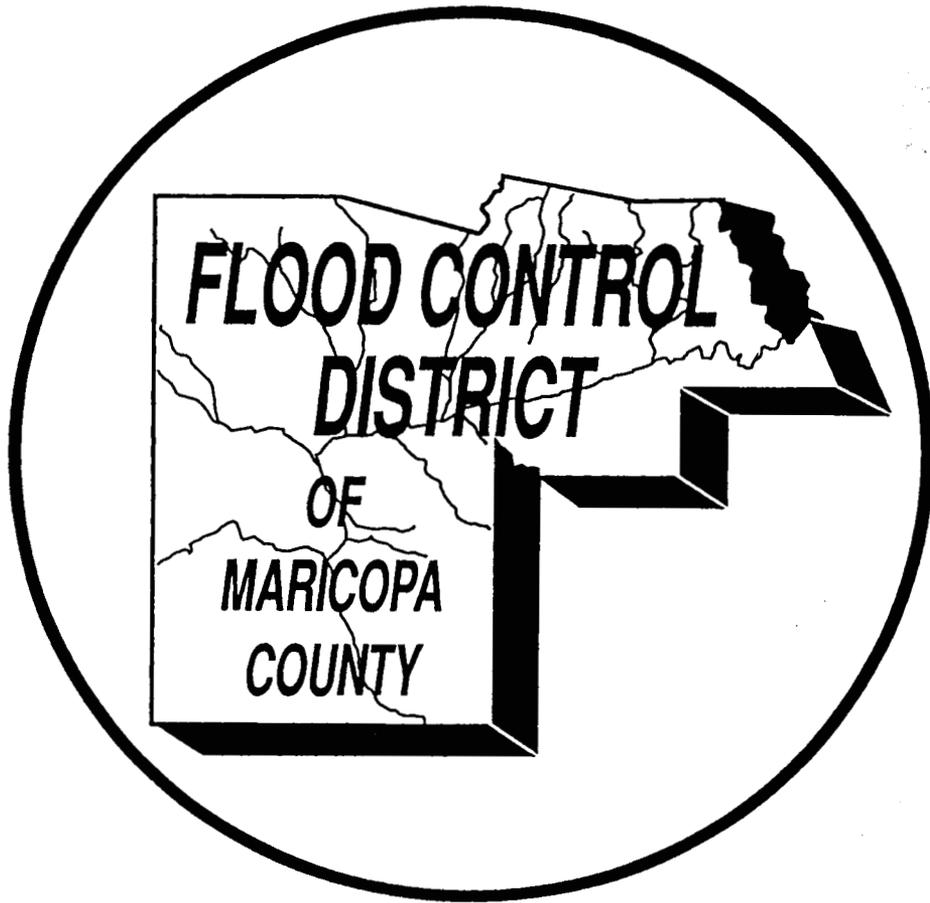
**Marcella Peters**

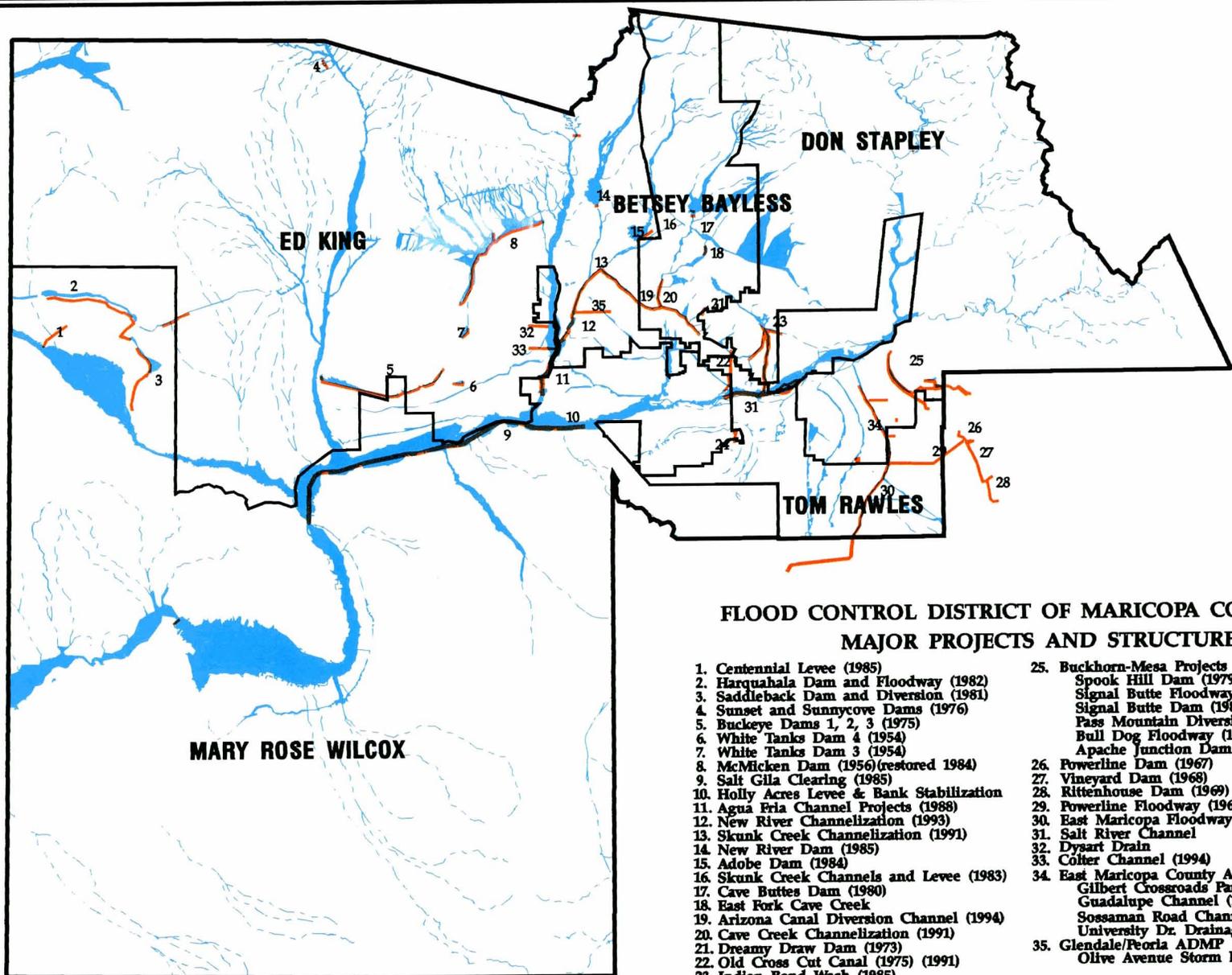
*Marcella Peters left the Advisory Board in 1995 after five years of dedicated service.*

# Statement of Revenues, Expenditures, and Changes in Fund Balance

Budgeted and Actual for the Fiscal Year Ended June 30, 1995  
 Preliminary and unaudited. Amounts are rounded to nearest thousand.

	<b>BUDGET</b>	<b>ACTUAL</b>	<b>VARIANCE</b> FAVORABLE (UNFAVORABLE)
	<u>                    </u>	<u>                    </u>	<u>                    </u>
<b>REVENUES</b>			
FLOOD CONTROL TAX	\$ 36,033,000	\$ 35,281,000	(\$ 752,000)
LOCAL PARTICIPATION	7,472,000	2,558,000	(4,914,000)
RENTAL INCOME	188,000	242,000	54,000
INTEREST INCOME	1,000,000	1,518,000	518,000
OTHER LAND INCOME	1,000,000	4,321,000	3,321,000
MISCELLANEOUS	94,000	572,000	478,000
<b>TOTAL REVENUES</b>	<u>45,787,000</u>	<u>44,492,000</u>	<u>(1,295,000)</u>
<b>OPERATING EXPENDITURES</b>			
PERSONNEL SERVICES	7,096,000	7,693,000	(597,000)
SUPPLIES AND SERVICES			
PROFESSIONAL SERVICES	4,886,000	3,081,000	1,805,000
MAINTENANCE SUPPLIES AND SERVICES	1,683,000	1,475,000	208,000
INTERNAL SERVICES	2,923,000	2,696,000	227,000
EDUCATION AND TRAVEL	173,000	104,000	69,000
OTHER SUPPLIES AND SERVICES	535,000	550,000	(15,000)
<b>TOTAL OPERATING EXPENDITURES</b>	<u>17,296,000</u>	<u>15,599,000</u>	<u>1,697,000</u>
<b>CAPITAL OUTLAY</b>			
PERSONNEL SERVICES	2,102,000	870,000	1,232,000
REAL ESTATE	4,401,000	3,344,000	1,057,000
ENGINEERING	5,012,000	3,403,000	1,609,000
CONSTRUCTION	21,581,000	23,620,000	(2,039,000)
VEHICLE AND EQUIPMENT	907,000	966,000	(59,000)
<b>TOTAL CAPITAL OUTLAY</b>	<u>34,003,000</u>	<u>32,203,000</u>	<u>1,800,000</u>
<b>TOTAL EXPENDITURES</b>	<u>51,299,000</u>	<u>47,802,000</u>	<u>3,497,000</u>
<b>EXCESS OF REVENUES OVER (UNDER)</b>	(5,512,000)	(3,310,000)	2,202,000
<b>FUND BALANCE JULY 1, 1994</b>	<u>16,999,000</u>	<u>16,999,000</u>	
<b>FUND BALANCE JUNE 30, 1995</b>	<u>\$ 11,487,000</u>	<u>\$ 13,689,000</u>	<u>\$ 2,202,000</u>





**FLOOD CONTROL DISTRICT OF MARICOPA COUNTY  
MAJOR PROJECTS AND STRUCTURES**

- |   |  |
|---|--|
| <ol style="list-style-type: none"> <li>1. Centennial Levee (1985)</li> <li>2. Harquahala Dam and Floodway (1982)</li> <li>3. Saddleback Dam and Diversion (1981)</li> <li>4. Sunset and Sunnycove Dams (1976)</li> <li>5. Buckeye Dams 1, 2, 3 (1975)</li> <li>6. White Tanks Dam 4 (1954)</li> <li>7. White Tanks Dam 3 (1954)</li> <li>8. McMicken Dam (1956)(restored 1984)</li> <li>9. Salt Gila Clearing (1985)</li> <li>10. Holly Acres Levee &amp; Bank Stabilization</li> <li>11. Agua Fria Channel Projects (1988)</li> <li>12. New River Channelization (1993)</li> <li>13. Skunk Creek Channelization (1991)</li> <li>14. New River Dam (1985)</li> <li>15. Adobe Dam (1984)</li> <li>16. Skunk Creek Channels and Levee (1983)</li> <li>17. Cave Buttes Dam (1980)</li> <li>18. East Fork Cave Creek</li> <li>19. Arizona Canal Diversion Channel (1994)</li> <li>20. Cave Creek Channelization (1991)</li> <li>21. Dreamy Draw Dam (1973)</li> <li>22. Old Cross Cut Canal (1975) (1991)</li> <li>23. Indian Bend Wash (1985)</li> <li>24. Guadalupe Dam (1975)</li> </ol> | <ol style="list-style-type: none"> <li>25. Buckhorn-Mesa Projects               <ul style="list-style-type: none"> <li>Spook Hill Dam (1979)</li> <li>Signal Butte Floodway (1984)</li> <li>Signal Butte Dam (1987)</li> <li>Pass Mountain Diversion (1987)</li> <li>Bull Dog Floodway (1988)</li> <li>Apache Junction Dam (1988)</li> </ul> </li> <li>26. Powerline Dam (1967)</li> <li>27. Vineyard Dam (1968)</li> <li>28. Rittenhouse Dam (1969)</li> <li>29. Powerline Floodway (1968)</li> <li>30. East Maricopa Floodway (1989)</li> <li>31. Salt River Channel</li> <li>32. Dysart Drain</li> <li>33. Cöler Channel (1994)</li> <li>34. East Maricopa County ADMP               <ul style="list-style-type: none"> <li>Gilbert Crossroads Park Basin (1992)</li> <li>Guadalupe Channel (1993)</li> <li>Sossaman Road Channel (1995)</li> <li>University Dr. Drainage Improvements (1994)</li> </ul> </li> <li>35. Glendale/Peoria ADMP               <ul style="list-style-type: none"> <li>Olive Avenue Storm Drain (1992)</li> </ul> </li> </ol> |
|---|--|

Delineated  
100-year  
Floodplain

Flood Control  
Structures

Supervisory  
District  
Boundaries