

Drainage/Flood Control System

The city's drainage system consists of local and regional conveyance, detention, and storm water control facilities that provide protection from storms up to the 100-year event. The design storm is the 100-year, 24-hour event for detention facilities and the 100-year, 6-hour event for conveyances. The level of service required by current City code is to provide an adequate conveyance system to the farthest upstream property located within the city boundary.

There are five distinct, natural arroyo systems or watersheds within the city limits which flow from higher elevations in the northwest toward the lower elevations in the southeast: La Venada, La Barranca, Los Montoyas, Calabacillas and Black Arroyo. Smaller and contributing watersheds, and those located within the city's urban centers include: Rainbow Tributary Watershed, NM 528 Watershed, Rio Rancho Urban Center, and the Unnamed Watershed located between La Venada and La Barranca watersheds. Lastly, two recently annexed, though yet to be developed areas of the city know as Paradise West and Quail Ranch are within the jurisdiction of the Albuquerque Metropolitan Area Flood Control Authority (AMAFCA).

The Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA) has jurisdiction over most drainage and flood control facilities in the Sandoval County portion of Rio Rancho, while the City of Rio Rancho acts as SSCAFCA's designee for minor facilities that have drainage flows less than 500 cubic feet per second (cfs). Since its inception in 1990, SSCAFCA has constructed and now maintains more than 20 regional drainage and flood control facilities within the city limits. SSCAFCA capital projects and maintenance operations are supported by a \$2.076 property tax mill levied per \$1,000 of assessed value of residential property and non-residential property.

As categorized in the Infrastructure and Capital Improvement Plan (ICIP), the drainage system does not refer to drainage infrastructure associated with roadway projects, but rather consists of stand-alone drainage, flood control, and erosion control projects the city will build, own, and maintain. Staff continues to develop a comprehensive inventory of

local and regional drainage improvements, however Geographic Information System (GIS) data is incomplete and under review at this time. In Fiscal Year 2013, staff commenced a five year plan to upgrade its GIS system, including personnel, software, and hardware. A complete vetting of drainage data for completeness and accuracy is an ongoing activity performed by the Public Works, GIS section. Metrics summarizing the size and extent of the drainage system will be forthcoming for inclusion in this introductory section in future years.

Current Capacity, Condition, and Challenges

According to the city's Comprehensive Plan published in November 2010, "...serious problems with drainage, erosion, and flood control persist due to chronic underfunding of drainage projects." Because large areas of the city were platted on a bulk basis with no subdivision improvements such as paved streets or storm drains severe drainage problems during heavy rain events is an imminent danger in many parts of the City. Significant deficiencies exist in all sections of the city, particularly in the more populated areas east of Unser Boulevard Also, as more development occurs further up in the watersheds to the north and west of Unser Boulevard, the risk of flood and property damage increases.

To date, the approach taken toward drainage/floodplain management within the city's jurisdiction has been two fold. First, the city has developed and enforces various ordinances governing flood prevention, erosion control and storm drainage, and the creation of subdivisions. Currently, the city has five basic ordinances governing development and the associated drainage infrastructure required. These ordinances include Chapters 150, 152, 153, 154, and 155 of the Municipal Code. Technical design standards, criteria, and guidelines have also been established jointly with SSCAFCA and incorporated in the city's Development Process Manual (DPM) to facilitate the planning, design, construction, and operation of public and private drainage control, flood control, and erosion control within the community. Despite these regulatory tools, the practice of the city has been to not enforce drainage requirements on areas with premature plating (i.e.

those areas that were subdivided before the creation of drainage ordinances). The second part of the approach is to identify problem areas through city staff assessments of risk and/or citizen complaints. Projects are then defined, designed, and constructed to address drainage infrastructure needs with the caveat of having sufficient funds available. As for floodplain management, the second part to the approach is the in-house identification of areas susceptible to flooding that are not identified by FEMA and the commissioning of detailed studies used to more accurately identify the flood potential of areas identified by FEMA as “Approximate A Zones.”

Infrastructure and Capital Improvement Plan Development

The city’s 2009 Strategic Plan, Goal 1, Strategy H establishes the goal to “enhance existing and explore new tools for addressing the drainage needs of the city.” Potential tools identified by staff include a drainage/flood plain master plan and individual watershed management plans.

Currently, a drainage/floodplain management master plan does not exist for the city. A drainage/floodplain management master plan would be intimately integrated into the general development plan as it would need to address specific types of development. As specific area plans are developed for the City, drainage facility plans could be developed assuming that the specific area plans were created based on watershed boundaries and sufficient funds are available for development of such plans. Funds are usually limited therefore, before drainage facility plans may be developed there needs to be a sufficient number of specific area plans in existence to identify the type of proposed development within the watershed.

In lieu of a drainage/floodplain master plan and drainage facility plans for individual drainage basins, city staff has developed in house assessments of required improvements to remedy existing deficiencies in various areas of the city. City staff also works cooperatively with SSCAFCA to identify areas and projects of critical need as well as review

and approve drainage solutions for newly developed land within the city.

Developer Contributions

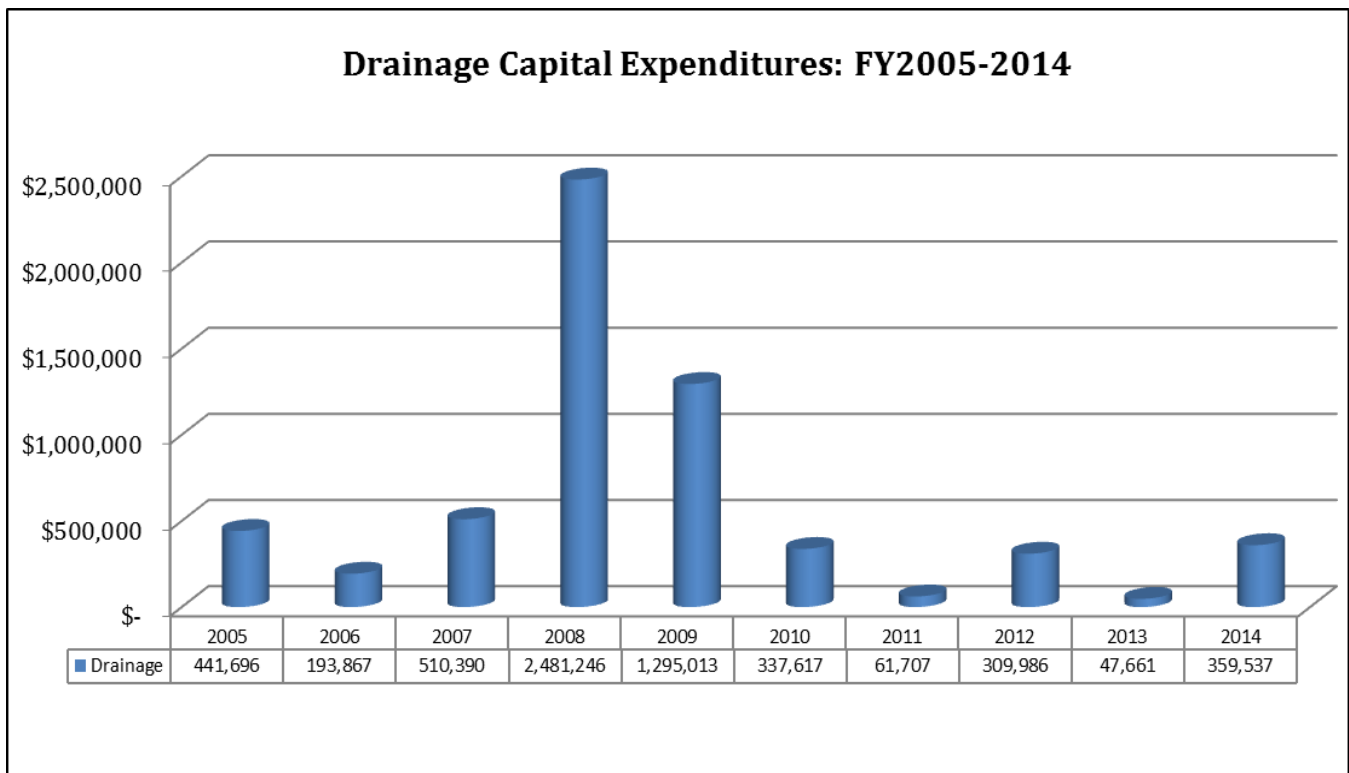
The city’s Impact Fee Plan and Ordinance, adopted in 2005, requires development in obsolete platted areas to pay drainage impact fees valued at \$4,465 for single family homes, \$1,191 for multi-family units, and \$1,786 per thousand square feet of non-residential building space. These funds are used to construct system level improvements in the city wide service area. In Fiscal Year 2014, development in obsolete platted areas accounted for seven percent (7%) of all development. In contrast, developers that assemble various properties and re-plat these properties for development are required by means of the aforementioned ordinances to construct all required drainage infrastructure. Drainage impact fees are not collected from this type of development. Dedication of drainage infrastructure to the city is typically restricted to surface street improvements, associated underground drainage pipelines, and local area detention ponds. Regional drainage facilities constructed as part of approved subdivisions and non-residential development areas are dedicated to SSCAFCA who is responsible for maintenance. Some regional and local facilities are built for multi-purpose use as park land subject to the city’s park system objectives and design standards. The most recently example is the agreement for construction of the 3.5 acre Gateway Pond at the intersection of 22nd Avenue in 19th Street near the Petroglyph Medical Plaza in southern Rio Rancho. Effective September 22, 2012, impact fees for residential construction were reduced by 50 percent (50%) and for non-residential construction by 100 percent (100%) for two years. The amount of estimated foregone drainage impact fees for Fiscal Year 2014 as a result of the impact fee moratorium was \$82,603.

Funding Sources

Drainage capital expenditures are supported by various sources. The most prominent among them include:

- General fund direct expenditures and transfers
- Drainage impact fees
- Intergovernmental grants

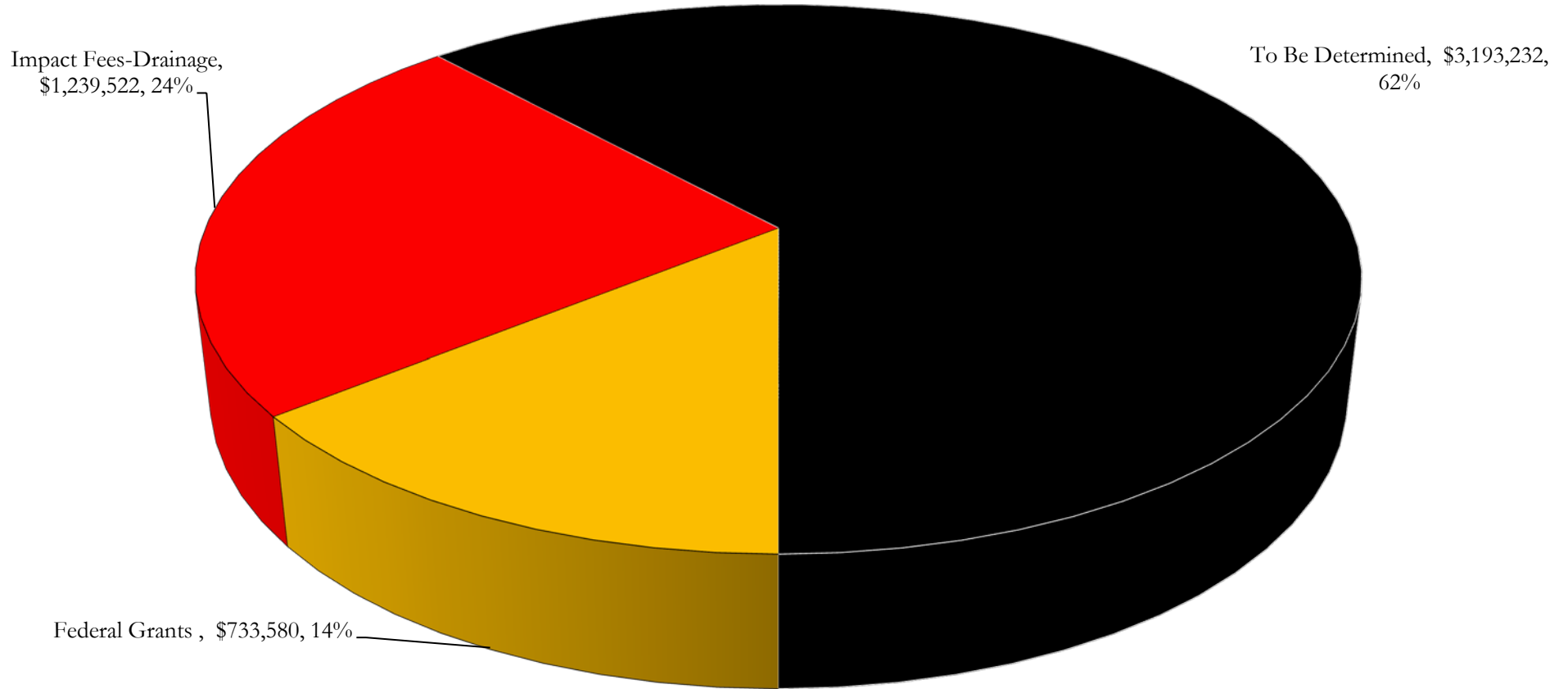
Drainage capital expenditures are down dramatically from their 10 year peak of \$2.5 million in Fiscal Year 2008. Significant expenditures for drainage infrastructure in Fiscal Years 2008 and 2009 were related to remediation and repair of channels and arroyos to their pre-flood condition after severe flooding throughout the city in the summer of 2006. Funding for remediation projects include federal and state grants as well as general operating fund resources. In recent years, drainage impact fees have been the sole funding source for the modest drainage infrastructure capital program. The city has also funded significant drainage infrastructure between Fiscal Years 2007 and 2011 via Special Assessment Districts (SADs).



FY2015-FY2020: ICIP Summary

Rank Priority	Project No.	Project Title	Project to Date	2015 Budget	2015 Additional Spending Anticipated	2015 Total	2016	2017	2018	2019	2020	Funding Requested: FY15-FY20	Funding Source	Funding Source	Funding Source	Total Funding
													(A)	(B)	(C)	(A)+(B)+(C)
1	PI0638	Los Milagros Channel Improvements	\$ 383,502	\$ 141,141	\$ 405,000	\$ 546,141	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 546,141	Impact Fees-Drainage			
													\$ 546,141			\$ 546,141
2	N/A	IPE Drainage Infrastructure for Hwy 528 Widening	\$ -	\$ -	\$ -	\$ -	\$ 214,489	\$ 2,184,889	\$ -	\$ -	\$ -	\$ 2,399,378	Impact Fees-Drainage	To Be Determined		
													\$ 258,642	\$ 2,140,736		\$ 2,399,378
3	N/A	Sportscomplex Armoring	\$ -	\$ -	\$ 733,580	\$ 733,580	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 733,580	Federal Grants			
													\$ 733,580			\$ 733,580
4	PW1440	City Center Drainage Facility Plan	\$ 46,458	\$ -	\$ 4,097	\$ 4,097	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,097	Impact Fees-Drainage			
													\$ 4,097			\$ 4,097
5	N/A	Christopher Point Pond Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 138,384	\$ -	\$ -	\$ 138,384	Impact Fees-Drainage			
													\$ 138,384			\$ 138,384
6	N/A	Grey Hawk Pond Rework	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 144,754	\$ -	\$ 144,754	Impact Fees-Drainage			
													\$ 144,754			\$ 144,754
7	PI0835	Redriver Watershed (Monterey/Granada Drainage Improvements	\$ 221,912	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,200,000	\$ 1,200,000	Impact Fees-Drainage	To Be Determined		
													\$ 147,504	\$ 1,052,496		\$ 1,200,000

TOTALS \$ 651,873 \$ 141,141 \$ 1,142,676 \$ 1,283,818 \$ 214,489 \$ 2,184,889 \$ 138,384 \$ 144,754 \$ 1,200,000 \$ 5,166,334 \$ 5,166,334



	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Federal Grants	\$ 733,580						\$ 733,580
Impact Fees-Drainage	\$ 550,238	\$ 126,378	\$ 132,264	\$ 138,384	\$ 144,754	\$ 147,504	\$ 1,239,522
To Be Determined		\$ 88,111	\$ 2,052,625			\$ 1,052,496	\$ 3,193,232
TOTAL	\$ 1,283,818	\$ 214,489	\$ 2,184,889	\$ 138,384	\$ 144,754	\$ 1,200,000	\$ 5,166,334

DRAINAGE PROJECTS UNDER CONSIDERATION			
Rank	Project Name	Fiscal Year(s)	Project Estimate
8	Alberta Watershed Phase II	2016-2017	\$ 1,115,000
9	Chamisa Greens Detention Pond	2017-2019	\$ 87,000
10	Montebella Flood Control Facility	2018	\$ 950,000
11	City Center Facility Plan-Storm Drainage & Land Acquisition	2019	\$ 10,530,978
12	Guadalajara Basin Improvements Phase II	2018-2020	\$ 2,250,000
13	Alberta Watershed Phase III	2018-2019	\$ 1,000,000
14	WWTP#3 Channel Stabilization	2018-2020	\$ 1,950,000
15	Paseo del Volcan Dam-City Portion	2018	\$ 1,527,682
16	Nicklaus Channel Outfall	2019	\$ 188,011
17	Antigua Road Outfall	2016-2020	\$ 250,000
	TOTAL		\$ 19,848,671

1. PROJECT INFORMATION

Project Title	Los Milagros Channel Improvements	Requesting Department	Dept. of Public Work/Engineering	Department Rank Priority No.	1
Project Category	Drainage	CIP Year	FY2006	Project No.:	PI0638
Estimated Useful Life	Greater than 25 Years	District Location	Council District 3	Project Request Status	Revised Project Request

2. PROJECT DESCRIPTION AND SCOPE

The project includes channel improvements from the outlet of the Los Milagros Subdivision pond across Gemini Rd, across Chessman Rd to the Los Montoyas Arroyo. Construction will include channel grading and shaping, drop structures, culvert road crossings with concrete head walls, and outlet erosion protection.

3. PROJECT JUSTIFICATION

The project is required to protect road crossings and allow development of the area. The permit issued by the Army Corps of Engineers (USACoE) under Section 404 of the Clean Water Act expired in 2011 and an extended permit will be required. The permit is required for any work done in a "tributary or waterway of the United States." Without construction of drainage improvements prior to the expiration of existing permits, development in the area cannot proceed.

4. PROJECT HISTORY AND STATUS

USACoE permits were issued in 2006. The project was not funded and completed within the 2011 permits and an extended permit is required upon availability of funding for construction. To help finance the project, a Special Condition for Building Permit Approval was filed with Sandoval County on February 11, 2005. The special condition required a total of 41 lots along Chessman Dr., Istle Rd., Garden Rd., Gemini Rd., and Holly Ct. to either build a grade control structure in accordance with City requirements or contribute a sum of \$7,275 for such drainage construction. To date, the City has collected \$42,650 in contribution revenue. Due to the City's lack of funding for the ultimate drainage solution, construction of temporary grading improvements were completed using infrastructure fund capital funds in June 2010 at a total cost of \$22,763. Design of the ultimate drainage for the Los Milagros subdivision to Gemini Rd. was completed in October 2013 and construction commenced in February 2014. Construction of Phase I is expected to be complete in May 2014 and design of Phase II improvements from Gemini Rd. to Los Montoya's is currently in progress. Construction of Phase II improvements will commence in Fiscal Year 2015.

5. CAPITAL COSTS

PHASE	SOURCE(S) OF COST INFO	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Planning and Feasibility									\$ -
Pre Design and Env. Review									\$ -
Land Acq./ROW									\$ -
Design and Specifications	Recent City project	\$ 55,525	\$ 45,625						\$ 101,149
Construction	Recent City project	\$ 312,170	\$ 494,221						\$ 806,391
Construction Management	Other	\$ 15,808	\$ 6,295						\$ 22,102
Equipment/Vehicle									\$ -
Other									\$ -
TOTAL		\$ 383,502	\$ 546,141	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 929,643

6. PROPOSED SOURCES OF FUNDING

REVENUE SOURCE	EXPENDITURE FUND	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Contributions, Donations and Sponsorships	305-Infrastructure Fund	\$ 42,650							\$ 42,650
Impact Fees-Drainage	355-Impact Fees Drainage	\$ 340,852	\$ 546,141						\$ 886,993
									\$ -
TOTAL		\$ 383,502	\$ 546,141	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 929,643

1. PROJECT INFORMATION

Project Title	Industrial Park East Drainage Infrastructure for 528 Widening	Requesting Department	Dept. of Public Work/Engineering	Department Rank Priority No.	2
Project Category	Drainage	CIP Year	FY2014	Project No.:	PW1439
Estimated Useful Life	Greater than 25 Years	District Location	Council District 4	Project Request Status	Revised Project Request

2. PROJECT DESCRIPTION AND SCOPE

The project involves the design and construction of a drainage system to transport storm water run off from New Mexico Highway 528 (NM528) to the Tortugas Arroyo on the east side of the Industrial Park. The ultimate design solution is pending final design of the NM528 Improvements project from Ridgecrest Dr. to Northern Blvd. by the New Mexico Department of Transportation (NMDOT).

3. PROJECT JUSTIFICATION

The NMDOT is widening NM528 from Southern Blvd to Northern Blvd. As a result of this widening a portion of the ponding that currently exists on the west side of NM528 will be eliminated. This in addition to the existing drainage issues within Industrial Park East (IPE) that require drainage infrastructure be constructed at the same time as the road widening.

4. PROJECT HISTORY AND STATUS

Drainage through IPE has been a long standing problem. There have even been a number of attempts at legal action as a result of the drainage issues. Several studies have been completed in the IPE area and they all agree that there is an actual issue that needs to be addressed. Given the lack of available funds there was an attempt to include the IPE in a Special Assessment District (SAD) to address the issue. As a result of property owner opposition the SAD attempt failed. The NMDOT is showing a schedule for construction of the NM528 widening to occur in 2017 to increase the service level of the road as a result of increased development. As a result of this road improvement additional drainage infrastructure will be required. Therefore, it is necessary to have sufficient funding available for the City to construct the required drainage infrastructure prior to or concurrent with the NMDOT project.

5. CAPITAL COSTS

PHASE	SOURCE(S) OF COST INFO	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Planning and Feasibility									\$ -
Pre Design and Env. Review									\$ -
Land Acq./ROW									\$ -
Design and Specifications	Other			\$ 214,489					\$ 214,489
Construction	Other				\$ 2,184,889				\$ 2,184,889
Construction Management	Other								\$ -
Equipment/ Vehicle									\$ -
Other									\$ -
TOTAL		\$ -	\$ -	\$ 214,489	\$ 2,184,889	\$ -	\$ -	\$ -	\$ 2,399,378

6. PROPOSED SOURCES OF FUNDING

REVENUE SOURCE	EXPENDITURE FUND	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Impact Fees- Drainage	355-Impact Fees Drainage			\$ 126,378	\$ 132,264				\$ 258,642
To Be Determined			\$ 88,111	\$ 2,052,625	\$ -				\$ 2,140,736
									\$ -
									\$ -
TOTAL		\$ -	\$ -	\$ 214,489	\$ 2,184,889	\$ -	\$ -	\$ -	\$ 2,399,378

1. PROJECT INFORMATION

Project Title	Sportscomplex Armoring	Requesting Department	Dept. of Public Work/Engineering	Department Rank Priority No.	3
Project Category	Drainage	CIP Year	FY2015	Project No.:	N/A
Estimated Useful Life	Greater than 25 Years	District Location	Council District 4	Project Request Status	New Project Request

2. PROJECT DESCRIPTION AND SCOPE

The project consists of constructing flood control measures, such as gabion reinforcement (or an equal permanent solution) of the south bank or the Montoya's Arroyo which abuts the north side of the Sports Complex. Repair of the eroding bank will require importation and installation of approximately 15,556 cubic yards of fill dirt, and stabilization with gabions approximately 3,000 linear feet up to seven feet above the arroyo invert.

3. PROJECT JUSTIFICATION

The City's main sports fields are at great risk due to the meandering Montoya's Arroyo. The arroyo in its natural state, has significantly eroded the north side of the facility where playing fields and a skate park are located. The project will enhance the site's existing flood control measures and protect the Sports Complex and its patrons in the long term by eliminating the repeated, steep and large scale erosion of the north side of the complex.

4. PROJECT HISTORY AND STATUS

Staff submitted a Notice of Interest (NOI) to the Federal Emergency Management Agency (FEMA) for Mitigation Grant funding in March 2014. The estimated total damages for the last ten year period resulting from the inadequate drainage situation has been estimated to be \$138,182. In April 2014, FEMA notified the City of the project's eligibility for Mitigation Grant funding and has directed staff to prepare a complete grant application by June 30, 2014.

5. CAPITAL COSTS

PHASE	SOURCE(S) OF COST INFO	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Planning and Feasibility									\$ -
Pre Design and Env. Review									\$ -
Land Acq./ROW									\$ -
Design and Specifications	Other		\$ 60,000						\$ 60,000
Construction	Other		\$ 673,580						\$ 673,580
Construction Management									\$ -
Equipment/ Vehicle									\$ -
Other									\$ -
TOTAL		\$ -	\$ 733,580	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 733,580

6. PROPOSED SOURCES OF FUNDING

REVENUE SOURCE	EXPENDITURE FUND	PRIOR YEARS	FY15	FY16	FY17	FY18	FY19	FY20	TOTAL
Federal Grants			\$ 733,580						\$ 733,580
									\$ -
									\$ -
TOTAL		\$ -	\$ 733,580	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 733,580

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