Regional Flood Control District

ANNUAL REPORT

Clark County, NV

2014 | 2015

VISION
Premier regional agency providing a community safe from the devastation of floods while protecting the surface water environment.

MISSION
To improve the protection of life and property for existing residents, future residents and visitors from the impacts of flooding while also protecting the environment.

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Centennial Parkway Channel

Lawrence L. Brown
RFCD Chairman
Clark County Commissioner

Steven C. Parrish, P.E.
RFCD General Manager/Chief Engineer

FROM THE DISTRICT

Over the course of the past three decades, the Regional Flood Control District has worked to make Clark County better protected against flooding. This work has stretched from Mesquite to Laughlin and touched all corners of the urban Las Vegas Valley.

Each project makes an area safer for generations to come and it fuels the economy by putting people to work. Over time we've spent $1.8 billion on critical infrastructure. And now we're nearing a remarkable 600 miles of channels and underground stormdrains.

As of June 2015 there are 90 detention basins, roughly 596 miles of channel and stormdrains. Currently, 16 different projects are under construction at a cost of $206 million.

In the past year we've made substantial progress completing the much-needed storm drain under Grand Teton in northwest Las Vegas. The flood control portion of the massive $100 million project at Desert Rose Golf Course is now complete and work is on track to remove 1,700 homes in the area from FEMA flood zones.

Our construction program works to keep floods away from people and our public outreach program is working to keep people away from floods.

This past year also saw the District's first substantial change in leadership in decades as longtime General Manager Gale Wm. Fraser, II retired after a 27-year career at the District. The helm has been turned over to Steven C. Parrish who is continuing the tradition of commitment to the community's safety.

Events like the September 2014 Moapa flood remind us just how serious our work is. And long-term flood control goals remain at the forefront of all we do each day.

BOARD OF DIRECTORS (as of July 2015)

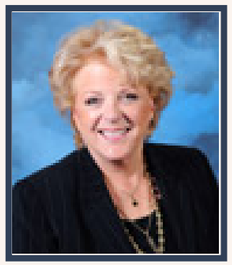
Lawrence L. Brown
Chairman
Commissioner
Clark County

Debra March
Vice Chairman
Councilwoman
Henderson

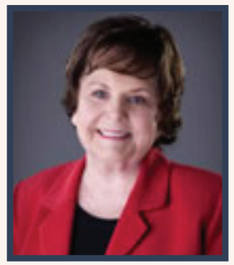
Chris Giunchigliani
Commissioner
Clark County

John Lee
Mayor
City of North Las Vegas

Allan Litman
Mayor
City of Mesquite



Carolyn Goodman
Mayor
City of Las Vegas



Dr. Lois Tarkanian
Councilwoman
City of Las Vegas

Rod Woodbury
Mayor
City of Boulder City

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 runoff data during storms, disseminating information to appropriate public works, safety crews, and the public. The service area for the District includes Clark County and the incorporated areas of Boulder City, Henderson, Las Vegas, Mesquite and North Las Vegas.

The District is governed by a Board of Directors comprised of the same membership as the Regional Transportation Comission, except that each board elects its own officers. The Board includes two representatives from both Clark County and the City of Las Vegas and one representative from Boulder City, Henderson, Mesquite and North Las Vegas. Public meetings are generally held on the second Thursday of the month, at which time the Board acts on policy and other flood control matters.

The Board annually elects a chairman and a vice chairman from among its members. 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 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.

Steven D. Ross
Councilman
City of Las Vegas
Served until June 2015

Roger Tobler
Mayor
City of Boulder City
Served until June 2015

ADVISORY COMMITTEES

CITIZENS ADVISORY COMMITTEE

The Citizens Advisory Committee (CAC) is comprised of one citizen appointed by each city council and county commission included in the District and one citizen appointed by each Board Member. The CAC, per state law, was created to represent public interest and to advise the Board on various matters.

PICTURED (LEFT TO RIGHT):

J. William Starmer
City of Las Vegas

Cathy Littlefield,
Clark County

Jim Beneda
Boulder City

John Birkland,
City of North Las Vegas

Terry Kane,
City of Las Vegas

Ron Newell (Vice Chairman),
Clark County

Shawn Meagher, P.E.,
City of North Las Vegas

NOT PICTURED:

Shawn Fleming,
City of Boulder City

Larry Nelson (Chairman),
City of Henderson

Jennifer L. Taylor, Esq.,
Clark County

Calvin Black, P.E.,
City of Henderson

TECHNICAL ADVISORY COMMITTEE

The Regional Flood Control District Board of Directors is advised on technical matters, per state law, 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 or 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.

PICTURED (LEFT TO RIGHT):

Ed McGuire, P.E.*,
City of Henderson
City Engineer

Jennifer Doody, P.E.
City of North Las Vegas
Director of Public Works

Allen Pavelka, P.E.
City of Las Vegas City Engineer

Denis Cederburg, P.E.,
Clark County
Public Works Director

Scott Hansen, P.E.,
City of Boulder City
Public Works Director

David Bowers, P.E. (Chairman),
City of Las Vegas
Public Works Director

Joeseph Leedy*,
CC Water Reclamation District
Principal Planner

NOT PICTURED:

Jim Keane*,
City of Boulder City
City Engineer

Robert Herr,
City of Henderson
Assistant Public Works Director

Richard Secrist*,
City of Mesquite
Principal Planner

Ebrahim Juma,
CC Water Reclamation District
Assistant Planning Manager

Robert Thompson*,
Clark County
Public Works Deputy Director

Robert Murnane*,
City of Henderson
Public Works Director

Joe Yatson, P.E. *,
Clark County
Public Works Manager

Travis H. Anderson, P.E. Vice Chair
City of Mesquite
City Engineer

Jeremy Leavitt*,
City of Las Vegas
Engineering Program Manager

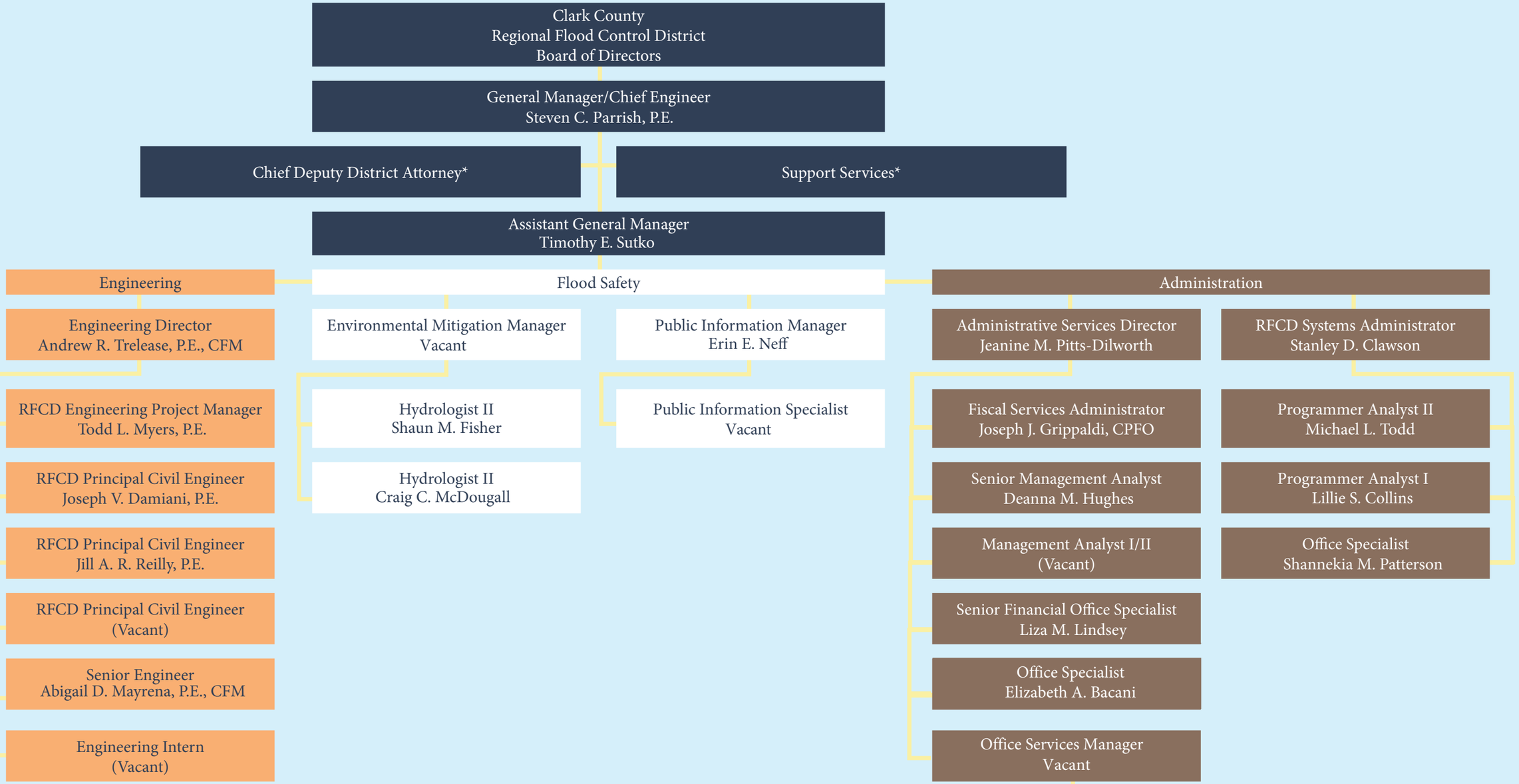
Oh-Sang Kwon*,
City of Las Vegas
Engineering Project Manager

Alyssa Reynolds-Rodriguez*,
City of North Las Vegas
Traffic Engineer

Dale Daffern*
City of North Las Vegas
Engineering Manager

**Alternate*

REGIONAL FLOOD CONTROL DISTRICT ORGANIZATION CHART



P.E. Professional Engineer
CFM Certified Floodplain Manager
CPFO Certified Public Finance Officer

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

Las Vegas Wash

ABOUT OUR REGION

Clark County continues its recovery from the economic downturn with sustained population and tourism growth.

Over the past 12 months, the county's population increased 1.9 percent to just over 2.1 million residents. That means roughly 3,300 residents are moving in to the county each month. Clark County is the nation's 14th most populous. And at more than 8,000 square miles, it has an area larger than that of three US states.

Las Vegas continues to be a worldwide destination for tourists and conventioneers, with 41.1 million visitors in 2014, according to the Las Vegas Convention and Visitors Authority. The more than 22,000 conventions in town drew 5.1 million delegates in 2014 and gaming revenue was reported at $9.6 billion.

The financial health of the region has also meant steady growth in the sales tax revenue that funds the District.

Clark County is geographically diverse, from small rural outposts like Moapa and Overton to the thriving urban Las Vegas metro area and cities of Las Vegas, North Las Vegas and Henderson. The Las Vegas Valley in the heart of Clark County is surrounded by mountains that provide recreation, from biking the hills to climbing the rocks of Red Rock Canyon escaping summer heat in the Springs Mountains, topped by Charleston Peak at 11,916 feet.

MONITORING THE WEATHER

The District, in cooperation with the U.S. Geological Survey (USGS) and the National Weather Service (NWS), began implementing a Flood Threat Recognition System (FTRS) throughout the Clark County area in 1987. The system includes a network of strategically located field stations that automatically report data from more than 420 hydrological sensors in real-time to computerized base stations operated by each of the cooperating agencies. While more than 75 percent of the FTRS field stations are located in the Las Vegas Valley, other gauges installed in Laughlin, Searchlight, Jean, Primm, Goodsprings, Mesquite, Bunkerville, Moapa Valley, Coyote Springs, CalNevAri, Indian Springs and the Carpenter 1 Burn Area allow emergency responders to monitor weather conditions throughout Clark County.

In addition to the field stations described above, the District also captures real-time data from 54 field stations operated and maintained by either the National Park Service or Mohave County, Arizona. Ten of those field stations are full weather stations and the remaining sites report only rainfall. Because all of these sites use radio telemetry to report their data, the District is able to collect and use the information provided by all of these sites for the cost of one radio repeater. As a result, we are effectively able to expand our weather monitoring network and keep an eye on weather systems along the Colorado River and in western Arizona at minimal cost.

The FTRS provides valuable information on water levels, rainfall and other meteorological parameters. Rain gauges automatically report after each 0.04 inch accumulation of rainfall to the FTRS base stations, allowing for the evaluation of rainfall intensities in real time. Humidity sensors alert NWS forecasters when summer monsoonal moisture is sufficient to trigger thunderstorms. Information on wind speed and direction helps the NWS track severe storms in the Clark County area and issue more timely, site-specific weather statements than were previously possible. The District's fully automated base station notifies staff, both in and out of the District's offices, of potentially dangerous situations, and staff can assess the potential for flooding and alert public works and other emergency response personnel.

The information provided by this system helps emergency response agencies to more effectively direct their limited resources. The District provides the public and the media with access to the FTRS data through our website (www.regionalflood.org). Both historic and current rain and weather data collected from any of the District's field stations can be accessed from the website.

The Strip, July 1975
(Phtoto: The Las Vegas Sun)

HISTORY OF FLOODING IN CLARK COUNTY

For more than 100 years, the dry hot region of Clark County has experienced periods of intense rainfall and subsequent flash flooding. 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 12 floods that resulted in more than $1 million in property damage. In that same period, 33 lives were lost in 23 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, usually from the Gulf of Mexico or Gulf of California, 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 on steep mountain slopes and armored desert surfaces. The rainwater runs off rapidly and concentrates 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. The main focus in on death and the tremendous property damage floods cause. But Clark County residents also experience inconveniences as a result of flooded roadways. 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 rainfall in the Las Vegas Valley is 4.19 inches and this amount is nearly equally divided between summer and winter rainy seasons. However, any one point is not necessarily representative of the entire Clark County area. During September 2014, six (6) District FTRS rain gauges in the Moapa area measured more than 2" of rain in less than 3 hours; one of these gauges measured 4.67", more than 2" of which was measured in 30 minutes. Reports describing rainfall and flood events, as well as all of the data collected by the District's Flood Threat Recognition System, can be found on the District's website RegionalFlood.Org.

SIGNIFICANT FLOOD EVENTS

Tropical moisture associated with Hurricane Norbert generated intense rainfall over large areas of Clark County September 7-8, 2014. The hardest hit area was Moapa Valley, both north and south of I-15, including the towns of Moapa, Glendale, Logandale and Overton, as well as the Moapa River Indian Reservation. Rainfall over a large area that drains to the Muddy River, Meadow Valley Wash and Weiser Wash ranged from 2.5" to 4.6" as measured by FTRS rain gauges operated and maintained by the District; the National Weather Service's radar estimated that the rainfall total over a 30 square mile area in the vicinity of Moapa may have exceeded 6 inches. The rainfall generated sizeable flows in the local washes and exceeded the capacity of the I-15 drainage system. Large sections of I-15 near mile marker 92 suffered major damages which resulted in the highway being closed to traffic for several days while repairs were implemented. Flood flows in the Moapa Valley are believed to have been the largest since 1981. The USGS estimated flow in the Muddy River upstream of the Wells Siding Diversion at 17300 cfs (+/- 25%). The adopted 100-year regulatory discharge for the Muddy River is 21400 cfs. Damage assessment teams identified 91 homes in Moapa and on the Moapa River Indian Reservation with some degree of damage, and another 48 homes were damaged in the Logandale and Overton areas. The Clark County Department of Public Works estimated damages in excess of $1 million to County maintained roadways and infrastructure as a result of this event. NDOT estimated $5 million in damages to I-15. Both the Governor's office and the Clark County Commission declared a state of emergency as a result of the extensive damages.

On the afternoon and evening of September 26-27, 2014, a series of fast moving, narrow bands of intense rain moved across the Las Vegas Valley and parts of northeast Clark County causing minor street flooding in some areas on the west side of the valley and much more significant flooding in the rural areas. The hardest hit areas were the Muddy River drainage north of I-15, as well as the unpopulated area between Moapa and Mesquite. The rainfall resulted in significant flows in California Wash and the Muddy River as well as in normally dry washes in that area. Runoff across SR-168 between Moapa and Coyote Springs damaged the shoulders of the roadway in several locations. Flow in the Muddy River at Warm Springs Road prompted the evacuation of properties within the Warm Springs Road loop. Sections of I-15 near mile marker 111 suffered damages from the storm runoff which resulted in traffic restrictions for several days while repairs were implemented.

I-15 After the Septmebr 26-27 Storm

I-15 After the Septmebr 7-8 Storm

I-15 After the Septmebr 7-8 Storm

Flash Flood Awareness Press Conference 2015

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 residents can help improve the quality of urban runoff and rainwater draining to Lake Mead.

Several ongoing programs present information about drainage improvements and flood safety throughout the year. Following is a summary of some of those activities:

- The District held its annual Flash Flood Awareness Press Conference in June advising the community of the dangers of flash flooding and updating residents about flood control progress and a new law designed to keep them safe. This event was well attended and resulted in hours of media coverage.

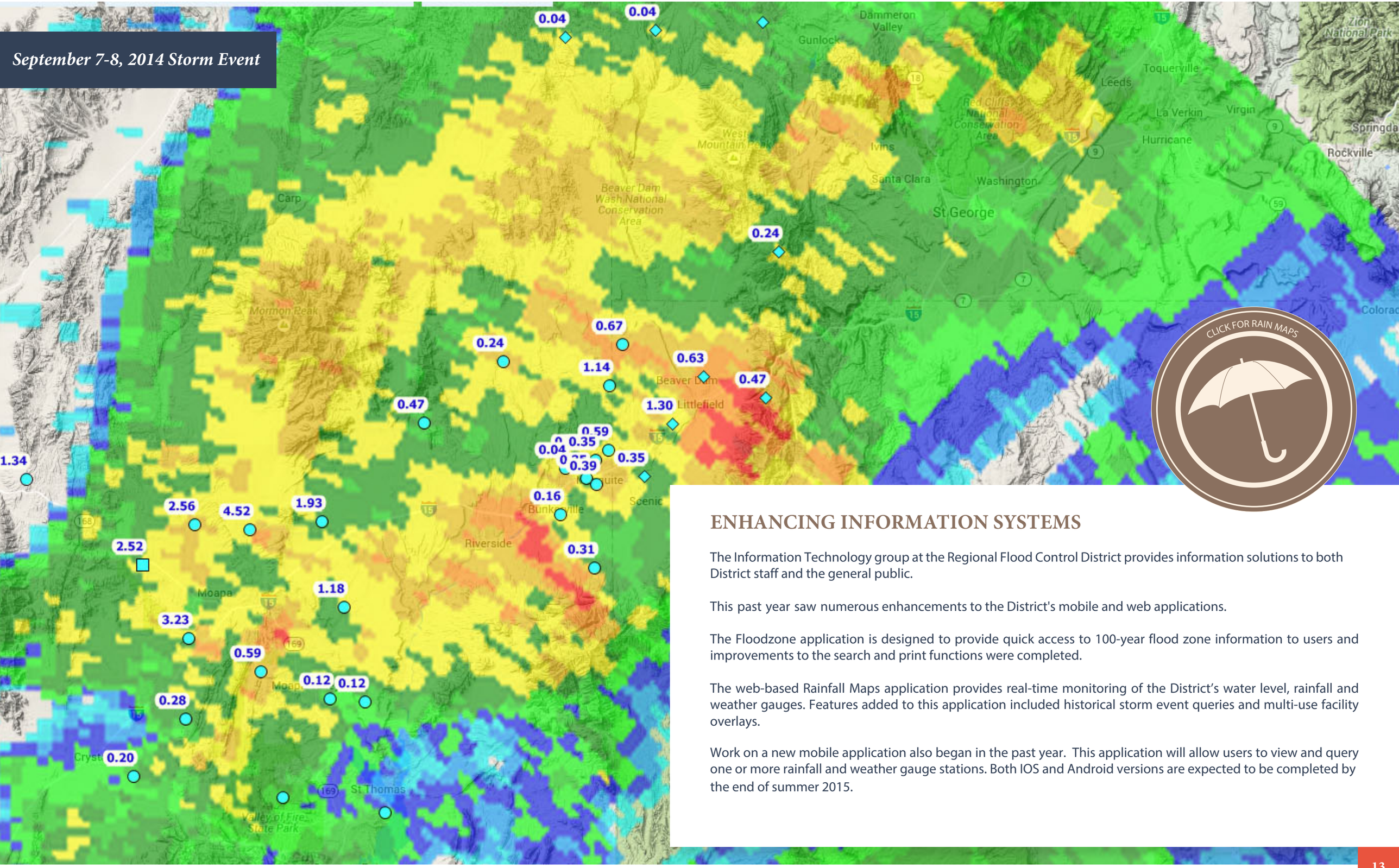
- The District educated students about the dangers of playing in floodwater and drainage facilities. This past school year, District staff made classroom presentations at 52 elementary schools speaking to approximately 7,500 students.

- To kick off Flash Flood season, the District highlighted its smartphone application, FloodSpot, that allows users to get weather updates, see flood reports, share flood photos and learn about floods and insurance. The app also features a game aimed at younger audiences. FloodSpot is available for a free download on both iPhone and Android.

- The District funded a paid Flood Safety Advertising Campaign between July and September when heavy rain and flash flooding are more likely to occur. The campaign used billboards, radio, television and print media to inform residents of the dangers of flooding. Artwork featuring recognizable locations and flood safety messages reminded motorists to stop and think before entering flooded streets. District staff complemented the paid campaign with social media work on Twitter and Facebook and with outreach to the media for local stories.

- The District launched a major storm water quality Public Service Announcement campaign coinciding with Earth Day 2015. The "Be Lake Friendly" campaign includes as stunning series of animated commercials and a pledge and quiz for residents and businesses to become Lake Friendly.

- The District continued with production of The Flood Channel, a 30 minute informational television program airing on local government access stations, Cox Cable channels 2 and 4. Each episode informs the public about construction progress, flood safety and environmental issues.



ENHANCING INFORMATION SYSTEMS

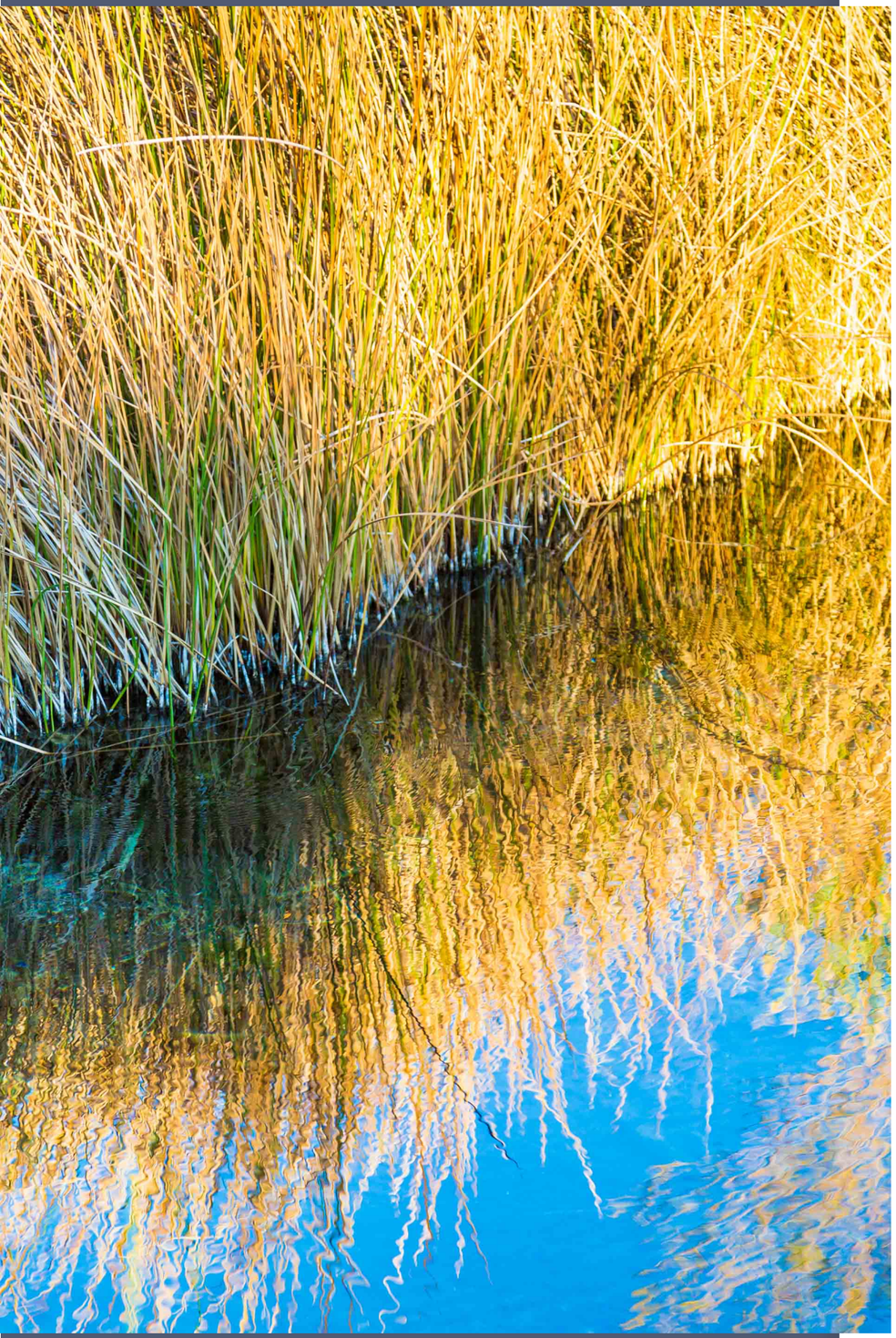
The Information Technology group at the Regional Flood Control District provides information solutions to both District staff and the general public.

This past year saw numerous enhancements to the District's mobile and web applications.

The Floodzone application is designed to provide quick access to 100-year flood zone information to users and improvements to the search and print functions were completed.

The web-based Rainfall Maps application provides real-time monitoring of the District's water level, rainfall and weather gauges. Features added to this application included historical storm event queries and multi-use facility overlays.

Work on a new mobile application also began in the past year. This application will allow users to view and query one or more rainfall and weather gauge stations. Both IOS and Android versions are expected to be completed by the end of summer 2015.



KEEPING OUR WATERS CLEAN

In accordance with the Federal Water Pollution Control Act, the Clark County Regional Flood Control District, as lead permitee, has been operating under a National Pollutant Discharge Elimination System (NPDES) permit with the various city and county agencies since December 1990. The permit, which has a five year duration, was most recently renewed in February 2010. The permit was set to expire in February 2015, but has been administratively extended by the Nevada Division of Environmental Protection (NDEP) until a new permit can be written. It outlines a schedule of monitoring requirements, best management practices and conditions designed to protect the quality of surface waters in the Las Vegas Valley.

This past year, the District continued implementation of a Storm Water Management Plan (SWMP) adopted in November 2011 identifying specific program areas which must be addressed. The SWMP addresses mitigation of impacts to storm water quality associated with new development. These new programs were developed with the intent to be sensible and effective in Las Vegas' unique arid environment and focus on regional solutions that employ existing and planned detention basins. Final program descriptions were submitted to the Nevada Division of Environmental Protection in November 2012 and fully implemented in November 2013. Revisions and additions to the District's "Hydrologic Criteria and Drainage Design Manual" to support these new programs were processed in 2013 and 2014.

This year, the District oversaw storm water quality modification projects at Angel Park, Pioneer and Equestrian detention basins. These modifications will slow down smaller storm flows and allow sediments and pollutants attached to them to settle out, keeping them out of the downstream environment. Regular maintenance will remove accumulated sediments and dispose of them properly. Construction of the Angel Park and Equestrian detention basin modifications were completed this year, and modifications to Pioneer detention basin are under construction and expected to be completed by fall 2015.

The current construction site inspection program continues unchanged from previous years with the goal to reduce sediment and construction pollutants entering the storm drain system. Training sessions are held periodically throughout the year for local construction companies to aid in their compliance with the program.

The District is also an active member of the Lake Mead Water Quality Forum, the Las Vegas Wash Coordination Committee and participates on the Las Vegas Valley Watershed Advisory Committee. Annual reports of NPDES compliance activities are available on the District's website at www.regionalflood.org.

Additional information useful to the general public to reduce stormwater pollution is available at www.lvstormwater.com. The site provides information about stormwater quality, describes proper use and disposal of household chemicals and fertilizers and educates the community about how to improve the quality of urban runoff that travels untreated to Lake Mead. Similar information is distributed at several community events throughout the year.

Residents can also help reduce the impact of pollutants on the environment. By notifying the District and the local government entities about improper disposal of chemicals and pollutants, corrective action can be taken by the appropriate agency. Clogged storm drains and washes, littered with debris, may also cause pollution and flooding problems. In the case of severely clogged drop inlets/storm drains, residents should notify the city or county jurisdiction where the drain is located. Residents can also notify the District at (702) 685-0000 and staff will direct the call to the appropriate entity.

The District continues to develop public service announcements (PSA) that focus on the importance of not polluting our desert environment. These commercials point out behaviors residents can change to help protect Lake Mead, our primary drinking water source. Commercials are placed as paid advertising in the spring and fall with the four major television networks to reinforce the importance of not dumping trash, reporting clogged storm drains, fertilizing properly, disposing of pet waste and using commercial car washes. The District staff is also available to give presentations to groups interested in environmental topics associated with flood control.

FLOODPLAIN MANAGEMENT

MASTER PLANNING

Master Plans include descriptions of existing and proposed flood control facilities, cost estimates and suggested phasing. Typical facilities are detention basins, channels, bridges and storm drains. Master Plans for all areas of Clark County are updated every five years. A master plan update for the outlying areas in Clark County was adopted in April 2014. In the next fiscal year, a master plan update is planned for the Muddy River and Tributaries. Over the past year, the Board approved master plan amendments in the Georgia Buchanan Watershed and North Railroad Watershed in Boulder City.

The elements of a comprehensive floodplain management program include environmental and flood insurance regulations, the community rating system, land development reviews, floodplain mapping and drainage standards. 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 2014-15.

FULFILLING ENVIRONMENTAL REGULATIONS

Throughout its history, the District has nurtured its relationships with the Bureau of Land Management, United States Fish and Wildlife Service, U.S. Army Corps of Engineers and other resource management agencies. The District continues to assist local governments in their efforts to obtain rights-of-way and environmental permits from regulatory agencies.

The Clean Water Act requires a federal permit for the deposition of fill material in "waters of the United States." Fill material includes channel armoring, (e.g. concrete and riprap) as well as detention basin embankment materials. Permits for projects which include these types of activities often require some form of mitigation to compensate for adverse impacts to the "waters of the United States." Identifying acceptable mitigation projects is one of the biggest challenges currently facing the District. We continue to work with the regulatory and permitting agencies to identify mitigation projects and sites. This way, construction of drainage facilities that protect life and property can move forward without delays.

REGULATORY PROGRAM

The National Flood Insurance Program (NFIP), administered by the Federal Emergency Management Agency (FEMA), 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 community from the hazards associated with flooding. The regulations provide the minimum regulatory control necessary to:

1) Promote comprehensive floodplain management
2) Require safe development in flood prone areas
3) Foster sound development policies and construction procedures
4) Reduce storm water runoff damage to public and private property

By meeting and exceeding the NFIP requirements, the regulations ensure all residents of Clark County and incorporated areas are eligible for flood insurance. Additionally, all participating communities are eligible for a higher federal match for disaster assistance in the event of a catastrophic flood.

FLOODPLAIN MANAGEMENT (CONTINUED)

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 extra efforts in floodplain management, as well as to provide an incentive for new flood protection activities.

Of the more than 22,000 communities are participating in the NFIP nationally, roughly 1,300 community flood management programs are recognized by CRS verification audits. In a cooperative effort with the District, Clark County, City of Henderson, City of Las Vegas, City of Mesquite and City of North Las Vegas were among the communities to realize a 15 to 25 percent reduction in flood insurance premiums as a result of these community activities.

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.

DRAINAGE STANDARDS

The District and the entities have adopted the Hydrologic Criteria and Drainage Design Manual (Manual) that 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 funds. The Manual is used by governmental designers and reviewers and consulting engineers. The Manual was originally adopted in 1990 and updated in 1999 to provide more clarity and address advances in state-of-the-art hydrologic and hydraulic techniques. An update to add elements relating to the storm water quality program was adopted by the Board in September 2013 and September 2014.

LAND DEVELOPMENT REVIEWS

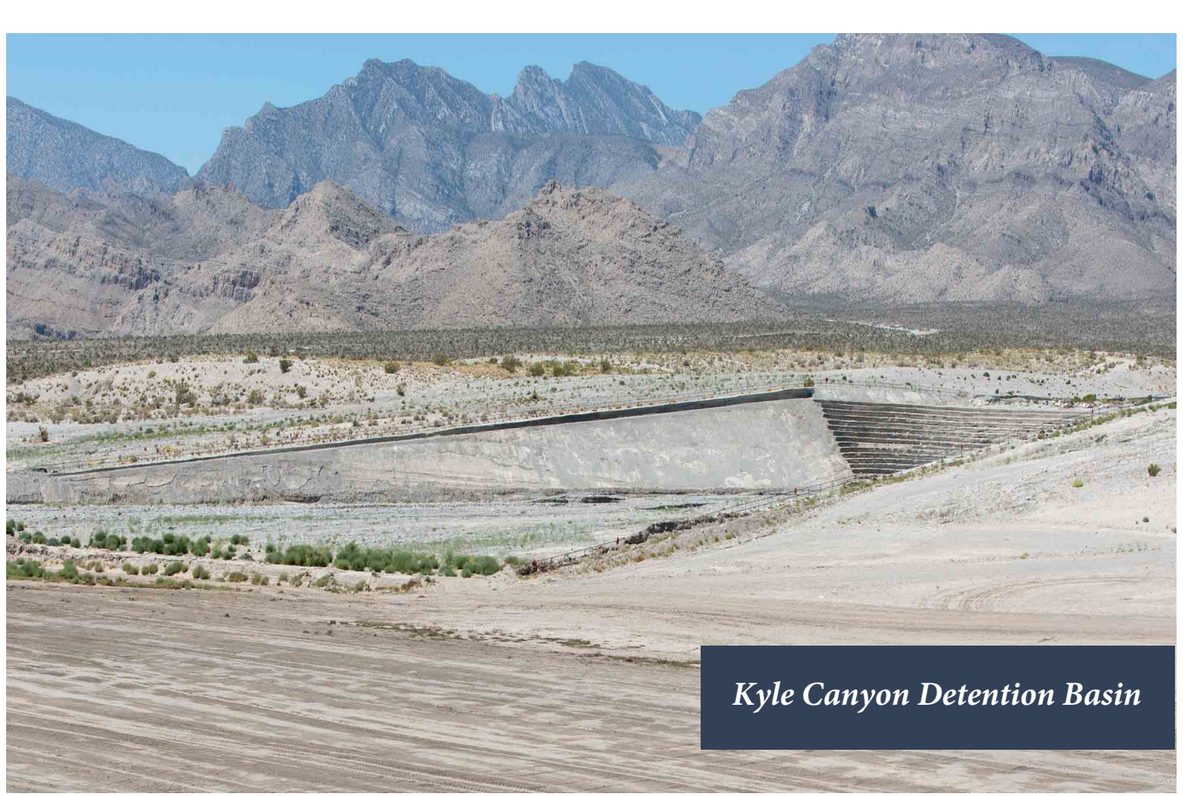
The District performs land development reviews to ensure compliance with the "Uniform Regulations for the Control of Drainage" and the District's "Hydrologic Criteria and Drainage Design Manual," adopted pursuant to state statutes. The entities are responsible for the review and approval of all drainage plans and studies within their boundaries. The entities must submit development proposals to the District for review if the development impacts the implementation of the Master Plan or lies within a Special Flood Hazard Area. 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 178 studies and 286 addenda related to the development of private properties deemed to have regional flood control significance. Reviews by the District resulted in the issuance of 185 concurrence letters and 25 related comment letters.

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, all residents are eligible for federal flood insurance whether they live in a flood zone or not. 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 is required. Many areas have already been restudied resulting in the removal of approximately 54 square miles or 35,000 acres from identified 100-year flood zones.

Assessment of flood hazards with the latest technologies were published by FEMA on November 16, 2011 for Las Vegas Wash from I-15 to Lake Las Vegas and the Muddy River at Logandale. This resulted in an addition of approximately 1,900 properties affected by Special Flood Hazard Areas (SFHA). We are working to implement the Master Plan facilities to eventually remove these new flood hazard areas as quickly as revenues permit. The Las Vegas Wash project through the Desert Rose Golf Course is completed from Sloan Channel to Nellis Boulevard on the Las Vegas Wash and from the Las Vegas Wash confluence to Nellis Boulevard on the Flamingo Wash. The final phase of the project from Nellis Boulevard to Stewart Avenue will begin construction in winter 2015. Construction of the Muddy River Logandale Levee project is on schedule to begin in fall 2015.



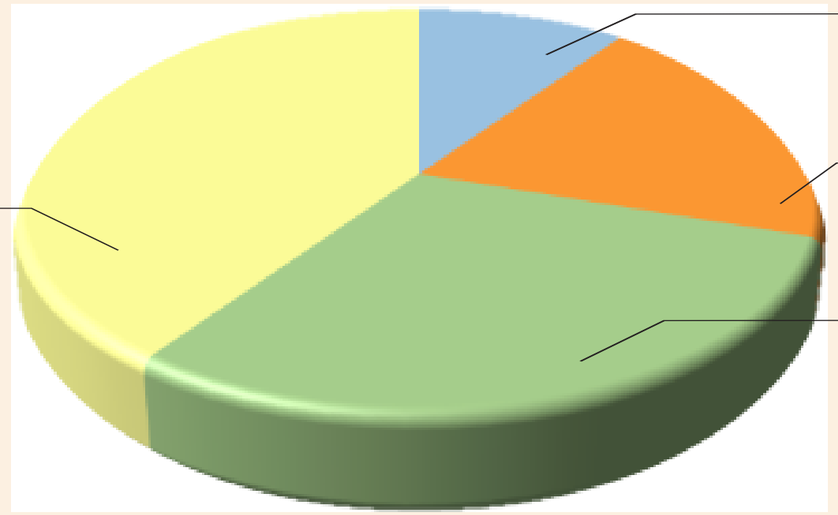
Kyle Canyon Detention Basin

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 revenue for fiscal year 2014-15 totaled $91.1 million, bringing total revenues derived from sales tax since 1987 to $1.54 billion.

Since the end of the Great Recession (2007-2010), the Southern Nevada economy has modestly improved with each passing year. This trend continued in 2014, and a variety of sources predict positive movement to continue throughout 2015. Real estate prices are up, employment continues to improve, and the tourism sector is strengthening. Sales tax revenue continues to grow about 6 percent annually, and next year's revenues are projected to be $93.0 million. More than 90 percent of sales tax revenue continues to be used to build and maintain flood control projects and pay for the associated debt service. The remainder, less than 10 percent of sales tax revenue, is used to pay for salaries and benefits, professional consulting contracts, and other administrative costs. During fiscal year 2014-15, the District expended approximately $150.2 million for flood control projects, debt service and flood control maintenance and $5.9 million for administrative costs. Since inception, the District has overseen the design and construction of approximately $1.96 billion in flood control improvements throughout Clark County.

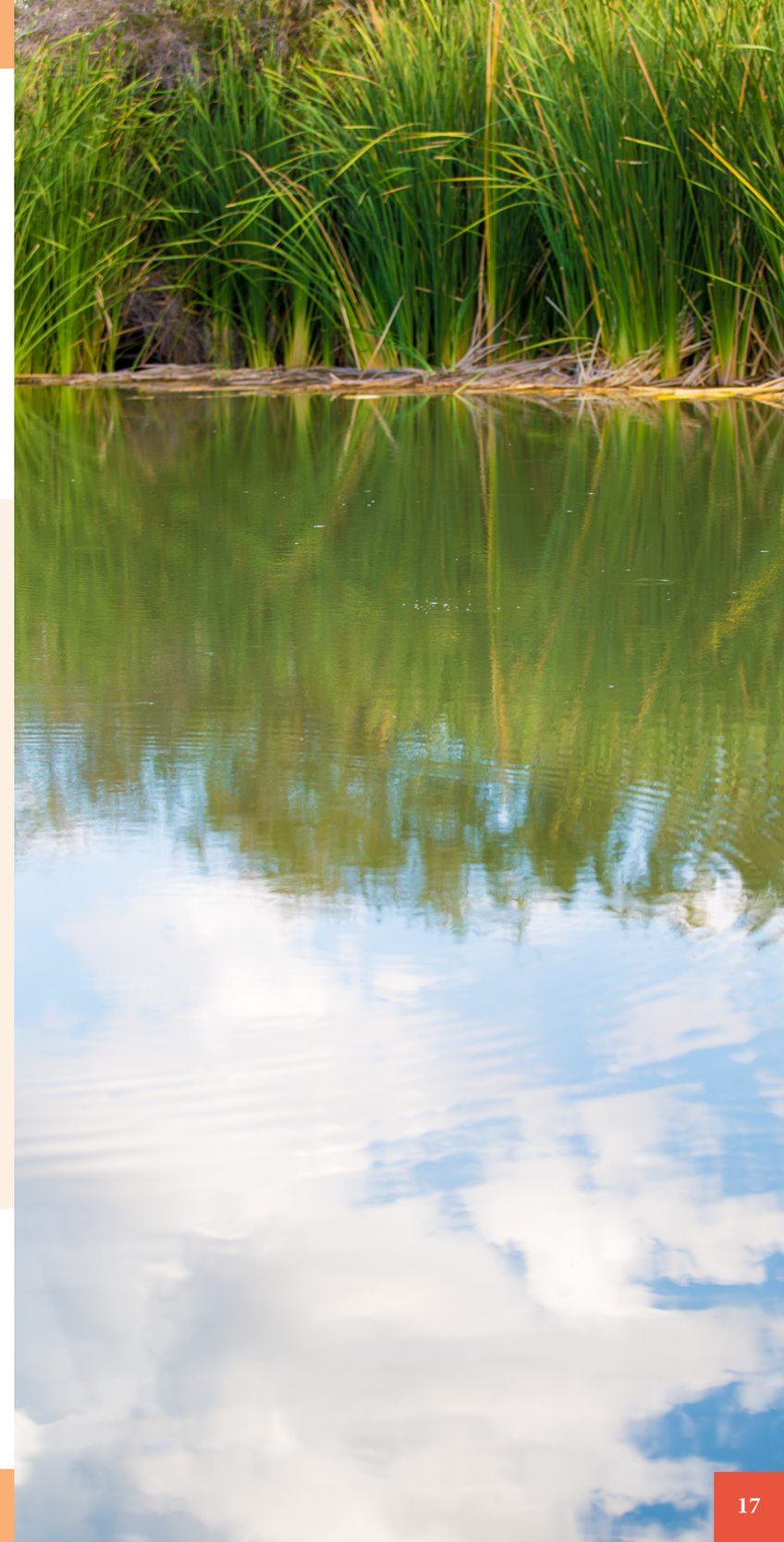
DISTRICT EXPENDITURES FISCAL YEAR 2014-15



[1]Bond Debt Services includes the 2006 ($200 million) General Obligation Flood Control Refunding Bonds, the 2008 ($50.57 million) General Obligation Flood Control Refunding Bonds, the 2009B ($150 million) General Obligation Build America Bonds, the 2010 ($29.425 million) General Obligation Flood Control Refunding Bonds, the 2013 ($75 million) General Obligation Flood Control Bonds, the 2014 ($100 million) General Obligation Flood Control Bonds, and the 2015 ($186.535 million) General Obligation Flood Control Refunding Bonds that were issued to expedite construction of flood control improvements. Bond Debt Service Expenditures do not include expenditures related to refunding bonds.

Over the past 21 years, the District has been awarded the Distinguished Budget Presentation Award by the Government Finance Officers Association of the United States and Canada. The award represents a significant achievement by the District and reflects the District's commitment to meet the highest principles of governmental budgeting. In order to receive the award, the District has to satisfy nationally recognized guidelines for effective budget presentation.

Annually, the District continues to receive favorable audit opinions that state the District's financial statements are presented fairly in all material respects. This means that independent auditors have reviewed the District's financial statements and are satisfied that the financial statements are materially accurate. These positive opinions advise stakeholders that the District is following proper accounting principles and procedures.



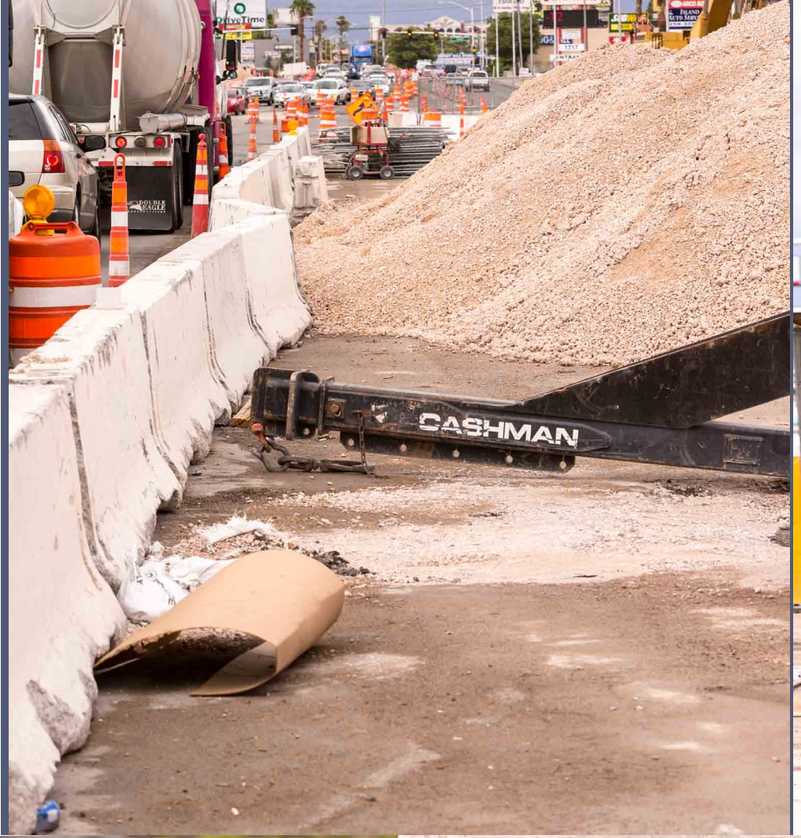
CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT FUNDS

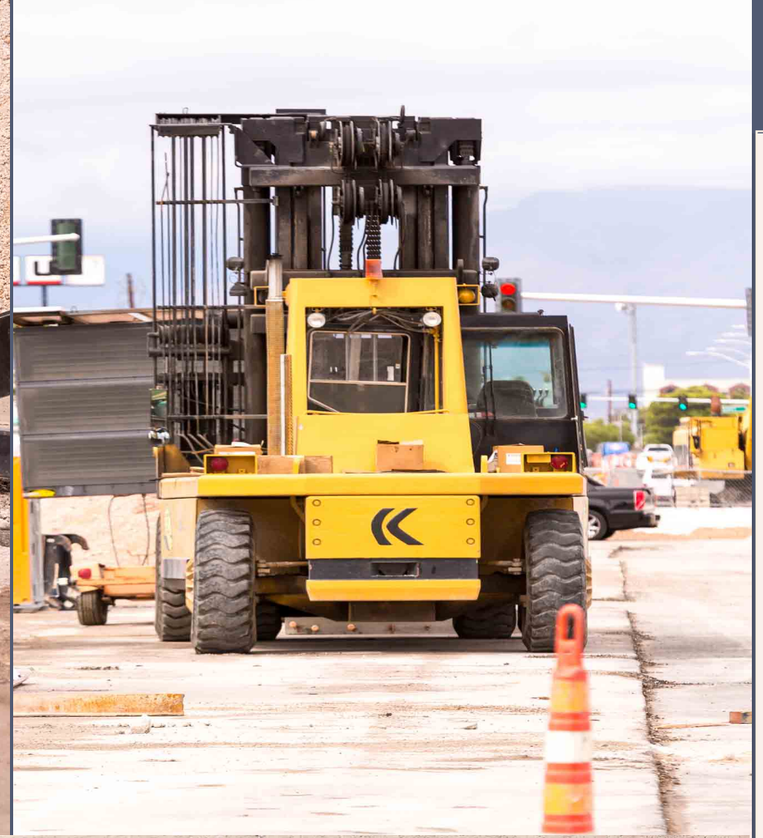
Governmental Funds - Fiscal Year 2014-15

Sources and Uses of Funds Summary (Unaudited)

	Operating Fund 2860	Facilities Maintenance Fund 2870	Bond Debt Service Fund 3300	Capital Improvement Funds 4430/4440	Total District Funds[1]
Beginning Balance (July 1, 2014)	$10,634,864	$4,495,926	$12,932,536	$145,528,756	$173,592,082
Sources of Funds					
Sales Tax Revenue	91,054,648	0	0	0	91,054,648
Build America Bonds Rebate	2,906,141	0	0	0	2,906,141
Interest/Other	70,747	80,449	160,764	1,497,127	1,809,087
Proceeds from Bonds and Loans	0	0	210,727,503	110,248,146	320,975,649
Transfers from Other Funds	567,274	10,000,000	39,063,285	36,688,958	86,319,517
Total Sources of Funds	**94,598,810**	**10,080,449**	**249,951,552**	**148,434,231**	**503,065,042**
Uses of Funds					
Salaries and Wages	(2,279,280)	0	0	0	(2,279,280)
Employee Benefits	(773,828)	0	0	0	(773,828)
Services and Supplies	(2,571,293)	(7,794,061)	(1,858,882)	0	(12,224,236)
Capital Outlay	(324,643)	0	0	(108,110,161)	(108,434,804)
Principal	0	0	(12,260,000)	0	(12,260,000)
Interest	0	0	(22,052,918)	0	(22,052,918)
Refunding Bonds	0	0	(212,723,712)	0	(212,723,712)
Transfers to Other Funds	(85,563,285)	0	(188,958)	(567,274)	(86,319,517)
Total Uses of Funds	**(91,512,329)**	**(7,794,061)**	**(249,084,470)**	**(108,677,435)**	**(457,068,295)**
Fiscal Year Net Change	3,086,481	2,286,388	867,082	39,756,796	45,996,747
Ending Balance (June 30, 2015)	$13,721,345	$6,782,314	$13,799,618	$185,285,552	$219,588,829

1 Audited financial statements are expected to be available in November 2015





FISCAL YEAR 2015-2016 CONSTRUCTION PROGRAM FUNDING

Each year, in conjunction with the development of the Ten-Year Construction Program (TYCP), a 10-year forecast of project funding is developed. The forecast incorporates revenues including sales tax, interest earnings and debt-financing and expenditures for projects, operations, maintenance and debt service. This long-range financial plan drives the TYCP project funding schedule including the planning and coordination of upcoming design and construction projects.

Approximately $56.2 million in resources are available for projects in the first year of the TYCP, and total available resources for the TYCP are estimated to be $860.9 million including future debt issues of $375 million. In order to expedite flood control project design and construction, from 1991 to the present, the District has issued a total of $755 million in general obligations, of which $531.6 million remains outstanding.

These funds have been directly used to pay for flood control projects. Due to the District's and Clark County's excellent credit ratings, extremely favorable interest rates have been obtained, which saves the community millions of dollars in interest costs.

Current policies and procedures allow the entities to accelerate the construction of projects in the second and third year of the TYCP if certain conditions are met. The potential exists for funding requests to exceed available resources, which creates a competitive environment that drives the entities to expedite project implementation. The District has also been able to work with other governmental jurisdictions and agencies to fund projects in advance of the availability of District resources. The projects are built ahead of schedule and the District pays for the project at a later date by using Entity Advance Funding or Resolution Agreements. Furthermore, the District has successfully negotiated with private developers and other governmental agencies to pay for flood control projects when certain conditions exist.

Some of the advantages of accelerating the construction of flood control projects are: 1) Constructed projects protect life and property; 2) There are cost savings in building projects ahead of schedule because of the deterioration of purchasing power over time due to inflation; and 3) Construction pricing continues to be favorable. The District is continuously evaluating opportunities to accelerate the construction of flood control facilities.

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 the fiscal year 2014-15 Maintenance Work Plans and Budgets, which were approved by the Board on June 12, 2014 in the amount of $10,758,214. The Board approved supplemental budget requests from the City of Henderson in the amount of $60,000 for unanticipated costs to the Whitney Ranch Channel for wall repairs and from the City of Las Vegas in the amount of $271,635 for continued maintenance and clean-up of the Kyle Canyon Detention Basin following the August 25, 2013 storm event, bringing the total approved budget to $11,089,849.

Flood control facility maintenance was performed using a combination of private contractors and entity maintenance staff. During this year, Entity staff inspected and/or maintained numerous facilities throughout the District service area including, 90 detention basins and 596 miles of underground storm drains and channel, of which 129 miles are natural washes.

MAINTENANCE WORK PROGRAM EXPENDITURES

Entity	FY 2014-15 (Unaudited)
Boulder City	$233,109.00
Clark County	$1,259,240.00
Henderson	$690,075.00
Las Vegas	$3,716,635.00
Mesquite	$309,700.00
North Las Vegas	$1,585,302.00
TOTAL	**$7,794,061.00**

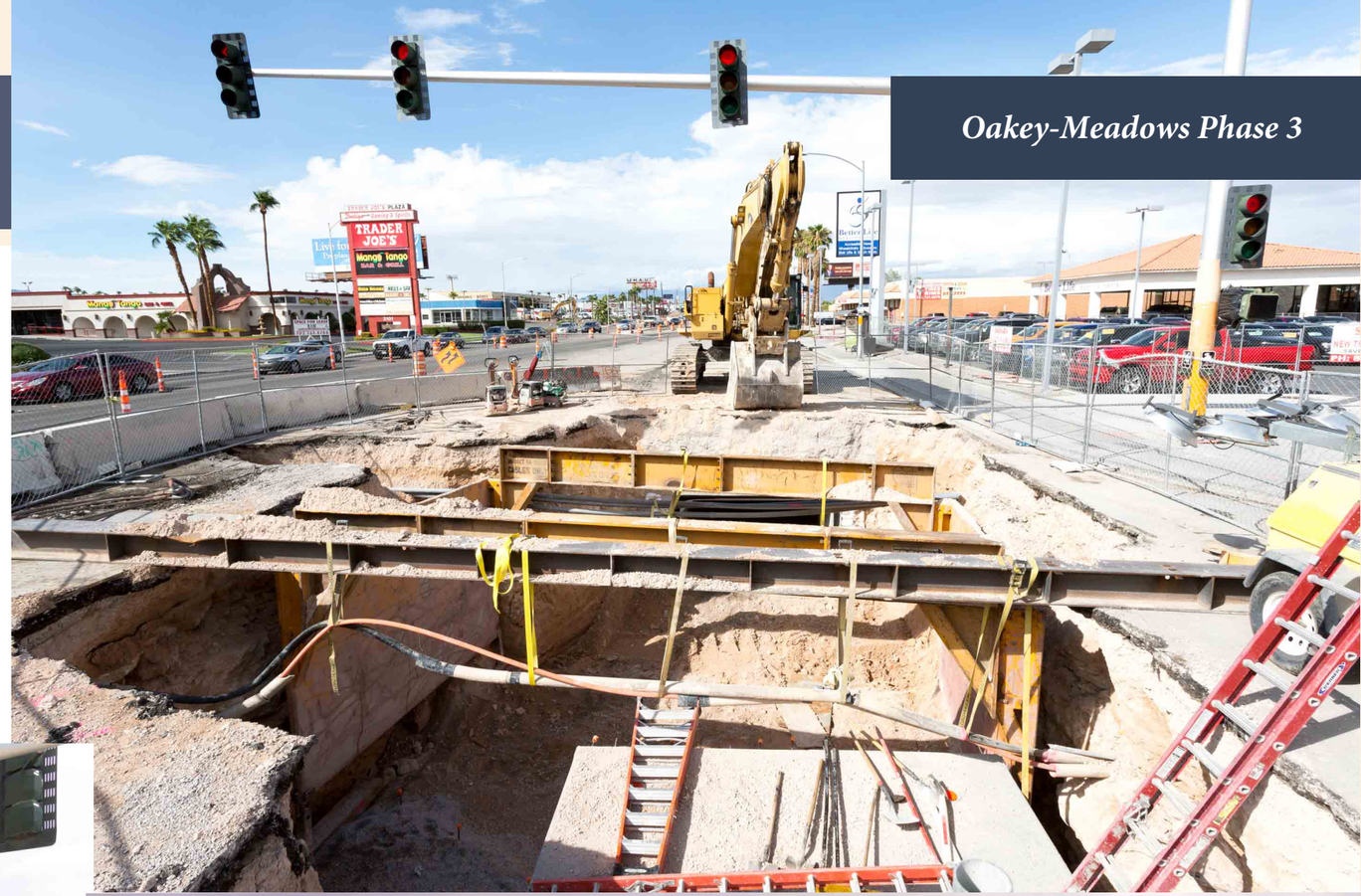
Kyle Canyon Detention Basin

TOTAL PROJECT FUNDING

Through Fiscal Year 2014-15 ($ Millions)

Entity	FY 2014-15	Total-to-Date
Boulder City	$0.3	$27.5
Clark County[1]	$10.8	$876.1
Henderson	$10.9	$180.3
Las Vegas	$40.3	$514.5
Mesquite	$0.0	$24.0
North Las Vegas	$4.9	$327.0
TOTAL[1]	**$67.2**	**$1,949.4**

[1] Includes federal funding for the Tropicana and Flamingo Washes project.



Oakey-Meadows Phase 3

PROJECTS COMPLETED (DURING FY 2013-14)

Estimated Completion Date

BOULDER CITY

North Railroad Conveyance ..... July 2013

CLARK COUNTY

Carey Avenue Storm Drain, Local Drainage Project ..... July 2013

CITY OF HENDERSON

Pittman Wash, UPRR to Santiago, Phase I ..... April 2014

CITY OF NORTH LAS VEGAS

Freeway Channel - Owens Avenue to Miller Avenue, Phase II ..... August 2013
Las Vegas Wash Main Branch, Lake Mead Boulevard to Las Vegas Boulevard ..... September 2013

PROJECTS COMPLETED (DURING FY 2014-15)

Estimated Completion Date

BOULDER CITY

Bootleg Canyon Detention Basin, Phase II ..... October 2014
Buchanan Blvd., Phase III Improvements ..... May 2015

CLARK COUNTY

Tropicana Wash at Swenson Street ..... July 2014
Orchard Detention Basin ..... June 2015
Outlying Areas - Muddy River Cooper Street Bridge ..... June 2015

CITY OF HENDERSON

Equestrian Detention Basin Expansion ..... March 2015
Equestrian Tributary, Phase II ..... January 2015
Pittman Wash, UPRR to Santiago, Phase II ..... June 2015

CITY LAS VEGAS

Angel Park Detention Basin Expansion ..... September 2014
Ann Road Channel West - Rainbow Boulevard ..... October 2014
Grand Teton - Hualapai to Tee Pee ..... July 2014
North & South Environmental Enhancement Areas - Floyd Lamb Park ..... October 2014
Vegas Drive Storm Drain - Rancho to Shadow Mountain ..... October 2014
LVW - Grand Teton, Mountain Spa to Durango Drive ..... June 2015

PROJECTS UNDER / ABOUT TO START CONSTRUCTION (AS OF JUNE 30, 2015)

Estimated Completion Date

CLARK COUNTY

Las Vegas Wash - Sloan Channel to Bonanza Road and Flamingo Wash below Nellis Boulevard ..... November 2016
Flamingo Diversion - Rainbow Branch ..... October 2016

CITY OF HENDERSON

Duck Creek - Sunset to Sandhill ..... September 2015
Pioneer Detention Basin Expansion and Inflow ..... August 2015
Pittman Wash, Duck Creek at I-515 ..... June 2016
Pittman North Detention Basin and Outfall, Phase I ..... September 2016

CITY OF LAS VEGAS

Centennial Parkway Channel West - CC 215, Pioneer Way to US 95 ..... March 2017
Centennial Parkway Channel West - US 95, Crossing ..... September 2015
Oakey - Meadows Storm Drain, Phase III ..... September 2016
Rancho Road System - Beltway to Elkhorn Road ..... August 2015
Rancho Road System - Elkhorn, Fort Apache to Grand Canyon ..... June 2016

CITY OF NORTH LAS VEGAS

Brooks Channel ..... December 2015
Centennial Collector ..... November 2015
Colton Channel Flood Control Improvement ..... December 2015
Simmons Street Drainage Improvements, Alexander Road to Gowan Outfall Channel ..... January 2016

PROJECTS SCHEDULED FOR WORK IN FY 2015-16

Estimated Completion Date

BOULDER CITY

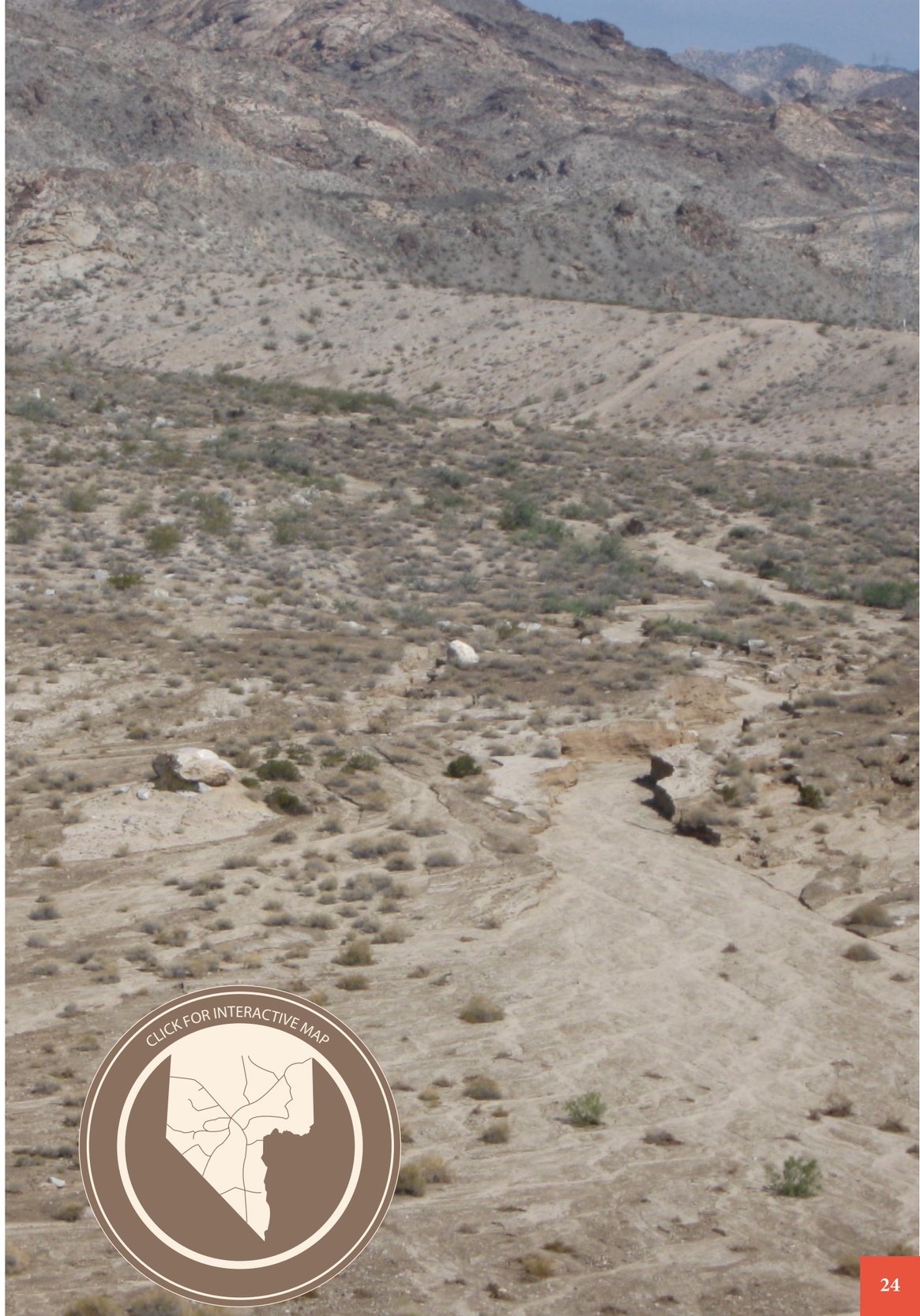
Hemenway System, Phase II Improvements, Design ..... December 2015
Hemenway System, Phase IIA Improvements, Construction ..... December 2016
Hemenway System, Phase IIB Improvements, Design ..... June 2016
Hemenway System, Phase IIB Improvements, Construction ..... June 2017
North Railroad Conveyance, Design ..... December 2015
North Railroad Conveyance - Phase 2, Construction ..... December 2016

CLARK COUNTY

Airport Channel - Naples, Design ..... February 2016
Airport Channel - Naples, Construction ..... February 2017
Blue Diamond Wash Railroad, Right-of-Way ..... July 2016
Duck Creek at Dean Martin, Design ..... January 2016
Duck Creek at Dean Martin, Construction ..... January 2017
Duck Creek Las Vegas Boulevard, Design ..... October 2015
Duck Creek Las Vegas Boulevard, Construction ..... October 2016
F-4 Patrick Lane/Ft. Apache Road Lateral, Design ..... July 2017
F-4 Patrick Lane/Ft. Apache Road Lateral, Construction ..... July 2018
Flamingo Wash, Industrial Road to Hotel Rio Drive, Design ..... March 2017
Flamingo Wash, Industrial Road to Hotel Rio Drive, Construction ..... March 2018
Flamingo Wash, Tioga to Eastern, Construction ..... October 2016
Orchard Detention Basin, Design ..... October 2016
Orchard Detention Basin Collector - Charleston to Linden, Construction ..... October 2017
Outlying Areas - Fairgrounds Detention Basin, Design ..... May 2016
Outlying Areas - Fairgrounds Detention Basin, Construction ..... May 2017
Outlying Areas - Goodsprings - Phase I, Design ..... March 2016
Outlying Areas - Goodsprings - Phase I, Construction ..... March 2017
Outlying Areas - Laughlin - SR 163 to Casino Drive, Design ..... January 2016
Outlying Areas - Laughlin - SR 163 to Casino Drive, Construction ..... January 2017
Outlying Areas - Muddy River Logandale Levee, Design ..... September 2015
Outlying Areas - Muddy River Logandale Levee, Construction ..... September 2016
Outlying Areas - Searchlight - South, Encinitas St. Storm Drain, Design ..... December 2015
Outlying Areas - Searchlight - South, Encinitas St. Storm Drain, Construction ..... December 2016
Outlying Areas - Windmill Wash Detention Basin Expansion, Design ..... October 2016
Silverado Ranch Detention Basin, Design ..... September 2016
Washington/Hollywood Street Storm Drain, Local Drainage Project ..... July 2016

CITY OF MESQUITE

Virgin River Flood Wall, Design ..... December 2016



PROJECTS SCHEDULED FOR WORK IN FY 2015-16 (CONTINUED)

Estimated Completion Date

CITY OF HENDERSON

Anthem Parkway Channel, Horizon Ridge to Sienna Heights, Design ..... April 2016
Appaloosa Storm Drain, Local Drainage Improvement, Construction ..... July 2017
Center Street Storm Drain, Design ..... December 2015
Horizon Ridge Detention Basin, Design ..... December 2015
Horizon Ridge Detention Basin, Construction ..... December 2016
Pittman North Detention Basin and Outfall, Design ..... January 2016
Pittman North Detention Basin and Outfall, Construction ..... June 2017
Pittman West Horizon - Palm Hills, Design ..... November 2015
Pittman West Horizon - Palm Hills, Construction ..... November 2016
Racetrack Channel - Drake to Burkholder, Design ..... January 2015
Racetrack Channel - Drake to Burkholder, Construction ..... January 2016

CITY OF LAS VEGAS

Brent Drainage System - Floyd Lamb Park to Durango Drive, Design ..... November 2015
Brent Drainage System - Floyd Lamb Park to Durango Drive, Construction ..... November 2016
Buckskin Avenue Storm Drain, Local Drainage Improvements, Construction ..... November 2016
Cedar Avenue Channel Improvements, Design ..... February 2016
Centennial Parkway Channel West - US 95, Durango to Grand Teton, Design ..... October 2018
Centennial Parkway Channel West - US 95, CC215 to Durango, Design ..... August 2017
Centennial Parkway Channel West - US 95, CC215 to Durango, Construction ..... August 2018
Lexington Street Storm Drain, Local Drainage Project, Construction ..... September 2016
Freeway Channel - Washington, MLK to Rancho Drive, Design ..... August 2015
Freeway Channel - Washington, MLK to Rancho Drive, Construction ..... August 2016
Gowan Box Canyon-Lone Mountain Road, Design ..... October 2018
Gowan Outfall - Alexander Road, Rancho Drive to Decatur Boulevard, Design ..... October 2022
Gowan Outfall - El Capitan Branch, Lone Mountain to Ann Road, Design ..... October 201
Gowan North - Buffalo Branch, Lone Mountain to Washburn Road, Design ..... January 2016
Gowan North - Buffalo Branch, Lone Mountain to Washburn Road, Construction ..... January 2017
Rancho Road System - Elkhorn, Grand Canyon to Hualapai, Design ..... October 2018

CITY OF NORTH LAS VEGAS

Ann Road Channel East, ULVW to Fifth Street, Design ..... October 2015
Ann Road Channel East, ULVW to Fifth Street, Construction ..... October 2016
Beltway Detention Basin and Channel, Design ..... March 2016
Beltway Detention Basin and Channel, Right-of-Way ..... March 2016
Beltway Detention Basin and Channel, Construction ..... March 2017
Central Freeway Channel at Cheyenne, Design ..... June 2016
Central Freeway Channel at Cheyenne, Construction ..... April 2017
Hollywood System, Las Vegas Boulevard to Centennial Parkway, Design ..... July 2016
Hollywood System, Las Vegas Boulevard to Centennial Parkway, Construction ..... July 2017
Las Vegas Wash - N Channel, Cheyenne to Gowan, Design ..... November 2015
Las Vegas Wash - N Channel, Cheyenne to Gowan, Construction ..... November 2016
Las Vegas Wash - Water Reclamation Channel, Construction ..... December 2016
Oak Island Drive Storm Drain, Local Drainage Improvements, Construction ..... January 2018
Vandenberg North Detention Basin, Collection & Outfall, Design ..... June 2017

Clark County Wetlands Park

REGIONAL FLOOD CONTROL DISTRICT MEMBERSHIPS

ALERT User's Group • American Meteorological Society • American Public Works Association American Society for Public Administration • American Society of Civil Engineers • Arizona Floodplain Management Association • Association of State Dam Safety Officials • Association of State Floodplain Managers • Construction Managers Association of America • City-County Communications and Marketing Association • Floodplain Management Association • Government Finance Officers Association • International Association of Business Communicators • Las Vegas Valley Watershed Advisory Committee • National Association of Flood and Storm Water Management Agencies National • Association of Government Communicators • National Hydrologic Warning Council National Society of Professional Engineers • Nevada Hazard Mitigation Planning Committee • Nevada Taxpayers Association • Nevada Silver Jackets • Public Relations Society of America • Southern Nevada Home Builders Association • State of Nevada Entity Technical Alliance • UNLV Civil and Environmental Engineering and Construction Advisory Board

SPECIAL DISTRICT RECOGNITION

2014 Government Finance Officers Association (GFOA)
The Distinguished Budget Presentation Award for the District's Fiscal Year 2014-15 Budget and Financial Plan. This is the 21st consecutive year the District has received this honor.

NAFSMA 2014 Excellence in Communications Award Public Awareness of Flooding for FloodSpot Smartphone Application.

REGIONAL FLOOD CONTROL DISTRICT

WWW.REGIONALFLOOD.ORG

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