A nighttime photograph of a city skyline reflected in water, with several bright lightning bolts striking down from a dark sky. The city lights are warm and yellow, while the lightning is a stark white. The water in the foreground shows some motion blur, suggesting a boat or camera movement.

CLARK COUNTY  
REGIONAL FLOOD  
CONTROL DISTRICT

**ANNUAL  
REPORT  
2000-2001**

# Board of Directors July 2001

## **Larry Brown, Chairman**

Councilman, City of Las Vegas

## **Crescent Hardy, Vice-Chairman**

Councilman, City of Mesquite

## **Shari Buck**

Councilman, City of North Las Vegas

## **James B. Gibson**

Mayor, City of Henderson

## **Michael Mack**

Councilman, City of Las Vegas

## **Chip Maxfield**

Commissioner, Clark County

## **Bryan A. Nix**

Councilman, City of Boulder City

## **Bruce L. Woodbury**

Commissioner, Clark County

## **Membership changes during the 2000-01 Fiscal Year**

**Oscar Goodman**, Mayor, City of Las Vegas, served on the Board from July 1999 through February 2001.

**Dario Herrera**, Chairman, Clark County Commission, served on the Board from July 1999 through January 2001.

**John Rhodes**, Councilman, City of North Las Vegas, served on the Board from August 1997 through June 2001.



Larry Brown, Chairman



Crescent Hardy, Vice-Chairman



Shari Buck



James B. Gibson



Michael Mack



Chip Maxfield



Bryan A. Nix



Bruce L. Woodbury

## **Mission Statement**

*The mission of the Clark County Regional Flood Control District is to improve the protection of life and property for existing and future residents from the impacts of flooding.*



RFCD Chairman Larry Brown speaks to reporters at a press conference kicking off Flash Flood Season.



## Chairman's Message Larry Brown

This past year brought significant advances in flood control for Southern Nevadans. We are about halfway through our Master Plan to protect the community from floodwaters with 57 detention basins and 270 miles of channels and underground storm drains completed.

A substantial portion of the flood control network is now in place making it possible to move into the older urban neighborhoods with improvements to control flooding problems. The Colorado Avenue

neighborhood is an example of this progress. This area has been repeatedly damaged by floodwaters, but thanks to the completion of a \$15.5 million underground storm drain system, residents are seeing the benefits of this newly finished project. Major advances are also being made on the I-15 Freeway Channel System, another important project near the Valley's urban core. This \$36 million project, along I-15 between Sahara and Alta, is about halfway complete. By next flash flood season, we

should see an end to flooding in the Charleston Underpass and surrounding business area.

We are also working aggressively to maximize taxpayer's investment in flood control by working with the entities to explore the dual use of detention basins and channels. The Lakes Detention Basin, completed last year, was constructed for dual use as a soccer complex as part of Desert Breeze Park. In addition, the Gowan South Detention Basin expansion and modification is almost complete. This basin will double as a baseball and softball complex along with a park facility. As each flood control project progresses through design, opportunities for multiuse are thoroughly explored, always making public safety the top priority. We recognize that using flood control facilities as recreational amenities maximizes the use of public lands and provides a tremendous benefit to the community.

The Nevada delegation has continued its strong support of flood control in Southern Nevada as evidenced by the \$21.6 million in appropriations last year from the

federal government for improvements on the Tropicana and Flamingo Washes project. Our Senators and Congressmen are continually educating their fellow members about the need for flood control in the desert and pushing for increased federal funding for this important infrastructure need. We appreciate their support to move flood control improvements ahead more quickly than would have been possible using only local funding.

While we have made significant progress to protect Clark County from flooding, there is more work to be done. We will continue to explore all opportunities to move projects ahead as quickly as possible to protect the community from flooding and work to maximize taxpayers' investment in a community free from the threat of floods.

Larry Brown  
RFCD Chairman  
City of Las Vegas  
Councilman

# General Manager's Message

## Gale Fraser

Substantial progress toward flood proofing our community has been made in the past year. Seven new detention basins were completed, two funded by developers, along with several miles of channels and underground storm drains. To date, 57 detention basins and 270 miles of floodwater conveyances have been built. With every completed project, the community is better protected from flooding.

Working together with the entities and guided by the vision of our Board of Directors, we have funded flood control improvements totaling \$63 million in 2000-2001. In addition, another \$21.6 million in appropriations was funded by the federal government through the U.S. Army Corps of Engineers. Since the District's inception, more than \$700 million has been provided for flood control projects in Clark County.

Last year, a priority for funding list was established because more projects were fully designed and ready for construction than funding was available. That same situation holds true this fiscal year. As of June 2001, 16 projects totaling \$86 million were on the priority

list waiting for construction funding. In an effort to move forward with flood control improvements as quickly as possible, the local governments have advanced funding for almost half of those projects with the understanding that the District will reimburse the entities as funding becomes available. This cooperative funding approach represents true community buy-in to the District's goals and ensures that flood protection will be provided in the timeliest manner possible.

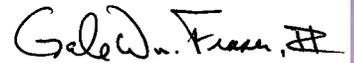
Progress to advance flood control in Southern Nevada was also made at the state level. The Nevada Legislature passed Senate Bill 267 that gives the District more options to protect families, homes and businesses from flooding. The flood proofing portion of the legislation allows the District to elevate, relocate or use other measures to protect structures from flood damage where constructing a regional facility isn't practical. The local drainage portion of the bill will allow the District to provide funding assistance for flood control improvements that are not part of our Regional Master Plan. These minor drainage facilities will address local drainage problems and will

improve the effectiveness of the larger regional flood control system.

This past year, \$21.6 million in appropriations was allocated by the federal government to construct flood control improvements along the Tropicana and Flamingo Washes in cooperation with the U.S. Army Corps of Engineers and Clark County. This partnership significantly benefits our community and advances the District's mission. The relationship that we enjoy with the federal

government would not be possible without the support we have received from our Nevada delegation in Washington, D.C.

As General Manager of the District, I am proud of our accomplishments over the past year. The District's highly qualified staff will continue to work in support of the Board and the entities throughout Clark County as we strive to be a premier regional agency providing a community free from the devastation of floods.



Gale Wm. Fraser, II, P.E.  
General Manager/  
Chief Engineer



RFCD General Manager Gale Fraser is interviewed about completion of the Colorado Avenue Storm Drain project.



Seated from left:  
Robert Murnane,  
Martin Manning,  
John Schlegel and  
Charles Kajkowski  
Standing from left:  
Scott Hansen, Allen Bell,  
James Bell and  
Richard Goecke

## Technical Advisory Committee

The Regional Flood Control District Board is advised on technical matters by a Technical Advisory Committee (TAC), the representation of which mirrors that of the Board of Directors. The current members include local public works directors, city engineers, and planning directors. The General Manager/Chief Engineer, serving as the Executive Director of the committee, and a representative of the Citizens' Advisory Committee are both non-voting members of the TAC.

### Membership of the TAC (as of July 2001):

#### Boulder City

Scott Hansen, City Engineer

#### Clark County

Martin Manning, Public Works Director  
John Schlegel, Comprehensive Planning

#### Henderson

Robert Murnane, Public Works Director, Chairman

#### Las Vegas

Richard Goecke, Public Works Director  
Charles Kajkowski, Deputy Director of Public Works, Vice-Chairman

#### Mesquite

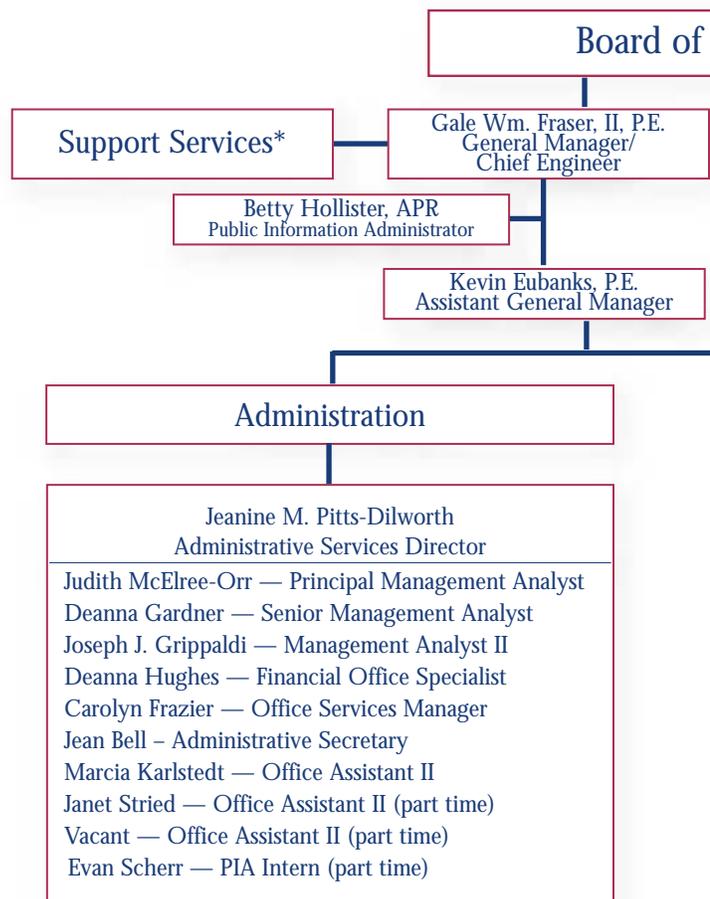
J. Allen Bell, City Engineer

#### North Las Vegas

James Bell, Public Works Director

The following TAC member resigned during the year:  
Mark Calhoun, Asst. City Manager, Henderson

## District's Organization



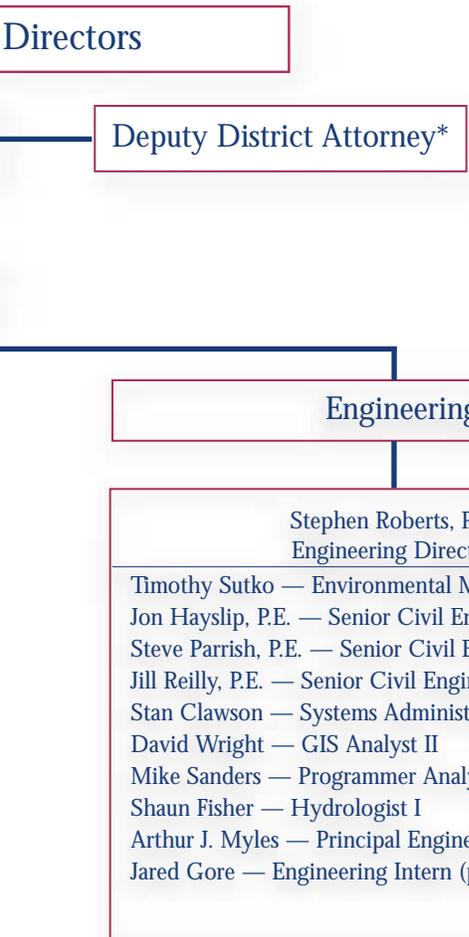
\*The Regional Flood Control District receives various support from several Clark County departments, as authorized by state statute.

Seated from left:  
 Ronald Newell, Abe  
 Mayhan, M.J. Harvey and  
 Richard Wyman

Standing from left:  
 Jack Hurley, Kelly Wittwer,  
 Michael Mamer and  
 Larry Nelson



## Organizational Chart



## Citizens' Advisory Committee

The Citizens' Advisory Committee (CAC) is comprised of one citizen appointed by the County Commission and each city council included in the District, and one citizen appointed by each member of the Board. This advisory

committee was created to represent public interest and to advise the Board on various matters. Each year the CAC tours a portion of the District's service area to keep informed of flood control progress.

### Membership of the CAC (as of July 2001):

#### Boulder City

Bob Brose • Richard Wyman

#### Clark County

M.J. Harvey, Chairman  
 Jack Hurley • Ronald Newell

#### Henderson

Larry Nelson • Calvin Black

#### Las Vegas

Abe Mayhan, Vice-Chairman  
 Donald Clark • Tony Sanchez

#### Mesquite

Natalie Hafen • 1 Vacancy

#### North Las Vegas

Michael Mamer • Kelly Wittwer

The following CAC members resigned during the year:

Philip Wucinich, Clark County  
 Edward Seum, Mesquite

CAC members toured projects and learned about the District's weather stations.

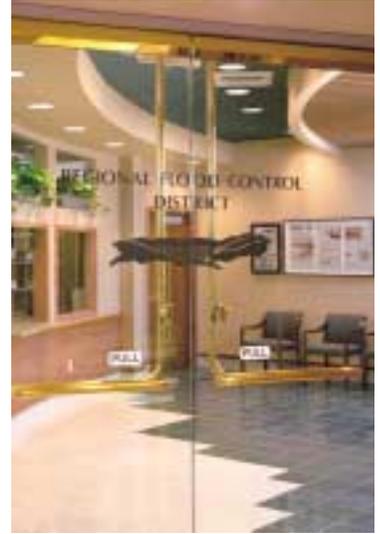




Robindale Road bridge replacement at Duck Creek (R)



With unprecedented growth and development, the flood control projects and programs required to manage floodwaters must be comprehensive and varied. This Annual Report provides background information about the District and summarizes many of the programs in place that support its mission to protect lives and property from the impacts of flooding.



## About Our Region

With more than 5,000 people moving to Clark County each month, the area continues to be one of the fastest growing in the nation.

Population estimates for 2000 show Clark County with more than 1.4 million residents and an average growth rate of 6 percent since 1995. The area is also a prime destination spot for tourists and conventions with almost 34 million people visiting the area last year.

Southern Nevada's economy makes it possible for the community to continue building and improving its infrastructure to accommodate new



residents and businesses. Last year, 55 new companies located to Southern Nevada, contributing almost \$656 million to

the economy and providing jobs for more than 7,000 residents. In addition, more than 22,000 building permits were issued for single-family and multi-family residences.

## Authority of the District

The Nevada Legislature authorized the creation of the District in 1985 to develop a coordinated and comprehensive Master Plan to solve flooding problems, to regulate land use in flood hazard areas, to fund and coordinate the construction of flood control facilities, and to develop and contribute to the funding of a maintenance program for Master Plan

flood control facilities. The District also provides public education regarding flood dangers and monitors rainfall and flow data during storms, disseminating information to appropriate public works and safety crews. The service area for the District includes Clark County and the incorporated cities of Boulder City, Henderson, Las Vegas, Mesquite, and North Las Vegas.



Thursday of the month, at which time the Board acts on policy and other flood control matters.

Annually, the Board elects a chairman and a vice-chairman from among its members, and a secretary of the Board who may or may not be a

governmental agency. The District contracts with Clark County for various legal and administrative services provided by departments such as the Comptroller, District Attorney, General Services, Human Resources, Information Systems, and Treasurer.

### I-15 Freeway Channel (Above and Below)

The District is governed by a Board of Directors comprised of the same membership as the Regional Transportation Commission, except that each board/commission elects its own officers. The Board includes two representatives from both Clark County and the City of Las Vegas, and one representative from the cities of Boulder City, Henderson, Mesquite, and North Las Vegas. Public meetings are generally held on the second

member of the Board. The Clark County Treasurer serves as treasurer for the Board.

The General Manager/Chief Engineer is responsible for surveying, investigating, reporting, and estimating the extent of flood control problems and for presenting flood control recommendations to the Board.

The Regional Flood Control District is a distinct local



Reinforced concrete box for underground storm drain (L)



The District held a press conference to increase public awareness of the dangers of flash flooding and to kick off Flash Flood Season. Metro Search and Rescue demonstrated a flash flood helicopter rescue for the event. Officer Bill Cassell explained the dangers involved.

## Keeping the Community Informed

The District's Public Information Program focuses on educating the public about the dangers of flash flooding and informing the community about the progress of flood

control in Clark County. The program also works to educate the community

about stormwater quality and how they can help improve the quality of urban runoff that travels into Lake Mead.

The Board of Directors designated July 2001 as "Flash Flood Awareness Month" and held a press

conference kicking off Flash Flood Season. The event was covered by all major news media and helped increase public awareness of a heightened potential for flash floods

during the summer months.

Special emphasis is placed on educating children

about the dangers of playing in washes and other flood control facilities. This past fiscal year, presentations were made to 6,400 children in 36 area schools, which was more than twice the number of students reached during the previous year. A



follow-up survey was sent to teachers to determine the effectiveness of the classroom presentations.

Of those who responded, 86 percent said they believed their students were deterred from playing in floodwaters as a

result of the flood safety presentation. Staff members also spoke to several community organizations; were guest speakers on television and radio shows; and were exhibitors at several large community events.

The District also conducts

a Flood Safety Advertising Campaign that warns motorists of the dangers of flash flooding through advertising on billboards, flood safety messages airing on radio traffic reports, children's television programming, and newspaper and magazine advertisements. Public Service Announcements

were also developed featuring prominent journalists at each of the four local television stations.

These were shown frequently by the media during Flash Flood Season.

Anderson Dairy printed and distributed more than 250,000 milk cartons with a flood safety message at no charge to the District,



and a flood safety informational brochure was mailed to approximately 30,000 realtors, lenders, and insurance agents in Clark County.

The District also continued production of The Flood Channel, an award-winning informational news program airing on two local government

access stations, and on cable channels in several areas outside the Valley. This program was created to inform the public about what the District does, to heighten awareness of flash flooding, and to highlight the benefits and progress of flood control in the community.



Reinforced concrete boxes for the I-15 Freeway Channel

## Enhancing Information Systems [www.ccrfcd.org](http://www.ccrfcd.org)

The District's website ([www.ccrfcd.org](http://www.ccrfcd.org)) is designed to provide information to the public about the District, current and historical rainfall data, facility maps, and flood emergency information.

Data conversion and maintenance continue to be the foundation of the District's Geographic Information System (GIS) efforts. The District's GIS staff maintains information on 100-year flood zones and provides that information to the other entities, agencies, and customers through the county's GIS

central data repository. Staff also responded to hundreds of requests for custom maps and enhanced existing GIS-based desktop and web-based applications.

During the past year, the Information Technology (IT) staff completed major steps towards integrating decision support tools and web-based applications into staff work processes. Among the highlights were 1) the completion of a web-based flood zone application allowing examination of 100-year flood zone information by

flood control staff working for the numerous entities within Clark County, 2) the implementation of a document imaging and management system gives District staff desktop access to hundreds of current and historical documents, and 3) further enhancement of the FloodView application offers District employees a visual interface to project alignments, land information, and 100-year flood zone data. Future IT projects will include web-based applications that will allow entities to enter District

project data online and provide the public with a graphical view of project alignment and other project information. Automation of the Ten-Year Construction Program can also be used by the entities for project planning.

The public should continue to visit the website as enhancements are continually being made.

Eight new billboard designs were developed to promote public awareness of flash flood dangers.

**FARFRÖMFLOATIN.**



**REGIONAL  
FLOOD  
CONTROL  
DISTRICT**



Miracle Mile Mobile Home Park during the July 1999 flood (L)

Boulder Highway bridge replacement at Flamingo Wash, downstream of Miracle Mile (R)



## Fulfilling Environmental Regulations

The District continues to assist local governments in their efforts to obtain rights-of-way and environmental permits from regulatory agencies. Throughout its history,

the District has nurtured its relationships with the Bureau of Land Management, United States Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

## History Of Flooding In Clark County

Recorded reports of flooding in Clark County date back almost one hundred years. In a special report entitled History of Flooding, Clark County, Nevada 1905-1975, the U.S. Soil Conservation Service documented 184 different flooding events that resulted in damages to private property and public facilities. Since 1960, the area has experienced at least nine “million dollar floods.” In that same period, 26 lives were lost in 13 separate flash flood events. While floods can and have occurred in

almost every month of the year, the most damaging storms typically occur between July and September.

During these hot summer months, moist unstable air from the Gulf of Mexico is rapidly forced upward by hot air currents. The dynamics of this process often result in spectacular displays of lightning in the desert sky. Too often, they also cause severe thunderstorms with intense rainfall. Falling on steep mountain slopes and armored desert surfaces, the rainwater runs off rapidly and concen-

trates in the urbanized areas at lower elevations.

Most residents and visitors are unaware of the flood potential or never see flooding occur until it is too late. Aside from the tremendous property damage and deaths related to flooding, Clark County residents experience inconvenience by impassable or difficult to travel roads. Support services such as police, fire, and ambulance are sometimes delayed in responding to victims of life-threatening incidents. Flood events can also adversely impact

the local economy through loss of business at commercial establishments due to decreased access. Furthermore, flooding in the Las Vegas Valley can become national news and deter tourists from visiting the area.

The average annual rainfall for the Las Vegas Valley as measured by the National Weather Service (NWS) at McCarran International Airport is slightly more than 4 inches. During the 2000 calendar year, 3.47 inches of rain was recorded at that site.



Ville Drive flood control facilities (R)



## Master Planning

The Master Plan includes detailed hydrologic modeling of each populated watershed in Clark County along with land use, existing facilities, soil, and topographic data. The recommendations in the plan include descriptions of the proposed flood control facilities, cost estimates, and suggested phasing. Typical facilities are detention basins, channels, bridges, and storm drains.

Periodic Master Plan Updates are required by law to account for

changes in land use, the construction of new facilities, and to account for improved hydrologic and hydraulic data. A Master Plan Update for Moapa Valley was adopted this year. Master Plan Updates for the City of Mesquite and the Town of Bunkerville were initiated in Fiscal Year 1999-00 and are scheduled for adoption in Fiscal Year 2001- 02.

Per statute, Master Plan amendments and changes allow adaptations to reflect modifications to the watershed and

improvements to the Plan. Amendments generally involve an addition, deletion, or substantial modification to the Plan and must be approved by the city or county proposing the amendment. A change differs from an amendment in that a change in the size, type,

or alignment of a facility may be authorized by the Board if the change is hydraulically similar, is the most cost-effective means, and does not adversely affect implementation of the Plan. In Fiscal Year 2000-01, no amendments or changes to the Master Plan were processed.



Hemenway Park Detention Basin (L)

Black Mountain Detention Basin (R)





## Floodplain Management

The elements of a comprehensive floodplain management program include regulations, the community rating system, land development reviews, drainage standards, and floodplain mapping. The following sections briefly describe each of these categories being utilized by the entities and the District, as well as the milestones accomplished in Fiscal Year 2000-01.

### Regulatory Program

The National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency, has established rules and requirements to address the diverse issues that encompass flood insurance and flood hazard mitigation. Clark County and the incorporated communities within the County have adopted the Revised Uniform Regulations for the

Control of Drainage in accordance with state statutes. These regulations are designed to protect the health, safety, and welfare of residents within the District from the hazards associated with flooding. The regulations provide the minimum regulatory control necessary to: 1) promote comprehensive floodplain management, 2) require safe flood-prone area development, 3) foster sound development policies and construction procedures, and 4) reduce storm water runoff damage to public and private property.

By meeting and exceeding the NFIP requirements, the regulations ensure that the residents of Clark County and incorporated areas are eligible for flood insurance that is available from the federal government. Additionally, all participating communities are eligible for a higher federal match for disaster

assistance in the event of a flood.

### The Community Rating System

Initiated in 1990, the Community Rating System (CRS) reduces flood insurance premiums to reflect those community activities that are above and beyond the NFIP's minimum standards. The objective of the CRS is to reward insured residents for their community's continued involvement, as well as provide an incentive for new flood protection activities.

Nationwide, of the 18,500 communities participating in the NFIP, only 875 community flood management programs were recognized by CRS verification audits. In a cooperative effort with the District, Clark County, the City of Henderson, the City of Las Vegas, and the City of North Las Vegas were among the communities to realize a 5 to 15

percent reduction in flood insurance premiums as a result of these audits.

These entities received credit for the District's public information programs, maintenance activities, re-mapping efforts, and the Flood Threat Recognition System. In addition, the District's Master Plan, Hydrologic Criteria and Drainage Design Manual, and the Uniform Regulations for the Control of Drainage serve as the foundation of a "higher regulatory standard" that has been recognized by CRS auditors as one of the most comprehensive in the nation.

### Land Development Reviews

The District performs land development reviews to ensure compliance with the Uniform Regulations for the Control of Drainage and the District's Policies and Procedures Manual, both adopted pursuant to the state statutes. The entities

are responsible for the review and approval of all drainage plans and studies within their boundaries. The entities must submit development proposals to the District for review if the development has regional flood control significance, meaning those facilities, land alterations, portions of the natural drainage system, and regulatory actions that impact the implementation of the Master Plan, or lie within Special Flood Hazard Areas. In accordance with the District's policies and procedures, staff will commence review once the entity approval is obtained for the pending studies.

This past year, the District received 446 studies and 335 addenda related to the development of private properties deemed to have regional significance. Reviews by the District resulted in the issuance of 363

concurrence letters and 20 related comment letters.

### Drainage Standards

The District and the entities have adopted the Hydrologic Criteria and Drainage Design Manual. The Manual presents drainage standards and criteria for the Clark County area. It provides uniformity in drainage planning and design within the District's service area, improves the urban environment, and provides a sound basis for the expenditure of future private, public and regional monies. The Manual is used by governmental designers and reviewers, and consulting engineers.

Criteria for the analysis and design of flood control facilities in arid areas are dynamic. In 1999, a committee of representatives from the entities' Public Works

Departments, the Southern Nevada Home Builders Association, and the American Council of Engineering Companies initiated a review and update of the Manual to provide more clarity and address advances in state-of-the-art hydrologic and hydraulic techniques.

### Floodplain Mapping

All six local governments in Clark County are currently participating in the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP). In participating communities, residents are eligible for federally guaranteed home mortgages and federally subsidized flood insurance. In order to participate in the NFIP, communities must adopt flood hazard maps prepared by FEMA, and floodplain regulations in compliance with FEMA's minimum requirements.

It is the District's objective to reduce flood hazards by implementing the Flood Control Master Plan. As part of the District's ongoing effort to improve the accuracy of FEMA's flood insurance rate maps and take credit for completed flood control facilities, restudy of flood hazard areas are required. Many areas have already been restudied—resulting in the removal of approximately 25 square miles or 16,120 acres from identified 100-year flood zones. Studies are on-going for the Duck Creek from Las Vegas Wash to Interstate Highway 15; Blue Diamond Wash from UPRR to Duck Creek; Blue Diamond Wash from UPRR to Upper Blue Diamond Detention Basin; Tropicana Wash and tributaries from the Flamingo Wash to the Southern Beltway; and the Gowan/Bradley Area.

In Fiscal Year 2001-02, the District will continue to work closely with the entities and FEMA to further the restudy efforts. FEMA's involvement, from both a financial and a technical review standpoint, is appreciated.



Reinforced concrete pipes for storm drains



Lower Red Rock Complex  
(L)

Lower Flamingo  
Diversion Channel  
(R)



## Partnering With the Federal Government

**U**.S. Army Corps of Engineers' Tropicana and Flamingo Washes Project, located in the southwestern portion of Las Vegas Valley, includes: three detention basins, modifications to two existing detention basins, three debris basins, 27.7 miles of primary channel, a network of lateral collector channels, and desert tortoise mitigation.

In February 1995, the District, Clark County, and the U.S. Army Corps of Engineers (Corps) executed a Project Cooperation Agreement (PCA) that defines responsibilities of

each party for implementation, planning, funding, design, construction, operation and maintenance of a \$277.5 million network of flood control facilities. The District hopes to secure \$210 million in federal funding through this agreement and is responsible for the local sponsors' financial obligation of \$67.5 million. The District is responsible for project management and funding for approximately 25 percent of total project costs. Clark County will acquire rights-of-way, provide surveying and engineering services for utility relocations and bridge crossings, and

operate and maintain the facilities upon completion of the project. The Corps will provide project management, design, construction management, and funding for approximately 75 percent of total project costs.

The District, Clark County, and the Corps achieved significant progress on the Tropicana and Flamingo Washes Project during Fiscal Year 2000-01. The project currently is about 60 percent complete and is scheduled for completion in 2005.

Last year, considerable work (pre-design, design, rights-of-way acquisition and utility relocations) was either initiated or completed on many features of the project.

The Corps completed construction of three projects: Blue Diamond Detention Basin, Lower Red Rock Complex, and Red Rock Channel between Hualpai Way and Sahara Avenue, adjacent to Section 10A of Las Vegas

Beltway. The Corps started construction of two additional projects: Lower Flamingo Diversion Channel and Red Rock Detention Basin Scour Protection. Clark County completed construction of Red Rock Channel between Tropicana Avenue and Hualpai Way, adjacent to Section 9 of Las Vegas Beltway.

In November 2000, Congress appropriated \$21.6 million for federal Fiscal Year 2001 for the Tropicana and Flamingo Washes Project, increasing total federal appropriations to \$121.6 million for these important flood control improvements. By securing federal appropriations, the District leverages revenue from local sales tax and is able to accelerate completion of needed flood control improvements. In April 2001, the District prepared testimony seeking continued federal appropriations for federal Fiscal Year 2002 of \$20 million in appropriations for construction and \$5 million in appropriations

for Section 211 of the Water Resources Development Act of 1996 (WRDA 96).

This year Clark County completed construction of the Las Vegas Beltway and adjacent flood control facilities through the Tropicana and Flamingo Washes watershed. For the past five years, the District, Clark County, and the Corps closely coordinated design and construction of the Las Vegas Beltway and portions of Blue Diamond and Red Rock Channels. This was done in order to provide portions of the federal flood control project in advance of the Corps because of Corps funding constraints. Through the Nevada congressional delegation, the District included the Tropicana and Flamingo Washes Project in Section 211 of WRDA 96 with the goal of receiving

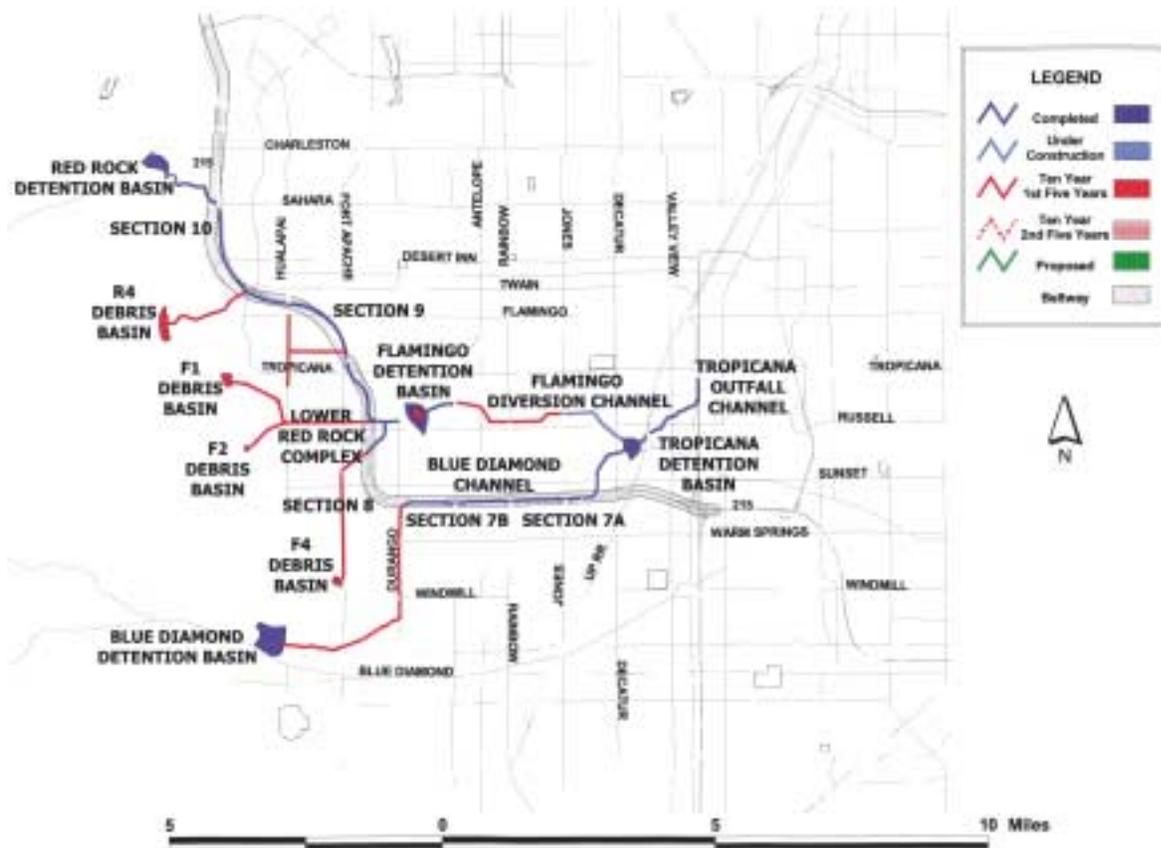
reimbursement from the Corps for costs of the Beltway channels, along with other flood control improvements completed by the local sponsors in advance of the Corps.

This year, the District and Clark County submitted to the Corps documentation of design and construction

costs of flood control facilities completed locally in advance of the Corps. Reimbursement from the Corps is being sought for work under provisions of Section 211 of WRDA 96. Local sponsors have funded and completed approximately \$24.6 million in work to date, primarily flood control channels

located parallel and adjacent to the Las Vegas Beltway. Last year, local sponsors received \$1.6 million in Section 211 reimbursement, which was a significant achievement as one of the first in the nation to receive this compensation.

### Tropicana and Flamingo Washes Project Area



Lower Flamingo Diversion Channel (L)

Red Rock Detention Basin erosion improvements (R)





Las Vegas Wash Wetlands  
Park area (L)



Lake Mead (R)

## Keeping Our Waters Clean

In accordance with the Federal Water Pollution Control Act, the Clark County Regional Flood Control District, as lead agency, was granted a National Pollutant Discharge Elimination System (NPDES) permit in December 1990. The permit was issued by the Nevada Division of Environmental Protection (NDEP) to eight co-permittees representing the various city, county, and state agencies owning and operating municipal separate storm sewer systems in the Las Vegas Valley. The NPDES permit authorizes

discharge from stormwater outfalls to the Las Vegas Wash. In return, the permit outlines a schedule of monitoring requirements, best management practices, and conditions designed to promote the reduction of pollutants in stormwater discharges.

The District contracted with a professional engineering firm to assist in the monitoring, laboratory analysis, reporting, and program development efforts required by the permit. Ten specific program areas must be addressed and summarized in an annual report to

NDEP. The District implements a wet weather-monitoring plan using automated monitoring equipment that was installed at the six major stormwater outfalls to the Las Vegas Wash. In 1997, an additional monitoring station was added on the Las Vegas Wash in cooperation with the U.S. Geological Survey (USGS). A considerable number of storm events have been monitored since the equipment was installed in 1992, and our water quality database is building as new data is obtained.

An informational brochure was distributed through the various co-permittees to inform the public of proper household hazardous waste disposal methods and existing programs. NDEP presented several NPDES regulation seminars with the District. Through these seminars, information about NPDES Stormwater General and Municipal Permits was disseminated to private and

public engineers and the construction community.

A new website was developed, [www.lvstormwater.com](http://www.lvstormwater.com), that provides information about stormwater quality, describes proper use and disposal of chemicals and fertilizers, and educates the community about how to improve the quality of urban runoff that travels untreated to Lake Mead. Several community and environmental events were attended to help educate the public about stormwater quality. Pet waste bags, pet food lids, note pads and stickers were distributed at these community events, and each giveaway included a consistent message about protecting the environment and Lake Mead. An enviroscape model was purchased and used to demonstrate for children and adults how stormwater travels through a network of storm drains and channels to reach Lake Mead. A television public service

announcement (PSA) was developed and distributed to all local media and local government access stations. The PSA was used to educate the community about how various pollutants are transported through the drainage network to Lake Mead. The District is an active member of the Lake Mead

Radio repeaters allow the District to monitor weather throughout the County.

Water Quality Forum and the Las Vegas Wash Coordination Committee. The District also participates on the Management Advisory Committee for the Las Vegas Wash.



## Monitoring the Weather

The District, in cooperation with the U.S. Geological Survey (USGS) and the National Weather Service (NWS), is continuing to implement a Flood Threat Recognition System (FTRS) throughout the Clark County area. The

system includes a network of strategically located field stations which automatically report data from more than 250

meteorologic sensors in real-time to computerized base stations operated by each of the cooperating agencies. During the fiscal year, nine new stations were installed, bringing the total number of field stations in operation to 120. Of this total, two-

dozen stations collect temperature, humidity and wind data, in addition to rainfall data. Fifty-five stations collect rainfall and water level information. The remaining 41 stations report only rainfall data.



The FTRS provides valuable information on water levels, rainfall, and other meteorologic parameters. Information on wind

speed and direction helps the NWS track severe storms in the Clark County area and issue more timely and site-specific weather statements than were previously possible. The District enhances its own ability to identify and

track potential flood producing storms by subscribing to a weather data service that provides access to satellite images and the NWS's Doppler radar system. The District's fully-automated base station notifies staff, both in and out of the District's offices, of potentially dangerous situations. Using computer modem linkups to the base station, staff can then assess the potential for flooding and begin alerting public works and other emergency response personnel.

The information provided by this system helps emergency response teams to more effectively direct their limited resources. The District maintains 11 modems to provide local governmental agencies, the news media and staff with access to the FTRS.

The first field stations were installed in 1987, and were jointly funded by the USGS and the District. Since 1987, the District has steadily increased the coverage provided by the field stations by providing funding to the USGS for the installation of new stations, as well as by installing additional stations on our own. Ten of the field stations are maintained by the USGS under the terms of a joint funding agreement with the District. The District maintains the remaining 110 stations.

The District provides access to the Flood Threat Recognition System data via the world wide web ([www.ccrfcd.org](http://www.ccrfcd.org)). Citizens can access both historic and real-time rain and weather data collected from any of the District's field stations.



Colorado Avenue Storm  
Drain Box-A-Thon  
(L & R)

Mountridge Storm Drain  
(Below)



## Demonstrating Fiscal Integrity

In the primary election of 1986, Clark County voters approved a one quarter of one percent sales tax increase to fund flood control improvements. The sales tax increase became effective in March 1987, and the first sales tax revenues were received in May 1987.

Sales tax revenues for the past fiscal year totaled \$55,808,186, and interest earnings in the Operating Fund (Fund 286) amounted to \$1,432,848. This brings total revenues derived from sales tax since 1987 to \$464,365,144. Sales tax revenues for Fiscal Year 2001-02 are projected to

be approximately \$58.4 million.

In Fiscal Year 2000-01, the Capital Improvement Fund (Fund 443) and the Construction Bond Fund (Fund 444) earned \$10,768,690 in interest.

This has allowed the District to maximize funding of the Capital Improvement Program (CIP) by funding additional projects. In Fiscal Year 2000-01, the District was able to fund approximately \$63 million in CIP projects.

Furthermore, the District is currently expediting the completion of all CIP projects in order to

reallocate any remaining funding to new projects.

During Fiscal Year 2000-01, requests for funding CIP projects exceeded available District resources. As a result, the District is

maintaining a priority list for funding. The District recognizes the need to expedite the implementation of the Master Plan, and staff has executed several solutions to address resource limitations.

The District began an Entity Advance Funding process to address funding limitations for project construction. This process allows an entity to fund projects ahead of the District's funding schedule and be reimbursed by the District when funds become available. Approximately \$60 million in construction projects have been accelerated by

this process. Additionally, the District augmented the Fiscal Year 2000-01 budget by \$14.7 million. This additional revenue resulted from unexpected beginning fund balance, additional sales tax and

interest revenue, and maximum use of Fiscal Year 2000-01 ending fund balance. Through this budget change,

the District was able to fund several additional flood control improvements. Staff continues to work toward additional solutions to address funding limitations while providing the maximum amount of resources for funding flood control infrastructure.

The Government Finance Officers Association of the United States and Canada (GFOA) recognized the District for its Fiscal Year



2000-01 Budget and Financial Plan. The District received the Distinguished Budget Presentation Award, the highest form of recognition in governmental budgeting awarded for the seventh consecutive year by the national association. In order to receive the GFOA award, the District had to satisfy nationally recognized guidelines for effective budget presentation as judged by a panel of

government finance professionals.

Table I lists the Operating Fund revenues



and expenditures of the District for Fiscal Year 2000-01. As shown in Table II, the District has kept administrative costs to an absolute minimum in order to allow maximum funding for the construction and maintenance of flood control projects. Table III details the resources made available to the Capital Improvement Fund through funding contracts, and the associated CIP expenditures. Table IV

lists the resources and expenditures of the Construction Bond Fund, and Table V outlines the corresponding Bond Debt Service Fund activity. Table VI highlights the District's Facilities Maintenance Fund, which provides resources for the Maintenance Work Program.

Channel improvements along Duck Creek (Above and Below)



## Entity Advance Funding Process

The Entity Advance Funding process was initiated this past fiscal year to allow the entities to build flood control projects ahead of the District's funding schedule and be reimbursed by the District when funds become available. This process has accelerated approximately \$60 million in construction projects of which \$32 million remain on a priority list for funding as of June 30, 2001. During Fiscal Year 2000-01, the District was able to provide funding for approximately \$26 million entity advance funded projects. The Entity Advance Funding process has provided the community with additional flood control protection in advance of the District's funding schedule, and has created a win-win relationship for the District, the entities, and the citizens of Clark County.

### Entity Advance Funding Outstanding on June 30, 2001

#### Boulder City

Ville Drive Flood Control Facilities	\$ 859,947
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#### Clark County

Flamingo Wash, Boulder Hwy to Mojave Road	7,500,000
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Flamingo Wash, Spencer Street Bridge and Approach Channel	2,127,000
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#### Las Vegas

Ann Road, Allen Lane to Rancho Drive	9,450,000
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Las Vegas Wash – Rancho Drive System, Phase I	6,588,000
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Las Vegas Wash – Smoke Ranch System	2,288,000
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Phase II of the Las Vegas Wash – Rancho Drive System, Smoke Ranch Road to Peak Drive	3,456,000
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<b>Outstanding Commitments</b>	<b>\$ 32,268,947</b>
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Duck Creek at Stephanie  
(L&R)



**Table I — Fund 286**  
**Operating Fund**  
Schedule of Resources and Expenditures  
Fiscal Year Ending June 30, 2001

	<b>FY 2000-01</b> <i>Unaudited</i>	<b>FY 1999-00</b> <i>Prior Year<sup>1</sup></i>
<b>RESOURCES</b>		
Sales and Use Tax	\$ 55,808,186	\$ 52,958,759
Interest	1,432,848	384,638
Transfers In (From Fund 443)	5,804,118	7,212,723
Other	10,984	16,136
<b>Total Resources</b>	<b>\$ 63,056,136</b>	<b>\$ 60,572,256</b>
<b>EXPENDITURES</b>		
Salaries & Wages	\$ 1,477,726	\$ 1,233,608
Employee Benefits	438,127	359,254
Services and Supplies	3,305,445	1,379,775
Capital Outlay	144,675	719,725
Capital Improvement Fund (Transfers to Fund 443)	56,763,078	25,015,103
Facilities Maintenance Fund (Transfers to Fund 287)	3,925,455	6,237,463
Bond Debt Service Fund (Transfers to Fund 330)	19,854,787	19,633,589
<b>Total Expenditures</b>	<b>\$ 85,909,293</b>	<b>\$ 54,578,517</b>
<b>FUND BALANCE</b>		
Beginning of Year	\$ 32,754,104	\$ 26,760,365
End of Year	<b>\$ 9,900,947</b>	<b>\$ 32,754,104</b>
Reserved Fund Balance <sup>2</sup>	\$ 1,415,827	\$ 1,238,558
Designated Fund Balance <sup>3</sup>	\$ 8,485,120	\$ 31,515,546
Undesignated Fund Balance	\$ 0	\$ 0

<sup>1</sup>Audited financial statements are available upon request.

<sup>2</sup>Reserved Fund Balance is the portion that the District has contractually obligated either through Interlocal Contracts or Purchase Orders.

<sup>3</sup>Designated Fund Balance is the portion that the District has earmarked for projects that are part of the Ten-Year Construction Program.

I-15 Freeway Channel  
(R)



Desert Inn Detention Basin (Above)

I-15 Freeway Channel at Walden  
(Middle)

Lower Flamingo Diversion Channel  
(Bottom)



Table II

# FY 2000-01 Distribution of Operating Fund Expenditures

Capital Improvement Fund	\$ 56,763,078	66.1%
Bond Debt Service Fund <sup>1</sup>	\$ 19,854,787	23.1%
Facilities Maintenance Fund	\$ 3,925,455	4.6%
Operations		
Administration	\$ 2,646,180	3.0%
Professional Consulting Services	\$ 2,575,118	3.0%
Capital Equipment	\$ 144,675	0.2%
<b>Total Expenditures</b>	<b>\$ 85,909,293</b>	<b>100.0%</b>

<sup>1</sup>Bond Debt Service includes 1991 (\$80 million) and 1998 (\$150 million) general obligation bonds that were issued to expedite construction of flood control improvements.

## Distribution of Operating Fund Expenditures

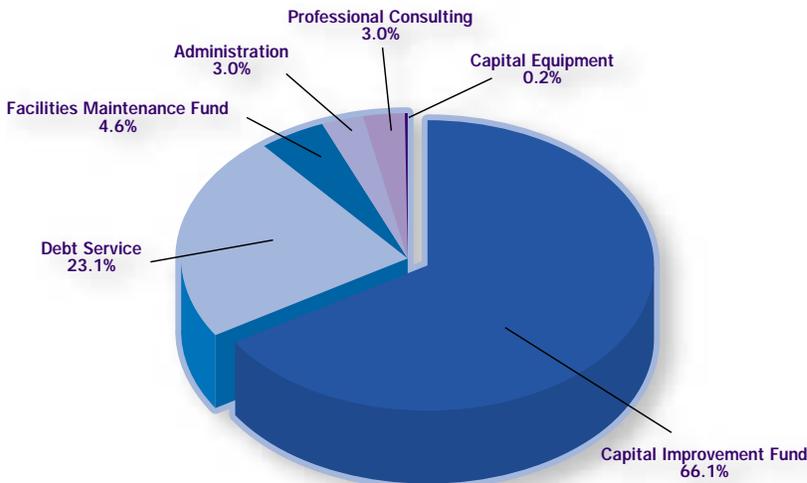


Table III — Fund 443  
**Capital Improvement Fund**  
 Schedule of Resources and Expenditures  
 Fiscal Year Ending June 30, 2001

	<u>FY 2000-01</u> <i>Unaudited</i>	<u>FY 1999-00</u> <i>Prior Year</i>
<b>RESOURCES</b>		
Transfers In (From Fund 286)	\$ 56,763,078	\$ 25,015,103
Interest	5,027,521	1,813,149
Other	0	560
<b>Total Resources</b>	<b>\$ 61,790,599</b>	<b>\$ 26,828,812</b>
<b>EXPENDITURES</b>		
Capital Improvement Program	\$ 26,566,277	\$ 23,147,465
Transfers Out (To Fund 286)	5,804,118	7,212,723
Services and Supplies	41,925	35,924
<b>Total Expenditures</b>	<b>\$ 32,412,320</b>	<b>\$ 30,396,112</b>
<b>FUND BALANCE</b>		
Beginning of Year	\$ 41,391,851	\$ 44,959,151
End of Year	<b>\$ 70,770,130</b>	<b>\$ 41,391,851</b>
Reserved Fund Balance <sup>2</sup>	\$ 70,680,981	\$ 41,302,702
Designated Fund Balance <sup>3</sup>	\$ 89,149	\$ 89,149
Undesignated Fund Balance	\$ 0	\$ 0

<sup>1</sup> Audited financial statements are available upon request.

<sup>2</sup> Reserved Fund Balance is the portion that the District has contractually obligated either through Interlocal Contracts or Purchase Orders.

<sup>3</sup> Designated Fund Balance is the portion that the District has earmarked for projects that are part of the Ten-Year Construction Program.



Colorado Avenue  
Storm Drain (L & R)





Reinforced concrete pipes  
for Northern Beltway (L)

Colorado Avenue  
Storm Drain (R)



### Construction Bond Fund Balance Fund 444

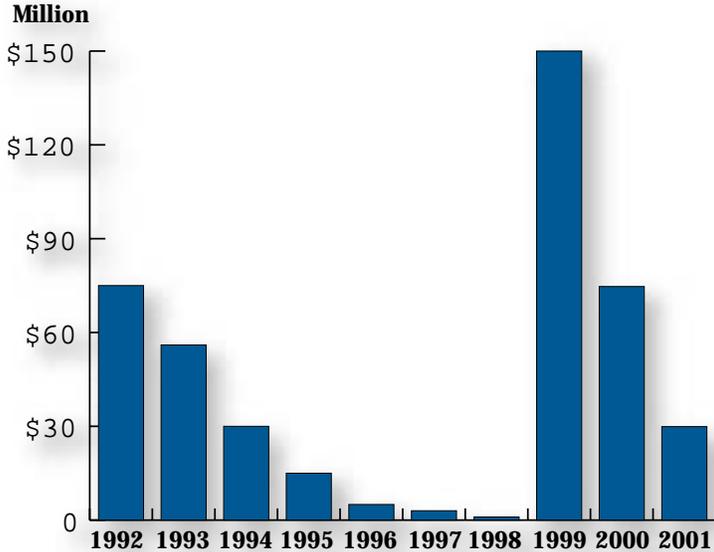


Table IV — Fund 444

## Construction Bond Fund

Schedule of Resources and Expenditures  
Fiscal Year Ending June 30, 2001

	FY 2000-01 <i>Unaudited</i>	FY 1999-00 <i>Prior Year</i>
<b>RESOURCES</b>		
Interest	\$ 5,741,169	\$ 4,447,221
Other	51,321	420
<b>Total Resources</b>	<b>\$ 5,792,490</b>	<b>\$ 4,447,641</b>
<b>EXPENDITURES</b>		
Project Expenditures	\$ 50,563,339	\$ 78,460,883
Services and Supplies	51,800	93,497
<b>Total Expenditures</b>	<b>\$ 50,615,139</b>	<b>\$ 78,554,380</b>
<b>FUND BALANCE</b>		
Beginning of Year	\$ 74,728,095	\$148,834,834
End of Year	<b>\$ 29,905,446</b>	<b>\$ 74,728,095</b>
Reserved Fund Balance <sup>2</sup>	\$ 28,918,322	\$ 72,500,690
Designated Fund Balance <sup>3</sup>	\$ 987,124	\$ 2,227,405
Undesignated Fund Balance	\$ 0	\$ 0

<sup>1</sup>Audited financial statements are available upon request.

<sup>2</sup>Reserved Fund Balance is the portion that the District has contractually obligated either through Interlocal Contracts or Purchase Orders.

<sup>3</sup>Designated Fund Balance is the portion that the District has earmarked for projects that are part of the Ten-Year Construction Program.



## Table V — Fund 330 Bond Debt Service Fund

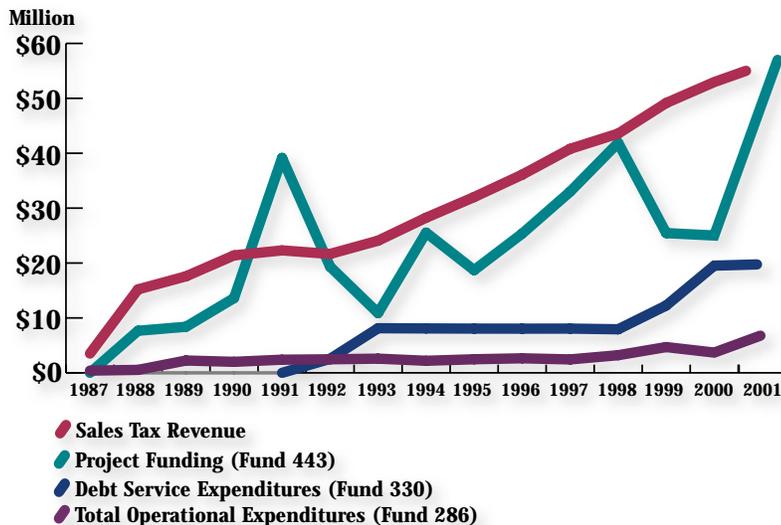
Schedule of Resources and Expenditures  
Fiscal Year Ending June 30, 2001

	FY 2000-01 <i>Unaudited</i>	FY 1999-00 <i>Prior Year</i> <sup>1</sup>
<b>RESOURCES</b>		
Interest	\$ 786,690	\$ 279,611
Transfers In (From Fund 286)	19,854,787	19,633,589
<b>Total Resources</b>	<b>\$ 20,641,477</b>	<b>\$ 19,913,200</b>
<b>EXPENDITURES</b>		
Bond Principal & Interest Payments <sup>2</sup>	\$ 19,528,129	\$ 19,515,145
Services and Supplies	8,882	7,835
<b>Total Expenditures</b>	<b>\$ 19,537,011</b>	<b>\$ 19,522,980</b>
<b>FUND BALANCE</b>		
Beginning of Year	\$ 8,575,109	\$ 8,184,889
End of Year	<b>\$ 9,679,575</b>	<b>\$ 8,575,109</b>

<sup>1</sup> Audited financial statements are available upon request.

<sup>2</sup> Bond Debt Service includes 1991 (\$80 million) and 1998 (\$150 million) general obligation bonds that were issued to expedite construction of flood control improvements.

**Sales Tax Revenue Compared to:  
Project Funding (Fund 443)  
Operational Expenditures (Fund 286)  
Debt Service Expenditures (Fund 330)**



# Maintaining Flood Control Facilities

The Board has adopted an Operations and Maintenance Manual to establish performance standards and guidelines for the maintenance of flood control facilities located within the District's service area. Each of the separate entities in Clark County is provided funds by the District to maintain the regional flood control facilities within their respective jurisdictions. The District worked with the entities to develop

Maintenance Work Plans and Budgets. On June 8, 2000, the Board approved the Maintenance Work Program (MWP) plans and budgets in the amount of \$4,923,562.

Flood control facility maintenance was performed using a combination of private contractors and entity maintenance staff. During this year, approximately 270 miles of channels and underground storm drains were inspected and/or maintained

throughout the service area of the District, along with 57 detention basins.

## Maintenance Work Program

FY 2000-01

Entity	Amount Expended
Boulder City	\$ 287,194
Clark County	\$ 2,336,168
Henderson	\$ 220,795
Las Vegas	\$ 1,249,000
Mesquite	\$ 125,175
North Las Vegas	\$ 294,754
<b>TOTAL</b>	<b>\$ 4,513,086</b>

Table VI — Fund 287

## Facilities Maintenance Fund

Schedule of Resources and Expenditures  
Fiscal Year Ending June 30, 2001

	FY 2000-01 <i>Unaudited</i>	FY 1999-00 <i>Prior Year</i> <sup>1</sup>
<b>RESOURCES</b>		
Transfers In (From Fund 286)	\$ 3,925,455	\$ 6,237,463
Interest	386,950	104,210
Other	71,353	1,733
<b>Total Resources</b>	<b>\$ 4,383,758</b>	<b>\$ 6,343,406</b>
<b>EXPENDITURES</b>		
Maintenance Work Program	\$ 4,513,086	\$ 4,937,125
Services and Supplies	3,535	82,302
<b>Total Expenditures</b>	<b>\$ 4,516,621</b>	<b>\$ 5,019,427</b>
<b>FUND BALANCE</b>		
Beginning of Year	\$ 1,323,979	\$ 0
End of Year	<b>\$ 1,191,116</b>	<b>\$ 1,323,979</b>
Reserved Fund Balance <sup>2</sup>	\$ 410,476	\$ 1,323,979
Designated Fund Balance <sup>3</sup>	\$ 780,640	\$ 0
Undesignated Fund Balance	\$ 0	\$ 0

<sup>1</sup>Audited financial statements are available upon request.

<sup>2</sup>Reserved Fund Balance is the portion that the District has contractually obligated either through Interlocal Contracts or Purchase Orders.

<sup>3</sup>Designated Fund Balance is the portion that the District has earmarked for Maintenance Work Program projects.

# Funding Approved During FY 2000-01

## BOULDER CITY

North Railroad Watershed, Veterans Memorial Drive Culvert	\$	127,900
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## CLARK COUNTY

Corps of Engineers' Tropicana / Flamingo Washes Project		3,000,000
Duck Creek at Robindale Road <sup>3</sup>		1,130,000
Duck Creek, Emerald Avenue to Stephanie Street <sup>3</sup>		6,905,000
Duck Creek, Hollywood Boulevard to Stephanie Street		390,500
Duck Creek, Tomiyasu Lane to Topaz Street <sup>3</sup>		3,650,000
Durango Collector <sup>1&amp;2</sup>		(700,000)
Flamingo Diversion, Jones Branch		200,000
Flamingo Wash, I-515 to McLeod Drive		64,000
Lakes Detention Basin, Collection System, and Outfall		95,000
Orchard Detention Basin		250,000
Rawhide Channel at Sagebrush Street <sup>2</sup>		(58,246)
Red Rock Channel, Naples Branch		700,000
Sloan Channel, Las Vegas Wash to Charleston Boulevard		300,000
Tropicana Wash - Paradise to Koval, Construction <sup>1&amp;2</sup>		(282,800)
Tropicana Wash - Paradise to Koval, Design <sup>2</sup>		(11,334)
Washington Avenue Collection System		960,000

## CLARK COUNTY OUTLYING

Bunkerville Channel Windmill Wash <sup>2</sup>		(1,589)
Hiko Springs Outfall Channel <sup>2</sup>		(450,000)
Indian Springs Flood Control Improvements		100,000

## HENDERSON

Black Mountain Detention Basin, Construction <sup>1&amp;2</sup>		(1,641,816)
Black Mountain Detention Basin, Design <sup>2</sup>		(49,951)
Boulder Highway Channel		155,000
C-1 Channel, Middle and Upper Reaches - Phase I, Burkholder Boulevard to Boulder Highway <sup>1</sup>		7,100,000
Equestrian Detention Basin <sup>2</sup>		(319,374)
Gibson Channel <sup>2</sup>		(64,875)
Gibson Channel Culvert at Sunset Road		345,000
Pioneer Detention Basin <sup>3</sup>		4,885,000
Pioneer Detention Basin Outfall - Ph.1, Construction <sup>1&amp;2</sup>		(2,047,011)
Pittman Eastern Detention Basin		5,950,000
Pittman Park Detention Basin, Construction <sup>2</sup>		(148,750)
Pittman Pecos West Conveyance & Eastern Avenue Tributary		950,000
Pittman Wash Lower Reach		210,000
Pittman Wash Railroad Channel		580,000
Railroad East Detention Basin		330,000
South Pittman Detention Basin		225,000

Flamingo Wash downstream  
of Boulder Highway



# Funding Approved During FY 2000-01

## LAS VEGAS

CAM 10 Detention Basin	\$ 300,000
Freeway Channel North, Washington Avenue to Vegas Drive	50,000
Freeway Channel System, Alta Drive to UPRR	416,400
Freeway Channel System, Alta Drive to Sahara Avenue & Bypass Facility <sup>1</sup>	4,540,000
Gowan North - Buffalo Branch, Gowan and Buckskin <sup>2</sup>	(218,227)
Gowan North - Buffalo Branch, Cheyenne Avenue to Lone Mountain Road <sup>1&amp;3</sup>	2,510,000
Gowan North Channel - Detention Basin to Buffalo <sup>2</sup>	(237,715)
Gowan Outfall - Lone Mountain Branch, Allen Lane to Ferrell Street	70,000
Gowan South Detention Basin Expansion	2,690,000
Gowan/Lone Mountain System, Gilmore Channel	1,434,778
Las Vegas Wash - Rancho Drive System, Peak Drive to Lake Mead Boulevard	90,000
Oakey Detention Basin - I-15 to Decatur Boulevard <sup>2</sup>	(38,762)
Owens Avenue System, Rancho Drive to I-15	116,000
Rancho Road System, Durango Drive to US-95 Interchange	335,000
Upper Washington Avenue Channel <sup>2</sup>	(43,315)
Upper Washington Avenue - Sagman Street to Bonanza Road <sup>2</sup>	(137,599)
Washington Avenue and Freeway Channel North <sup>3</sup>	5,150,000

## MESQUITE

Abbott Wash Channel, I-15 to Virgin River	315,000
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## NORTH LAS VEGAS

Centennial Parkway Channel East	863,000
Gowan Outfall, Craig Road to Channel <sup>3</sup>	1,700,000
Gowan Outfall, Craig Road to Channel	90,000
Las Vegas Wash, Losee Project	600,000
Simmons Street Channel	600,000
Vandenberg Detention Basin <sup>1&amp;2</sup>	(676,093)
Western Tributary of the Las Vegas Wash, Phase I <sup>1&amp;2</sup>	(56,055)
Western Tributary of the Las Vegas Wash, Phase II <sup>1&amp;2</sup>	(400,000)
Upper Las Vegas Wash	2,500,000
<b>Funding Commitments</b>	<b>\$ 62,972,578</b>
<b>Funding Reductions</b>	<b>\$ (7,583,512)</b>
<b>TOTAL FUNDING APPROVED, FY 2000-01</b>	<b>\$ 55,389,066</b>

<sup>1</sup> Indicates funding from the 1998 General Obligation Flood Control Bond, \$150 Million Issue

<sup>2</sup> Indicates a reduction in the funding allocation or a project closeout

<sup>3</sup> Indicates initial Entity Advance Funding



Ville Drive flood control facilities  
(Above)

Washington Avenue Storm Drain  
(Below)



Duck Creek at  
Robindale Road before (L)  
and after (R) flood control  
improvements



# Projects Completed During the Previous Fiscal Year (1999-00)

## Construction Completed

### CLARK COUNTY

Hiko Springs Outfall System	September 1999
Lakes Detention Basin & Outfall, Phase II (Buffalo Outfall - Desert Inn Road to Peace Way)	May 2000
Las Vegas Beltway Channel, Section 7B, Durango Drive to Rainbow Boulevard*	August 1999
Las Vegas Beltway Channel, Section 8, Russell Road to Tropicana Avenue*	March 2000
Las Vegas Beltway Channel, Section 9, Tropicana Avenue to Hualpai Way*	May 2000
Rawhide Channel at Sage Brush Street	March 2000
Tropicana Wash, Paradise Road to Koval Lane	January 2000
<b>US Army Corps of Engineers Project</b>	
Lower Blue Diamond Channel	December 1999
Tropicana Detention Basin Outfall Channel	November 1999

### HENDERSON

Black Mountain Detention Basin (Southwest C-1 Detention Basin)	March 2000
East C-1 Detention Basin (funded by SNWA)	January 2000
Pioneer Detention Basin/Outfall, Phase I - Warm Springs Road to Sunset Boulevard	May 2000

### LAS VEGAS

Freeway Channel System, Alta Drive to UPRR/Spaghetti Bowl	January 2000
Gowan North Channel, Phase II, (Durango Drive to Upper Gowan North Detention Basin)	April 2000

### NORTH LAS VEGAS

Western Tributary of the Las Vegas Wash, Phase I (Ann Road to Clayton Street)	October 1999
Western Tributary of the Las Vegas Wash, Phase III (Lower Las Vegas Wash Detention Basin to Camino Al Norte)	December 1999

\* Portions of the Red Rock and Blue Diamond Channels are included in the U.S. Army Corps of Engineers (Corps) Tropicana and Flamingo Washes Project. Clark County designed and constructed these facilities to meet Corps standards. The District and Clark County will seek reimbursement for the Federal proportional share of the facilities as identified in Section 211 of WRDA 1996.



Western Beltway flood control  
(Above)

Northern Beltway flood control  
(Below)





# Projects Completed During FY 2000-01

## Construction Completed

### BOULDER CITY

North Railroad Watershed, Veterans Memorial Drive Culvert	September 2000
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### CLARK COUNTY

Desert Inn Detention Basin & Collection System	July 2000
Durango Collector, Twain Avenue to Hacienda Avenue	January 2001
Goodsprings Flood Control Improvements	November 2000
Lakes Detention Basin Collection System, Phase IIIA (Detention Basin, Desert Inn Road, and Durango Drive Storm Drain Systems)	March 2001
Lower Duck Creek Detention Basin and Outfall Channel	August 2000

### US Army Corps of Engineers Project

Blue Diamond Detention Basin	December 2000
Las Vegas Beltway Channel, Section 10A, Hualpai Way to Sahara Avenue	November 2000
Lower Red Rock Complex	September 2000

Lakes Detention Basin  
Collection System  
(Below)

Soccer fields at Lakes  
Detention Basin  
(Bottom)



### LAS VEGAS

Gowan North – Buffalo Branch	May 2001
Gowan North – Buffalo Branch (Gowan Road and Buckskin Avenue)	March 2001
Gowan Outfall, Lone Mountain Branch, (Allen Lane to Ferrell Street)	April 2001
Gowan South Detention Basin Expansion	June 2001
Rancho Road System, Centennial Parkway to Rancho Detention Basin	February 2001
Upper Washington Avenue Conveyance System, Phase II, Veteran's Memorial Drive to UPRR	February 2001

### NORTH LAS VEGAS

Vandenberg Detention Basin	October 2000
Western Tributary of the Las Vegas Wash, Phase II (Ann Road to Centennial Parkway)	August 2000



**Duck Creek Channel  
Improvements**



**Projects Under Construction  
as of June 30, 2001**

**Seduled for Completion**

**BOULDER CITY**

Ville Drive Flood Control Facilities August 2001

**CLARK COUNTY**

Colorado Avenue Storm Drain System August 2001

Duck Creek at Robindale Road July 2001

Duck Creek, Emerald Avenue to Stephanie Street, Phase I September 2001

Duck Creek, Tomiyasu Lane to Topaz Street October 2001

Flamingo Wash at Boulder Highway July 2001

Lakes Detention Basin Collection System, Phase IIIB

(Durango Collector – Sahara Avenue to Desert Inn Road) September 2001

Washington Collection System October 2001

**US Army Corps of Engineers Project**

Lower Flamingo Diversion Channel, Phase I  
(Tropicana Detention Basin to Jones Boulevard) February 2002

Red Rock Detention Basin Erosion Control and  
Red Rock Outfall Channel October 2001

**LAS VEGAS**

Freeway Channel, Alta Drive to Sahara Avenue and  
Bypass Facility from Wall Street to Sahara Avenue August 2002

Gowan / Lone Mountain System – Gilmore Channel October 2002

Rancho Road System, Durango Drive to US-95 Interchange April 2002

Washington Avenue & Freeway Channel North  
(Washington Avenue/I-15 to Martin Luther King Boulevard) December 2001



**Durango Collector (Above)**

**Flamingo Wash downstream  
of Boulder Highway (R)**

**I-15 Freeway Channel  
at Waldman  
(Below)**





# Projects Scheduled for Work in FY 2001-02

**Estimated completion date**

## **BOULDER CITY**

North Railroad Watershed, Design	January 2003
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## **CLARK COUNTY**

Bunkerville Flood Control Improvements, Windmill Wash Detention Basin Outfall Facilities, Design	October 2001
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Bunkerville Flood Control Improvements, Windmill Wash Detention Basin Outfall Facilities, Construction	May 2002
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Duck Creek, Hollywood Boulevard to Stephanie Street, Design	March 2002
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Duck Creek, Lower Detention Basin to Las Vegas Boulevard, Design	September 2002
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Duck Creek, Stephanie Street to Green Valley Parkway, Design	October 2001
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Duck Creek, US-95 Branch, Construction	February 2003
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Flamingo Diversion - Jones Branch, Design	July 2001
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Flamingo Wash, Boulder Highway to Mojave Road, Construction	June 2002
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Flamingo Wash, I-515 to McLeod Drive (3 phases), Design	January 2002
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Flamingo Wash, McLeod Drive to Maryland Parkway (2 phases), Design	December 2001
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Flamingo Wash, Spencer Street Bridge and Approach Channel, Construction	November 2002
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Indian Springs Flood Control Improvements, Design	June 2002
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Lakes Detention Basin, Collection System, and Outfall, Phase IV (Buffalo Drive Storm Drain – Desert Inn Road to Laredo Street), Design	February 2002
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Muddy River – Moapa Valley, Design	July 2003
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Orchard Detention Basin, Design	January 2002
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Red Rock Channel, Naples Branch, Design	December 2001
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Sloan Channel, Las Vegas Wash to Charleston Boulevard, Design	May 2002
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Upper Duck, Central Duck, Lower Blue Diamond, & Bird Springs Detention Basins, Right-of-Way	June 2002
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## **US Army Corps of Engineers Project**

F-1 and F-2 Debris Basins and Channels, Design	March 2002
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F-1 and F-2 Debris Basins and Channels, Construction	January 2004
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F-4 Debris Basin and Channel, Design	May 2002
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Flamingo Detention Basin Modifications, Design	December 2002
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R-4 Detention Basin and Channel, Construction	November 2002
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Upper Blue Diamond Diversion Channel, Design	June 2002
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Upper Flamingo Diversion Channel, Phase II (Jones Boulevard to Flamingo Detention Basin), Design	March 2002
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Upper Flamingo Diversion Channel, Phase II (Jones Boulevard to Flamingo Detention Basin), Construction	October 2003
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I-15 Freeway Channel  
Box-A-Thon  
(Below)



## Projects Scheduled for Work in FY 2001-02 continued

### HENDERSON

Boulder Highway Channel, Phase I, Design	December 2001
C-1 Channel/Upper and Middle Reaches, Phase I (Burkholder Boulevard to Boulder Highway), Construction	May 2002
Gibson Channel Culvert at Sunset Road, Construction	September 2002
Pioneer Detention Basin, Phase I, Construction	July 2002
Pittman Eastern Detention Basin, Construction	October 2002
Pittman-Pecos West Conveyance and Eastern Avenue Tributary, Design	January 2002
Pittman Wash Railroad Channel, Design	February 2002
South Pittman Detention Basin (McCullough Hills Detention Basin), Phase I, Construction	July 2002
Southwest Pittman Detention Basin and Outfall, Design	January 2003

### LAS VEGAS

Angel Park Detention Basin Expansion, Construction	February 2002
CAM-10 Detention Basin, Design	February 2002
Gowan North Buffalo Branch (Channel), Atwood Avenue to Lone Mountain Road, Design	August 2001
Gowan North - Buffalo Branch (Cheyenne Avenue to Lone Mountain Road), Construction	December 2002
Gowan North Channel, Alexander Road to Lone Mountain Road, Design	August 2001
Las Vegas Wash - Rancho Drive System, Phase I, Construction	December 2003
Las Vegas Wash - Rancho Drive System, Phase II, Construction	January 2004
Las Vegas Wash - Smoke Ranch System, Design	July 2001
Las Vegas Wash - Smoke Ranch System, Construction	July 2002
Owens Avenue System - Rancho Drive to I-15, Design	September 2001

### MESQUITE

Abbott Wash Channel, I-15 to Virgin River, Design	August 2002
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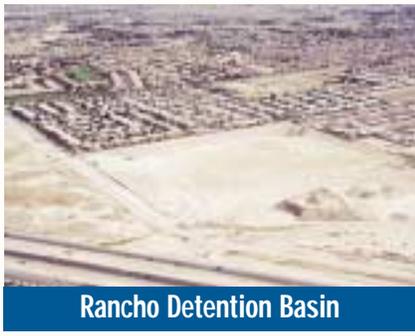
### NORTH LAS VEGAS

Centennial Parkway Channel East, Design	May 2002
Cheyenne Peaking Basin, Design	August 2001
Gowan Outfall, Craig Road to Channel, Construction	June 2002
Las Vegas Wash - Losee Project, Design	July 2002
Simmons Street Channel, Design	November 2001
Tributary to the Western Tributary at Alexander Road, Design	January 2002
Tributary to the Western Tributary at Craig Road ("A" Channel Craig Confluence), Design	October 2001
Tributary to the Western Tributary at Craig Road ("A" Channel Craig Confluence), Construction	January 2003
Upper Las Vegas Wash, Design	October 2002

Colorado Avenue  
Storm Drain  
(Below)



# LAS VEGAS V



Rancho Detention Basin



Kyle Canyon Detention Basin

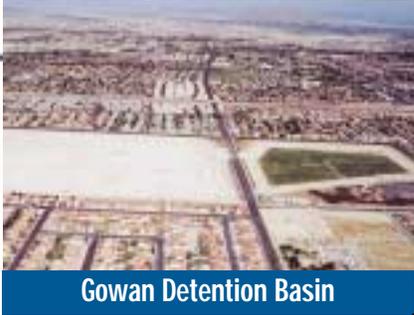


Lone Mountain Detention Basin

**LEGEND**

CONVEYANCE	BASIN
COMPLETED & UNDER CONST	BASIN
TEN YEAR PROGRAM	BASIN
PROPOSED	BASIN

NOTE:  
30-Year Facilities may include Pre-design Studies or R-D W Acquisition.



Gowan Detention Basin



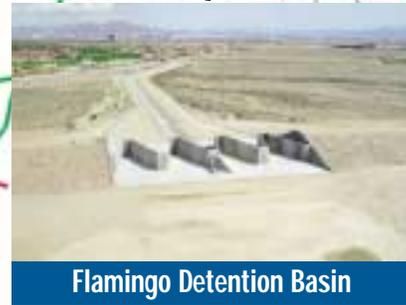
Red Rock Detention Basin



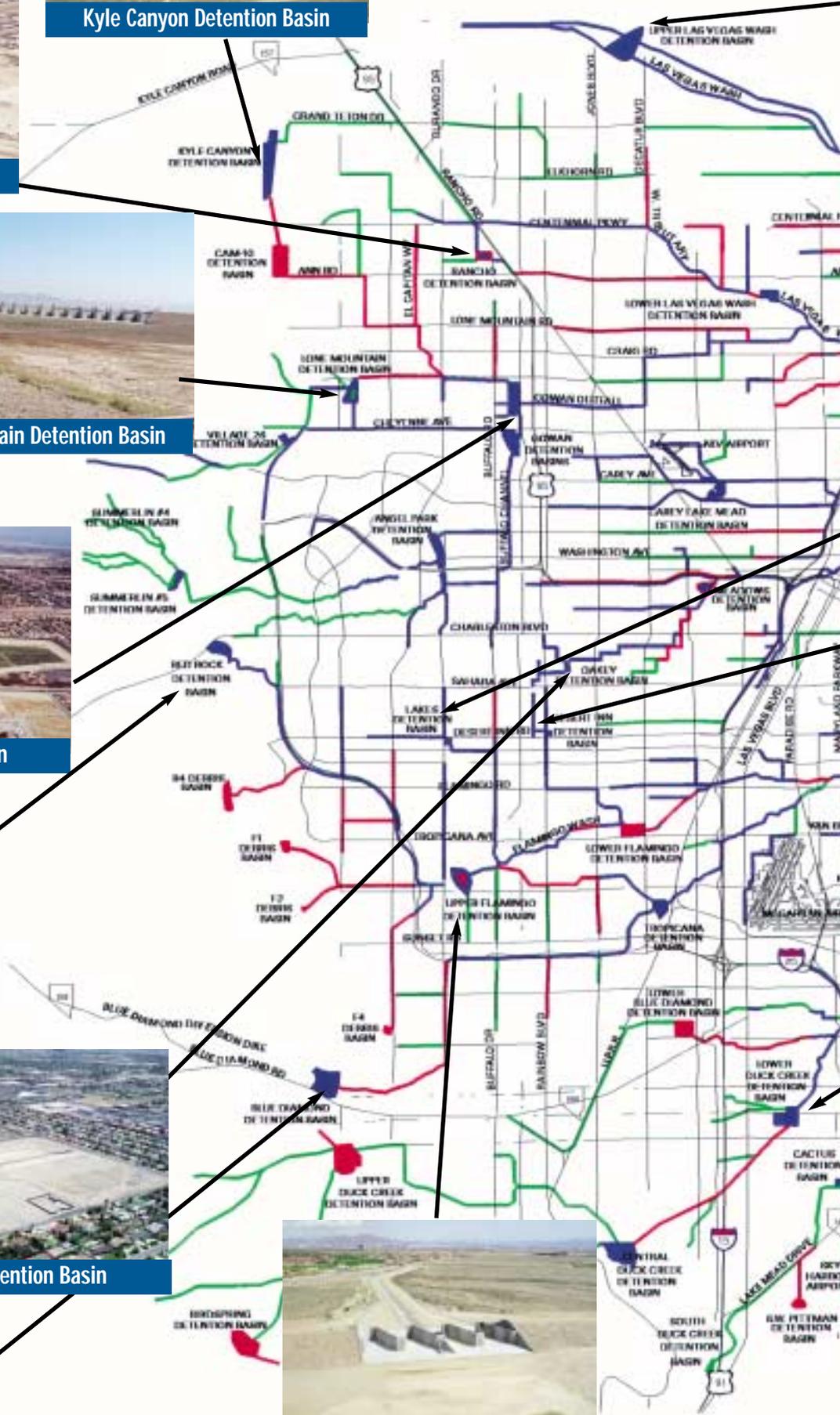
Oakey Detention Basin



Blue Diamond Detention Basin



Flamingo Detention Basin





## **Information**

Copies of the following documents are available to the public (some at cost):

1. Hydrologic Criteria and Drainage Design Manual
2. Uniform Regulations for the Control of Drainage
3. Flood Control District Master Plans
4. Ten-Year Construction Program
5. Policies and Procedures Manual
6. Flood Control & Safety Brochure
7. Operations and Maintenance Manual
8. 1991 Flood Insurance Study Hydrology Report

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## **Special District Recognition 2000-2001**

**Award of Merit from the Association of State Dam Safety Officials**

**Distinguished Budget Presentation Award from the Government Finance Officers Association  
for the District's fiscal year 2000-2001 budget document**

**Award of Excellence from the City-County Communications and Marketing Association  
for The Flood Channel – Flood Safety Education**

**Finalist in the Electronic Media Awards from Working in Communications  
for The Flood Channel - Las Vegas Wash**

**Award of Distinction from the Communicator Awards for The Flood Channel – Buying A Home**

**National Finalist in The Vision Award for The Flood Channel – Maximizing Tax Dollars**

**Bronze Quill Award from the International Association of Business Communicators  
for The Flood Channel – Maximizing Tax Dollars**

**Bronze Quill Award from the International Association of Business Communicators  
for The Flood Channel – Buying a Home**

**Award of Merit from the International Association of Business Communicators  
for the 1998-99 Annual Report**

**Bronze Quill from the International Association of Business Communicators  
for the 1999-2000 Annual Report**

