City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144
(505) 981-5005 • FAX (505) 981-0986

December 1, 2020

U.S. EPA, Region 6
Water Quality Protection Division
Operations Support Services (6WQ-O
1445 Ross Avenue
Dallas, Texas 75202-2733

Subject: 2020 Annual Report, National Pollution Discharge Elimination System Municipal Separate Storm Sewer (NPDES) Permit No. NMR04A001

To whom it may concern:

In accordance with Part III.B. of the referenced NPDES permit, the City of Rio Rancho is pleased to submit the 2020 Annual Report for your review and comment. The Annual Report summarizes activities conducted from July 1, 2019 to June 30, 2020, such as program compliance and progress, public outreach and education, and future infrastructure improvements.

As outlined in the NPDES permit, the City of Rio Rancho has provided public notice and made available for public review a draft copy of the annual report prior to submitting to your office. The comment period closed November 30, 2020. The City of Rio Rancho did not receive comments from individuals or organizations during the 45-day comment period.

Should you need additional information or have questions regarding the Annual Report please do not hesitate to contact me at (505) 891-5045, or via email at xpettes@rrnm.gov.

Respectfully,

Xavier Pettes
NPDES Project Manager
Engineering Division
Development Services Department

Attachment (1)

Cc: David Serrano, P.E., Engineering Division Manager

MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER (MS4) PERMIT

2019-2020 ANNUAL REPORT

July 1, 2019 – June 30, 2020

DECEMBER 1, 2020

Development Services Department
3200 Civic Center Circle NE
Rio Rancho, NM 87144

NPDES GENERAL PERMIT NO. NMR04A000

ANNUAL REPORT REQUIREMENTS

The permittees shall submit an annual report to be submitted by no later than December 1st. See suggested form at http://epa.gov/region6/water/npdes/sw/ms4/index.htm. The report shall cover the previous year from July 1st to June 30rd and include the below separate sections. Additionally, the year one (1) and year four (4) annual report shall include submittal of a complete SWMP revision.

At least forty five (45) days prior to submission of each Annual Report, the permittee must provide public notice of and make available for public review and comment a draft copy of the Annual Report. All public input must be considered in preparation of the final Annual Reports and any changes to the SWMP.

Note: A complete copy of the signed Annual Report should be maintained on site.

1. **SWMP(s) Status of Implementation**: shall include the status of compliance with all schedules established under this permit and the status of actions required in Parts I, III, and VI.

2. **SWMP Revisions**: shall include revisions, if necessary, to the assessments of controls or BMPs reported in the permit application (or NOI for coverage under this permit) under **40 CFR §122.26(d)(2)(v)*** and **§122.34(d)(1)(I)[i]**** are to be included, as well as a cumulative list of all SWMP revisions during the permit term.

3. **Performance Assessment**: shall include:

    a. an assessment of performance in terms of measurable goals, including, but not limited to, a description of the number and nature of enforcement actions and inspections, public education and public involvement efforts;

    b. a summary of the data, including monitoring data, that is accumulated throughout the monitoring year (July 1 to June 30); actual values of representative monitoring results shall be included, if results are above minimum quantification level (MQL); and

    c. identification of water quality improvements or degradation.

4. **Annual Report Responsibilities for Cooperative Programs**: preparation of a system-wide report with cooperative programs may be coordinated among cooperating MS4s and then used as part of individual Annual Reports. The report of a cooperative program element shall indicate which, if any, permittee(s) have failed to provide the required information on the portions of the MS4 for which they are responsible to the cooperation permittees.

    a. joint responsibility for reports covering cooperative programs elements shall be limited to participation in preparation of the overview for the entire system and inclusion of the identity of any permittee who failed to provide input to the annual report.

    b. individual permittees shall be individually responsible for content of the report relating to the portions of the MS4 for which they are responsible and for failure to provide information for the system-wide annual report no later than July 31st of each year.

5. **Public Review and Comment**: a brief summary of any issues raised by the public on the draft Annual Report, along with permittee's responses to the public comments.

6. **Signature on Certification of Annual Reports:** the annual report shall be signed and certified, in accordance with Part IV.H and include a statement or resolution that the permittee's governing body or agency (or delegated representative) has reviewed or been apprised of the content of the Annual Report. Annual report shall be due no later than December 1st of each year. A complete copy of the signed Annual Report should be maintained on site.

***40 CFR §122.26(d)(2)(v)**

(v) *Assessment of controls.* Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

****40 CFR §122.34(d)(1)(I)[i]**

(d)(1) In your permit application (either a notice of intent for coverage under a general permit or an individual permit application), you must identify and submit to your NPDES permitting authority the following information:

(i) The best management practices (BMPs) that you or another entity will implement for each of the storm water minimum control measures at paragraphs **(b)(1)** through **(b)(6)** of this section;

(b)(1)

(b) Minimum control measures—(1) Public education and outreach on storm water impacts.

(i) You must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

(ii) Guidance: You may use storm water educational materials provided by your State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The public education program should inform individuals and households about the steps they can take to reduce storm water pollution, such as ensuring proper septic system maintenance, ensuring the proper use and disposal of landscape and garden chemicals including fertilizers and pesticides, protecting and restoring riparian vegetation, and properly disposing of used motor oil or household hazardous wastes. EPA recommends that the program inform individuals and groups how to become involved in local stream and beach restoration activities as well as activities that are coordinated by youth service and conservation corps or other citizen groups. EPA recommends that the public education program be tailored, using a mix of locally appropriate strategies, to target specific audiences and communities. Examples of strategies include distributing brochures or fact sheets, sponsoring speaking engagements before community groups, providing public service announcements, implementing educational programs targeted at school age children, and conducting community-based projects such as storm drain stenciling, and watershed and beach cleanups. In addition, EPA recommends that some of the materials or outreach programs be directed toward targeted groups of commercial, industrial, and institutional entities likely to have significant storm water impacts. For example, providing information to restaurants on the impact of grease clogging storm drains and to garages on the impact of oil discharges. You are encouraged to tailor your outreach program to address the viewpoints and concerns of all communities, particularly minority and disadvantaged communities, as well as any special concerns relating to children.

(b)(6)

(6) Pollution prevention/good housekeeping for municipal operations.

(i) You must develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. Using training materials that are available from EPA, your State, Tribe, or other organizations, your program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

(ii) Guidance: EPA recommends that, at a minimum, you consider the following in developing your program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and nonstructural storm water controls to reduce floatables and other pollutants discharged

from your separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by you, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatables, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance should be an integral component of all storm water management programs. This measure is intended to improve the efficiency of these programs and require new programs where necessary. Properly developed and implemented operation and maintenance programs reduce the risk of water quality problems.

MIDDLE RIO GRANDE WATERSHED BASED MUNICIPAL SEPARATE STORM SEWER (MS4) PERMIT

2019-2020ANNUAL REPORT

July 1, 2019 – June 30, 2020

TABLE OF CONTENTS

Section 1	Municipal Separate Storm Sewer System (MS4) Annual Report
	1.1 2019 – 2020 MS4 Annual Report

Annual Report Format

National Pollutant Discharge Elimination System Stormwater Program
MS4 Annual Report Form

Check box if you are submitting an individual Annual Report with cooperative program elements ☒

Check box if you are submitting an individual Annual Report with individual program elements ☐

Check box if this is a new name, address, etc. ☐

1. MS4(s) Information

City of Rio Rancho
Name of MS4

Xavier | Pettes | NPDES Project Manager
Name of Contact Person (First) (Last) (Title)

(505) 891-5045 | xpettes@rrnm.gov
Telephone (including area code) E-mail

3200 Civic Center Circle NE, Suite 130
Mailing Address

Rio Rancho | New Mexico | 87144
City State ZIP code

What size population does your MS4(s) serve? 87,521 NPDES number NMR04A007

What is the reporting period for this report? (mm/dd/yyyy) From 07/01/2019 to 06/30/2020

2. Water Quality Priorities

A. Does your MS4(s) discharge to waters listed as impaired on a state 303(d) list? ☒ Yes ☐ No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4(s). Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
Rio Grande NM-2105.1_00	E. coli	☒ Yes	☐ No	☒ Yes	☐ No
Rio Grande NM-2105.1_00	PCB in Fish Tissue	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	PCB in Water Column	☐ Yes	☒ No	☐ Yes	☒ No
Rio Grande NM-2105.1_00	Gross Alpha	☐ Yes	☒ No	☐ Yes	☒ No

2. B. Continued

Impaired Water	Impairment	Approved TMDL	TMDL assigns WLA to MS4
Rio Grande NM-2105.1_00	Mercury in Fish Tissue	☐ Yes ☒ No	☐ Yes ☒ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No
		☐ Yes ☐ No	☐ Yes ☐ No

C. What specific sources contributing to the impairment(s) are you targeting in your stormwater program?

Pet waste, Construction Waste, Illicit Discharge, Household Hazardous Waste, Septic & Sanitary Sewer System, General St

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)? ☐ Yes ☒ No

E. Are you implementing additional specific provisions to ensure their continued integrity? ☐ Yes ☒ No

3. Public Education and Public Participation

A. Is your public education program targeting specific pollutants and sources of those pollutants? ☒ Yes ☐ No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

General SWP, Construction Waste, Pet Waste, Household Hazardous Waste, Illicit Discharge and Animal Sources

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

See Attached - Section 6. Middle Rio Grande Stormwater Quality Outcomes Report FY 2018-2019

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program? ☒ Yes ☐ No

4. Construction

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements? ☒ Yes ☐ No

Other construction waste control requirements? ☒ Yes ☐ No

Requirement to submit construction plans for review? ☒ Yes ☐ No

MS4 enforcement authority? ☒ Yes ☐ No

B. Do you have written procedures for:

Reviewing construction plans? ☒ Yes ☐ No

Performing inspections? ☒ Yes ☐ No

Responding to violations? ☒ Yes ☐ No

C. Identify the number of active construction sites ≥ 1 acre in operation in your jurisdiction at any time during the reporting period. 90

D. How many of the sites identified in 4.C did you inspect during this reporting period? 90

E. Describe, on average, the frequency with which your program conducts construction site inspections.

Private and public construction project/activities are inspected bi-weekly.

F. Do you prioritize certain construction sites for more frequent inspections? ☒ Yes ☐ No

If Yes, based on what criteria? Activities near or adjacent to watercourse

G. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

☒ Yes	Notice of violation	8	No Authority	☐
☒ Yes	Administrative fines	0	No Authority	☐
☐ Yes	Stop Work Orders		No Authority	☒
☒ Yes	Civil penalties	0	No Authority	☐
☐ Yes	Criminal actions		No Authority	☒
☐ Yes	Administrative orders		No Authority	☒
☐ Yes	Other	N/A		

H. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction? ☒ Yes ☐ No

I. What are the 3 most common types of violations documented during this reporting period?

CGP/Municipal Code violations: 1) Inadequate perimeter control prior to earth disturbing activities; 2) Construction and

J. How often do municipal employees receive training on the construction program? As needed and/or for new

5. Illicit Discharge Elimination

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system? ☒ Yes ☐ No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system? ☒ Yes ☐ No

C. Identify the number of outfalls in your storm sewer system. 7

D. Do you have documented procedures, including frequency, for screening outfalls? ☒ Yes ☐ No

E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?

7

F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage? 7

G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.

Spills near storm drains or outfalls are investigated immediately. Dry Weather Outfall Screening is conducted annually.

H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges? ☒ Yes ☐ No

I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges? ☒ Yes ☐ No

J. During this reporting period, how many illicit discharges/illegal connections have you discovered? 1

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated? 1

L. How often do municipal employees receive training on the illicit discharge program? As needed and/or for n

6. Stormwater Management for Municipal Operations

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

All public parks, ball fields, other recreational facilities and other open spaces	☒ Yes	☐ No
All municipal construction activities, including those disturbing less than 1 acre	☒ Yes	☐ No
All municipal turf grass/landscape management activities	☒ Yes	☐ No
All municipal vehicle fueling, operation and maintenance activities	☒ Yes	☐ No
All municipal maintenance yards	☒ Yes	☐ No
All municipal waste handling and disposal areas	☒ Yes	☐ No

Other None

B. Are stormwater inspections conducted at these facilities? ☒ Yes ☐ No

C. If Yes, at what frequency are inspections conducted? Quarterly

D. List activities for which operating procedures or management practices specific to stormwater management have been developed (e.g., road repairs, catch basin cleaning).

Construction Site Stormwater Inspection, Dry Weather Discharges Screening, Locating Illicit Discharges, Spill Response

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection? ☒ Yes ☐ No

F. If Yes, which activities and/or facilities receive most frequent inspections? Activities near or adjacent to watercour

G. Do all municipal employees and contractors overseeing planning and implementation of stormwater-related activities receive comprehensive training on stormwater management? ☒ Yes ☐ No

H. If yes, do you also provide regular updates and refreshers? ☒ Yes ☐ No

I. If so, how frequently and/or under what circumstances? As needed and/or for new hires

7. Long-term (Post-Construction) Stormwater Measures

A. Do you have an ordinance or other regulatory mechanism to require:

Site plan reviews for stormwater/water quality of all new and re-development projects?	☒ Yes	☐ No
Long-term operation and maintenance of stormwater management controls?	☒ Yes	☐ No
Retrofitting to incorporate long-term stormwater management controls?	☒ Yes	☐ No

B. If you have retrofit requirements, what are the circumstances/criteria?

Typically retrofit are conducted in the field

C What are your criteria for determining which new/re-development stormwater plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)?

All construction project/activities cumulatively disturbing one or more acres within the MS4 jurisdiction

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development? ☒ Yes ☐ No

E. Do these performance or design standards require that pre-development hydrology be met for:

Flow volumes	☒ Yes	☐ No
Peak discharge rates	☒ Yes	☐ No
Discharge frequency	☒ Yes	☐ No
Flow duration	☒ Yes	☐ No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

https://www.codepublishing.com/NM/RioRancho/#!/RioRancho150/RioRancho153.html#153

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection? 11

H. How many of the plans identified in 7.G were approved? 11

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period? 0

J. How many of the practices/facilities identified in I were found to have inadequate maintenance? 0

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? 90 days

L. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities? ☒ Yes ☐ No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain stormwater management practices? 0

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance? ☐ Yes ☒ No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system? ☐ Yes ☒ No

P. How often do municipal employees receive training on the post-construction program? As needed

8. Program Resources

A. What was the annual expenditure to implement MS4 permit requirements this reporting period? 100,000.00

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit? 100,000.00

C. This year what is/are your source(s) of funding for the stormwater program, and annual revenue (amount or percentage) derived from each?

Source:	General Fund	Amount $		OR %	100
Source:		Amount $		OR %	
Source:		Amount $		OR %	

D. How many FTEs does your municipality devote to the stormwater program (specifically for implementing the stormwater program; not municipal employees with other primary responsibilities)? 2

E. Do you share program implementation responsibilities with any other entities? ☒ Yes ☐ No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
Various	Stormwater Quality Team (SWQT)	Signed Joint Agreement
Various	Technical Advisory Group (TAG)	Signed Joint Agreement
Various	Compliance Monitoring Coop. (CMC)	Signed Joint Agreement

9. Evaluating/Measuring Progress

A. What indicators do you use to evaluate the overall effectiveness of your stormwater management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	**Began Tracking (year)**	**Frequency**	**Number of Locations**
Example: E. coli	2003	Weekly April–September	20
Various (EPA approved analyte list)	2016	Qualifying Event (up to 7)	2
Various (EPA approved analyte list)	2014	Wet Season, annually	8
Please refer to the attached Annual			
Report or AMAFCA web site for			
additional information			

B. What environmental quality trends have you documented over the duration of your stormwater program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

Data collected by the Compliance Monitoring Cooperative has been shared with NMED.

10. Additional Information

Please attach any additional information on the performance of your MS4 program, including information required in Parts I.C and III.B. If providing clarification to any of the questions on this form, please provide the question number (e.g., 2C) in your response.

Certification Statement and Signature

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. ☒ Yes ☐ No

Federal regulations require this application to be signed as follows: **For a municipal, State, Federal, or other public facility**: by either a principal executive or ranking elected official.

Signature 

David Serrano, P.E., Engineering Division Ma | 11/30/2020

Name of Certifying Official, Title | Date (mm/dd/yyyy)

Section 2	Special Conditions
	2.1 FY20 Infrastructure and Capital Improvement Plan

Rio Rancho

City of Vision

FY20 Infrastructure and Capital Improvement Plan

Galloping Grace Pumpkin Patch - Santa Ana Star Center

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 known 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 of the drainage and flood control facilities in the Sandoval County portion of Rio Rancho, while the City of Rio Rancho has historically acted 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 over one hundred (100) regional drainage and flood control facilities, many of which are located within the city limits. SSCAFA's capital projects and maintenance operations are supported by a $2.07 property tax mill levied per $1,000 of assessed value of residential and non-residential property within its boundaries.

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 has developed a comprehensive, easy to use Geographic Information System (GIS) to readily display drainage data and reports, which help in planning future drainage projects featured within the ICIP. Strides have been made to make drainage information more accessible and the GIS Section within the Public Works Engineering Division continues to develop and implement an inventory of local and regional drainage improvements. Additional data collection to display a complete and accurate spatial depiction of the drainage system is an ongoing activity.

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. Deficiencies exist throughout the city and 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 that is 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. 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 the Federal Emergency Management Agency (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 Department of Public Works, Engineering Division updates its capital plan concurrent with the annual budget process by which current year capital appropriations are requested to address priority infrastructure needs. Staff regularly 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. As drainage infrastructure needs are identified and funding secured, projects are incorporated into the city's Infrastructure and Capital Improvement Plan (ICIP).

The city's Strategic Plan goals for Economic Vitality and Infrastructure have established the following objectives related to drainage infrastructure development:

- Make strategic and targeted public infrastructure improvements. More specifically, prioritize infrastructure improvements on already identified key development areas, and identify areas of the city that have high development potential with infrastructure deficiencies.
- Update the Comprehensive Plan that establishes policy for the physical development of the city.
- Leverage resources on an ongoing basis and initiate contact with other entities to compare approaches and explore sharing resources to increase output and maximize efficiencies.
- Address citizen infrastructure related concerns in a timely and empathetic manner on an ongoing and consistent basis.

Potential tools identified by staff include drainage/floodplain master plans and individual watershed management plans. SSCAFCA has developed individual drainage master plans for all major watersheds within the city limits. As specific area plans are developed for the city, drainage facility plans will be developed for areas with potential development and for areas already developed with deficient drainage infrastructure, specifically developed areas on antiquated platted lots. 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.

Developer Contributions

The city's updated Impact Fee Plan and Ordinance (O-9, Enactment 17-12), adopted in 2017 establishes revised development fees effective July 1, 2019 for development in areas not served by an engineered and approved storm water management system:

- Single Family Residential: $4,465
- Multi-Family Residential: $1,589.25
- Non-Residential: $394/1,000 square foot

These funds are used to construct system level improvements in the citywide service area. In fiscal year 2019, development in areas not served by an engineered and approved storm water management system accounted for thirteen percent (13%) of all residential development. In contrast, developers that assemble various properties and re-plat these properties for development are required by the aforementioned ordinances to construct all required drainage infrastructure. Drainage impact fees are not collected from this type of development. Dedication of

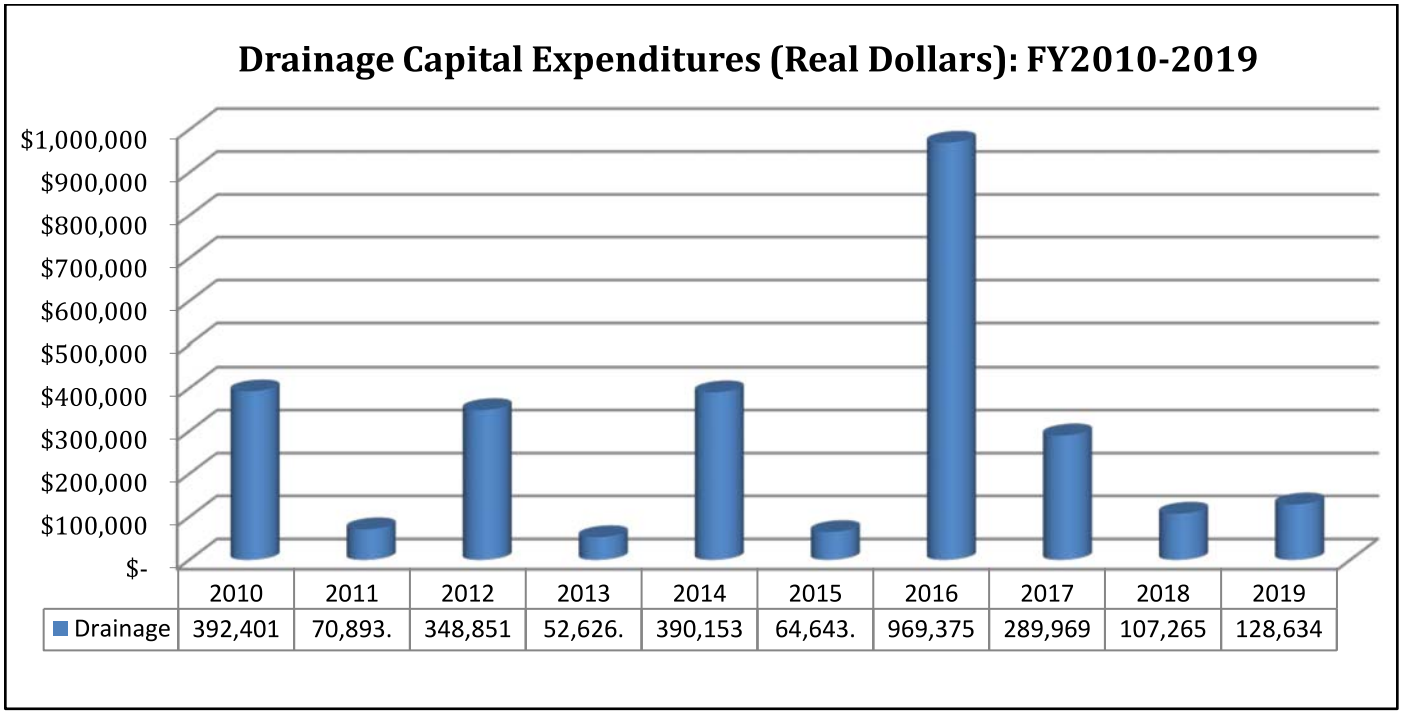
drainage infrastructure to the city is typically restricted to surface street improvements, associated underground drainage pipelines, and local area detention ponds. Regional drainage facilities constructed as part of approved subdivisions and non-residential development areas are dedicated to SSCAFCA who is responsible for maintenance. Some regional and local facilities are built for multi-purpose use as parkland subject to the city's park system objectives and design standards. The most recent example was an 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.

Funding Sources

Drainage capital expenditures are supported by various sources, including:

- Drainage impact fees
- Contributions and Donations
- Intergovernmental grants
- General Fund transfers

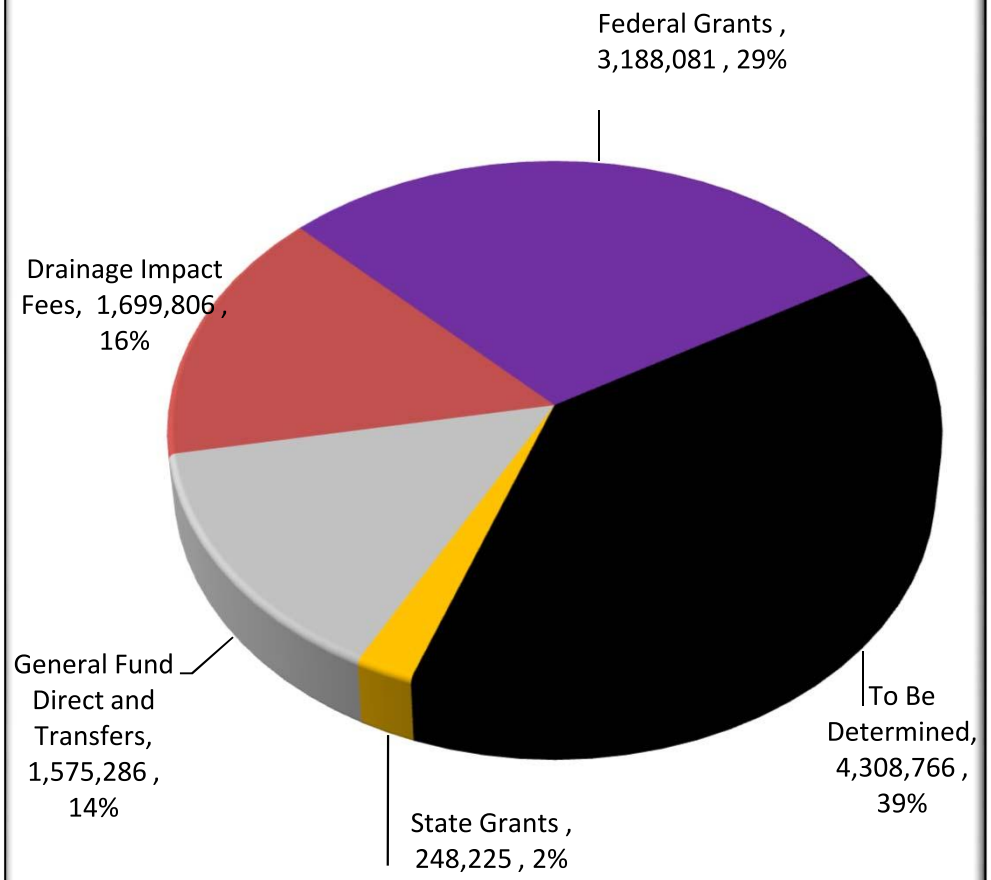
Drainage capital expenditures are down dramatically from their high water mark of $2.5 million in fiscal year 2008. Significant expenditures for drainage infrastructure in fiscal years 2008 and 2009 were related to remediation and repair of channels and arroyos to their pre-flood condition after severe flooding throughout the city in the summer of 2006. Funding for remediation projects include federal and state grants as well as general fund sources. During the last five years, drainage capital expenditures have averaged $312,000 annually (real dollars), with impact fees having been the main source of funding (nearly fifty percent) for the modest capital program. The remaining source for the drainage capital program was general fund allocations for the Sports Complex Armoring and Idalia Road Tributary Culvert Crossing projects.



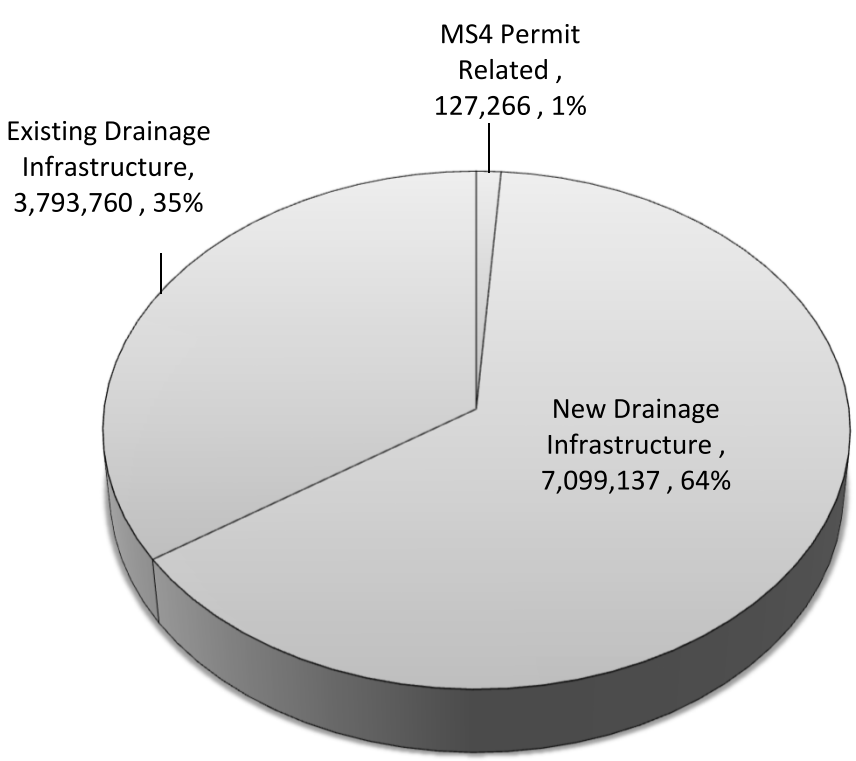
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Drainage	392,401	70,893.	348,851	52,626.	390,153	64,643.	969,375	289,969	107,265	128,634

FY2020 ICIP: Drainage

Financing Sources

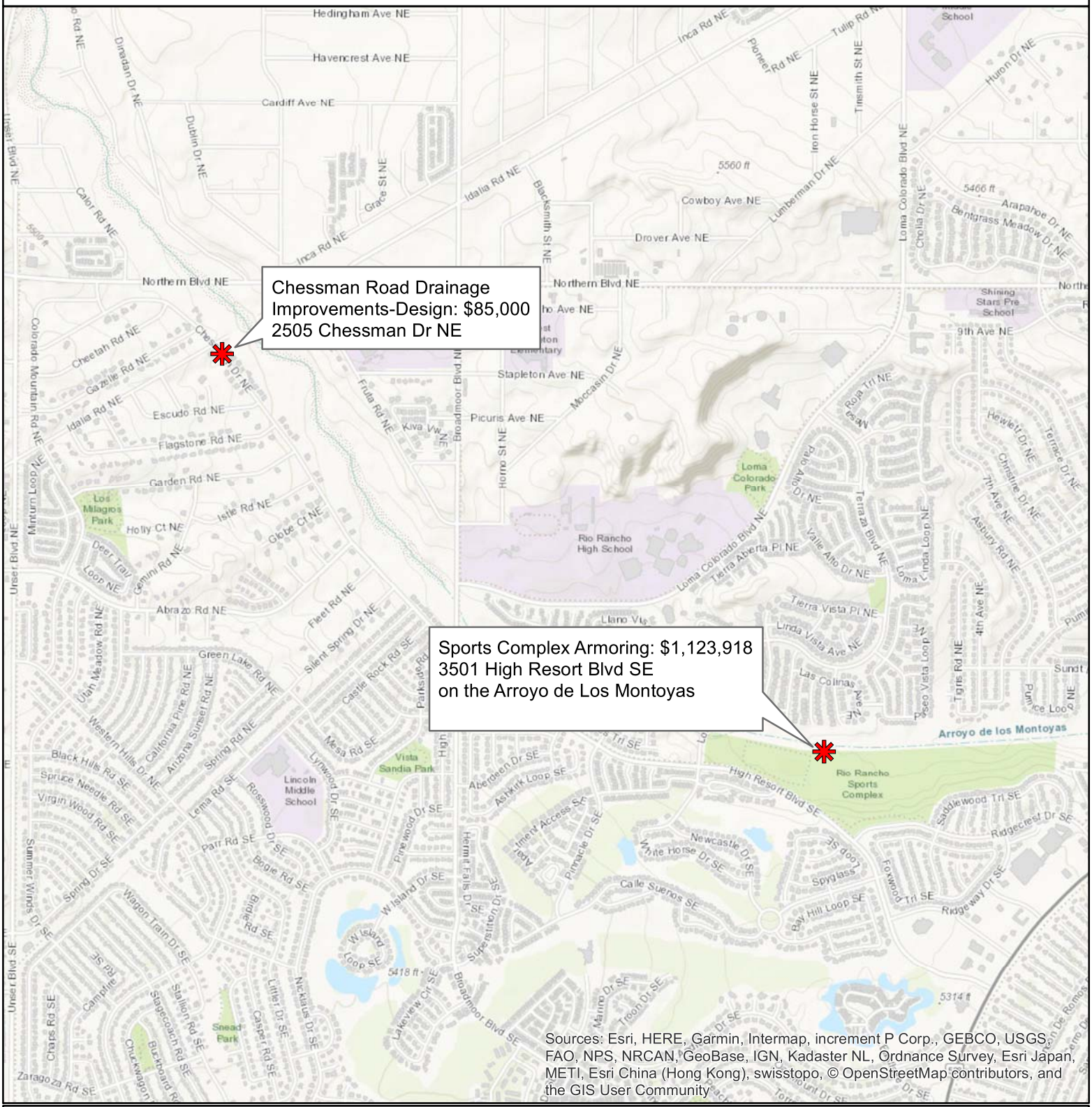


Financing Uses



GRAND TOTAL: **11,020,164**

FY2020 ICIP: DRAINAGE



Rio Rancho City of Vision

GIS Moving Spatial Data Forward

DISCLAIMER: All information in this map is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. This map is not a survey and should be used for graphical purposes only.

Map Created by Timothy Archuleta 3/28/2019

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Miles

Project Location

City Boundary

FY2020 ICIP: Drainage

Rank	Project	Project to Date	FY2020 Additional Spending	FY2020 Budget	FY2020 Total	FY2021	FY2022	FY2023	FY2024	FY2025	FY2020-FY2025
1	**Sportscomplex Armoring**	**119,176**	**90,179**	**1,001,783**	**1,091,962**	**-**	**-**	**-**	**-**	**-**	**1,091,962**
	Design and Engineering	109,986			-						-
	Construction		90,179	982,966	1,073,145						1,073,145
	Construction Management			12,493	12,493						12,493
	Other	9,191		6,324	6,324						6,324
	Total	119,176	90,179	1,001,783	1,091,962	-	-	-	-	-	1,091,962
	General Fund Direct (Fund 101)	9,191			-						-
	General Fund Transfers (Funds 305 and 307)	37,726	90,179		90,179						90,179
	Federal Grants (Fund 305)	72,259		753,558	753,558						753,558
	State Grants	-		248,225	248,225	-	-	-	-	-	248,225
	Total	119,176	90,179	1,001,783	1,091,962	-	-	-	-	-	1,091,962
2	**Preliminary DAR and Engineering for the City's 8 MS4 outfalls to the Rio Grande**	**27,557**	**127,266**	**-**	**127,266**	**-**	**-**	**-**	**-**	**-**	**127,266**
	Design and Engineering	27,557	127,266		127,266						127,266
	General Fund Transfer (Fund 305)	27,557	127,266		127,266						127,266
	Total	27,557	127,266	-	127,266	-	-	-	-	-	127,266
3	**Star Heights Drainage Infrastructure**	**66,085**	**60,964**	**367,778**	**428,742**	**600,000**	**-**	**-**	**-**	**-**	**1,028,742**
	Design and Engineering	66,085	60,964	59,357	120,321	180,000					300,321
	Construction		-	308,421	308,421	420,000					728,421
	Total	66,085	60,964	367,778	428,742	600,000	-	-	-	-	1,028,742
	Federal Grants (CDBG-Fund 375)	66,085	60,964	367,778	428,742	600,000					1,028,742
	Total	66,085	60,964	367,778	428,742	600,000	-	-	-	-	1,028,742

FY2020 ICIP: Drainage

Rank	Project	Project to Date	FY2020 Additional Spending	FY2020 Budget	FY2020 Total	FY2021	FY2022	FY2023	FY2024	FY2025	FY2020-FY2025
4	**City Center Facility Plan-Storm Drainage & Land Acquisition**	**40,199**	**-**	**-**	**-**	**919,806**	**663,210**	**1,961,320**	**1,406,491**	**1,056,348**	**6,007,175**
	Design and Engineering	40,199		-	-	52,000	78,000	231,000	166,000	124,000	651,000
	Land Acquisition				-	161,000	-	-	-	-	161,000
	Construction				-	706,806	585,210	1,730,320	1,240,491	932,348	5,195,175
	Total	40,199	-	-	-	919,806	663,210	1,961,320	1,406,491	1,056,348	6,007,175
	Higher Education GRT (Fund 263)	40,199			-	-					-
	Drainage Impact Fees (Fund 355)				-	919,806	300,000	170,000	150,000	160,000	1,699,806
	To Be Determined				-	-	363,210	1,791,320	1,256,491	896,348	4,307,369
	Total	40,199	-	-	-	919,806	663,210	1,961,320	1,406,491	1,056,348	6,007,175
5	**Chessman Road Drainage Improvements**	**-**	**-**	**435,000**	**435,000**	**-**	**-**	**-**	**-**	**-**	**435,000**
	Design and Engineering	-		60,000	60,000	-					60,000
	Land Acquisition	-		25,000	25,000	-					25,000
	Construction			350,000	350,000	-					350,000
	Total	-	-	435,000	435,000	-	-	-	-	-	435,000
	General Fund Transfer (Fund 305)			435,000	435,000	-					435,000
	Total	-	-	435,000	435,000	-	-	-	-	-	435,000
6	**Idalia Road Culvert Crossing at Arroyo de la Barranca**	**-**	**-**	**-**	**-**	**148,283**	**117,041**	**1,380,019**	**-**	**-**	**1,645,343**
	Design and Engineering				-	148,283	117,041				265,324
	Construction				-			1,380,019			1,380,019
	Total	-	-	-	-	148,283	117,041	1,380,019	-	-	1,645,343
	General Fund Transfer (Fund 305)				-	21,590	17,041	200,931			239,562
	Federal Grants (Fund 305)				-	126,693	100,000	1,179,088			1,405,781
	Total	-	-	-	-	148,283	117,041	1,380,019	-	-	1,645,343

FY2020 ICIP: Drainage

Rank	Project	Project to Date	FY2020 Additional Spending	FY2020 Budget	FY2020 Total	FY2021	FY2022	FY2023	FY2024	FY2025	FY2020-FY2025
7	**19th Ave and 10th St Drainage Study and Preliminary Design**	**-**	**-**	**-**	**-**	**-**	**150,000**	**-**	**-**	**-**	**150,000**
	Design and Engineering				-		150,000	-	-		150,000
	Construction				-			-	-		-
	Total	-	-	-	-	-	150,000	-	-	-	150,000
	General Fund Transfer (Fund 305)				-		150,000	-	-		150,000
	To Be Determined				-						-
	Total	-	-	-	-	-	150,000	-	-	-	150,000
8	**Pine Rd and Arroyo (east of Perma Way) Drainage Study and Preliminary Design**	**-**	**-**	**-**	**-**	**-**	**100,000**	**-**	**-**	**-**	**100,000**
	Design and Engineering				-		100,000	-	-		100,000
	Construction				-			-	-		-
	Total	-	-	-	-	-	100,000	-	-	-	100,000
	General Fund Transfer (Fund 305)				-		100,000	-	-		100,000
	To Be Determined				-						-
	Total	-	-	-	-	-	100,000	-	-	-	100,000

FY2020 ICIP: Drainage

Rank	Project	Project to Date	FY2020 Additional Spending	FY2020 Budget	FY2020 Total	FY2021	FY2022	FY2023	FY2024	FY2025	FY2020-FY2025
9	**Iris Rd Drainage Improvements**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**434,675**	**-**	**434,675**
	Design and Engineering				-				68,078		68,078
	Construction				-				366,598		366,598
	Total	-	-	-	-	-	-	-	434,675	-	434,675
	General Fund Transfer (Fund 305)				-				433,278		433,278
	To Be Determined				-				1,397		1,397
	Total	-	-	-	-	-	-	-	434,675	-	434,675
	GRAND TOTAL	**253,018**	**278,409**	**1,804,561**	**2,082,970**	**1,668,089**	**1,030,251**	**3,341,339**	**1,841,166**	**1,056,348**	**11,020,164**
	Higher Education GRT	40,199	-	-	-	-	-	-	-	-	-
	State Grants	-	-	248,225	248,225	-	-	-	-	-	248,225
	General Fund Direct and Transfers	74,474	217,445	435,000	652,445	21,590	267,041	200,931	433,278	-	1,575,286
	Drainage Impact Fees	-	-	-	-	919,806	300,000	170,000	150,000	160,000	1,699,806
	Federal Grants	138,345	60,964	1,121,336	1,182,300	726,693	100,000	1,179,088	-	-	3,188,081
	To Be Determined	-	-	-	-	-	363,210	1,791,320	1,257,888	896,348	4,308,766
	GRAND TOTAL	**253,018**	**278,409**	**1,804,561**	**2,082,970**	**1,668,089**	**1,030,251**	**3,341,339**	**1,841,166**	**1,056,348**	**11,020,164**

DRAINAGE PROJECTS UNDER CONSIDERATION			
Rank	**Project Name**	**Fiscal Year(s)**	**Project Estimate**
10	Southern Blvd Phase 2 Pond Acquisition	2024	$ 1,690,520
11	City Center Facility Plan-Storm Drainage & Land Acquisition	2026	$ 9,041,225
12	Guadalajara Basin Improvements Phase II	2025	$ 2,772,459
13	Alberta Watershed Phase III	2025	$ 1,232,204
14	WWTP#3 Channel Stabilization	2025	$ 2,303,737
15	Paseo del Volcan Dam-City Portion	2025	$ 1,804,808
16	Nicklaus Channel Outfall	2025	$ 222,116
17	Antigua Road Outfall	2025	$ 295,351
18	Chamisa Greens Detention Pond	2025	$ 107,200
19	MonteBella Flood Control	2025	$ 1,170,593
	TOTAL		**$ 20,640,213**

Northern Boulevard Drainage Improvements (PW1834)

In June 2018, Streets and Right of Way crews completed an asphalt swale to address drainage issues west of Unser Boulevard. The project also involved repaving portions of the roadway to address the poor asphalt condition resulting from the storm water conveyance issues. Drainage impact fees in the amount of $82,175 funded project improvements.

Unser Boulevard Channel Replacements (PW1937)

The project involves partial replacement of the concrete lined channel adjacent to Unser Boulevard between the intersections of Southern Boulevard and Cabezon Boulevard. The concrete channel cracked completely in spring 2019 and will be replaced in summer 2019. Total estimated cost is $441,076 with funding coming from General Fund sources.

Sports Complex Armoring (PW1567)

The project consists of flood control measures to the south bank of Los Montoyas' Arroyo which abuts the north side of the Sports Complex. The city's main sports fields are at great risk due to the meandering Los Montoyas' Arroyo, which in its natural state has significantly eroded the north side of the facility. Total estimated damages over the last ten years resulting from the increasing erosive bank loss are $138,182. Staff has submitted applications for federal and state assistance for the design and construction phases totaling $1,101,090. Of that amount, $275,273 represents the local match share, which the city has secured via in kind materials and services donations, commitment of general fund sources, and state grants. An additional budget of $110,048 has been allocated to the project for a grand project total of $1.2 million. Staff anticipates commencement of construction in October 2019.

Section 3	Stormwater Management Program Status of Implementation
	3.1 City of Rio Rancho MS4 Stormwater Management Program

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	3	**Part I.C - Special Conditions**									
	4	**Compliance with Water Quality Standards – Dissolved Oxygen & Part I.C.1.d and Endangered Species Act (ESA) Requirements - Dissolved Oxygen Strategy - Part I.C.3.a**									
Not Included in NOI	5	According to the requirements in Part I.C.1.d and Part I.C.3.a.(ii), certain permittees shall revise the May 1, 2012 Strategy to continue taking measures to address concerns regarding discharges to the Rio Grande by implementing controls to eliminate conditions that cause or contribute to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. The permittee shall, as part of this revised strategy, complete the following activities [activities are listed in sections below]. Activities listed are a combination of permit activities in Part I.C.1.d - Special Conditions, Compliance with Water Quality Standards, Phase I Dissolved Oxygen Program & Part I.C.3.a - Dissolved Oxygen Strategy in Receiving Waters of the Rio Grande.	**Not Applicable**							
Not Included in NOI	6	Part I.C.1.d.(i) Identify (or continue identifying) structural elements, natural or man-made topographical and geographical formations, MS4 operations activities, or oxygen demanding pollutants contributing to reduced dissolved oxygen in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data;	**Not Applicable**								
Not Included in NOI	7	Part I.C.1.d.(ii) Continue implementing controls, and updating/revising as necessary, to eliminate structural elements or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for dissolved oxygen in waters of the United States;	**Not Applicable**								
Not Included in NOI	8	Part I.C.1.d.(iii) Continue sampling for DO and temperature in the North Diversion Channel (NDC) Embayment until the data indicate the discharge does not exceed applicable DO water quality standards in waters of the United States. This coincides with the requirements in Part I.C.3.a.(ii).(a), the revised strategy shall include: A. A Monitoring Plan describing all procedures necessary to continue conducting continuous monitoring of DO and temperature in the NDC Embayment and at 1 location in the Rio Grande downstream of the mouth of the NDC within the action area (e.g., Central Bridge). B. A Quality Assurance and Quality Control (QA/QC) Plan describing all standard operating procedures, quality assurance and quality control plans, maintenance and implementation schedules that will assure timely and accurate collection and reporting of water temperature, DO, oxygen saturation, and flow. The QA/QC plan should include all procedures for estimating oxygen data when any oxygen monitoring equipment fail.	**Not Applicable**							

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
Not Included in NOI	9	(iv) Submit a revised strategy to FWS for consultation and EPA for approval within a year of the effective date of the permit and progress reports with the subsequent Annual Reports. Progress reports to include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. Including summary of findings of the assessment required in Part I.C.1.d.(i). (c) Conclusions drawn, including support for any determinations. (d) Activities undertaken to eliminate MS4 discharge contribution to exceedances of applicable dissolved oxygen water quality standards in waters of the United States. (e) Account of stakeholder involvement. in addition, to meet Part I.C.3.a.(ii).(b) requirements, an annual incidental take report must be submitted as well as all data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report.	**Not Applicable**								
Not Included in NOI	10	According to the requirements in Part I.C.3.a.(ii), the permittees shall ensure that actions to reduce pollutants or remedial activities selected for the NDC Embayment and its watershed are implemented such that there is a reduction in frequency and magnitude of all low oxygen stormwater discharge events that occur in the Embayment or downstream in the MRG as indicated in Table 1.c. Actions to meet the year 3 measurable goals must be taken within 2 years from the effective date of the permit. Actions to meet the year 5 measurable goals must be taken within 4 years from the effective date of the permit.	**Not Applicable**								
Not Included in NOI	11	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: A. An Annual Incidental Take Report to EPA and the Service that includes the following information: beginning and end date of any qualifying stormwater events, DO values and water temperature in the NDC Embayment, DO values and water temperature at a downstream monitoring station in the MRG, flow rate in the NDC, mean daily flow rate in the MRG, evaluation of oxygen and temperature data as either anoxic or hypoxic using Table 2 of the BO, and estimate the number of silvery minnows taken based on Appendix A of the BO. Electronic copy of The Annual Incidental Take Report should be provided with the Annual Report required under Part III.B no later than December 1 for the proceeding calendar year.	**Not Applicable**								

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
Not Included in NOI	12	According to the requirements in Part I.C.3.b, the permittees (COA and AMAFCA) shall provide: B. A summary of data and findings with each Annual Report to EPA and the FWS. All data collected (including provisional oxygen and water temperature data, and associated metadata), transferred, stored, summarized, and evaluated shall be included in the Annual Report. If additional data is requested by EPA or the FWS, the COA and AMAFCA shall provide such information within two weeks upon request. The revised strategy required under Part I.C.3.a.(ii),the Annual Incidental Take Reports required under Part I.C.3.a.(ii).(b).A, and Annual Reports required under Part III.B can be submitted to FWS via e-mail nmesfo@fws.gov and Joel lusk@fws.gov, or by mail to the New Mexico Ecological Services field office, 2105 Osuna Road NE, Albuquerque, New Mexico 87113.		Not Applicable							

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	13	**Compliance with Water Quality Standards – PCBs - Part I.C.1.e**									
Not Included in NOI	14	According to the requirements in Part I.C.1.e, the permittee shall address concerns regarding PCBs in channel drainage areas specified in Part I.C.1.e.(vi) by developing or continue updating/revising and implementing a strategy to identify and eliminate controllable sources of PCBs that cause or contribute to exceedances of applicable water quality standards in waters of the United States.	**Not Applicable**								
Not Included in NOI	15	The progress reports shall include: (i) Summary of data. (ii) Findings regarding controllable sources of PCBs in the channel drainages area specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater. (iii) Conclusions drawn, including supporting information for any determinations. (iv) Activities undertaken to eliminate controllable sources of PCBs in the drainage areas specified in Part I.C.1.e.(vi) that cause or contribute to exceedances of applicable water quality standards in waters of the US via the discharge of municipal stormwater including proposed activities that extend beyond the 5 year permit term. (v) Account of stakeholder involvement in the process. (vi) Channel Drainage Areas: The PCB strategy required in Part I.C.1.e is only applicable to: COA and AMAFCA Areas: San Jose Drain & North Diversion Channel Bernalillo Co. Areas: Adobe Acres Drain, Alameda Outfall Channel, Paseo del Norte Outfall Channel, & Sanchez Farm Drainage Area.	**Not Applicable**								
Not Included in NOI	16	A cooperative strategy to address PCBs in the COA, AMAFCA and Bernalillo County's drainage areas may be developed between Bernalillo County, AMAFCA, and the COA. If a cooperative strategy is developed, the cooperative strategy shall be submitted to EPA within 3 years from the effective date of the permit and submit a progress report with the fourth and with subsequent Annual Reports, Note: COA and AMAFCA must continue implementing the existing PCB strategy until a new Cooperative PCB Strategy is submitted to EPA.	**Not Applicable**								

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	17	**Compliance with Water Quality Standards – Temperature - Part I.C.1.f**									
Not Included in NOI	18	According to the requirements in Part I.C.1.f, the permittees must continue assessing the potential effect of stormwater discharges in the Rio Grande by collecting and evaluating additional data. If the data indicates there is a potential of stormwater discharges contributing to exceedances of applicable temperature water quality standards in waters of the United States, within thirty (30) days such as findings, the permittees must develop and implement a strategy to eliminate conditions that cause or contribute to these exceedances.	**Not Applicable**								
Not Included in NOI	19	The strategy must include: (i) Identify structural controls, post construction design standards, or pollutants contributing to raised temperatures in the receiving waters of the Rio Grande. Both dry and wet weather discharges shall be addressed. Assessment may be made using available data or collecting additional data; (ii) Develop and implement controls to eliminate structural controls, post construction design standards, or the discharge of pollutants at levels that cause or contribute to exceedances of applicable water quality standards for temperature in waters of the United States; and	**Not Applicable**								
Not Included in NOI	20	(iii) Provide a progress report with the first and with subsequent Annual Reports. The progress reports shall include: (a) Summary of data. (b) Activities undertaken to identify MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (c) Conclusions drawn, including supporting information for any determinations. (d) Activities undertaken to reduce MS4 discharge contribution to exceedances of applicable temperature water quality standards in waters of the United States. (e) Accounting of stakeholder involvement.	**Not Applicable**								

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	21	**Discharges to Impaired Waters With Approved TMDLs - Part I.C.2.b.(i) and TABLE 1.a - TMDL Bacteria Program- Part I.C.2.b.(iii)**									
Not Included in NOI	22	According to the requirements in Part I.C.2.b.(i), if the permittee discharges to an impaired water body with an approved TMDL (see MS4 Permit, Appendix B), where stormwater has the potential to cause or contribute to the impairment, the permittee shall include in the SWMP controls targeting the pollutant(s) of concern along with any additional or modified controls required in the TMDL and this section. As stated in the Permit, Appendix B, a bacteria TMDL for the Middle Rio Grande was approved by the New Mexico Water Quality Control Commission on April 13,2010, and by EPA on June 30, 2010. The new TMDL modifies: 1) the indicator parameter for bacteria from fecal coliform to E. coli, and 2) the way the WLAs are assigned The SWMP and required annual reports must include information on implementing any focused controls required to reduce the pollutant(s) of concern as described below:	CORR's measurable goals for compliance with the Permit activities are described in the sections below.					See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	23	(a) Targeted Controls: The SWMP submitted with the first annual report must include a detailed description of all targeted controls to be implemented, such as identifying areas of focused effort or implementing additional BMPs that will be implemented to reduce the pollutant(s) of concern in the impaired waters. As required in Part I.C.2.b.(i).(e),the permittee shall include focused BMPs addressing the five areas below: A. Sanitary Sewer Systems (improve sanitary sewers; fix lift stations; identify and implement O&M procedures; improve violation reporting; and prevent overflows); B. On-site Sewage Facilities (address failing systems and inadequate maintenance of On-Site Sewage Facilities); C. Illicit Discharges and Dumping (effort to reduce waste sources of bacteria; for ex., septic systems, grease traps, and grit traps); D. Animal Sources (management programs to identify and target sources such as zoos, pet waste, and horse stables); E. Residential Education (bacteria from residential sites; fats, oils, and grease clogging sanitary sewer lines and resulting overflows; decorative ponds; and pet waste).	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities where educational materials are distributed. • CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. • The Utility Operations Section will continue coordination with the NPDES Project Manager; informing CORR and SSCAFCA of any sewer overflows that impact CORR/SSCAFCA facilities.					Address targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and Utility Operation Division

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Not Included in NOI	24	(b) Measurable Goals: For each targeted control, the SWMP must include a measurable goal and an implementation schedule describing BMPs to be implemented during each year of the permit term. The value of the measurable goal must be based on one of the options presented in Part (No Suggestions).(i).(c) related to the WLA. Where the impairment is for bacteria, the permittee must, at minimum comply with the activities and schedules described in Table 1.a of Part I.C.2.b.(iii).	• CORR will address the Illicit Discharge and Dumping through its IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information. This IDDE program includes illicit discharge monitoring by CORR staff and contractors, internal coordination of information provided by the public and tracking and documentation procedures. • CORR will continue to participate in MRGSWQT "Scoop the Poop" public information campaign. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.					Address measurable goals of targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT
Not Included in NOI	25	According to the requirements in Part I.C.2.b.(i).(f), the permittee shall monitor or assess progress in achieving measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A. The permittee may use the following methods either individually or in conjunction to evaluate progress towards the measurable goal and improvements in water quality as follows: A. Evaluating Program Implementation Measures or B. Assessing Improvements in Water Quality Progress towards achieving the measurable goal shall be reported in the annual report. Annual reports shall report the measurable goal and the year(s) during the permit term that the MS4 conducted additional sampling or other assessment activities.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will track the number of educational outreach opportunities conducted and list the number of people reached through the educational outreach program. • CORR will conduct stormwater monitoring in accordance with Table 10, Wet Weather Monitoring Program, Part III.A.1. The goals and plan for this program are described in the Wet Weather Monitoring Program portion of this SWMP.					Address monitoring and assessment of measurable goals of targeted controls in SWMP. Progress report submitted with each Annual Report (Due Dec. 1).			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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Not Included in NOI	26	If, by the end of the 3rd year from the effective date of the permit, the permittee observes no progress toward the measurable goal either from program implementation or water quality assessments, the permittee shall identify alternative focused BMPs that address new or increased efforts towards the measurable goal. As appropriate, the MS4 may develop a new approach to identify the most significant sources of the pollutant(s) of concern and shall develop alternative focused BMPs (this may also include information that identifies issues beyond the MS4's control). These revised BMPs must be included in the SWMP and subsequent annual reports. Where the permittee originally used a measurable goal based on an aggregated WLA, the permittee may combine or share efforts with other MS4s discharging to the same impaired stream segment to determine an alternative sub-measurable goal for the pollutant(s) of concern for their respective MS4s, as described in Part I.C.2.b.(i).(c).B above. Permittees must document the proposed schedule for the development and subsequent adoption of alternative measurable goals for the pollutant(s) of concern for their respective MS4s and associated assessment of progress in meeting those individual goals.	CoRR, in cooperation with the TAG, MRGSQT, and CMC has observed progress towards E. coli controls and measurable goals, as demonstrated by the fact that the impairment for E. coli has been removed from the NMED 303 (d) list for 2 of the 3 assessment segments along the river within the Middle Rio Grande corridor. CoRR will continue to annually assess and evaluate the program and progress in achieving the measurable goals listed above.			• CoRR and the Middle Rio Grande MS4 permittees have made significant progress during this Permit term related to E. coli controls and measurable goals. In addition to 6 of the 7 Permit required samples collected by the CMC from the runoff for qualifying storm events, the MRGSQT has funded an additional year of dry weather E.coli data collection by college students in the BEMP program to better understand the baseline concentration of E. coli before storm events. The MRGSQT also funded a graduate student's master's thesis that studied the variability of E. coli concentrations in a water column compared to the juxtaposed sediment. A Watershed Protection Plan will continue to be an option as funding becomes available and AMAFCA will continue the discussion of the possibility of a High Flow Suspension for Recreational uses of river water. In FY 2018, the COA began a Microbial Source Tracking (MST) study; sample collection is underway for this project.		If required, end of the third year from the effective date of the permit. Dec. 22, 2017			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	27	From Table 1.a, Identify potential significant sources of the pollutant of concern entering your MS4.	• AMAFCA, with its co-permittees from the 2012 MS4 Phase I Permit, have completed several studies related to identifying potential significant sources of the pollutant of concern entering the MRG Watershed MS4 area. The results of these studies will be used to guide the overall program plan and goals.	Fully Implemented: 2016 Weston Solutions, INC provides an evaluation of potential wet weather bacteria sources with the urbanized City of Rio Rancho. See SWMP Appendix F - Potential Bacteria Source Map.				16 months (cooperative) from effective date of MS4 Permit April 22, 2016	**April 22, 2016**	**16**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and TAG
Not Included in NOI	28	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a public education program to reduce the discharge of bacteria in municipal stormwater contributed by (if applicable) by pets, recreational and exhibition livestock, and zoos.	• CORR will contribute and participate in the MRGSWQT. • CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities or planned activities related to targeting pet waste sources and residential education targeting bacteria sources.	Fully Implemented: See Attached Section 4 - MRG SQT Outcomes Report FY 2015-16	Fully Implemented See Attached Section 4 - MRG SQT Outcomes Report FY 2016-17	Fully Implemented - Continuing to implement existing program, updating as necessary.	Fully Implemented - Continuing to implement existing program, updating as necessary.	16 months (cooperative) from effective date of MS4 Permit April 22, 2016	**April 22, 2016**	**16**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	29	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by areas within your MS4 served by on-site wastewater treatment systems.	• CORR will continue membership and involvement in the cooperative MRGSWQT which will conduct educational and public outreach as well as facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening and notification of illicit discharges.	In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	30	From Table 1.a, Review results to date from the Illicit Discharge Detection and Elimination program (see Part I.D.5.e) and modify as necessary to prioritize the detection and elimination of discharges contributing bacteria to the MS4.	• CORR addresses this Permit activity in the IDDE Program, refer to the SWMP - Table 6: Illicit Discharges and Improper Disposal - for additional information.	Given data collected, trends have not been identified.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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Not Included in NOI	31	From Table 1.a, Develop (or modify an existing program- for prior permittees under NMS000101) and implement a program to reduce the discharge of bacteria in municipal stormwater contributed by other significant source identified in the Illicit Discharge Detection and Elimination program (see Part I.D.5.e).	• CORR will review its IDDE Program results annually and identify illicit discharges that contributed bacteria to the MS4. • CORR will develop strategies to address IDDEs found to contribute bacteria. The development and implementation of strategies will depend on the results. These strategies will be reported in subsequent Annual Reports.		In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.			16 months (if alone) or 20 months (cooperative) from effective date of MS4 Permit April. 22, 2016 or August 22, 2016	**August 22, 2016**	**20**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	32	Include in the Annual Reports progress on program implementation and reducing the bacteria and updates their measurable goals as necessary. As required in Part I.C.2.b.(i).(d), the annual report must include an analysis of how the selected BMPs have been effective in contributing to achieving the measurable goal and shall include graphic representation of pollutant trends, along with computations of annual percent reductions achieved from the baseline loads and comparisons with the target loads.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report. • Strategies developed to address IDDEs found to contribute bacteria to the MS4 will be reported in subsequent Annual Reports. • CORR will report annually on compliance monitoring to monitor and test for E. coli. This reporting will be done in accordance with Part III.A (Wet Weather Monitoring Program) of the MS4 Permit. This will include graphical representation of E. coli trends.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Feb. 10, 2016. No discharges observed during screening. See IDDE Program Binder or Annual Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 16, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report..	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on August 18, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 13, 2019. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Annual Report (due Dec. 1)	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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	33	**Discharges to Impaired Waters Without Approved TMDLs - Part I.C.2.b.(ii)**									
Not Included in NOI	34	According to the requirements in Part I.C.2.b.(ii), if the permittee discharges directly into an impaired water body without an approved TMDL, the permittee shall perform the following activities (described in sections below).	• Impairment for Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. Phase 1 permittee requirement only. • Impairment for PCBs is addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. Phase 1 permittee requirement only. • Impairment for Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. Phase 1 permittee requirement only. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment related to the impairment will be based on results of those samples.								Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division, MCM, and TAG
Not Included in NOI	35	The permittee shall: A. Determine whether the MS4 may be a source of the pollutant(s) of concern by referring to the CWA §303(d) list and then determining if discharges from the MS4 would be likely to contain the pollutant(s) of concern at levels of concern. The evaluation of CWA §303(d) list parameters should be carried out based on an analysis of existing data (e.g., IDDE Program) conducted within the permittees jurisdiction. B. Ensure that the SWMP includes focused BMPs, and corresponding measurable goals, that the permittee will implement, to reduce, the discharge of pollutant(s) of concern that contribute to the impairment of the water body. Only applicable if the permittee determines that the MS4 may discharge the pollutant(s) of concern to an impaired water body without a TMDL. The SWMP submitted with the first annual report must include a detailed description of proposed controls to be implemented along with measurable goals. C. Amend the SWMP to include any BMPs to address the pollutant(s) of concern.	• Refer to other SWMP sections for: - Dissolved Oxygen is addressed in the Endangered Species Act (ESA) section - Part I.C.3. - PCBs are addressed in Compliance with Water Quality Standards - PCBs - Part I.C.1.e. - Temperature is addressed in Compliance with Water Quality Standards - Temperature - Part I.C.1.f. • Compliance monitoring (Part III.A) includes Gross Alpha testing. Future assessment and strategies related to these impairments will be based on results of the stormwater samples.								

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	36	**Endangered Species Act (ESA) Requirements - Sediment Pollutant Load Reduction Strategy - Part I.C.3.b**									
Not Included in NOI	37	According to the requirements in Part I.C.3.b, the permittee must develop, implement, and evaluate a sediment pollutant load reduction strategy to assess and reduce pollutant loads associated with sediment (e.g., metals, etc. adsorbed to or traveling with sediment, as opposed to clean sediment) into the receiving waters of the Rio Grande. The strategy must include the following elements (see sections below):	CORR's measurable goals for compliance with the Permit activities are described in the sections below.					See specific Permit activity schedules below.			
Not Included in NOI	38	(i) Sediment Assessment: The permittee must identify and investigate areas within its jurisdiction that may be contributing excessive levels (e.g., levels that may contribute to exceedance of applicable Water Quality Standards) of pollutants in sediments to the receiving waters of the Rio Grande as a result of stormwater discharges. The permittee must identify structural elements, natural or man-made topo-graphical and geographical formations, MS4 operations activities, and areas indicated as potential sources of sediments and pollutants in the receiving waters of the Rio Grande. At the time of assessment, the permittee shall record any observed erosion of soil or sediment along ephemeral channels, arroyos, or stream banks, noting the scouring or sedimentation in streams. The assessment should be made using available data from federal, state, or local studies supplemented as necessary with collection of additional data. The permittee must describe, in the first annual report, all standard operating procedures, quality assurance plans to assure that accurate data are collected, summarized, evaluated and reported.	• CORR's O&M activities, which include sediment removal, will be scheduled, tracked, and evaluated for the Sediment Assessment requirement for this Permit activity. • CORR will document its procedure for sediment removal, scheduling, and tracking related to using this information for the Sediment Assessment.					No Permit required schedule. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	39	(ii) Estimate Baseline Loading: Based on the results of the sediment pollutants assessment required in Part I.C.3.b.(i) above, the permittee must provide estimates of baseline total sediment loading and relative potential for contamination of those sediments by urban activities for drainage areas, sub-watersheds, Impervious Areas (IAs), and/or Directly Connected Impervious Area (DCIAs) draining directly to a surface waterbody or other feature used to convey waters of the United States. Sediment loads may be provided for targeted areas in the entire Middle Rio Grande Watershed using an individual or cooperative approach. Any data available and/or preliminary numeric modeling results may be used in estimating loads.	• CORR will utilize the data collected in the Sediment Assessment for estimating baseline sediment loading to its facilities.					No Permit required schedule. Interim reporting on progress required annually. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			

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Not Included in NOI	40	(iii) Targeted Controls: Include a detailed description of all proposed targeted controls and BMPs that will be implemented to reduce sediment pollutant loads, calculated in Part I.C.3.b.(ii) above, during the next ten (10) years of permit issuance. For each targeted control, the permittee must include interim measurable goals (e.g., interim sediment pollutant load reductions) and an implementation and maintenance schedule, including interim milestones, for each control measure, and as appropriate, the months and years in which the MS4 will undertake the required actions. Any data available and/or preliminary numeric modeling results may be used in establishing the targeted controls, BMPs, and interim measurable goals. The permittee must prioritize pollutant load reduction efforts and target areas (e. g. drainage areas, sub watersheds, IAs, DCIAs) that generate the highest annual average pollutant loads.	• After analyzing the Sediment Assessment findings, CORR will improve this program and program tracking to meet the Permit activity requirements. • CORR will begin adding a detailed description and photo for each facility (each existing targeted control) to its tracking spreadsheet or program procedure.					No Permit required schedule. Interim reporting on progress required annually. Progress Report for the entire Sediment Pollutant Load Reductions Strategy to be submitted with the fifth Annual Report. Dec. 1, 2019			
Not Included in NOI	41	(iv) Monitoring and Interim Reporting: The permittee shall monitor or assess progress in achieving interim measurable goals and determining the effectiveness of BMPs, and shall include documentation of this monitoring or assessment in the SWMP and annual reports. In addition, the SWMP must include methods to be used. This program element may be coordinated with the monitoring required in Part III.A.	• CORR will include in each Annual Report a progress update for this program.					Update as necessary for SWMP and report on progress with each Annual Report.			
Not Included in NOI	42	(v) Progress Evaluation and Reporting: The permittee must assess the overall success of the Sediment Pollutant Load Reduction Strategy and document both direct and indirect measurements of program effectiveness in a Progress Report to be submitted with the fifth Annual Report. Data must be analyzed, interpreted, and reported so that results can be applied to such purposes as documenting effectiveness of the BMPs and compliance with the ESA requirements specified in Part I.C.3.b. The Progress Report must include: (a) A list of species likely to be within the action area: (b) Type and number of structural BMPs installed; (e) Evaluation of pollutant source reduction effects; (d) Any recommendation based on program evaluation; (e) Description of how the interim sediment load reduction goals established in Part I.C.3.b.(iii) were achieved; and (f) Future planning activities needed to achieve increase of sediment load reduction required in Part I.C.3.d.(iii).	• CORR will complete and provide to EPA with the fifth Annual Report, due Dec. 1, 2019, a Progress Report on the Sediment Pollutant Load Reduction Strategy. This Progress report will meet the Permit requirements.					Progress Report to be submitted with the fifth Annual Report Dec. 1, 2019			

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Not Included in NOI	43	(vi) Critical Habitat: Verify that the installation of stormwater BMPs will not occur in or adversely affect currently listed endangered or threatened species critical habitat by reviewing the activities and locations of stormwater BMP installation within the location of critical habitat of currently listed endangered or threatened species at the FWS website http://criticalhabitat.fws.gov/crithab/.	• CORR will continue its practice of coordination with the USFWS and USACE, as required, related to CORR's facility construction projects.					No Permit required schedule. Ongoing requirement of the MS4 Permit.			

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	44	**Part I.D.5 - Stormwater Management Plan (SWMP) Control Measures**									
	45	**TABLE 2: Construction Site Stormwater Runoff Control - Part I.D.5.a**									
See NOI Sections Below	46	5.a.(i) The permittee shall develop, revise, implement, and enforce a program to reduce pollutants in any stormwater runoff to the MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of stormwater discharges from construction activity disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. Permittees previously covered under permit NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the construction site stormwater management program to the permittees own construction projects)	• Coordinate CSSRCP requirements (as detailed in Program and in sections below)	Continuing to implement existing stormwater program, updating as necessary.							Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.1	47	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.a.(ii)(a)	CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop and/or enhance existing regulatory mechanisms.	Full Implemented: CORR Municipal Code 153.35(F)(2)(d).				N/A	**June 22, 2016**	**18**	Program Lead: Development Services Engineering Division Manager Implementation: Development Services Department
1.2	48	Develop requirements and procedures as required in Part I.D.a(ii).(b) through Part I.D.a(ii).(h). These Permit sections include requirements for CORR to implement and enforce requirements for construction site operators to 1) implement appropriate erosion and sediment control BMPs - Part I.D.a(ii).(b) and 2) control waste at the construction site that may cause adverse impacts to water quality - Part I.D.a(ii).(c). Permit sections also include requirements to develop procedures for site plan review which incorporate consideration of potential water quality impacts - Part I.D.a.(ii).(d); receipt and consideration of information submitted by the public - Part I.D.a.(ii).(e); site inspection (during construction) and enforcement of control measures - Part I.D.a.(ii).(f); to educate and train permittee personnel and developers, construction site operators, contractors and supporting personnel - Part I.D.a.(ii).(g); and for keeping records of and tracking all regulated construction activities within the MS4 - Part I.D.a.(ii).(h).	• Review site plans and the SWPPPs for CORR-owned projects disturbing at least one acre in order to consider potential water quality impacts and ensure consistency with federal, state and local sediment and erosion control requirements. Ensure SWPPPs for projects are developed by qualified individuals. • Conduct pre-construction meetings on CORR-owned construction projects disturbing at least one acre prior to beginning earth-disturbing activities in order to discuss the SWPPP, NOI and BMPs. • CORR will post a contact phone number at all required construction sites. • In a cooperative effort with SSCAFCA, the DSD ENG reviews private development that has a direct connection to CORR facilities for projects disturbing at least one acre. Review includes stormwater conveyance, water quality and erosion control. • CORR will maintain records of all CORR-owned construction projects disturbing at least one acre within its rights-of-way.	Fully Implemented - Continuing to implement existing program, updating as necessary.					**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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1.3	49	Annually conduct site inspections of 100 percent of all construction projects cumulatively disturbing one (1) or more acres as required in Part I.D.a.(iii)	• CORR will complete the inspections for 100% of the active construction sites under contract by CORR which disturb at least one acre. • CORR will develop a SWPPP inspection form and will track all MS4 inspections using a tracking spreadsheet. • CORR will maintain copies of the completed MS4 inspection forms. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	Fully Implemented - Continuing to implement existing program, updating as necessary.					**December 22, 2016**	**24**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.4	50	Coordinate with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/activities within the permit area as required in Part I.D.a.(iv). Planning documents include, but are not limited to: comprehensive or master plans, subdivision ordinances, general land use plan, zoning code, transportation master plan, specific area plans, such as sector plan, site area plans, corridor plans, or unified development ordinances.	• CORR will continue regular coordination amongst engineering staff and to verify that BMPs are in place to control erosion during construction on CORR-owned projects.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	Fully Implemented: Weston Solutions, Inc. provided draft stormwater quality ordinance to NAIOP on 3/21/2018. Planning & Zoning Board - Approves the Ordinance amending the Rio Rancho Code of Ordinances Title XV Land Usage, Chapter 153 Erosion Control; Storm Drainage Sections 153.01 – 153.38		10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	
1.5	51	Evaluation of GI/LID/Sustainable practices in site plan reviews as required in Part I.D.a.(v). The site plan review must include an evaluation of opportunities for use of GI/LID/ Sustainable practices and when the opportunity exists, encourage project proponents to incorporate such practices into the site design to mimic the pre-development hydrology of the previously undeveloped site. For purposes of this permit, pre-development hydrology shall be met according to Part I.D.5.b of this permit (consistent with any limitations on that capture). Include a reporting requirement of the number of plans that had opportunities to implement these practices and how many incorporated these practices.	• CORR will annually report the number of plans that were reviewed within CORR's right-of-ways that had opportunities to implement GI/LID/Sustainable practices and how many incorporated these practices.	In Progress - Continuing to coordinate and implement existing program, updating as necessary.	In - Process - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on March 16, 2017	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.35(F)(2)(e) Stormwater Quality Design (SQD).		14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	N/A
Not Included in NOI	52	Update the SWMP document and annual report as required in Part I.D.5.a.(vi) and in Part I.D.5.a.(vii)	• Annually evaluate and revise the CSSRCP, as necessary, to ensure that CORR's Program meets the MS4 Permit requirements. • Include in each annual report a summary of the number and frequency of site reviews and inspection activities that are conducted annually and cumulatively during the permit term.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction.	See Annual Report, Section 4. Construction, and SWMP Section 5.3 CGP Compliance Inspection List	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
1.6	53	Enhance the program to include the elements in Part I.D.5.a.(viii) through part I.D.5.a.(x). These include: (viii) Use of stormwater educational materials; (ix) Develop or update existing construction handbooks; and (x) construction inspections may be carried out in conjunction with other inspections and use a screening prioritization process.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to attend and participate in the TAG to exchange information with other MS4s regarding potential program enhancements.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2015-Jun. 2016) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2016-Jun. 2017) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2017-Jun. 2018) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2018-Jun. 2019) Annual Report.	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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	54	**TABLE 3: Post-Construction Stormwater Management in New Development and Redevelopment- Part I.D.5.b**									
See NOI Sections Below	55	Part I.D.5.b.(i) The permittee must develop, revise, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4. The program must ensure that controls are in place that would prevent or minimize water quality impacts. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs, updating as necessary, to comply with the requirements of this permit. (Note: Highway Departments and Flood Control Authorities may only apply the post-construction stormwater management program to the permittees own construction projects).	Track and enforce CORR Development Manual and federal USEPA NOI procedures for new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the MS4.	Continuing to implement existing program, updating as necessary.				See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.1	56	Development of strategies as required in Part I.D.5.b.(ii).(a). Strategies which include a combination of structural and/or non-structural best management practices (BMPs) to control pollutants in stormwater runoff.	• CORR will continue to include both structural and non-structural BMPs to control pollutants in stormwater runoff from CORR owned facilities.	In Progress - Continuing to implement existing program, updating as necessary.	In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.35(F)(2)(e). EPA publication number 832-R-14077 is included in the definition of Stormwater Quality Design Storm/Event.		10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.2	57	Development of an ordinance or other regulatory mechanism as required in Part I.D.5.b.(ii)(b)	• CORR will continue to work with the MS4 Technical Advisory Group (TAG) and other agencies to discuss and help develop regulatory mechanisms.		In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.21(B)(2)(f).		24 months (cooperative) from effective date of MS4 Permit Dec. 22, 2016	**December 22, 2017**	**36**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.3	58	Implementation and enforcement, via the ordinance or other regulatory mechanism of site design standards as required in Part I.D.5.b.(ii).(b).	• CORR will develop strategies to administratively or contractually address post-construction peak flow runoff from new development and redevelopment projects within CORR's jurisdiction and/or right of ways to the extent allowable under State, Tribal, or local law.			Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.37 Enforcement.		36 months (cooperative) from effective date of MS4 Permit Dec. 22, 2017	**December 22, 2018**	**48**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.4	59	Ensure appropriate implementation of post-construction structural controls as required in Part I.D.5.b.(ii).(c) and Part I.D.5.b.(ii).(d).	• Ensure post-construction program requirements are constantly reviewed as appropriate to incorporate improvements in control techniques.		In - Progress - Task Order - MS4 Watershed Based Permit Rio Rancho Ordinance Modification. Notice to Proceed issued to Weston Solutions, Inc. on May 5, 2017.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.21 Stormwater Quality Protection.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	

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2.5	60	Develop procedures as required in Part I.D.5.b.(ii). (e) - for educational program for project developers; Part I.D.5.b.(ii). (f) - for site inspections and enforcement for long-term operation, maintenance, and repair of BMPs; Part I.D.5.b.(ii). (g) - for control of discharge related to pesticides, herbicides, and fertilizer; and Part I.D.5.b.(ii). (h) - for review and update of the post-construction program.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize, if applicable, the activities where educational materials were dispersed and shared with project developers.	All elements of the Proposed Plan have been implemented. See MRGSWQT Outcomes Report.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.6	61	Coordinate internally with all departments and boards with jurisdiction over the planning, review, permitting, or approval of public and private construction projects/ activities within the permit area as required in Part I.D.5.b.(iii) related to developed hydrology mimicking pre-development hydrology.	• CORR will coordinate internally on studies and projects for MS4 Permit compliance with developed hydrology mimicking pre-development hydrology. CORR will abide by the NM OSE rule and plan/design its facilities to drain within 96 hours per the OSE requirements.	Fully Implemented: CORR requires all construction projects to adhere to the following design standard: CORR Development Manual, Vol. II, Storm Drainage Release Rate - The maximum discharge from developed property in the event of a 100 year 6 hour storm shall be the amount of the historic or pre-developed runoff in all watersheds in the City of Rio Rancho.				10 months from effective date of MS4 Permit Oct. 22, 2015	**December 22, 2015**	**12**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.7	62	As required in Part I.D.5.b.(iv), the permittee must assess all existing codes, ordinances, planning documents and other applicable regulations, for impediments to the use of GI/LID/Sustainable practices.	• CORR will assess existing codes, ordinances, planning documents and other applicable regulations for impediments to the use of GI/LID/Sustainable practices that CORR has jurisdiction over		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. Chapter 153 promotes and encourages the use of GI/LID for water conservation in landscaping and in the treatment of stormwater prior to discharge to the WOTUS.		2 years from effective date of MS4 Permit Dec. 22, 2016	**December 22, 2016**	**24**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.8	63	As required in Part I.D.5.b.(iv), develop and submit a report of the assessment findings on GI/LID/Sustainable practices.	• CORR will develop and submit a report of the assessment findings on GI/LID/Sustainable practices. This will be completed in by March 2017 and submitted to the EPA with the Annual Report, due Dec. 1, 2017.					27 months (cooperative) from effective date of MS4 Permit March 22, 2017	**March 22, 2017**	**27**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.9	64	Estimation of the number of acres of IA and DCIA as required in Part I.D.5.b.(vi).	• CORR will estimate the IA and DCIA within regulated jurisdiction and/or right of way. This will be done annually as part of the Annual Report preparation. This will be a cooperative effort with other Middle Rio Grande MS4s.		In Progress - Working with Records and GIS Department	IA and DCIA boundary map created on July 27, 2017. City Boundary 66,438 acres, Urbanized Area Boundary 23,636 acres, Impervious Surface 5, 224 acres.		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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2.10	65	Inventory and priority ranking as required in Part I.D.5.b.(vii) for MS4-owned property and infrastructure (including public right-of-way) that may have the potential to be retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges to and from its MS4.	• CORR will continue to meet with agencies within its jurisdiction to discuss the areas requiring drainage and water quality retrofitting within the Middle Rio Grande Watershed, project priorities, and multi-agency funding contributions. • CORR will utilize the Project Schedule to prioritize water quality projects and water quality retrofit projects. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande. • CORR will evaluate the existing BMPs within its most urbanized watershed, the Montoya's Arroyo watershed, based on their effectiveness and capacity. These studies will provide the basis for determining where additional BMPs may be required within this watershed.			In-Progress - RFP process, site vest(s), design review.	Fully Implemented: Completed July 2, 2019 Engineering Design Analysis Report City of Rio Rancho MS4 Outfalls. Completed August 29, 2019 MS4 Outfall Improvements - engineering drawings, specifications, and probable cost.	42 months (cooperative) from effective date of MS4 Permit June 22, 2018	**June 22, 2018**	**42**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
2.11	66	Incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). As applicable to each permittee's MS4 jurisdiction, policy and/or planning documents must include the following: (a) A description of master planning and project planning procedures to control the discharge of pollutants to and from the MS4. (b) Minimize the amount of impervious surfaces (roads, parking lots, roofs, etc.) within each watershed, by controlling the unnecessary creation, extension and widening of impervious parking lots, roads and associated development. (c) Identify environmentally and ecologically sensitive areas that provide water quality benefits and serve critical watershed functions within the MS4 and ensure requirements to preserve, protect, create and/or restore these areas are developed and implemented during the plan and design phases of projects in these identified areas.	• CORR will participate in meetings for project planning of infrastructure retrofitting either on a watershed wide or regional scale. • For projects led by CORR, watershed protection elements will be incorporated into Drainage Management Plans, as appropriate, in order to identify watersheds which potentially can be retrofitted with regional water quality facilities.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division

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2.11	67	Continuation of incorporate watershed protection elements into regular planning or policy documents as required in Part I.D.5.b.(viii). (d) Implement stormwater management practices that minimize water quality impacts to streams, including disconnecting direct discharges to surface waters from impervious surfaces such as parking lots. (e) Implement stormwater management practices that protect and enhance groundwater recharge as allowed under the applicable water rights laws. (f) Seek to avoid or prevent hydromodification of streams and other water bodies caused by development, including roads, highways, and bridges. (g) Develop and implement policies to protect native soils, prevent topsoil stripping, and prevent compaction of soils. (h) The program must be specifically tailored to address local community needs (e.g. protection to drinking water sources, reduction of water quality impacts) and must be designed to attempt to maintain pre-development runoff conditions.	• CORR will develop a written procedure that includes applicable watershed protection elements in Part I.D.5.b.(viii).(g) as required in the MS4 Permit and as applicable to CORR. • CORR will continue to contribute and participate in the MRGSWQT, which supports programs tailored to address local community needs and are designed to attempt to maintain pre-development runoff conditions.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted.		10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
Not Included in NOI	68	Update the SWMP document and annual report as required in Part I.D.5.b.(ix) and Part I.D.5.b.(x). The following information must be included in each annual report: (a) Include a summary and analysis of all maintenance, inspections and enforcement, and the number and frequency of inspections performed annually. (b) A cumulative listing of the annual modifications made to the Post-Construction Stormwater Management Program, and (c) According to the schedule presented in Table 3, the permittee must: A. Report the number of MS4-owned properties and infrastructure that have been retrofitted with control measures designed to control the frequency, volume, and peak intensity of stormwater discharges. B. As required in Part I.D.5.b.(vi), report the tabulated results for IA and DCIA and its estimation methodology.	• CORR will continue to track all maintenance activity related to maintenance of all CORR owned water quality structures. A summary of the information will be included in each annual report. • CORR will include a cumulative list of retrofitted CORR facilities in each annual report. • CORR will continue to provide MRG permittees with information to support their IA and DCIA reporting requirements to EPA.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		
2.12	69	Enhance the program to include the elements in Part I.D.5.b.(xi) and Part I.D.5.a.(xii). These include: (xi) Use of stormwater educational materials; (xii) Develop or update existing construction handbooks; and (x) participate in watershed planning efforts to aid with BMP selection and planning.	• CORR will include the MRGSWQT Outcomes Report in each Annual Report which will summarize the activities where educational materials were dispersed and shared with the public. • CORR will continue to contribute and participate in the MRGSWQT, which supports post-construction programs. • CORR will participate in any meetings regarding watershed planning efforts. CORR will continue to produce and publish the CORR ICIP annually. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering and MRGSWQT

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	70	**TABLE 4: Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations - Part I.D.5.c**									
3.1	71	Develop or update the Pollution Prevention/Good House Keeping program to include the elements in Part I.D.5.c.(i). Elements include: employee training program to incorporate pollution prevention and good housekeeping, including a tracking procedure (Part I.D.5.c.(i).(a)); O&M activities, schedules, and long term inspections procedures for structural and non-structural stormwater controls (Part I.D.5.c.(i).(b)); Controls for reducing or eliminating the discharge of pollutants from City owned facilities (Part I.D.5.c.(i).(c)) Procedures for properly disposing of waste removed from CORR facilities (sediment, floatables, and other debris) (Part I.D.5.c.(i).(d)); and procedures to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices (Part I.D.5.c.(i).(e)).	• The City will then develop/enhance the training programs targeting requirements of Part I.D.D.c.(i) including a tracking procedure that ensures employee turnover is considered. • The City will develop a pollution prevention and good housekeeping annual workshop/training for municipal employees responsible for operations and maintenance of the pertinent City facilities.	In Progress - Facility Evaluation(s)	In Progress - Facility Evaluation(s)	In - Process - Consultant Notice to proceed: October 10, 2017 - SWPPP for Streets and Right of Way Facilities May 23, 2018 - SWPPP for Building and Fleet Maintenance February 12, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Fully Implemented on August 1, 2018 - SWPPP for Streets and Right of Way Facilities Fully Implemented on September 27, 2018 - SWPPP for Building and Fleet Maintenance Fully Implemented on June 3, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	
3.2	72	Enhance the program to include the elements in Part I.D.5.c.(ii). These include: (a) Develop or update the existing list of all stormwater quality facilities by drainage basin, including location and description;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	73	(b) Develop or modify existing operational manual for de-icing activities addressing alternate materials and methods to control impacts to stormwater quality;			In Progress - Facility Evaluation(s)	Reactive Snow Removal Program - The City does not perform snow and ice removal for residential streets.		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	74	(c) Develop or modify existing program to control pollution in stormwater runoff from equipment and vehicle maintenance yard;	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	75	(d) Develop or modify existing street sweeping program. Assess possible benefits from changing frequency or timing of sweeping activities or utilizing different equipment for sweeping activities;			In Progress - Facility Evaluation(s)	Reactive Street Sweeping Program - Road sweeping consists of sweeping paved roads as conditions permit. The City attempts to sweep all residential roads at least once every two years.		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	76	(e) A description of procedures used by permittees to target roadway areas most likely to contribute pollutants to and from the MS4 (i.e., runoff discharges directly to sensitive receiving water, roadway receives majority of de-icing material, roadway receives excess litter, roadway receives greater loads of oil and grease);			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	77	(f) Develop or revise existing standard operating procedures for collection of used motor vehicle fluids (at a minimum oil and antifreeze) and toxics (including paint, solvents, fertilizers, pesticides, herbicides...) used in permittee operations;	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	

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3.2	78	(g) Standard operating procedure for disposal of accumulated sediments, floatables, and debris;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	79	(h) litter source control program, include targeted public awareness campaign;			In Progress - Facility Evaluation(s)	Fully Implemented - See Section 4 - MRG SWQ Outcomes Report		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	80	(i) Develop or review and revise, as necessary, the criteria, procedures and schedule to evaluate existing flood control devices, structures and drainage ways to assess the potential of retrofitting to provide additional pollutant removal from stormwater. Implement routine review to ensure new and/or innovative practices are implemented where applicable.			In Progress - Facility Evaluation(s)	In-Progress - See Section 2: Stormwater Outfall RFP		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	81	j) Enhance inspection and maintenance programs by coordinating with maintenance personnel to ensure that a target number of structures per basin are inspected and maintained per quarter;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	82	(k) Enhance the existing program to control the discharge of floatables and trash from the MS4 by implementing source control of floatables in industrial and commercial areas;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit	**June 22, 2017**	**30**	
3.2	83	(l) Include in each annual report, a cumulative summary of retrofit evaluations conducted during the permit term on existing flood control devices, structures and drainage ways to benefit water quality. Update the SWMP to include a schedule (with priorities) for identified retrofit projects;			In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit Oct. 22, 2015 or June 22, 2017	**June 22, 2017**	**30**	
3.2	84	(m) Flood management projects: review and revise, as necessary, technical criteria guidance documents and program for the assessment of water quality impacts and incorporation of water quality controls into future flood control projects. The criteria guidance document must include the following elements: A. Describe how new flood control projects are assessed for water quality impacts. B. Provide citations and descriptions of design standards that ensure water quality controls are incorporated in future flood control projects. C. Include method for permittees to update standards with new and/or innovative practices. D. Describe master planning and project planning procedures and design review procedures.	.		In Progress - Facility Evaluation(s)	Fully Implemented -		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	
3.2	85	(n) Develop procedures to control the discharge of pollutants related to the storage and application of pesticides, herbicides, and fertilizers applied, by the permittee's employees or contractors, to public right-of-ways, parks, and other municipal property. The permittee must provide an updated description of the data monitoring system for all permittee departments utilizing pesticides, herbicides and fertilizers.	1) Develop SWPPP scope of work. 2) Secure funding. 3) Issue notice to proceed. 4) Implement SWPPP recommendations.		In Progress - Facility Evaluation(s)	Fully Implemented - See Section 2 - PPGH Municipal Operations, Appendix F		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	

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3.3	86	Develop or update a list and a map of industrial facilities owned or operated by the permittee as required in Part I.D.5.c.(iii).		Fully Implemented: GIS map complete.				18 months (cooperative) from effective date of MS4 Permit	**June 22, 2016**	**18**	
Not Included in NOI	87	Update the SWMP document and annual report as required in I.D.5.c.(iv) and Part I.D.5.c.(v). The permittee must include in the SWMP a description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.c.(i) throughout Part I.D.5.c.(iii) and its corresponding measurable goal. The permittee shall assess the overall success of the program, and document the program effectiveness in the annual report.		In Progress - Facility Evaluation(s)	In Progress - Facility Evaluation(s)	October 10, 2017 - SWPPP for Streets and Right of Way Facilities May 23, 2018 - SWPPP for Building and Fleet Maintenance February 12, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Fully Implemented on August 1, 2018 - SWPPP for Streets and Right of Way Facilities Fully Implemented on September 27, 2018 - SWPPP for Building and Fleet Maintenance Fully Implemented on June 3, 2019 - SWPPP for Parks, Recreation and Community Services Maintenance Yard	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		

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	88	**TABLE 5: Industrial and High Risk Runoff - Part I.D.5.d**									
4	89	As described in Part I.D.5.d, the permittees shall: (i) control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi). If no such industrial activities are in a permittees jurisdiction, that permittee may certify that this program element does not apply.		**Not Applicable**							

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	90	**TABLE 6: Illicit Discharges and Improper Disposal - Part I.D.5.e**									
See NOI Sections Below	91	As described in Part I.D.5.e.(i), the permittee shall develop, revise, implement, and enforce a program to detect and eliminate illicit discharges (as defined at 40 CFR 122.26(b)(2)) entering the MS4. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee must (see required items listed below):	• The CORR NPDES Project Manager will continue to review, revise, and implement the Illicit Discharge Detection and Elimination Program requirements. • CORR will update their current written procedure for this program element. • CORR is pursuing developing a cooperative program elements for this program.	Continuing to implement existing program, updating as necessary.				See specific Permit activity schedules below.			Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.1	92	Mapping as required in Part I.D.5.e.(i).(a). Develop, if not already completed, a storm sewer system map, showing the names and locations of all outfalls as well as the names and locations of all waters of the United States that receive discharge from those outfalls. Identify all discharges points into major drainage channels draining more than twenty (20) percent of the MS4 area;	• CORR will continue to keep this maintenance map up-to-date for CORR facilities and other MS4 permittee facilities, as information is provided. Cooperation with other MS4s will continue related to this map.	Fully Implemented - See SWMP Appendix E and G.				14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	Program Lead: NDPES Project Manager Implementation: Development Services Department Engineering, Recorder and GIS Section, and Consultant
5.2	93	Ordinance (or other control method) as required in Part I.D.5 .e.(i)(b).	• As necessary, draft amendments to existing ordinance prohibiting non-stormwater discharges into the MS4.		In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.30		10 months from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.3	94	Develop and implement a IDDE plan as required in Part I.D.5.e.(i).(c). The permittee must include the following elements in the plan: A. Procedures for locating priority areas likely to have illicit discharges including field test for selected pollutant indicators (ammonia, boron, chlorine, color, conductivity, detergents, E. coli, enterococci, total coliform, fluoride, hardness, pH, potassium, conductivity, surfactants), and visually screening outfalls during dry weather; B. Procedures for enforcement, including enforcement escalation procedures for recalcitrant or repeat offenders; C. Procedures for removing the source of the discharge; D. Procedures for program evaluation and assessment; and E. Procedures for coordination with adjacent municipalities and/or state, tribal, or federal regulatory agencies to address situations where investigations indicate the illicit discharge originates outside the MS4 jurisdiction.	• CORR will continue implementing the existing IDDE program. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to the IDDE program. • CORR will begin developing a written procedure for this program element. • CORR is pursuing developing a cooperative program for this program element with permittees located within CORR's jurisdiction.	In Progress: Completed by Weston Solutions, Inc. August 12, 2015 CoRR, Task Order 3 - Providing assistance with modifying or revising existing elements in the IDDE program.	In Progress - Reviewing existing Chapter 153 ordinance.	Fully Implemented: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.30		30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division
5.4	95	Develop an education program as required in Part I.D.5.e.(i).(d). Develop an education program to promote, publicize, and facilitate public reporting of illicit connections or discharges, and distribution of outreach materials. The permittee shall inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste.	• CORR will continue its involvement with and financial support of BEMP and RiverXchange through the MRGSWQT. • CORR will work with the MRGSWQT to inform the general public of the hazards associated with illegal discharges and improper disposal of waste. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue an in-house training program for its administrative, engineering and field employees regarding illegal discharges and improper disposal of waste.	The Middle Rio Grande Stormwater Quality Team has published outreach material "Keep the Rio Grand - Reduce Stormwater Pollution at Home!" CORR				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NDPES Project Manager Implementation: Development Services Engineering Division and MRGSWQT

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5.5	96	Establish a hotline as required in Part I.D.5.e.(i).(e).	• CORR will continue to respond to the information received from this application integral to the IDDE program.	Fully Implemented: Report Rio Rancho App/Website has a NEW report type "Environmental Concern" which tracks Illicit Discharge of Waste, Surface Sewage/Failed Septic Systems and Water Waste.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Information Technologies / Public Works Records & GIS
5.6	97	Investigate suspected significant/severe illicit discharges as required in Part I.D.5.e.(i).(f). Investigate suspected significant/severe illicit discharges within forty-eight (48) hours of detection and all other discharges as soon as practicable; elimination of such discharges as expeditiously as possible; and, requirement of immediate cessation of illicit discharges upon confirmation of responsible parties. Illicit Discharge is defined in 40 CFR 122.26(b)(2)as "Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities."	• CORR will continue its policy of investigation of suspected significant/severe illicit discharges within 48 hours of detection and all other discharges as soon as practicable. • CORR will continue investigation and documentation of all applicable illicit discharge complaints (using IDDE Incident Report Form) received through the Report Rio Rancho website/app, as well as other complaints received directly by CORR staff through e-mail, phone, or observation. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to investigation of illicit discharges. • CORR will develop a written procedure for this program element and develop an electronic field form for gathering applicable information regarding reported IDDE.	Fully Implemented:		Fully Implemented/Revised: On May 23, 2018 amendments to the Chapter 153 Erosion Control; Storm Drainage and Stormwater Quality Ordinance was adopted. See Section 153.32		18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
5.7	98	Review complaint records and develop a targeted source reduction program as required in Part I.D.5.e.(i).(g). Review complaint records for the last permit term and develop a targeted source reduction program for those illicit discharge /improper disposal incidents that have occurred more than twice in two (2) or more years from different locations.	• CORR will continue its policy of reviewing complaint records. This will include a focus on illicit discharges contributing bacteria to the MS4. • Annually, CORR will reevaluate its targeted source reduction program. Potential future targets will be determined and cooperative efforts for targeted source reduction programs with MRGSWQT members will be considered. • CORR will continue adding illicit discharge complaint records for the permit term to the CORR GIS database to help identify sources and trends. • CORR continue developing a cooperative for this program element.	Given data collected, trends have not been identified.				1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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Not Included in NOI	99	As required in Part I.D.5.e.(ii), the permittee shall address the following categories of non-stormwater discharges or flows (e.g., illicit discharges) only if they are identified as significant contributors of pollutants to the MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(90)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water. Note: Discharges or flows from fire fighting activities are excluded from the effective prohibitions against non-stormwater and need only be addressed where they are identified a significant sources of pollutants to water of the United States).	• The CORR NPDES Project Manager will review this list annually to check that the categories of authorized non-stormwater discharges are still not considered significant contributors of pollutants to the MS4.	No significant contributors or pollutants to the MS4 found.				No specific implementation schedule, CORR will review annually.			
5.8	100	As required in Part I.D.5.e.(iii), the permittee must screen the entire jurisdiction at least once every five (5) years and high priority areas at least once every year. High priority areas include any area where there is ongoing evidence of illicit discharges or dumping, or where there are citizen complaints on more than five (5) separate events within twelve (12) months. The permittee must: (a) Include in its SWMP document a description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected. (b) Comply with the dry weather screening program established in Table 6 and the monitoring requirements specified in Part III.A.2. (c) If applicable, implement the priority ranking system developed in previous permit term.	• CORR will develop screening procedures, protocols and plan in years 1-3 for the Permit (Dec. 22, 2014 through Dec. 22, 2017). This may be done as a cooperative program. • CORR will implement the IDDE required screening activities for a minimum of 30% of the MS4 by the end of year 4 for this Permit (Dec. 22, 2018). • CORR will complete the IDDE required screening activities for 70% the of the MS4 system by the end of year 5 for this Permit (Dec. 22, 2019). • CORR will continue membership and involvement in the cooperative MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges. • CORR is pursuing developing a cooperative for this program element, including implementing the priority ranking system.					Cooperative program - High Priority - screen 1x per year. -Years 1 -3: develop procedures as required in Part I.D.5.e.(i).(c). -Year 4: screen 30% of the MS4 area. -Year 5: screen 70% of the MS4 area.	**See Measurable Goal Schedule**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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5.9	101	Develop, update, and implement a Waste Collection Program as required in Part I.D.5.e.(iv).	• CORR will work with Sandoval County to increase the number of Household Hazardous Waste collection days hosted. • CORR will continue working with Sandoval County and SSCAFCA on watershed clean-up events		Fully Implemented: City of Rio Rancho/Sandoval County Recycling Center opened in 2011	**CITY OF RIO RANCHO/ SANDOVAL COUNTY RECYCLING CENTER CLOSURE:** The City of Rio Rancho and Sandoval County joint recycling center located off Iris Road closed on June 23, 2018. The facility officially opened on 2011 in response to citizen input. However, Rio Rancho residents are now being offered more extensive and convenient trash and recycling pickup services directly at their homes through Waste Management that create operating efficiencies and reduce the need for an alternate recycling facility. For more information about Waste Management's services for the City of Rio Rancho, please visit home.wm.com/RIO-rancho.	**NEW! WASTE MANAGEMENT'S AT YOUR DOOR SPECIAL COLLECTION SERVICE.** A three step system to collect electronics, paint, motor oil, pool chemicals, batteries, and other household hazardous waste. Waste Management provides residential services as well: Bulk item collection, Free Glass Drop-off, Yard Waste, and Free Monthly Landfill Access	30 months (cooperative) from effective date of MS4 Permit June 22, 2017	**June 22, 2017**	**30**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, Parks and Rec, KRRB, and Waste Management Services.
5.10	102	Develop, update and implement a Spill Prevention and Response program to prevent, contain, and respond to spills that may discharge into the MS4 as required in Part I.D.5.e.(v). The Spill Prevention and Response program shall include: (a) Where discharge of material resulting from a spill is necessary to prevent loss of life, personal injury, or severe property damage, the permittee(s) shall take, or ensure the party responsible for the spill takes, all reasonable steps to control or prevent any adverse effects to human health or the environment: and (b) The spill response program may include a combination of spill response actions by the permittee (and/or another public or private entity), and legal requirements for private entities within the permittees municipal jurisdiction.	• CORR will continue to cooperate with overlapping jurisdictions for spill response. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) and the MRGSWQT which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to spill prevention and response.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: All-Hazard Emergency Operations Plan, Annex Q - Hazardous Materials. CORR Fire Prevention Division conducts annual inspections.	Fully Implemented: Stormwater Pollution Prevention Plans (SWPPP) are implemented for all major municipal operations (fleet and building maintenance, streets and right-of-way maintenance, and parks, recreation and community services). SWPPP's contain a Spill Response Plan specific to each facility.	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
Not Included in NOI	103	Update the SWMP document and annual report as required in Part I.D.5.e.(iii), Part I.D.5.e.(vi), and Part I.D.5.e.(vii). A description of the means, methods, quality assurance and controls protocols, and schedule for successfully implementing the required screening, field monitoring, laboratory analysis, investigations, and analysis evaluation of data collected.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.e, for the above-mentioned SWMP elements, and develop a strategy, if applicable, to implement any new program requirements. • CORR will include a review of the screening completed and the data collected will be included in the Annual Report.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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5.11	104	Enhance the program to include requirements in Part I.D.5.e.(ix). The permittee may: (a) Divide the jurisdiction into assessment areas where monitoring at fewer locations still provides sufficient information; (b) Downgrade high priority areas after the area has been screened at least once and there are citizen complaints on no more than 5 separate events within a 12 month period; (c) Rely on a cooperative program with other MS4s for detection and elimination of illicit discharges and illegal dumping; (d) If cooperative program, required detection program frequencies may be based on the combined jurisdictional area rather than individual jurisdictional areas to reduce total number of screening locations; (e) After screening a non-high priority area once, adopt an "in response to complaints only" IDDE for that area (no more than 2 separate events within a 12 month period); (f) Enhance the program to utilize methodologies consistent with those described in "Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments."	• CORR will document enhancements made with enhancement activities in the SWMP and Annual Report.					Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
	105	**TABLE 7: Control of Floatables Discharges - Part I.D.5.f**									
6.1	106	As required in Part I.D.5.f.(i), the permittee must develop, update, and implement a program to address and control floatables in discharges into the MS4. The floatables control program shall include source controls and, where necessary, structural controls. Permittees previously covered under NMS000101 or NMR040000 must continue existing programs while updating those programs, as necessary, to comply with the requirements of this permit. The permittee shall develop or update a schedule to implement as required in Part I.D.5.f.(i).(a).	• The CORR NPDES Project Manager will continue to review, revise, and implement a program to address and control floatables in discharges into the MS4. CORR will develop a written procedure for this program element. • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related control of floatables discharges. • CORR will continue utilizing the manual trash collection contracts. • CORR will continue cooperative watershed clean-up events with the City of Rio Rancho. • CORR is pursuing developing a cooperative program for this program element.	The majority of City ponds have existing water quality outlet structures that collect floatables.				18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering
6.2	107	Estimate the annual volume of floatables and trash removed from each control facility and characterize the floatable type as required in Part I.D.5.f.(i).(b).	• CORR will include in each annual report an estimate of the annual volume of floatables and trash removed from each control facility and characterize the floatable type. • CORR will continue to improve SROW staff tracking methods, allowing CORR to better and more easily determine the volume of floatables and sediment removed from each CORR facility.		Fully Implemented: IDDE Program includes a Trash Survey Form. Estimated volume of floatables and trash removal are calculated annually.			10 months from effective date of MS4 Permit Oct. 22, 2015	**June 22, 2017**	**30**	Program Lead: Streets and Right-of -Way Manager Implementation: Public Works Department
Not Included in NOI	108	Update the SWMP document and annual report as required in Part I.D.5.f.(ii) and Part I.D.5.f.(iii).	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.f, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report.	In Progress - Completed by Weston Solutions, Inc. December 18, 2015 CoRR, Task Order 3 - Providing assistance with developing, implementing, and enforcing a program to address and control floatables in the MS4. Given data collected, trends have not been identified				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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	109	**TABLE 8: Public Education and Outreach on Stormwater Impacts - Part I.D.5.g**									
7.1	110	Develop, revise, implement, and maintain an education and outreach program as required in Part I.D.5.g.(i) and Part I.D.5.g.(ii). This comprehensive stormwater program should educate the community, employees, businesses, and the general public of hazards associated with the illegal discharges and improper disposal of waste and about the impact that stormwater discharges on local waterways, as well as the steps that the public can take to reduce pollutants in stormwater.	• CORR will contribute and participate in the MRGSWQT. • The MRGSWQT Outcomes Report will be submitted in the Annual Report. • CORR will continue to conduct education and outreach presentations to the community specific to CORR facilities and water quality.	MRGQST members continue develop, revise, implement, and maintain education and outreach programs.				14 months (cooperative) from effective date of MS4 Permit February 22, 2016	**February 22, 2016**	**14**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering, KRRB, and MRGSWQT
7.2	111	Update the SWMP document and annual report as required in Part I.D.5.g.(iii) and Part I.D.5.g.(iv). (iii) The permittee must include the following information in the SWMP document: (a) A description of a program to promote, publicize, facilitate public reporting of the presence of illicit discharges or water quality associated with discharges from MS4s; (b) A description of the education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; & (c) A description of the mechanism(s) utilized to comply with each of the elements required in Part I.D.5.g.(i) and Part I.D.5.g.(ii) and its corresponding measurable goal. (iv) The permittee must assess the overall success of the program, and document both direct and indirect measurements of program effectiveness in the Annual Report.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part I.D.5.g, for the above-mentioned SWMP elements, and assess the overall success of the program and document direct and indirect measurements of the program effectiveness in the Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering

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7.2	112	Enhance the program to include requirements in Part I.D.5.g.(v) through Part I.D.5.g.(viii). (v) Where necessary to comply with the MS4 Permit, the permittee should develop a program or modify/revise an existing education and outreach program to: (a) Promote, publicize, and facilitate the use of GI/LID/Sustainability practices; and (b) Include an integrated public education program regarding litter reduction, reduction in pesticide/herbicide use, recycling, and disposal (including yard waste, hazardous waste materials, and used motor vehicle fluids), and GI/ LID/ Sustainable practices (as allowed by the NM OSE). (vi) The permittee may collaborate or partner with other MS4 operators to maximize the program and cost effectiveness of the required outreach. (vii) The education and outreach program may use citizen hotlines as a low-cost strategy to engage the public in illicit discharge surveillance. (viii) The permittee may use stormwater educational materials provided by the State, Tribe, EPA, environmental, public interest or trade organizations, or other MS4s. The permittee may also integrate the education and outreach program with existing education and outreach programs in the MRG area.	• If enhancement activities are implemented, CORR will annually document progress made with these program enhancement activities.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members, KRRB,

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	113	**TABLE 9: Public Involvement and Participation - Part I.D.5.h**									
8.1	114	Develop (or update), implement, and maintain a public involvement and participation plan as required in Part I.D.5.h.(ii). This plan should provide opportunities for participation in the review, modification and implementation of the SWMP; develop and implement a process by which public comments to the plan are received and reviewed by the person(s) responsible for the SWMP; and make the SWMP available to the public and to the operator of any MS4 or Tribal authority receiving discharges from the MS4.	• Post the draft SWMP, any SWMP amendments or modifications, and draft Annual Reports to CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website with an explanation of the public comment period and instruction on how to submit comments. The posted documents will show redline and strikethrough of text additions and deletions and/or provide explanations for substantial changes. • A 30-day comment period will be allotted for SWMP document public review. • A 45-day comment period will be allotted for Annual Report document public review as required in Part III.B of the MS4 Permit. • Notice to the public will be done using CORRs NPDES Stormwater Program website.	Full Implemented: NOI, SWMP, Annual Report(s) are available to the public and to other operators via City of Rio Rancho Stormwater Webpage: https://rrnm.gov/2184/NPDES-Stormwater-Program				10 months from effective date of MS4 Permit Oct. 22, 2015	**December 22, 2015**	**12**	<u>Program Lead</u>: NPDES Project Manager <u>Implementation</u>: Development Services Department Engineering Division
8.1	115	As required in Part I.D.5.h.(iii), the Public Involvement and Participation Plan shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination. The permittee must include the following elements in the plan: (a) A detailed description of the general plan for informing the public of involvement and participation opportunities, including types of activities; target audiences; how interested parties may access the SWMP; and how the public was involved in development of the SWMP; (b) The development and implementation of at least one (1) assessment of public behavioral change following a public education and/or participation event; (c) A process to solicit involvement by environmental groups, environmental justice communities, civic organizations or other neighborhoods /organizations interested in water quality-related issues; and (d) An evaluation of opportunities to utilize volunteers for stormwater pollution prevention activities and awareness throughout the area.	• CORR will contribute and participate in the MRGSWQT, which participates in public events and solicit public participation and feedback by way of surveys. • In targeted areas, CORR will continue to it's "Scoop the Poop" public outreach campaign.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2015-Jun. 2016) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2016-Jun. 2017) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2017-Jun. 2018) Annual Report.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. Performance assessment can be found in the (Jul. 2018-Jun. 2018) Annual Report.	1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	<u>Program Lead</u>: NPDES Project Manager <u>Implementation</u>: Development Services Department Engineering and MRGSWQT
8.2	116	Comply with State, Tribal, and local notice requirements when implementing a Public Involvement and Participation Program as required in Part I.D.5.h.(iv). Reporting notification requirements also in Part III.D.4.	• CORR will provide hard copies of relative MS4 compliance reporting documents to the NMED, Pueblos of Sandia and Isleta as required here and in Part III.D.4 of the MS4 Permit. • CORR will continue to post the SWMP and Annual Reports on CORRs NPDES Stormwater Program www.rrnm.gov/index.aspx?nid=2184 website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	Fully Implemented: CORR has provided NOI hard copy to NMED, Pueblo of Sandia, and Pueblo of Isleta. USEPA R6 via email. CORR NOI is posted on CORRs Stormwater Program website.	10 months from effective date of MS4 Permit Oct. 22, 2015	**February 22, 2016**	**14**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
8.3	117	Include elements as required in Part I.D.5.h.(v). The public participation process must reach out to all economic and ethnic groups. Opportunities for members of the public to participate in program development and implementation include serving as citizen representatives on a local stormwater management panel, attending public hearings, working as citizen volunteers to educate other individuals about the program, assisting in program coordination with other preexisting programs, or participating in volunteer monitoring efforts.	• CORR will continue to include (along with the cooperative MRGSWQT) water quality information for the public at events, including public meetings. Where neighborhoods include Spanish-speaking residents, CORR may have Spanish-translations available of public meeting announcements and data sheets. The educational videos on the MRGSWQT website (www.keeptheriograndе.org) all have Spanish subtitles. By attending a variety of events, at widespread locations throughout the area, and by using the leading area newspaper (Albuquerque Journal) to advertise events, The MRGSWQT ensures that a wide-range of economic and ethnic groups are reached.	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2015-Jun. 2016) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2016-Jun. 2017) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2017-Jun. 2018) Annual Report	Fully Implemented: The Middle Rio Grande Stormwater Quality Team Outcomes Report provides a summary of public education and outreach plan. See (Jul. 2018-Jun. 2019) Annual Report	18 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MRGSWQT
8.4	118	Update the SWMP document and annual report as required in Part I.D.5.h.(vi), Part I.D.5.h.(vii), and Part I.D.5.h.(viii). The permittee must provide public accessibility of the SWMP and Annual Reports online via the Internet and during normal business hours at the MS4 operator's main office for public inspection and copying consistent with any applicable federal, state, tribal, or local open records requirements. Upon a showing of significant public interest, the MS4 operator is encouraged to hold a public meeting (or include in the agenda of in a regularly scheduled city council meeting, etc.) on the NOI, SWMP, and Annual Reports.	• As part of the Annual Report process each year, the Deputy Development Services Director and Engineering Division Manager will review the program requirements listed in Part I.D.5.h, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • CORR will provide public accessibility of the SWMP document and most recent Annual Report online via the Internet (www.rrnm.gov/index.aspx?NID=2184) and during normal business hours at the CORR office. CORR is located at 3200 Civic Center Circle NE, Rio Rancho, NM 87144. The phone number is 505-891-5045.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Fully Implemented: CoRR SWMP and Annual Reports are publicly accessible online via internet and during normal business hours at Rio Rancho City Hall.	Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
8.5	119	Enhance the program to include requirements in Part I.D.5.h.(ix).	• CORR will annually document progress made with these program enhancement activities. CORR and the MRGSWQT will continue to review, update, and enhance public involvement and participation programs.	MRGQST has continued its educational partnerships with BEMP and RiverXchange. Total budget spent on both programs = $14,692.50. See (Jul. 2015-Jun. 2016) Annual Report.				Update as necessary for SWMP and annually for Annual Report	**Update as necessary**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	120	**Part III - Monitoring, Assessment and Reporting Requirements**									
	121	**TABLE 10: Wet Weather Monitoring Program - Part III.A.1**									
See NOI Sections Below	122	According to the requirements in Part III.A.1., The permittee must develop, in consultation with NMED and EPA (and affected Tribes if monitoring locations would be located on Tribal lands), and implement a comprehensive monitoring and assessment program. The permittees shall conduct wet weather monitoring to gather information on the response of receiving waters to wet weather discharges from the MS4 during both wet season (July 1 through October 31) and dry Season (November 1 through June 30). Wet Weather Monitoring shall be conducted at outfalls, internal sampling stations, and/or in-stream monitoring locations at each water of the US that runs in each entity or entities' jurisdiction(s).	The program details and measurable goals are described below. The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).					See specific Permit activity schedules below.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	123	Part III.A.3.1.b. Option B: Cooperative Monitoring Program Develop a cooperative wet weather monitoring program with other permittees in the Middle Rio Grande Watershed. The program will monitor waters coming into the watershed (upstream) and leaving the watershed (downstream). The program must include sampling for TSS, TDS, COD, BOD5, DO, oil and grease, E. coli, pH, total nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs and Gross alpha. Monitoring of temperature shall be also conducted at outfalls and/or Rio Grande monitoring locations. Permittees must include additional parameters from monitoring conducted under permits NMS000101, NMR040000 or/and NMR040001 whose mean values are at or above a WQS. The monitoring program must sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events in the wet season and 2 events in the dry season.	• The monitoring program will follow the permit requirements for parameters tested (TSS, TDS, COD, BOD_5, DO, oil and grease, E. coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, total ammonia plus organic nitrogen, total phosphorus, PCBs, Gross alpha, and temperature). In addition, parameters from stormwater monitoring conducted under permits NMS000101, whose mean values are at or above a WQS, will also be tested. • The monitoring program will be conducted according to the approved Cooperative Monitoring Plan (submitted to EPA on June 20, 2016).					Monitoring program will sample the pollutants for a minimum of 7 storm events per location during the permit term with at least 3 events in the wet season and 2 events in the dry season.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
IV	124	As required in Part III.A.1. and Table 10, the permittees shall submit wet weather monitoring preference Option A or Option B to EPA (i.e., individual monitoring program vs. cooperative monitoring program) with NOI submittals.	Operation B - Cooperative Monitoring Program preference was submitted the CORR NOI on June 19, 2015. See SWMP					N/A	**June 22, 2015**	**6**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
Not Included in NOI	125	Submit a detailed description of the monitoring scheme to EPA and NMED for approval. The monitoring scheme should include: a list of pollutants; a description of monitoring sites with an explanation of why those sites were selected; and a detailed map of all proposed monitoring sites. In addition, as required in Part III.A.1.h, the monitoring program must include a contingency plan for collecting additional monitoring data within the MS4 or at additional appropriate instream locations should monitoring results indicate that MS4 discharges may be contributing to instream exceedances of WQS. The purpose of this additional monitoring effort would be to identify sources of elevated pollutant loadings so they could be addressed by the SWMP.	• The monitoring program will be conducted according to the approved proposed monitoring scheme for Compliance Monitoring (submitted to EPA on December 18, 2015).	Fully Implemented: Proposed Monitoring Plan submitted on Dec. 18, 2015. See (Jul. 2015-Jun. 2016) Annual Report.				1 year (cooperative) from effective date of MS4 Permit Dec. 22, 2015	**December 22, 2015**	**12**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
Not Included in NOI	126	Submit certification that all wet weather monitoring sites are operational and begin sampling.	• CORR, with its cooperative partners (still to be determined), will submit certification to EPA that all wet weather compliance monitoring sites are operational and will begin sampling, according to the Permit requirements.	Fully Implemented - Wet Weather Monitoring Program is operational and ready for sampling. See (Jul. 2015-Jun. 2016) Annual Report.				14 months (cooperative) from effective date of MS4 Permit June 22, 2016	**June 22, 2016**	**18**	Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division and MCM Members
Not Included in NOI	127	As required in Part III.A.1.e, update SWMP document and submit annual reports. The results of the Wet Weather Monitoring must be provided in each annual report.	• As part of the Annual Report process each year, the NPDES Project Manager will review the program requirements listed in Part III.A.1, for the above-mentioned SWMP elements, and assess the overall success of the program and document the program effectiveness in the Annual Report. • The Wet Weather Monitoring results obtained from July 1st to June 30th will be submitted in each Annual Report on Discharge Monitoring Report (DMR) forms as required in Part III.D.1.	EPA Form 3320-1 DMR submitted with (Jul. 2015-Jun. 2016) Annual Report. No sample collected. Sampling plan for the Middle Rio Grande Collaborative Monitoring Group was not approved by EPA until 06/22/16. No storm events occurred between 06/22/2016 and 06/30/2016.	CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2017 Wet Season (July 1 to October 31, 2016) - March 6, 2017 - Memo - 393 pages.	CMC Wet Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and Reporting FY 2018 Wet Season (July 1 , 2017 to October 31, 2017) - February 20, 2018. See 255 page Memorandum in Annual Report.	CMC Dry Season, Wet Weather Stormwater Monitoring Data Verification, Analysis Results Database, and reporting FY 2019 Dry Season (November 1, 2018 to June to June 30, 2019) Task Memo.	Update as necessary for SWMP and annually for Annual Report	**Annually**		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	128	**Dry Weather Discharge Screening of MS4 - Part III.A.2**									
Not Included in NOI	129	According to the requirements in Part III.A.2., Each permittee shall identify, investigate, and address areas within its jurisdiction that may be contributing excessive levels of pollutants to the Municipal Separate Storm Sewer System as a result of dry weather discharges (i.e., discharges from separate storm sewers that occur without the direct influence of runoff from storm events, e.g. illicit discharges, allowable non-stormwater, groundwater infiltration, etc.). Due to the arid and semi-arid conditions of the area, the dry weather discharges screening program may be carried out during both wet season (July I through October 31) and dry season (November 1 through June 30). Results of the assessment shall be provided in each annual report.	The program details and measurable goals are described below and in Table 6 - Illicit Discharge and Improper Disposal.	Results are provided in each annual report.				See specific Permit activity schedules below.	**Screen the entire jurisdiction at least once (1) every five (5) years and high priority areas at least once (1) a year. ***High priority areas include areas where there are ongoing evidence of ID, or where there are citizen complaints on more that five (5) separate events within twelve (12) months***		Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division
Not Included in NOI	130	This program may be coordinated with the illicit discharge detection and elimination program required in Part I.D.5.e. The dry weather screening program shall be described in the SWMP and comply with the schedules contained in Part I.D.5.e.(iii). The permittee shall: a) Include sufficient screening points to adequately assess pollutant levels from all areas of the MS4. b) Screen for, at a minimum, BOD_5, sediment or a parameter addressing sediment (e.g., TSS or turbidity), E. coli, Oil and Grease, nutrients, any pollutant that has been identified as cause of impairment of a waterbody receiving discharges from that portion of the MS4, including temperature. c) Specify the sampling and non-sampling techniques to be issued for initial screening and follow-up purposes. d) Perform monitoring only when an antecedent dry period of at least 72 hours after a rain event greater than 0.1 inch in magnitude is satisfied. Monitoring methodology shall consist of collecting a minimum of 4 grab samples spaced at a minimum interval of 15 minutes each.	• Visual screening results will be included in CORR's Annual Report when provided. • CORR will continue with the existing Dry Weather Screening program while working cooperatively to develop illicit discharge screening procedures and plan, as required in part I.D.5.e.(iii). • CORR will continue membership and involvement in the cooperative MS4 Technical Advisory Group (MS4 TAG) which will facilitate cooperation and coordination with other MS4s in the Middle Rio Grande related to screening for illicit discharges.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Feb. 10, 2016. No discharges observed during screening. See IDDE Program Binder or Annual Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 16, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report..	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on August 18, 2017. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Dry Weather Visual Screening was conducted at seven (7) direct outfalls (High Priority) on Jun. 13, 2019. No discharges observed during screening. See Annual Report: Performance Assessment - MS4 Dry Weather Discharge Screening Report.	Cooperative Program -as required in part I.D.5.e.(iii) -Years 1 -3: develop procedures as required in Part I.D.5.e.(i).(c). -Year 4: screen 30% of the MS4 area. -Year 5: screen 70% of the MS4 area.			Program Lead: NPDES Project Manager Implementation: Development Services Department Engineering Division

NOI Section	ID	Permit Activity Description	Measurable Goal	Status of Implementation and Performance Assessment Permit Year July 2015 to June 2016 (Permit Year 1)	Status of Implementation and Performance Assessment Permit Year July 2016 to June 2017 (Permit Year 2)	Status of Implementation and Performance Assessment Permit Year July 2017 to June 2018 (Permit Year 3)	Status of Implementation and Performance Assessment Permit Year July 2018 to June 2019 (Permit Year 4)	Permit Required Implementation Schedule	Cooperative Implementation Schedule	Cooperative Permit Required Implementation Schedule (Months)	Responsible Personnel
	131	**Floatables Monitoring - Part III.A.3**									
Not Included in NOI	132	According to the requirements in Part III.A.3., The permittees shall establish locations for monitoring/assessing floatable material in discharges to and/or from their MS4. A cooperative monitoring program may be established in partnership with other MS4s to monitor and assess floatable material in discharges to and/or from a joint jurisdictional area or watershed basis. Floatable material shall be monitored at least twice per year at priority locations and at minimum of one (1) stations (Class B Permittee). The amount of collected material shall be estimated in cubic yards. a) Identify one (1) station to monitor and assess floatable material type.	• CORR will continue to monitor floatable material and estimate the amount collected at least twice per year at a minimum of 1 station. • All floatable material will be taken to a local landfill for disposal.		Arrowhead Ridge Pond - Trash Assessment Cascades at High Resort Pond(s) - Trash Assessment(s) Monterrey Pond(s) - Trash Assessments 19th Ave Pond - Trash Assessment		Eastlake Pond - Trash Assessment	Update as necessary for SWMP and annually for Annual Report	**Monitor at least (1) station at least twice per year at priority locations.**		
	133	**Industrial and High Risk Runoff Monitoring - Part III.A.4**									
4	134	The permittees shall monitor stormwater discharges from Type 1 and 2 industrial facilities which discharge to the MS4 provided such facilities are located in their jurisdiction. (Note: if no such facilities are in the permittees jurisdiction, the permittee must certify that this program element does not apply).	**Not Applicable**								

Section 4	Stormwater Management Program Revisions
	4.1 NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Reapply

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amafca.org

October 15, 2019

Mr. Robert Houston
Chief, Special Projects Section
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

RE: NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Re-Apply

Dear Mr. Houston:

This correspondence serves as a written notification that the members copied below of the Middle Rio Grande Technical Advisory Group (TAG) will continue to operate and discharge into the Rio Grande under the coverage and the conditions set forth in NPDES Permit No. NMR04A000 (Permit), after December 19, 2019, based on Permit language in Part IV:V and required notification in Part IV:C.

On June 27, 2019 the Middle Rio Grande TAG MS4 permittees met with and were informed by EPA Region 6 staff Brent Larson & Maria Martinez that the Permit, which expires on December 19, 2019, would likely go into administrative continuance. As EPA staff explained during the meeting, EPA is not required to issue a public notice related to the administrative continuance and the current permittees do not need to complete any actions or submit renewal applications to have continued coverage under the current Permit.

This guidance from EPA was confirmed in the Permit, in Part IV:V. CONTINUATION OF THE EXPIRED GENERAL PERMIT. *If this Permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued Permit until the earlier of:*

1. *Reissuance or replacement of this Permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or*
2. *Issuance of an individual permit for your discharges; or*
3. *A formal permit decision by the permitting authority not to reissue this general Permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.*

Closer review of the Permit noted the language in Part IV:C: DUTY TO REAPPLY. *If the permittee wishes to continue an activity regulated by this Permit after the Permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR § 122.6 and any subsequent amendments.* It is unclear from the Permit language in Part IV: C, if this section applies to permits that are administratively continued.

This letter is to inform EPA that, based on the provided guidance from EPA and the MS4 Permit language in Part IV:V, members of the Middle Rio Grande TAG will continue to operate with coverage under the current MS4 Permit when the Permit is administratively continued on December 19, 2019. If these assumptions are incorrect or if an application is required for continued coverage under MS4 Permit NMR04A000, please let us know as soon as possible.

We appreciate your attention to this matter. Please contact me if you have any questions.

Sincerely,
Middle Rio Grande TAG

Patrick Chavez, PE
AMAFCA Storm Water Quality Engineer and TAG Member

TAG Members Included and Copied:

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
City of Rio Rancho
Sandia National Labs (operated by NTESS for US DOE)
Bernalillo County
Kirtland Air Force Base
Village of Los Ranchos
Eastern Sandoval County Arroyo Flood Control Authority (ESCACA)
Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
City of Albuquerque
Village of Corrales
Sandoval County
Town of Bernalillo
New Mexico Department of Transportation (NMDOT)
University of New Mexico

Section 5	Performance Assessment
	5.1 Illicit Discharge Incident Reporting 5.2 Construction General Permit Compliance Inspection List 5.3 CMC Stormwater Monitoring Reporting, Contract Summary Memo

CITY OF RIO RANCHO

ILLICIT DISCHARGE INCIDENT TRACKING FORM

Responder Information EMAIL	
~~Call~~ taken by: JERRY ORTIZ, CODE ENFORCEMENT	~~Call~~ date: 10/2/2019
~~Call~~ time: 9:36 AM	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:

Caller contact information (*optional*):
MIKE LIZZI
ASSOCIATE BROKER
BERKSHIRE HATHAWAY ALLSTAR REALTORS (505) 449-7003

Incident Location *(complete one or more below)*

Latitude and longitude:

Stream address or outfall #:

Closest street address: 1007 WATERFALL DR NE

Nearby landmark:

Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☒ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☒ Near other water source (storm water pond, wetland, etc.): WITHIN RIGHT-OF-WAY	

Narrative description of location:
SEE EXHIBIT #1 ATTACHED

Upland Problem Indicator Description

☐ Dumping	☒ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description

Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			

Narrative description of problem indicators:
EXHIBIT # 1 ATTACHED

Suspected Violator (name, personal or vehicle description, license plate #, etc.):
CODE ENFORCEMENT CASE 19-4018 & 19-4019

EUGENE PETTES

From: JERRY ORTIZ
Sent: Wednesday, October 02, 2019 9:36 AM
To: EUGENE PETTES
Subject: FW: 1007 waterfall drive

-----Original Message-----
From: Mike Lizzi <lizzi.mike@yahoo.com>
Sent: Wednesday, October 2, 2019 9:36 AM
To: JERRY ORTIZ <JORTIZ@rrnm.gov>
Subject: 1007 waterfall drive

****
****
CAUTION: This email was received from an EXTERNAL source, use caution when clicking links or opening attachments.
****
****

The resident of this home changed the oil in the street and dumped against the curb to dispose of it. The can is still out front and there is oil everywhere. This home is constantly a problem and I've had enough. If you'd like to contact me the contact I fo is below.

Mike Lizzi-
Associate Broker
Berkshire Hathaway Allstar Realtors
505-449-7003

Exhibit 1

Code Enforcement Case 19-4018 & 19-4019

Violation: Illegal Dumping (Illicit Discharge) & Debris

1007 Waterfall Dr NE

City Sourced 786412- The resident of this home changed the oil in the street and dumped against the curb to dispose of it. The can is still out front and there is oil everywhere. This home is constantly a problem and I've had enough. If you'd like to contact me the contact Info is below. Mike Lizzi- Associate Broker Berkshire Hathaway Allstar Realtors 505-449-7003

Upon inspection, I located an oil container and a stream of fresh oil originating in front of 1007 Waterfall Dr, running the length of three homes. I also located debris on the side of the home.

10/03/2019- I received a call from the resident of the home. She stated that she wasn't sure where the oil came from. She said the house across the street parks in that spot. However, it was the

resident of the house across the street that created the complaint and he said that 1007 Waterfall has had a lot of traffic at their house since they moved in in June 2019. He said it was someone associated with the house and that they changed their oil in the street. When I told the woman that it came from in front of her house, she then asked how I recommended she clean the oil. I told her to use and absorbent and then make sure she property disposes of the absorbent after the oil is absorbed.

Date taken 10/02/19

Taken by Amanda Hogge

CITY OF RIO RANCHO

ILLICIT DISCHARGE INCIDENT TRACKING FORM

Responder Information CITY SOURCE SERVICE REQUEST	
Call taken by: XAVIER PETTES	Call date: 1/15/2020
Call time: 1:00 pm	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:

Caller contact information (*optional*):

KIM BROWN EMAIL: KBROWN@GMAIL.COM

Incident Location *(complete one or more below)*

Latitude and longitude:	35.3013 106.6579
Stream address or outfall #:	
Closest street address:	
Nearby landmark:	

Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☒ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):	

Narrative description of location:

INTERSECTION: PERCIVAL ST NE & 25TH AVE NE

Upland Problem Indicator Description

☐ Dumping	☒ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description

Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			

Narrative description of problem indicators:

OIL TOTES WITHIN CITY RIGHT-OF-WAY (SEE ATTACHED)

Suspected Violator (name, personal or vehicle description, license plate #, etc.):

NONE

Service Request ID# 837886: Environmental Concerns

Request Type: Environmental Concerns

Date Created: Jan 15, 2020 @ 01:00 PM

Last Updated: Jan 24, 2020 @ 11:37 AM

Date Closed: Jan 24, 2020 @ 11:37 AM

Approximate Address: 24th Ave NE, Rio Rancho, NM 87144

Request Coordinates: 35.2992581, -106.6508666

Status: Closed

Assigned To: Xavier Pettes

Device: Html5 RioRanchoNm

Console Url: https://console.citysourced.com/pages/issues/issuedetail.aspx?issueid=837886

Description: very hard to provide an exact location of the oil but took longitude and latitude location if that helps. It is not in a populated area. 35.3013 and 106.6579

Type: Illicit Discharge of Waste

Attachments

Sorry! There are no attachments for this request.

Author Information

kim brown [Email: kbrown3326@gmail.com]

Comments

Date Created	Author	Comment
Jan 15, 2020 @ 01:00 PM	Rio Rancho	We have received your inquiry. The City will follow up with you on this issue as quickly as possible.
Jan 15, 2020 @ 02:21 PM	Rio Rancho	Thank you for providing coordinates. City staff will investigate and remove oil waste.
Jan 15, 2020 @ 02:22 PM	Rio Rancho	Rio Rancho has updated this service request's status from 'Received' to 'In Process'.
Jan 24, 2020 @ 11:37 AM	Rio Rancho	Oil waste was pick up on Wednesday 1/22/20 afternoon. Thank you for bringing this matter to our attention.
Jan 24, 2020 @ 11:37 AM	Rio Rancho	Rio Rancho has updated this service request's status from 'In Process' to 'Closed'.

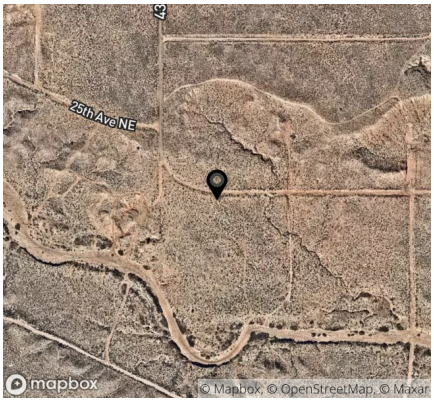
Private Notes

Date Created	Author	Note
Jan 15, 2020 @ 01:00 PM	Rio Rancho	This request was assigned to Xavier Pettes and a notification was sent to: xpettes@rrnm.gov.

Additional Data

Date Created	Key	Value
Jan 15, 2020 @ 01:00 PM	OriginationIpAddress	40.118.244.209
Jan 15, 2020 @ 01:00 PM	InitialBoundaryName	Rio Rancho, NM
Jan 15, 2020 @ 01:00 PM	InitialBoundaryName	District 3

Maps



EUGENE PETTES

From: KORYN MISBACH
Sent: Friday, January 24, 2020 9:40 AM
To: Amy Garcia; Zane Gentzler
Cc: DYANE SONIER; STEVEN DOMINGUEZ; EUGENE PETTES; James Sena; Jared Kinsey; Bruce Hehemann
Subject: RE: Oil

Awesome. Thank you.

Respectfully,

Koryn Misbach
Community Services Coordinator
Keep Rio Rancho Beautiful
City Of Rio Rancho
O: 505-896-8389 F: 505-891-5205 E: kmisbach@rrnm.gov
Become part of our Facebook community!

Please consider the environment before printing this e-mail.

From: Amy Garcia <agarcia@ACTEnviro.com>
Sent: Friday, January 24, 2020 9:39 AM
To: KORYN MISBACH <kmisbach@rrnm.gov>; Zane Gentzler <ZGentzler@ACTEnviro.com>
Cc: DYANE SONIER <DSONIER@RRNM.GOV>; STEVEN DOMINGUEZ <STDOMINGUEZ@rrnm.gov>; EUGENE PETTES <XPETTES@RRNM.GOV>; James Sena <JSena@ACTEnviro.com>; Jared Kinsey <JKinsey@ACTEnviro.com>; Bruce Hehemann <BHehemann@ACTEnviro.com>
Subject: RE: Oil

Good morning Koryn,

The waste was picked up Wednesday 1/22/20 afternoon. Let me know if you have any questions or concerns.

Thanks!

Amy Garcia | Technical Sales Support
ACTenviro
Tel. (505) 445-9400 Ext. 410

From: KORYN MISBACH [mailto:kmisbach@rrnm.gov]
Sent: Friday, January 24, 2020 9:32 AM
To: Amy Garcia <agarcia@ACTEnviro.com>; Zane Gentzler <ZGentzler@ACTEnviro.com>
Cc: DYANE SONIER <DSONIER@RRNM.GOV>; STEVEN DOMINGUEZ <STDOMINGUEZ@rrnm.gov>; EUGENE PETTES <XPETTES@RRNM.GOV>; James Sena <JSena@ACTEnviro.com>; Jared Kinsey <JKinsey@ACTEnviro.com>; Bruce Hehemann <BHehemann@ACTEnviro.com>
Subject: RE: Oil

Good morning,

Just wanted to follow up on the progress of this removal. Do you have an ETA of when the materials will be removed?

Respectfully,

Koryn Misbach
Community Services Coordinator
Keep Rio Rancho Beautiful
City Of Rio Rancho
O: 505-896-8389 F: 505-891-5205 E: kmisbach@rrnm.gov
Become part of our Facebook community!

Please consider the environment before printing this e-mail.

From: Amy Garcia <agarcia@ACTEnviro.com>
Sent: Wednesday, January 22, 2020 10:16 AM
To: KORYN MISBACH <kmisbach@rrnm.gov>; Zane Gentzler <ZGentzler@ACTEnviro.com>
Cc: DYANE SONIER <DSONIER@RRNM.GOV>; STEVEN DOMINGUEZ <STDOMINGUEZ@rrnm.gov>; EUGENE PETTES <XPETTES@RRNM.GOV>; James Sena <JSena@ACTEnviro.com>; Jared Kinsey <JKinsey@ACTEnviro.com>; Bruce Hehemann <BHehemann@ACTEnviro.com>
Subject: RE: Oil

Good morning Koryn,

I'll get a work order started and see who's available to complete the pickup.

Have a nice day!

Amy Garcia | Technical Sales Support
ACTenviro
Tel. (505) 445-9400 Ext. 410

From: KORYN MISBACH [mailto:kmisbach@rrnm.gov]
Sent: Wednesday, January 22, 2020 8:56 AM
To: Amy Garcia <agarcia@ACTEnviro.com>; Zane Gentzler <ZGentzler@ACTEnviro.com>
Cc: DYANE SONIER <DSONIER@RRNM.GOV>; STEVEN DOMINGUEZ <STDOMINGUEZ@rrnm.gov>; EUGENE PETTES <XPETTES@RRNM.GOV>
Subject: FW: Oil
Importance: High

Hi Amy,

Below are the coordinates to a site that has 2 totes of what appear to oil. Can we get on the schedule for an emergency pickup?

Respectfully,

Koryn Misbach
Community Services Coordinator
Keep Rio Rancho Beautiful

City Of Rio Rancho
O: 505-896-8389 F: 505-891-5205 E: kmisbach@rrnm.gov
Become part of our Facebook community!

Please consider the environment before printing this e-mail.

From: EUGENE PETTES <XPETTES@RRNM.GOV>
Sent: Tuesday, January 21, 2020 11:00 AM
To: KORYN MISBACH <kmisbach@rrnm.gov>
Cc: DYANE SONIER <DSONIER@RRNM.GOV>
Subject: FW: Oil

Koryn,

I received a CitySource request concerning oil totes within city right-of-way, below are photos I took this morning. Do you have trained staff available to remove and dispose waste oil?

Location: Lat 35.301360 Long 106.657934
Intersection: Percival St NE and 25th Ave NE

Thank you,

Xavier Pettes
NPDES Project Manager
Engineering Division
Development Services Department

City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, NM 87144
Direct: (505) 891-5045
Fax: (505) 891-0986
xpettes@rrnm.gov

Our Goal is Quality Customer Service
Your opinion is important to us.
Provide Feedback: DSDFEEDBACK@rrnm.gov

From: Xavier Pettes [mailto:xpettes@gmail.com]
Sent: Tuesday, January 21, 2020 10:49 AM
To: EUGENE PETTES <XPETTES@RRNM.GOV>
Subject: Oil

Sent from my iPhone

CITY OF RIO RANCHO

ILLICIT DISCHARGE INCIDENT TRACKING FORM

Responder Information	
Call taken by: CITY SOURCE COMPLAINT	Call date: 1/3/2020
Call time: DAVID BRANCH, CODE ENFORCEMENT	Precipitation (inches) in past 24-48 hrs:
Reporter Information	
Incident time:	Incident date:

Caller contact information (*optional*):
ANDY EDMONDSON, SOUTHERN SANDOVAL COUNTY ARROYO FLOOD CONTROL AUTHORITY. EMAIL: aedmondson@ssvafca.com

Incident Location *(complete one or more below)*

Latitude and longitude:

Stream address or outfall #:

Closest street address: 758 HOOD RD SE

Nearby landmark:

Primary Location Description	**Secondary Location Description:**		
☒ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☒ Along banks
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):	

Narrative description of location:
SEE EXHIBIT #1 ATTACHED

Upland Problem Indicator Description

☐ Dumping	☐ Oil/solvents/chemicals	☒ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description

Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			

Narrative description of problem indicators:
EXHIBIT #1 ATTACHED

Suspected Violator (name, personal or vehicle description, license plate #, etc.):
CODE ENFORCEMENT CASE 20-14 AND 20-22

EXHIBIT I

CODE ENFORCEMENT CASE 20-14 AND 20-22

VIOLATION ORDINANCE NO.: 91.21 NUISANCE DECLARED AND 91.07 LITTERING / ILLEGAL DUMPING

VIOLATION LOCATION: 758 HOOD RD SE

VIOLATION REPORTING METHOD: CITY SOURCE ID # 830013

1/03/20	1.00	CITY SOURCE COMPLAINT ID # 830913 STATES, Description: A RV is discharging wastewater into a flood control channel owned by SSCAFCA. See attached Photos.
1/03/20	2.00	THE PROPERTY WAS INSPECTED AND THERE APPEAR TO BE SEWAGE BEING DUMPED IN THE DRAINAGE DITCH THROUGH A RV DISCHARGE HOSE RUNNING UNDERGROUND AND EXTENDING THROUGH A HOLE IN THE WALL. PHOTOS OF THE VIOLATRION WAS TAKEN. I SPOKE WITH THE RANDALL'S ADULT DAUGHTER AND ANOTHER ADULT MALE AT THE PROPERTY. THE ADULT MALE SAID HE WOULD CLEAN UP THE AREA AND REMOVE THE DISCHARGE HOSE.
1/03/20	1.00	TRASH AND DEBRIS HAS BEEN THROWN OVER THE WALL INTO THE ARROYO.


01 03 2020 16 16


01 03 2020 16 16


01 03 2020 16 17


01 03 2020 16 17


01.03.2020 16:17


Jan 3, 2020 at 9:21:00 AM
+35.245804, -106.719246
86° NE
768 Hood Rd SE
Rio Rancho NM 87124
United States

PHOTOS TAKEN BY CODE ENFORCEMENT OFFICER DAVID BRANCH AT THE TIME AND DATE STAMPED UPON THE PHOTOS.

USEPA 2017 Construction General Permit (CGP) - July 1, 2019-June 30, 2020

Notice of Intent (NOI), Notice of Termination (NOT) and Low Erosivity Waiver (LEW)

No.	Issuer	NPDES ID	Coverage Type	Submitted Date	Submission Type	Submission Status	Project Site/Name	Operator Name	Project State	Project City	Coverage Status	Effective Date	Expiration Date
1	EPA	NMR100292	General Permit	7/1/2019	New	Approved	Encino Solar Energy Center	Affordable Solar Installation, Inc.	NM	Rio Rancho	Active	7/15/2019	2/15/2022
2	EPA	NMR100294	General Permit	7/1/2019	New	Approved	Encino Solar Energy Center	New Mexico Renewable Development LLC	NM	Rio Rancho	Active	7/15/2019	2/15/2022
3	EPA	NMR10018K	General Permit	7/1/2019	Termination	Approved	ZARAGOZA WATER LINE REPLACEMENT	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	4/17/2018	2/15/2022
4	EPA	NMR100295	General Permit	7/1/2019	New	-	Unser Channel Repair Project	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	7/15/2019	2/15/2022
5	EPA	NMR100296	General Permit	7/1/2019	New	-	Sundt Road Reconstruction and Waterline Replacement	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	7/15/2019	2/15/2022
6	EPA	NMR1001G4	General Permit	7/1/2019	Termination	Approved	WA1492 Replacement of Well 13	City of Rio Rancho NPDES	NM	Rio Rancho Estates	Terminated	7/26/2018	2/15/2022
7	EPA	NMR10004F	General Permit	7/1/2019	Termination	Approved	High Resort Blvd Reconstruction Project	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	4/20/2017	2/15/2022
8	EPA	NMR10008U	General Permit	7/1/2019	Termination	Approved	Rivers Edge Waterline Replacement	Rivers Edge Waterline Replacement	NM	Rio Rancho	Terminated	5/16/2017	2/15/2022
9	EPA	NMR1001ER	General Permit	7/1/2019	Termination	Approved	Montreal Loop Reconstruction Project	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	7/10/2018	2/15/2022
10	EPA	NMR1001TE	General Permit	7/3/2019	Termination	Approved	Rockaway Blvd.	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	1/18/2019	2/15/2022
11	EPA	NMR1001XK	Low Erosivity Waiver	7/3/2019	Discontinuation	Approved	Perfection Honda Vehicle Storage	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Discontinued	2/19/2019	2/15/2022
12	EPA	NMR1000XV	General Permit	7/5/2019	Termination	Approved	Milagro Mesa	D.R. Horton Inc.	NM	Rio Rancho	Terminated	12/4/2017	2/15/2022
13	EPA	NMR10029M	General Permit	7/8/2019	New	-	Plaza at Enchanted Hills - Building M	Jaynes Corporation	NM	Rio Rancho	Terminated	7/22/2019	2/15/2022
14	EPA	NMR10029P	General Permit	7/9/2019	New	-	Construction of Lift Station 27, 10" Force Main, and Upgrades to Lift Station 16	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	7/23/2019	2/15/2022
15	EPA	NMR10029U	General Permit	7/10/2019	New	Approved	PNM Rio Rancho Solar Energy Center	Affordable Solar Installation, Inc.	NM	Rio Rancho	Active	7/24/2019	2/15/2022
16	EPA	NMR10029Y	Low Erosivity Waiver	7/11/2019	New	-	Northern Boulevard Restoration - CORR Project-PW1912	City of Rio Rancho NPDES	NM	Rio Rancho	Discontinued	7/11/2019	2/15/2022
17	EPA	NMR10002F	Low Erosivity Waiver	8/14/2019	Discontinuation	Approved	2020 Cliff Drive NE, MLX Conversion	New Mexico Gas Company	NM	Rio Rancho	Discontinued	3/20/2017	2/15/2022
18	EPA	NMR1002D1	General Permit	8/22/2019	New	-	Moonlight Hills	AMREP Southwest, Inc.	NM	Rio Rancho	Terminated	9/5/2019	2/15/2022
19	EPA	NMR1002D6	General Permit	8/23/2019	New	-	Defined Fitness Jager Way	Guzman Construction Solutions	NM	Rio Rancho	Terminated	9/6/2019	2/15/2022
20	EPA	NMR1002D7	General Permit	8/26/2019	New	Approved	Defined Fitness Jager Way	Blanchard Construction Company	NM	Rio Rancho	Active	9/9/2019	2/15/2022
21	EPA	NMR1002DA	General Permit	8/27/2019	New	-	Moonlight Hills	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	9/10/2019	2/15/2022
22	EPA	NMR1002DG	General Permit	8/28/2019	New	Approved	Plaza at Enchanted Hills - Building M	TDA Investment Group	NM	Rio Rancho	Active	9/11/2019	2/15/2022
23	EPA	NMR10021F	General Permit	9/13/2019	Termination	Approved	Los Diamantes Development	Salls Brothers Construction Inc.	NM	Rio Rancho	Terminated	4/16/2019	2/15/2022
24	EPA	NMR10021U	Low Erosivity Waiver	9/13/2019	Discontinuation	Approved	Paso Gateway-Offsite Phase 2	Salls Brothers Construction Co. Inc.	NM	Rio Rancho	Discontinued	4/4/2019	2/15/2022
25	EPA	NMR10020W	General Permit	9/16/2019	Termination	Approved	Lincoln Avenue Utility Project - Water and Sewer Extension	Sundance Mechanical & Utility Corporation	NM	Rio Rancho	Terminated	4/9/2019	2/15/2022
26	EPA	NMR1001TI	Low Erosivity Waiver	9/23/2019	Discontinuation	Approved	35 North Subdivision	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Discontinued	1/4/2019	2/15/2022
27	EPA	NMR1001J2	General Permit	9/25/2019	Termination	Approved	Desert View Subdivision in Mariposa	Sivage Community Development	NM	Rio Rancho	Terminated	9/1/2018	2/15/2022

No.	Issuer	NPDES ID	Coverage Type	Submitted Date	Submission Type	Submission Status	Project Site/Name	Operator Name	Project State	Project City	Coverage Status	Effective Date	Expiration Date
28	EPA	NMR1002GV	General Permit	10/2/2019	New	Approved	Cleveland Heights 15C	Cleveland Heights, LLC.	NM	Rio Rancho	Active	10/16/2019	2/15/2022
29	EPA	NMR100290	General Permit	10/2/2019	Termination	Approved	Unser Channel Repairs	RMCI, Inc.	NM	Rio Rancho	Terminated	7/12/2019	2/15/2022
30	EPA	NMR1002GZ	General Permit	10/2/2019	New	Approved	Wastewater Treatment Facility No. 6 Upgrades	RMCI Inc.	NM	Rio Rancho	Active	10/16/2019	2/15/2022
31	EPA	NMR1002H0	General Permit	10/2/2019	New	Approved	Presbyterian Rust Medical Center Physician Office Building 2	Enterprise Builders Corporation	NM	Rio Rancho	Active	10/16/2019	2/15/2022
32	EPA	NMR10013E	General Permit	10/7/2019	Termination	Approved	Lincoln Middle School Gymnasium	TA Cole & Sons	NM	RIO Rancho	Terminated	2/20/2018	2/15/2022
33	EPA	NMR1001TJ	General Permit	10/17/2019	Termination	Approved	35 North Subdivision	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	1/18/2019	2/15/2022
34	EPA	NMR1002IK	General Permit	10/17/2019	New	Approved	Tierra del Oro Subdivision	Twilight Homes	NM	Rio Rancho	Active	10/31/2019	2/15/2022
35	EPA	NMR1002J6	Low Erosivity Waiver	10/23/2019	New	-	10th Street NW Transmission Line	NM Underground Utilities, Inc.	NM	Rio Rancho	Discontinued	10/23/2019	2/15/2022
36	EPA	NMR1002JD	General Permit	10/25/2019	New	Approved	Cleveland Heights 15C	Salls Brothers Construction, Inc.	NM	Rio Rancho	Active	11/8/2019	2/15/2022
37	EPA	NMR1002KF	General Permit	11/5/2019	New	Approved	Wastewater Treatment Facility No. 6 Upgrades	City of Rio Rancho NPDES	NM	Rio Rancho	Active	11/19/2019	2/15/2022
38	EPA	NMR1002KX	General Permit	11/14/2019	New	Approved	Cactus Ponds	Salls Brothers Construction Inc.	NM	Rio Rancho	Active	11/28/2019	2/15/2022
39	EPA	NMR1002LC	General Permit	11/19/2019	New	Approved	Presbyterian Rust Medical Center Physician Office Building 2	Presbyterian Healthcare Services	NM	Rio Rancho	Active	12/3/2019	2/15/2022
40	EPA	NMR1002LN	General Permit	11/21/2019	New	Approved	The Villas Subdivision	Enchanted Hills Development Company, LLC	NM	Rio Rancho	Active	12/5/2019	2/15/2022
41	EPA	NMR1002D6	General Permit	11/22/2019	Termination	Approved	Defined Fitness Jager Way	Guzman Construction Solutions	NM	Rio Rancho	Terminated	9/6/2019	2/15/2022
42	EPA	NMR1002M4	General Permit	11/27/2019	New	Approved	The Villas Subdivision	Salls Brothers Construction	NM	Rio Rancho	Active	12/11/2019	2/15/2022
43	EPA	NMR1002MZ	General Permit	12/9/2019	New	Approved	Lomas Encantadas Subdivision	Twilight Homes	NM	Rio Rancho	Active	12/23/2019	2/15/2022
44	EPA	NMR1002NN	General Permit	12/18/2019	New	-	Country Club Dr Reconst. and Waterline Repl.	Albuquerque Asphalt Inc	NM	Rio Rancho	Terminated	1/1/2020	2/15/2022
45	EPA	NMR1002O8	Low Erosivity Waiver	12/26/2019	New	-	Country Club Drive Reconstruction and Waterline Replacement	City of Rio Rancho NPDES	NM	Rio Rancho	Discontinued	12/26/2019	2/15/2022
46	EPA	NMR1002O9	General Permit	12/30/2019	New	-	Intel East Slope Runoff Reduction and Trail Improvements	JB Henderson Construction	NM	Rio Rancho	Terminated	1/13/2020	2/15/2022
47	EPA	NMR1002OB	Low Erosivity Waiver	12/30/2019	New	Approved	Rio Rancho Sports Complex Erosion Control	Compass Engineering & Construction Services, LLC	NM	Rio Rancho	Active	12/30/2019	2/15/2022
48	EPA	NMR1001QE	General Permit	1/2/2020	Change	-	Cleveland Heights	D.R. Horton	NM	Rio Rancho	Active	11/30/2018	2/15/2022
49	EPA	NMR1002OY	Low Erosivity Waiver	1/13/2020	New	-	Rio Rancho Sports Complex Erosion Control	City of Rio Rancho NPDES	NM	Rio Rancho	Discontinued	1/13/2020	2/15/2022
50	EPA	NMR10029Y	Low Erosivity Waiver	1/13/2020	Discontinuation	Approved	Northern Boulevard Restoration - CORR Project-PW1912	City of Rio Rancho NPDES	NM	Rio Rancho	Discontinued	7/11/2019	2/15/2022
51	EPA	NMR100295	General Permit	1/13/2020	Termination	Approved	Unser Channel Repair Project	City of Rio Rancho NPDES	NM	Rio Rancho	Terminated	7/15/2019	2/15/2022
52	EPA	NMR1002PC	General Permit	1/15/2020	New	-	Southern Blvd Reconstruction	Albuquerque Asphalt Inc	NM	Rio Rancho	Terminated	1/29/2020	2/15/2022
53	EPA	NMR1001HV	General Permit	1/22/2020	Change	Approved	Mariposa	Twilight Homes	NM	Rio Rancho	Active	8/15/2018	2/15/2022
54	EPA	NMR1001TF	General Permit	1/30/2020	Termination	Approved	Abrazo Road Reconstruction and Water Line Replacement	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	1/18/2019	2/15/2022
55	EPA	NMR100291	General Permit	1/30/2020	Termination	Approved	Sundt Road Reconstruction and Waterline Replacement	Franklin's Earthmoving Inc.	NM	Rio Rancho	Terminated	7/12/2019	2/15/2022
56	EPA	NMR1002QW	General Permit	2/4/2020	New	Approved	Mountain Hawk Unit 37 Phases 1-3	Mountain Hawk East Development Company, LLC	NM	Rio Rancho	Active	2/18/2020	2/15/2022
57	EPA	NMR1002QZ	General Permit	2/4/2020	New	-	Chamisa Hills Country Club Demolition	Retail Southwest Development, LLC	NM	Rio Rancho	Terminated	2/18/2020	2/15/2022

No.	Issuer	NPDES ID	Coverage Type	Submitted Date	Submission Type	Submission Status	Project Site/Name	Operator Name	Project State	Project City	Coverage Status	Effective Date	Expiration Date
58	EPA	NMR1002R0	General Permit	2/4/2020	New	-	Los Diamantes Westside Blvd. SE	Franklin's Earthmoving Inc.	NM	Rio Rancho	Terminated	2/18/2020	2/15/2022
59	EPA	NMR1001X6	General Permit	2/6/2020	Termination	Approved	Lomitas Negras Phase 2	Salls Brothers Construction	NM	Rio Rancho	Terminated	2/28/2019	2/15/2022
60	EPA	NMR1002R8	General Permit	2/7/2020	New	Approved	Chamisa Hills Country Club Demolition	Guzman Construction Solutions, LLC	NM	Rio Rancho	Active	2/21/2020	2/15/2022
61	EPA	NMR1002RG	General Permit	2/11/2020	New	Approved	Mountain Hawk Unit 37 Phases 1-3	Salls Brothers Construction	NM	Rio Rancho	Active	2/25/2020	2/15/2022
62	EPA	NMR1000ZN	General Permit	2/19/2020	Termination	Approved	Solcito Subdivision Phase 3/4	Double M. Properties	NM	Rio Rancho	Terminated	12/28/2017	2/15/2022
63	EPA	NMR1002SO	Low Erosivity Waiver	2/19/2020	New	Approved	PW2061 - Southern Blvd Reconstruction	City of Rio Rancho NPDES	NM	Rio Rancho	Active	2/19/2020	2/15/2022
64	EPA	NMR1002TB	General Permit	2/26/2020	New	Approved	WWTP #2 UV Disinfection System Replacement. Project No.: 1906	RMCI INC	NM	Rio Rancho	Active	3/11/2020	2/15/2022
65	EPA	NMR1002TH	General Permit	3/2/2020	New	Approved	Westside Blvd Relocation	Public Service Company of New Mexico	NM	Rio Rancho	Active	3/16/2020	2/15/2022
66	EPA	NMR1002TW	General Permit	3/3/2020	New	Approved	The M Subdivision	Butterfly Holdings, LLC	NM	Rio Rancho	Active	3/17/2020	2/15/2022
67	EPA	NMR1001G0	General Permit	3/3/2020	Change	Approved	Hawksite Subdivision Tract 27 & Roadrunner Park	AMREP Southwest, Inc.	NM	Rio Rancho	Active	7/25/2018	2/15/2022
68	EPA	NMR1002TZ	General Permit	3/4/2020	New	Approved	The M Subdivision	Salls Brothers Construction	NM	Rio Rancho	Active	3/18/2020	2/15/2022
69	EPA	NMR1002U2	General Permit	3/4/2020	New	Approved	Hawksite Subdivision Tract 27 & Roadrunner Park	Salls Brothers Construction	NM	Rio Rancho	Active	3/18/2020	2/15/2022
70	EPA	NMR1002U8	General Permit	3/6/2020	New	Approved	WWTP #2 UV Disinfection System Replacement. Project No. 1906	City of Rio Rancho NPDES	NM	Rio Rancho	Active	3/20/2020	2/15/2022
71	EPA	NMR1002D1	General Permit	3/11/2020	Termination	Approved	Moonlight Hills	AMREP Southwest, Inc.	NM	Rio Rancho	Terminated	9/5/2019	2/15/2022
72	EPA	NMR1001UC	General Permit	3/11/2020	Termination	Approved	35 North Subdivision	AMREP Southwest, Inc.	NM	Rio Rancho	Terminated	1/28/2019	2/15/2022
73	EPA	NMR1002UQ	General Permit	3/13/2020	New	Approved	Lincoln Avenue Phase II	H.O. Construction, Inc.	NM	Rio Rancho	Active	3/27/2020	2/15/2022
74	EPA	NMR1002US	General Permit	3/13/2020	New	Approved	The Esplanade	Twilight Homes	NM	Rio Rancho	Active	3/27/2020	2/15/2022
75	EPA	NMR1001UB	General Permit	3/20/2020	Change	Approved	Broadmoor Heights	Pulte Homes Inc.	NM	Rio Rancho	Active	1/25/2019	2/15/2022
76	EPA	NMR1000C4	General Permit	3/20/2020	Termination	Approved	Yucatan at Cabezon	Pulte, LLC	NM	Rio Rancho	Terminated	5/23/2017	2/15/2022
77	EPA	NMR1000C2	General Permit	3/20/2020	Termination	Approved	Lomas Encantadas	Pulte, LLC	NM	RIo Rancho	Terminated	5/23/2017	2/15/2022
78	EPA	NMR1001GB	General Permit	3/23/2020	Change	Approved	Rio Rancho Golf Course Pond Closure	Joiner, Inc.	NM	Rio Rancho	Active	7/30/2018	2/15/2022
79	EPA	NMR1000IP	General Permit	3/31/2020	Change	Approved	Esplanade	BoKay Construction Inc	NM	Rio Rancho	Active	6/14/2017	2/15/2022
80	EPA	NMR1002WB	General Permit	4/2/2020	New	Approved	Stephanie Road Commercial Development	Philip J. Menichucci	NM	Rio Rancho	Active	4/16/2020	2/15/2022
81	EPA	NMR1002WP	Low Erosivity Waiver	4/8/2020	New	Approved	Stephanie Road Commercial Development	Philip J. Menicucci	NM	Rio Rancho	Active	4/8/2020	2/15/2022
82	EPA	NMR1002WV	General Permit	4/10/2020	New	Approved	PW 2062 Lincoln Avenue Phase II (A301141)	City of Rio Rancho NPDES	NM	Rio Rancho	Active	4/24/2020	2/15/2022
83	EPA	NMR1002XJ	General Permit	4/17/2020	New	Approved	Parkview Subdivision	AMREP Southwest, Inc.	NM	Rio Rancho	Active	5/1/2020	2/15/2022
84	EPA	NMR1002XQ	Low Erosivity Waiver	4/20/2020	New	Approved	TLE @ Unser and Cabezon	Architectural Contractors, Inc.	NM	Rio Rancho	Active	4/20/2020	2/15/2022
85	EPA	NMR1002XR	General Permit	4/21/2020	New	Approved	Parkview Subdivision	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Active	5/5/2020	2/15/2022
86	EPA	NMR1002DA	General Permit	4/21/2020	Termination	Approved	Moonlight Hills	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	9/10/2019	2/15/2022
87	EPA	NMR1002R0	General Permit	4/21/2020	Termination	Approved	Los Diamantes Westside Blvd. SE	Franklin's Earthmoving Inc.	NM	Rio Rancho	Terminated	2/18/2020	2/15/2022
88	EPA	NMR1001FX	General Permit	4/21/2020	Termination	Approved	Hawksite Subdivision Tract 27 & Roadrunner Park	Franklin's Earthmoving, Inc.	NM	Rio Rancho	Terminated	7/24/2018	2/15/2022
89	EPA	NMR1002XY	General Permit	4/22/2020	New	Approved	Los Diamantes Westside Blvd SE	Franklin's Earthmoving Inc.	NM	Rio Rancho	Active	5/6/2020	2/15/2022
90	EPA	NMR1002NN	General Permit	4/23/2020	Termination	Approved	Country Club Dr Reconst. and Waterline Repl.	Albuquerque Asphalt Inc	NM	Rio Rancho	Terminated	1/1/2020	2/15/2022
91	EPA	NMR1002Y8	Low Erosivity Waiver	4/27/2020	New	Approved	Abrazo Lots	Amestoy Construction and Development I, LLC	NM	Rio Rancho	Active	5/11/2020	2/15/2022

No.	Issuer	NPDES ID	Coverage Type	Submitted Date	Submission Type	Submission Status	Project Site/Name	Operator Name	Project State	Project City	Coverage Status	Effective Date	Expiration Date
92	EPA	NMR1002Y9	General Permit	4/27/2020	New	Approved	Campus Park Phase I	T.A. Cole & Sons General Contractor, Inc.	NM	Rio Rancho	Active	5/11/2020	2/15/2022
93	EPA	NMR1002YC	General Permit	4/28/2020	New	Approved	Campus Park Phase 1	City of Rio Rancho NPDES	NM	Rio Rancho	Active	5/12/2020	2/15/2022
94	EPA	NMR1002J6	Low Erosivity Waiver	5/1/2020	Discontinuation	Approved	10th Street NW Transmission Line	NM Underground Utilities, Inc.	NM	Rio Rancho	Discontinued	10/23/2019	2/15/2022
95	EPA	NMR10029M	General Permit	5/6/2020	Termination	Approved	Plaza at Enchanted Hills - Building M	Jaynes Corporation	NM	Rio Rancho	Terminated	7/22/2019	2/15/2022
96	EPA	NMR1002O9	General Permit	5/12/2020	Termination	Approved	Intel East Slope Runoff Reduction and Trail Improvements	JB Henderson Construction	NM	Rio Rancho	Terminated	1/13/2020	2/15/2022
97	EPA	NMR1002ZU	General Permit	5/19/2020	New	Approved	Jemez Vista	D.R. Horton, Inc.	NM	Rio Rancho	Active	6/2/2020	2/15/2022
98	EPA	NMR100306	General Permit	5/25/2020	New	Approved	Murphy Express	Murphy Oil USA, Inc.	NM	Rio Rancho	Active	6/8/2020	2/15/2022
99	EPA	NMR100309	General Permit	5/26/2020	New	Approved	Lift Station #1 Rehab and New Force Main	AUI Inc	NM	Rio Rancho	Active	6/9/2020	2/15/2022
100	EPA	NMR10012X	General Permit	5/28/2020	Termination	Approved	Enchanted Hills	DR Horton, Inc	NM	Rio Rancho	Terminated	2/12/2018	2/15/2022
101	EPA	NMR10030I	General Permit	5/28/2020	New	Approved	Lift Station #1 Rehabilitation and New Force Main	City of Rio Rancho NPDES	NM	Rio Rancho	Active	6/11/2020	2/15/2022
102	EPA	NMR10028Z	General Permit	6/2/2020	Termination	Approved	Lift Station 27 Force Main	AUI Inc	NM	Rio Rancho	Terminated	7/12/2019	2/15/2022
103	EPA	NMR1002PC	General Permit	6/4/2020	Termination	Approved	Southern Blvd Reconstruction	Albuquerque Asphalt Inc	NM	Rio Rancho	Terminated	1/29/2020	2/15/2022
104	EPA	NMR100320	General Permit	6/10/2020	New	Approved	Suez Estates/Abrazo Lots	Amestoy Construction and Development I, LLC	NM	Rio Rancho	Active	6/24/2020	2/15/2022
105	EPA	NMR1001QE	General Permit	6/12/2020	Change	Approved	Cleveland Heights	D.R. Horton	NM	Rio Rancho	Active	11/30/2018	2/15/2022
106	EPA	NMR100337	General Permit	6/23/2020	New	Approved	Industrial Park Loop Improvement Project	City of Rio Rancho NPDES	NM	Rio Rancho	Active	7/7/2020	2/15/2022
107	EPA	NMR100338	General Permit	6/24/2020	New	Approved	Nicklaus Pedestrian Improvement Project	BCL Enterprises, LLC.	NM	Rio Rancho	Active	7/8/2020	2/15/2022
108	EPA	NMR10033E	General Permit	6/25/2020	New	Approved	Rio Rancho Senior Center	AIC General Contractor, Inc.	NM	Rio Rancho	Active	7/9/2020	2/15/2022

Bohannan Huston

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M E M O R A N D U M

DATE: October 29, 2020

TO: Patrick Chavez, PE, AMAFCA, Representative for Compliance Monitoring Cooperative (CMC) Members

FROM: Sarah Ganley, PE

SUBJECT: **CMC Stormwater Monitoring Reporting**
AMAFCA On-Call Task 28 – Contract Summary Memo

Bohannan Huston, Inc. (BHI) has been tasked to perform water quality services for the Compliance Monitoring Cooperative (CMC) Stormwater Data Verification, Database, and Reporting for the Wet Weather Stormwater Quality Monitoring Program. This work is through an AMAFCA on-call contract, and the CMC has delegated AMAFCA to manage this Task Order. Included with this Task, the CMC members, except for the City of Albuquerque, have delegated AMAFCA to enter the CMC data into the EPA electronic Discharge Monitoring Report (DMR) forms. The scope of work for this Task includes data verification of the stormwater laboratory analysis results, compiling the analysis results into a database, and calculating the E. coli loading to compare with the Waste Load Allocation (WLA) for the qualifying storm events. The stormwater compliance monitoring is being conducted separately by Daniel B. Stephens & Associates, Inc. (DBS&A) and is not a part of this on-call Task.

This Task is being conducted to assist the CMC members with their comprehensive monitoring and assessment program for compliance under the 2014 Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) Permit, NPDES Permit No. NMR04A000 ("WSB MS4 Permit"). The WSB MS4 Permit was issued on December 22, 2014 for a 5-year term with an expiration date of December 19, 2019. In December 2019, the WSB MS4 Permit went into administrative continuance when EPA Region 6 did not issue a new MS4 Permit before the expiration date of the existing WSB MS4 Permit.

The required CMC sampling for the WSB MS4 Permit term (2014 to 2019) was completed in FY 2019. Until a new MS4 Permit is issued, no additional compliance stormwater sampling for the CMC is required. There were no CMC monitoring results required or obtained in FY 2020. No netDMR forms are required to be submitted to EPA for FY 2020 since there were no CMC monitoring results required or obtained in FY 2020.

If the CMC does continue wet weather compliance monitoring during administrative continuance of this MS4 Permit, the CMC members will summarize, as applicable, any wet weather monitoring activity, results, and E. coli loading calculations in future Annual Reports.

SG/ab

Section 6	Annual Report Responsibilities for Cooperation Programs
	6.1 Middle Rio Grande Stormwater Quality Team Outcomes Report FY 2019-2020 6.2 Signed Joint Agreements

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) • City of Albuquerque
Bernalillo County • Town of Bernalillo • Village of Corrales • Ciudad Soil and Water Conservation District Eastern
Sandoval County Arroyo Flood Control Authority (ESCAFCA) • Village of Los Ranchos de Albuquerque •
Department of Transportation (NMDOT) • City of Rio Rancho • Sandoval County
Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)

Outcomes Report

for

Fiscal Year 2019-2020

(July 1, 2019 - June 30, 2020)

presented by

Dana Bloomquist

During the period from July 1, 2019, through June 30, 2020, the Mid Rio Grande Stormwater Quality Team (MRGSQT) continued its educational outreach activities. When pandemic quarantine restrictions took effect in March 2020, many in-person events were canceled and some ongoing outreach activities were reconfigured to accommodate this new reality. However, the majority of the year was business as usual. This report will highlight all activities, including the late-year programmatic pivots, including:

- Partnering with the Bosque Ecosystem Monitoring Program (BEMP), Arroyo Classroom and RiverXChange
- Continuing to maintain and update the keeptheriogrand.com website, as well as post relevant information to the Keep the Rio Grand Facebook page
- Participating in high-profile community events, including the Los Ranchos Lavender Festival, the NM State Fair Parade, the Corrales Harvest Festival, the Rio Rancho Children's Water Festival and New Mexico's Animal Humane Society's Doggie Dash and Dawdle
- Repairing and strengthening hardware for the team's interactive kiosk and moving it to Albuquerque's South Valley Library
- Participating in a variety of community events throughout the year

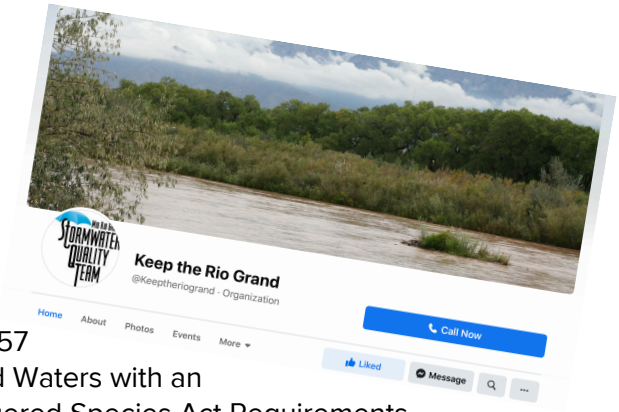
Team partners and supporters disseminated information on stormwater quality and pollution prevention through municipal water quality reports to stakeholders. Specialty advertising giveaways relating to stormwater quality awareness were ordered (or reordered) for use at public events. MRGSQT's annual budget for all these activities, excluding Type 9 items, donated hours by team members and funding for Arroyo Classroom, RiverXchange and BEMP is $103,000. The contractor, CWA Strategic Communications (CWA), donated $119.45 in services during the 12-month period. The following is a review of the activities in which the Team has participated.

There is a possibility that there was some duplication in the counts of individuals who attended more than one event, but numbers are close.

WEBSITE (www.keeptheriogrand.org)

CWA redesigned the website in October 2018 and has continued to maintain and update the content.

KEEP THE RIO GRAND FACEBOOK PAGE (www.facebook.com/Keeptheriogrand)



In conjunction with the SQT website, a Facebook page continues to post information educating the general public about stormwater team members, MS4-related topics, events and more. The page has 157 "likes" (a 4% increase from the previous year) and the team occasionally boosts posts during events to obtain more visibility.

Estimated number of individuals reached by this activity: 157

Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts.

Audience(s): Children, Adults

EVENTS

Between July 1, 2019, and June 20, 2020, MRGSQT members and their partner agencies reported participating in a total of 51 community outreach/educational events reaching adults and children.

Estimated number of individuals reached by these community outreach/education events: 84,675
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts.
Audience(s): Children, Adults

Details can be found in Exhibit 1 at the end of this report.

GENERAL MATERIALS DISTRIBUTION/STORMWATER AWARENESS SURVEY

As appropriate, team members distribute materials at events in return for event attendees filling out a stormwater awareness survey. Total distribution correlates to number of surveys completed.

STORMWATER QUALITY TEAM Inventory July 1, 2019, through June 30, 2020			
Item	***Starting Qty as of 7/1/2019***	***Distributed***	***Ending Qty as of 6/30/2020***
"Keep the Rio Grand" Bumper Stickers *	250		631
"Reduce Stormwater Pollution at Home" Brochure * **	84		4,365
Dog-Shaped Poop Bag Dispensers	1,750	355	1,395
"Don't Contaminate the River" Oval Stickers	3,750	1,659	2,091
Poop Emoji Squeezies	1,464	1,243	221
Morphing Fish Bags	2,500	720	1,780
Silicone Pet Food Can Lids	1,311	240	1,071
New Pet Rack Cards *	4,394		4,424
FOG Rack Cards	4,412	143	4,269
No Poop Fairy Rack Cards	4,427	278	4,149
Professionals Harmful Chemicals Rack Card	4,720	293	4,427
Reduce Stormwater Pollution at Home Rack Card *	4,358		4,365
Large Stormwater display – 8 ft	1	-	1
Tabletop Stormwater display – 6 ft	1	-	1
SQT 6' x 3' banner	1	-	1
TOTAL DISTRIBUTION		**4,931**	

** Inventory was inaccurate in the previous year, so these numbers show an increase from starting and ending quantities.*

*** These materials were reprinted; the distributed number reflects the net decrease.*

Estimated number of individuals reached by these community outreach/education events: 4,931
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen

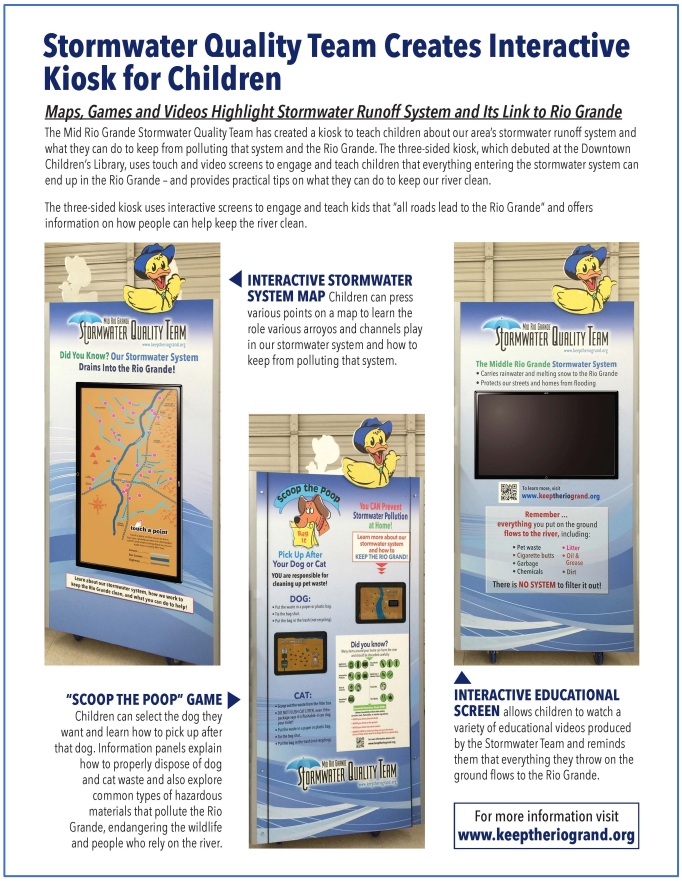
Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts.
Audience(s): Children, Adults

Sample surveys and survey analytics can be found in Exhibit 2 at the end of this report.

EDUCATIONAL ACTIVITIES

Educational Kiosk at Albuquerque's Rudolfo Anaya North Valley Public Library and South Valley Public Library

At the beginning of the year, the team's interactive kiosk was installed at the Rudolfo Anaya North Valley Public Library. Over time and regular use, it became obvious that the kiosk would need some maintenance and repair. CWA contracted with a moving company to pack and move the kiosk from the Rudolfo Anaya North Valley Public Library to the CWA offices at the end of December, where we assessed the damage and determined what repairs needed to be made. Staff from SSCAFCA made those repairs.



Arrangements were then made with staff at the South Valley Public Library to move the kiosk there. It was moved and set up March 12th, the week before the pandemic quarantine took effect. The library was reopened June 2nd.

The kiosk is a valuable educational tool and we look forward to its use as the libraries are better able to accommodate regular activity so that children can learn from these kiosk features:

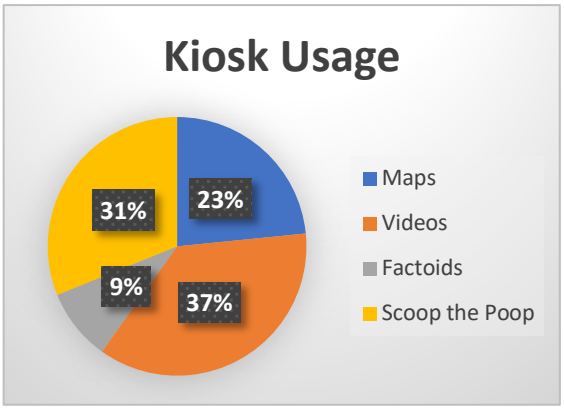
- An interactive stormwater system map of the Middle Rio Grande that allows children to press various points to learn the roles arroyos and channels play in the stormwater system and how to keep from polluting that system. The system stretches from Bernalillo on the north through Rio Rancho and into Albuquerque.
- A "Scoop the Poop" game that allows children to choose a dog and learn how to properly pick up after their dog. This is important because pet waste is a major source of E. coli contamination in the Rio Grande.
- An educational panel on common types of trash, debris and chemicals that pollute the Rio Grande, including appliances and electronics; automotive products such as oil, batteries and gasoline; fertilizers and pesticides; household cleaners; yard waste; and prescription and over-the-counter medicines.
- A touchscreen that includes facts about each arroyo and the Rio Grande.
- A touchscreen that allows viewers to select and watch stormwater-related videos:

- Rio the Duck
- Keep the Rio Grand
- Scoop the Poop!
- 100 Billion Gallons
- Arroyo Safety
- Respect Your Arroyos

Educational Kiosk Statistics

From July 1, 2019, to December 27, 2019, while the kiosk was installed at the Rudolfo Anaya North Valley Library, 36,192 people visited the library and had the opportunity to view information presented by the kiosk and interact with the kiosk. Of the 36,192 visitors, approximately 3,837 (primarily) children interacted with the kiosk.

From March 12, 2020, to June 30, 2020, after the kiosk was installed at the South Valley Library, only, 2,500 people visited the library (the library was closed March 16 – June 1) and had the opportunity to view information presented by the kiosk and interact with the kiosk. Of the 2,488 visitors, approximately 130 (primarily) children interacted with the kiosk. These numbers are understandably low, as visits to the library were still impacted by the pandemic and families continuing to self-quarantine.



	July 2019			
	Map	**Videos**	**Factoids**	**Scoop the Poop**
People	188	386	118	275
Touches	2,399	386	367	738

	August 2019			
	Map	**Videos**	**Factoids**	**Scoop the Poop**
People	156	301	97	212
Touches	1,751	301	252	534

	September 2019			
	Map	**Videos**	**Factoids**	**Scoop the Poop**
People	183	350	35	235
Touches	2,015	350	144	541

	October 2019			
	Map	**Videos**	**Factoids**	**Scoop the Poop**
People	145	268	0	200
Touches	1,991	268	0	443

	November 2019			
	Map	**Videos**	**Factoids**	**Scoop the Poop**
People	145	89	44	157
Touches	1,870	89	138	381

	June 2020			
	Maps	**Videos**	**Factoids**	**Scoop the Poop**
People	35	18	22	55
Touches	293	18	100	136

Total estimated number of people reached by these educational activities: 38,680
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g Public Education and Outreach on Stormwater Impacts.
Audience(s): Children, Adults

STUDENTS AND TEACHERS REACHED THROUGH PARTNER EDUCATIONAL PROGRAMS – ARROYO CLASSROOM, RIVERXCHANGE AND BOSQUE ECOSYSTEM MONITORING PROGRAM (BEMP)

Arroyo Classroom

The Arroyo Classroom program utilizes natural arroyos as outdoor classrooms and brings local animals into the classroom to educate and motivate third-grade students to respect the arroyos as important wildlife habitat. In the 2019-2020 school year, the program served 35 classes within the Rio Rancho Public School System, reaching approximately 37 teachers and 736 students. Their deliverables included 35 of 35 planned Watershed Presentations, 29 of 35 planned Arroyo Walks (six were not completed due to school closures because of the pandemic), 32 of 35 planned Bat Presentations (some classes doubled up due to a scheduling issue, but all classes were completed) and 35 of 35 planned Owl/Bird Presentations.

For more information, see Exhibit 3, Arroyo Classroom's 2019-2020 report to the Mid Rio Grande Stormwater Quality Team.

RiverXchange

RiverXchange is an innovative, long-term outreach program that integrates water resource topics with computer technology, student writing and a hands-on curriculum to meet specific, measurable outcomes.

Since 2007, the program has enabled upper elementary classes from New Mexico to become "high-tech pen pals" with classes outside the state to share what they learn about the geography, culture and ecology of their local river and watershed. This year there were more 1,254 total participants. Each student spends about 25 hours engaged with the program over the course of the school year. The

curriculum incorporates hands-on activities and multiple classroom presentations by local water resources experts. During the 2019-2020 season, 38 fifth-grade classes, 19 of which were from Title I schools, participated in RiverXchange in New Mexico. RiverXchange worked with 26 classes (607 students) in Bernalillo County and 12 classes (325) students in Sandoval County. A total of 40 teachers were involved. Even with the impacts of the COVID-19 pandemic and the transition to a new education coordinator mid-year, RiverXchange was able to run smoothly with only a few classes missing a presentation or a field trip due to school closures mid-March.

For more information, see Exhibit 4, RiverXchange's 2029-2020 report to the Mid Rio Grande Stormwater Quality Team.

Bosque Ecosystem Monitoring Program (BEMP)

The main objective of the Stormwater Science outreach education program of the Bosque Ecosystem Monitoring Program (BEMP) is to teach students that the health of the Rio Grande is directly related to the health of the surrounding watershed, as well as what their responsibilities and opportunities are to help "Keep the Rio Grand." The Stormwater Science program includes a 1.5-hour classroom activity, a 4- to 5-hour study trip to the Rio Grande and optional curriculum extensions incorporating hands-on data analysis, graphing and system modeling. During the 2019-2020 school year, 737 students participated in Stormwater Science activities in their classrooms, in the field, both or in outreach events. The classroom program was delivered to 245 students in 14 classrooms at 3 different schools in Albuquerque. E. coli monitoring was conducted by 35 students from La Academia de Esperanza, the University of New Mexico and Bosque School. 53 students participated in the Stormwater Study Trip. BEMP participated in the Children's Water Festival, working with 300 4th-grade students and 12 teachers. Stormwater Science presentations during summer programming were made to 200 students in grades K-8. Additionally, BEMP participated in a Storytime in the Park program where one activity was shared with 750 families. From the end of March through June, approximately 10,100 students received BEMP activities through the five Grab & Go meal locations and free Little Libraries around the city. About 5,800 of those students received an activity with a stormwater science focus. Additionally, materials were placed on their website and posted on their social media accounts.

For more information, see Exhibit 5, BEMP's 2019-2020 report to the Mid Rio Grande Stormwater Quality Team.

Total estimated number of people reached by these educational activities: 7,398
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen

Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts; Part 1.D.5.h Public Involvement and Participation.
Audience(s): Children, Adults

PUBLIC EDUCATION CAMPAIGNS ON PROPER DISPOSAL OF FATS, OILS & GREASE

In November and December 2019, the cities of Albuquerque and Rio Rancho each ran public education campaigns on how to dispose of cooking grease properly. Their campaigns were timed to coincide with the holiday cooking season (Thanksgiving through Christmas).

In Albuquerque:
Outdoor Boards – two 14'x48' boards ran two weeks each month in November and December. The estimated number of people reached, with duplication, was 2,305,492.

Television Advertising – two two-week schedules each in November and December on Comcast (three zones), KOAT TV, KOB TV and KRQE TV. A total of 900 spots were placed for an estimated reach of 1,012,834.

Radio Advertising – two two-week schedules each in November and December targeting women 25+. A total of 491 spots ran on KOB AM/FM, KBQI FM, KPEK FM and KRST FM. Reach was estimated at 210,000.

In Rio Rancho:
Digital Outdoor Boards – Artwork ran on six boards during November and December. Alternating the red and green images, two boards ran for two weeks in November (11/18 – 12/1/19) and four boards ran one week (11/18 – 11/26/19). In December, artwork ran on all six boards for a week around Christmas (12/23 – 12/29/19). A total estimated audience of 184,321 adults (18 years of age and older) with duplication were reached.

Print Advertising – Two ads were each run on two separate pages in the *Rio Rancho Observer* (for a total of four ads) on one Sunday in November (11/24/19) and again on one Sunday in December (12/22/19) for a total of 128 column inches of ad space. Each ad was 4 columns by 4 inches in size. Circulation for the *Rio Rancho Observer* is 18,500.

Total estimated audience reached: 3,731,147
Permit Reference(s): Part 1.C.2 Discharges to Impaired Waters with and without an Approved TMDL; Part 1.C.3.a; Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.c(i)(f) Pollution Prevention/Good Housekeeping for Municipal Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts.
Audience(s): Children, Adults

ARROYO SAFETY CAMPAIGN

MRGSQT member SSCAFCA continued its Arroyo Safety Campaign by producing a 1.5-minute video with help from a local girl scout troop. After an initial discussion about arroyo safety and best practices for staying safe, the troop met several times to brainstorm and develop strategies to reach their peers. Their solution was to create a “rap” song with accompanying video to share the message. One of the girls wrote the rap lyrics and several others took video footage, which were incorporated into the video. The video was posted (and boosted) on the Arroyo Safety Facebook page, the Mid Rio Grande Stormwater Quality Team’s (MRGSQT) website www.keeptheriogrand.org, YouTube, Instagram and the SSCAFCA website.

KNOW YOUR ARROYOS

ENJOY • RESPECT • PROTECT

Walkin’ in arroyos is pretty great
But there’s a few rules, no need to hate
Ya’ wanna’ stay safe while havin’ fun
So sit right down and listen to em’.

Ya’ really don’t wanna’ get swept away,
So get outta’ there when the clouds turn gray!
Cause even if the clouds are far away
the rain travels fast – now hear me, OK?

Before you go out to have a blast
Look at the sky, and check the forecast!
And if you see gray clouds out to the west–
It’s a definite sign, no time to rest.

Get yourself to higher ground
Or better yet, get homeward bound
Stay off the unstable arroyo wall
It’s fragile, it’s weak and you might fall

Keep your trash from hittin’ the sand,
Cause’ it’ll end up in the Rio Grande
And pollution’s something you want no part of
Keep the river clean, treat it with love

Bein’ in arroyos is pretty great
But there’s a few rules, no need to hate
When you’re out on the mesa havin’ fun
Staying safe is rule number one!

Watch the video on the kiosk at the Rudolfo Anaya North Valley Library or at www.sscafca.org

In addition, an Arroyo Safety game to be played on mobile devices was developed and is now available on Apple's AppStore and GooglePlay. The goal is to teach basic Arroyo Safety messages through a fun game.

A news release was sent to the *Rio Rancho Observer* and social media announcements were made on the Arroyo Safety Facebook page, SSCAFCA's website and the Mid Rio Grande Stormwater Quality Team's website. All media provided the link to the AppStore and Googleplay to download the game.

Total estimated audience reached: 22,422
Permit Reference(s): Part 1.C.2 Discharges to Impaired Waters with an without an Approved TMDL; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.g, Public Education and Outreach on Stormwater Impacts.
Audience(s): All ages, especially middle school students

SEPTIC SYSTEM EDUCATION, OUTREACH AND ENFORCEMENT PROGRAM

Bernalillo County administers the septic system permitting program in the unincorporated portions of Bernalillo County under the Bernalillo County Wastewater Ordinance, ensuring the proper disposal of septic waste and proper operation and maintenance of septic systems. The wastewater ordinance was passed in 2015.

The County began a campaign in 2012 to get unpermitted systems permitted or properly abandoned, with an established goal of contacting a minimum of 300 unpermitted system or aging system owners per year. During the period July 1, 2019, to June 30, 2020, Bernalillo County had 579 total wastewater operator permits, 432 total wastewater system permits, as well as 67 septic abandonments and connections to public sewer utilities. Bernalillo County sent 813 letters through the "unpermitted and aging wastewater system campaigns" which resulted in an estimated 235 properties permitted (included in the total numbers listed above) for septic systems in FY2020.

Total estimated audience reached: 813
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.g, Public Education and

Outreach on Stormwater Impacts.
Audience(s): Adults

NM STATE FAIR PARADE FLOAT

AMAFCA created a float for the State Fair Parade, which takes place every September in Albuquerque. With signs saying "Keep the Rio Grand" and "There is No Poop Fairy," the team borrowed a concept developed by Greenville County Soil and Water Conservation District in South Carolina. A staff member dressed up as the "Poop Fairy" and tossed Poop Emoji Squeezies to the crowd.

Total estimated audience reached: 50,000
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g, Public Educatino and Outreadh on Stormwater Impacts; Part 1.D.5.h, Public Involvement and Participation.
Audience(s): All ages

CHILDREN'S WATER FESTIVAL

The 2019 Children's Water Festival (Festival) was held Monday, October 21, and Tuesday, October 22, at the Santa Ana Star Center in Rio Rancho. Some 1,437 students, mostly 4th-graders, attended from 61 classrooms at Placitas Elementary School, St. Thomas Aquinas and all of the elementary schools in Rio Rancho Public Schools. The students attend three 30-minute presentations in a half-day format. Eighteen presenters taught the classes and three to four schools were on site at one time. Schools attended a morning or afternoon program.

The principal focus of the Festival is to educate 4th-grade schoolchildren about water and its relationship to humans, animals and other natural resources in a fun and interactive atmosphere. The Festival's vision is to introduce students and teachers to new ideas, options and solutions so they will conserve and protect water for the future; lay the foundation for further learning; and reach as many students and teachers as possible.

Total estimated audience reached: 1,437
Permit Reference(s): Part 1.C.2.b(i)(e) Discharges to Impaired Waters with an Approved TMDL, Impairment for Bacteria; Part 1.C.3.a Endangered Species Act Requirements, Dissolved Oxygen Strategy; Part 1.D.5.c(i)(f) and (h) Pollution Prevention/Good Housekeeping for Municipal/Co-permittee Operations; Part 1.D.5.e Illicit Discharges and Improper Disposal; Part 1.D.5.e Control of Floatables; Part 1.D.5.g Public Education and Outreach on Stormwater

Impacts.
Audience(s): fourth-graders

For more information, see Exhibit 6, Children's Water Festival Report, 2019-2020.

DONATIONS/SPONSORSHIPS

Stormwater Team members donated $91,000 to organizations for additional educational and training programs.

MEMBER	AMOUNT DONATED	RECIPIENT	PURPOSE
AMAFCA	$2,000	Land and Water Summit	For Public Involvement and Participation
Bernalillo County	$5,000	Land and Water Summit	For Public Involvement and Participation
Bernalillo County	$75,000	BEMP	For Education and Outreach
City of Rio Rancho	$2,000	Land and Water Summit	For Public Involvement and Participation
Mid Rio Grande Stormwater Quality Team	$5,000	Land and Water Summit	For Public Involvement and Participation
SSCAFCA	$2,000	Land and Water Summit	For Public Involvement and Participation
	$91,000		

ESTIMATED TOTAL NUMBER OF PEOPLE REACHED THROUGH ALL ADVERTISING, EDUCATIONAL AND PUBLIC OUTREACH ACTIVITIES DURING 2019-2020

Obviously, some people were reached by more than one activity, but in gross numbers an estimated **3,943,687** people were reached with a stormwater quality/stormwater pollution prevention message during the 2019-2020 fiscal year.

Exhibit 1

Event Participation 2019-2020

NAME OF PROGRAM/EVENT	EVENT DATE	TYPE OF AUDIENCE	MS4 CATEGORY	TOTAL REACHED	NOTES
2019					
"There is No Poop Fairy" float in State Fair Parade	9/17/19	All Ages	AS, PW, SWP	50,000	Provided education information about Scoop the Poop, There is No Poop Fairy, why it is important to pick up after your pet as well as proper household hazardous waste disposal.
Corrales Harvest Festival	9/28 & 9/29/19	All Ages	AS, PW, SWP	10,000	Booth handing out information, swag and collecting surveys to determine public knowledge regarding stormwater issues.
Rio Rancho Children's Water Festival	10/21 & 10/22/19	Elementary Students and Teachers	SWP	1,437	Students attended from 61 classrooms; Placitas Elementary School, St. Thomas Aquinas and all of the elementary schools in Rio Rancho Public Schools. Students attend three 30-minute presentations in a half-day format. Up to 3 to 4 schools were on site at one time. Schools attended a morning or afternoon session.
Animal Humane's Doggie Dash and Dawdle	11/3/19	All Ages	AS, PW, SWP	4,000	Animal Humane's signature event and largest fundraiser; booth handing out information, swag and collecting surveys.
Georgia O-Keefe Elementary	12/5/19	All Ages	SWP	24	Planted 17 poles.
Zia Elementary	12/6/19	All Ages	SWP	20	Planted 17 poles.
John Baker Elementary	12/19/19	All Ages	SWP	29	Planted 25 poles.
EPA Region6 Stormwater Conference – Responding to Change: Dynamic Stormwater Management in Economic, Political and Climatic Transitions, Denton, TX	7/28 – 8/1/19	Adults	SWP	75	Kali Bronson, Bernalillo County Stormwater Program Compliance Manager, attended, served as a session moderator, and presented at the 2019 EPA Region 6 Stormwater Conference in Denton, TX. Attendance at the Bernalillo County presentation is estimated at 75 people.
Rocky Mountain Youth Corps	July 2019	Adults, Children	AS	53	In partnership with Bernalillo County Parks and Recreation, the youth corps participants worked to support and expand wildlife habitat throughout the South Valley while also leading environmental education activities for local youth. 8 Corps members and 2 Supervisors completed 1,400 hours of service, educated 43 local youth and led 4 field trips.
Southwest Conservation Corps	July 2019	Adults	SWP	5	Participants completed approximately 800 hours of work removing invasive species, constructing a trellis, removing fence and planting cottonwoods at Sanchez Farm Open Space the the Westside Community Center.
Valle de Oro Youth Corps	July 2019	Youth	SWP	5	Participants completed approximately 60 hours of work restoring Tijeras Creek, adobe hornos and performing La Plazita Garden maintenance.
2019 Arid LID Workshop	9/19 – 9/20/19	Adults	SWP	66	Arid LID is a coalition of interdisciplinary professionals in the Middle Rio Grande area working to promote the use of GSI and LID in development. The coalition held a workshop which brought together policy makers, engineers, biologists, developers, and others to educate and make future plans for GSI/LID opportunities. Attendance included 66 people.

NAME OF PROGRAM/EVENT	EVENT DATE	TYPE OF AUDIENCE	MS4 CATEGORY	TOTAL REACHED	NOTES
2019					
East Mountain Celebration	9/22/19	All Ages	SWP	1,500	This is a family-friendly event and kids enjoyed free activities like face painting, fun jumps, a petting zoo and obstacle courses. Both Bernalillo County and Tijeras Creek Watershed Collaborative had a water quality booth which provided information to educate County residents on stormwater quality, water conservation methods and incentive programs, and groundwater monitoring programs.
Tijeras Creek Watershed Collaborative Youth Conservation Corps Workday	10/5/19	All Ages	SWP	31	Bernalillo County is a partner in the Tijeras Creek Watershed Collaborative. The Youth Conservation Corps completed a workday helping to restore the creek. The group were also weeding in the area and repaired a spillway and berms. 31 people participated in the event and performed approximately 160 volunteer hours.
2020					
Georgia O'Keefe Elementary	1/9/20	All Ages	SWP	43	Planted 28 poles.
John Baker Elementary	1/10/20	All Ages	SWP	21	Planted 25 poles.
North Valley Elementary	2/6/20	All Ages	SWP	28	Planted 16 poles.
Sandia Vista Elementary	2/7/20	All Ages	SWP	34	Planted 28 poles.
North Valley Academy	2/13/20	All Ages	SWP	32	Planted 30 poles.
Martin Luther King Elementary	2/14/20	All Ages	SWP	49	Planted 30 poles.
Duranes Elementary	2/15/20	All Ages	SWP	31	Planted 26 poles.
7 Bar Elementary	2/20/20	All Ages	SWP	41	Planted 20 poles.
Monte Vista Elementary	2/21/20	All Ages	SWP	27	Planted 17 poles.
7 Bar Elementary	2/27/20	All Ages	SWP	32	Planted 24 poles.
Martin Luther King Elementary	2/28/20	All Ages	SWP	62	Planted 39 poles.
Zia Elementary	3/5/20	All Ages	SWP	49	Planted 17 poles.
Monte Vista Elementary	3/6/20	All Ages	SWP	53	Planted 32 poles.
Cochiti Elementary	3/11/20	All Ages	SWP	46	Planted 38 poles.
Martin Luther King Elementary	3/12/20	All Ages	SWP	57	Planted 38 poles.
Holy Ghost	1/23/20	All Ages	SWP	63	Planted 53 poles.
Cottonwood Gulch/RMYC	1/24/20	All Ages	SWP	24	Planted 41 poles.
Nahalot Shalom	1/26/20	All Ages	SWP	26	Planted 33 poles.
Peace Corps	2/8/20	All Ages	SWP	39	Planted 60 poles.
Congregation Albert	2/9/20	All Ages	SWP	34	Planted 28 poles.
Mountain Mahogany Families	2/29/20	All Ages	SWP	19	Planted 33 poles.
Sandia Civitans	3/7/20	Adults	SWP	16	Planted 100 poles.
Bernalillo County Septic Systems Permits, "Unpermitted" and Aging System Wastewater System Campaign Outreach Program	7/1/19 – 6/30/20	Adults	SSS	813	Bernalillo County had 579 total wastewater operator permits, 432 total wastewater system permits, as well as 67 septic abandonments and connections to public sewer utilities. Bernalillo County sent 813 letters through the "unpermitted and aging wastewater system campaigns" which resulted in an estimates 235 properties permitted (included in the total numbers listed above) for septic systems in FY2020.

NAME OF PROGRAM/EVENT	EVENT DATE	TYPE OF AUDIENCE	MS4 CATEGORY	TOTAL REACHED	NOTES
2020					
BernCo at A Glance Monthly Newsletters	7/1/19 – 6/30/20	Adults	SWP	12,000	An estimated 500 hardcopies of each newsletter are printed and distributed via County offices and provided at neighborhood association meetings by the neighborhood coordinator. The neighborhood coordinator also sends the monthly electronic newsletter to all County and City neighborhood associations. It is estimated that these monthly newsletters reach 1,000 people per month and 12,000 people annually.
Bernalillo County HHW Neighborhood Collection Events	7/1/19 – 6/30/20	AdAults	HHW	241	In FY2020, Bernalillo County hosted 7 HHW weekend neighborhood collection events in association with mini-cleanup events. During the 7 events, 241 individuals participated and 5,206 pounds of HHW were collected. An HHW report is available upon request. The HHW report includes historical trend analysis for this outreach program as well as specific collection data per location.
Bernalillo County Solid Waste Illegal Dumping Partnership (IDP) Educational Outreach	7/1/19 – 6/30/20	Adults	HHW	1,200	Hosted 15 community cleanup events. Participated in a virtual Junk Jog with the COA. Created a Tire Recycling and Disposal committee to educate business on the proper way to dispose of tires. Visits began September 2019 and will be ongoing. Distributed to date over 1,200 Carlos Coyote coloring books to various entities in the community.
Bosque Environmental Monitoring Program (BEMP) Monitoring and Educational Outreach Programs	7/1/19 – 6/30/20	Children	AS, ID, PW		Bernalillo County classrooms participated in monthly monitoring programs at 33 monitoring sites. BEMP provided in-classroom and field-based educational programming for 50 Bernalillo county schools. Bernalillo County gave $75,000 in support of this program.
Bernalillo County Employee Training – Stormwater Quality Training and IDDE Training	7/1/19 – 6/30/20	Adults	SWP	71	Bernalillo County began using a video training service, Excal Visual, Inc., in FY 2018. In FY 2020, 41 people completed the IDDE training and 30 completed the Rain Check Training (general stormwater quality training).
Master Naturalists Volunteering at Bernalillo County Open Space	7/1/19 – 6/30/20	Adults	SWP		Master Naturalists volunteer at the Bernalillo County Open Space workday events as well as with tour and education events for the public. Since the program began in 2010, there have been more than 500 registered volunteers. In FY 2020, there were 906 documented volunteer hours.
RiverXchange Program by Ciudad Soil and Watter Conservation District	2019 – 2020 Academic Year	Adults, Children	SWP	972	Bernalillo County supports RiverXchange which gave a series of presentations and hosted field trips for 38 5th-grade classes. Program elements included addressing topics in stormwater, wastewater, drinking water, water use in agriculture and planting field trips. Attendance included 932 students and 40 teachers.

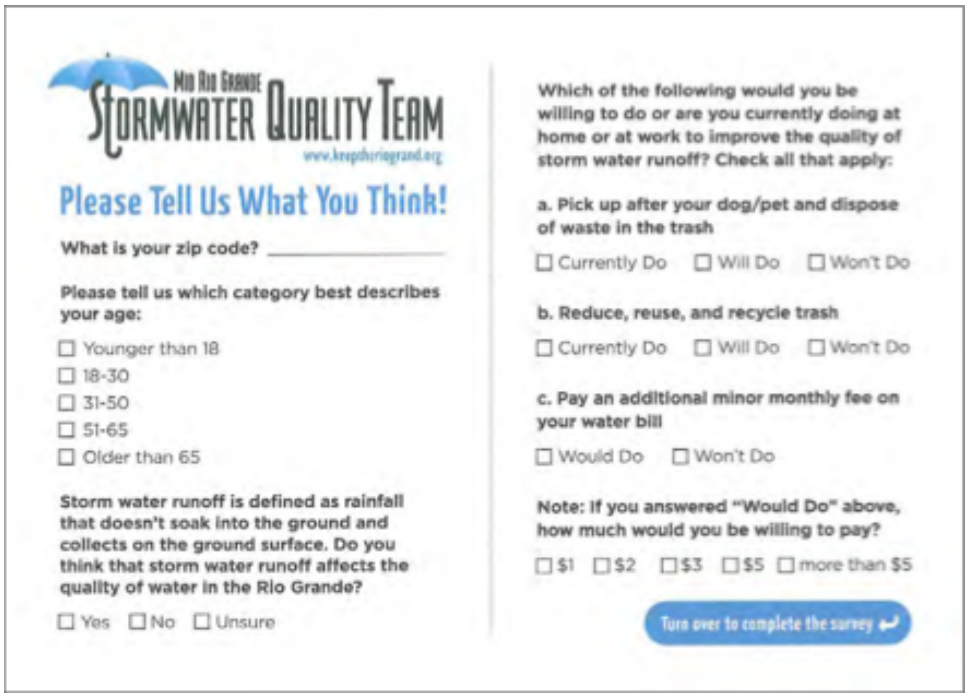
NAME OF PROGRAM/EVENT	EVENT DATE	TYPE OF AUDIENCE	MS4 CATEGORY	TOTAL REACHED	NOTES
2020					
Arroyo Classroom Program, by Ciudad Soil and Water Conservation District	2019 – 2020 Academic Year	Adults, Children	SWP	736	The program, partially funded by Bernalillo County, reaches 736 students in 35 classes. Both in-class presentations and a field trip to an arroyo habitat were part of the program. Students built a watershed model to facilitate their understanding of surface water pollution and prevention.
Annual Bosque Planting Day	2/22/20	Adults	SWP	167	Bernalillo County supported the Bosque Cultural Healing Garden Project for a day of reforestation with volunteers revitalizing the Albuquerque Bosque. Attendance is estimated at 167 volunteers.
Sponsorship of New Mexico Land and Water Summit	2/27 – 2/28/20	Adults	SWP	154	Bernalillo County provided the New Mexico Land and Water Summit with a sponsorship of $5,000. Topics discussed at the summit included green stormwater infrastructure, watershed restoration and management, and public outreach and engagement. Atendees included 154 professionals in the fields of hydrology, landscape architecture, landscaping and engineering. The field trips included two Bernalillo County projects – Alameda Drain Train and South 2nd Street Project.
New Mexico Arbor Day Celebration	3/14/20	All Ages	SWP		Bernalillo County sponsored an event promoting tree care, environmental responsibility and community involvement in making Albuquerque "greener." The event included tree care and planting demos.
Talking Talons Youth Leadership	4/29/20	Children	SWP		Bernalillo County provided online resources and worksheets to teach 6th-graders about land use impacts on stormwater and the river, human activities and their impacts, and things kids can do to reduce stormwater pollution.
Pueblo of Isleta Environment Department Alternative 2020 Environmental Fair	6/26/20	All Ages	SWP	250	Bernalillo County put together an online activity book with educational information about pet waste and watershed health for 250 fair participants
SSCAFCA Facility Outreach	2019-2020	All Ages	SWP		SSCAFCA deployed approximately 100 "There is no Poop Fairy" signs at all SSCAFCA-owned facilities to inform the public and encourage them to scoop and remove animal waste

AS: Animal Sources
CON: Construction
HHW: Household Hazardous Waste
ID: Illicit Discharges
PW: Pet Waste
SSS: Septic & Sanitary Sewer Systems
SWP: General Stormwater Pollution Prevention

Exhibit 2

Sample Surveys and Survey Analytics 2019-2020

The Mid Rio Grande Storm Water Quality Team organized a short survey addressing various water quality issues affecting the Rio Grande. The graphs on the following pages reflect the tallied results of the 10-question voluntary questionnaire from May 2014 – November 2019. The total number of surveys recorded are 5,830.



Mid Rio Grande Stormwater Quality Team
www.keepthatriogrand.org

Please Tell Us What You Think!

What is your zip code? _____

Please tell us which category best describes your age:

- ☐ Younger than 18
- ☐ 18-30
- ☐ 31-50
- ☐ 51-65
- ☐ Older than 65

Storm water runoff is defined as rainfall that doesn't soak into the ground and collects on the ground surface. Do you think that storm water runoff affects the quality of water in the Rio Grande?

☐ Yes ☐ No ☐ Unsure

Which of the following would you be willing to do or are you currently doing at home or at work to improve the quality of storm water runoff? Check all that apply:

a. Pick up after your dog/pet and dispose of waste in the trash

☐ Currently Do ☐ Will Do ☐ Won't Do

b. Reduce, reuse, and recycle trash

☐ Currently Do ☐ Will Do ☐ Won't Do

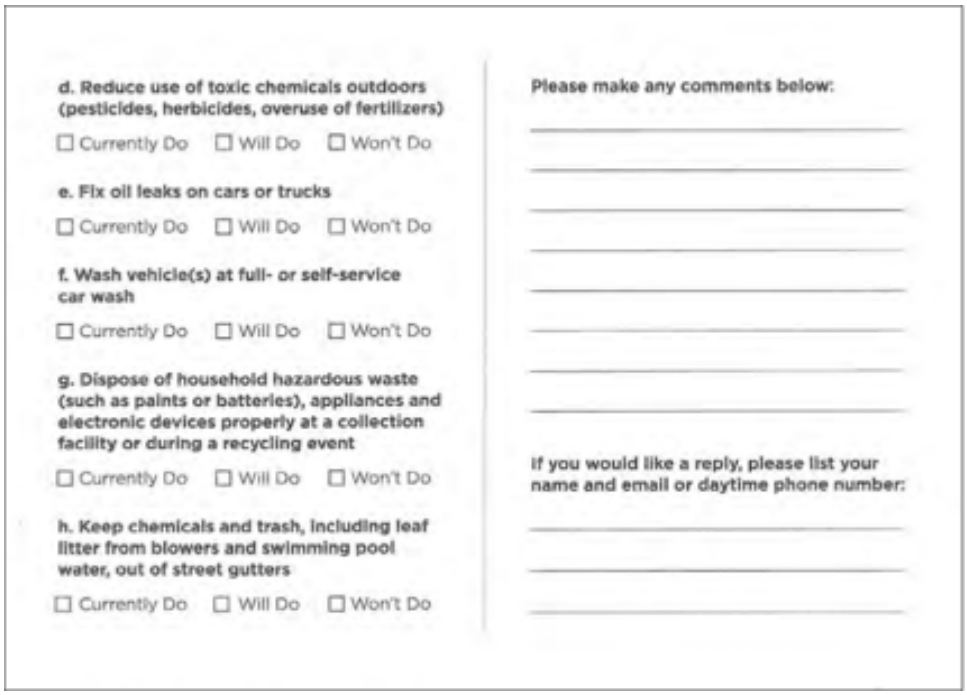
c. Pay an additional minor monthly fee on your water bill

☐ Would Do ☐ Won't Do

Note: If you answered "Would Do" above, how much would you be willing to pay?

☐ $1 ☐ $2 ☐ $3 ☐ $5 ☐ more than $5

Turn over to complete the survey



d. Reduce use of toxic chemicals outdoors (pesticides, herbicides, overuse of fertilizers)

☐ Currently Do ☐ Will Do ☐ Won't Do

e. Fix oil leaks on cars or trucks

☐ Currently Do ☐ Will Do ☐ Won't Do

f. Wash vehicle(s) at full- or self-service car wash

☐ Currently Do ☐ Will Do ☐ Won't Do

g. Dispose of household hazardous waste (such as paints or batteries), appliances and electronic devices properly at a collection facility or during a recycling event

☐ Currently Do ☐ Will Do ☐ Won't Do

h. Keep chemicals and trash, including leaf litter from blowers and swimming pool water, out of street gutters

☐ Currently Do ☐ Will Do ☐ Won't Do

Please make any comments below:

_____

_____

_____

_____

_____

_____

_____

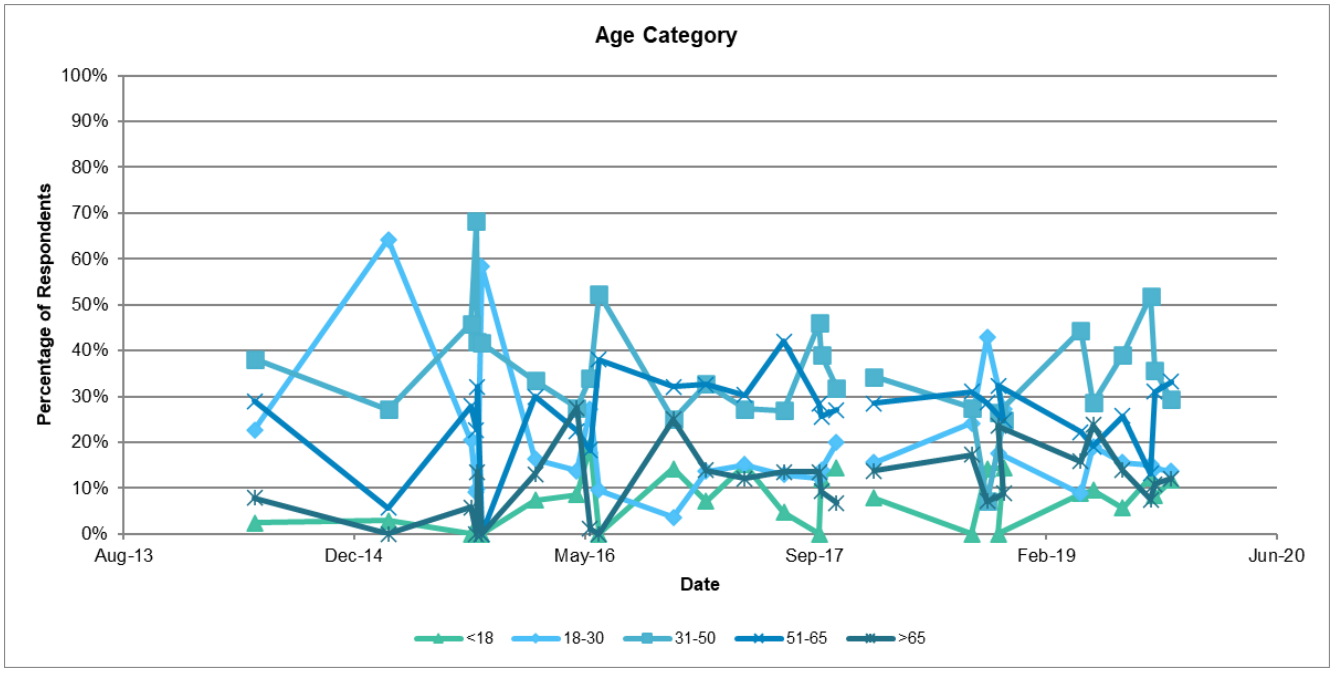
_____

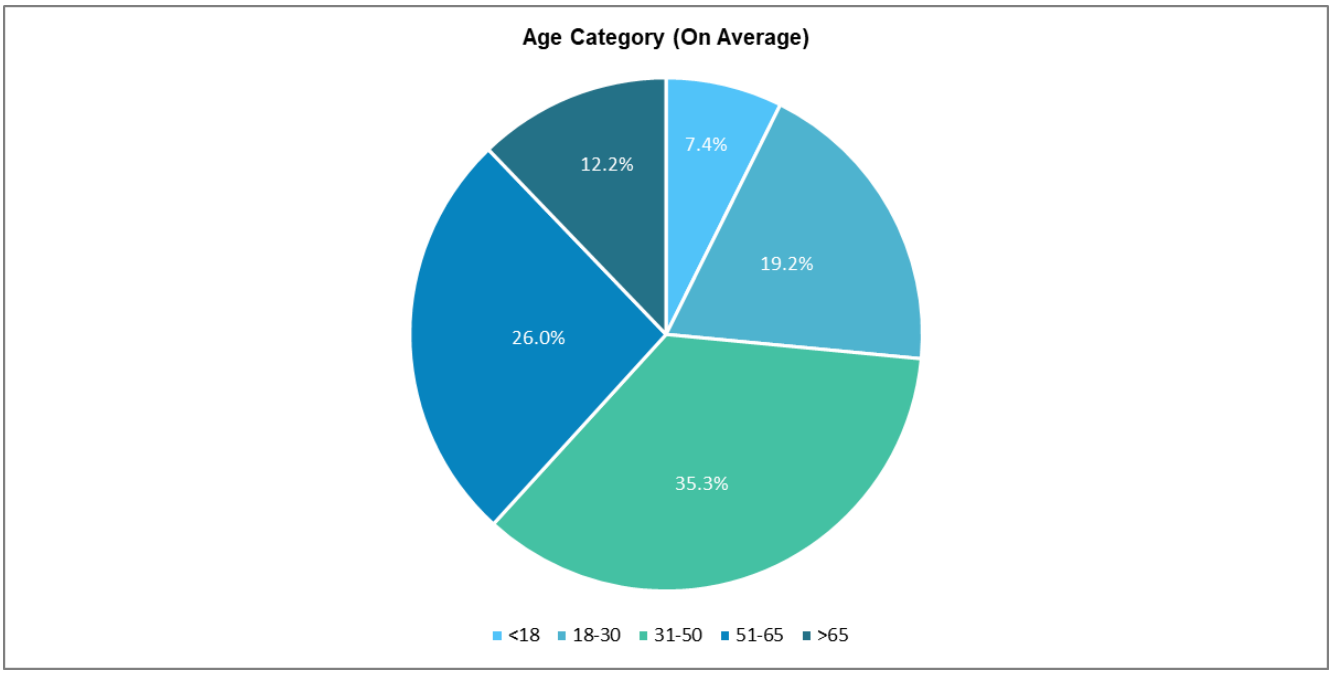
If you would like a reply, please list your name and email or daytime phone number:

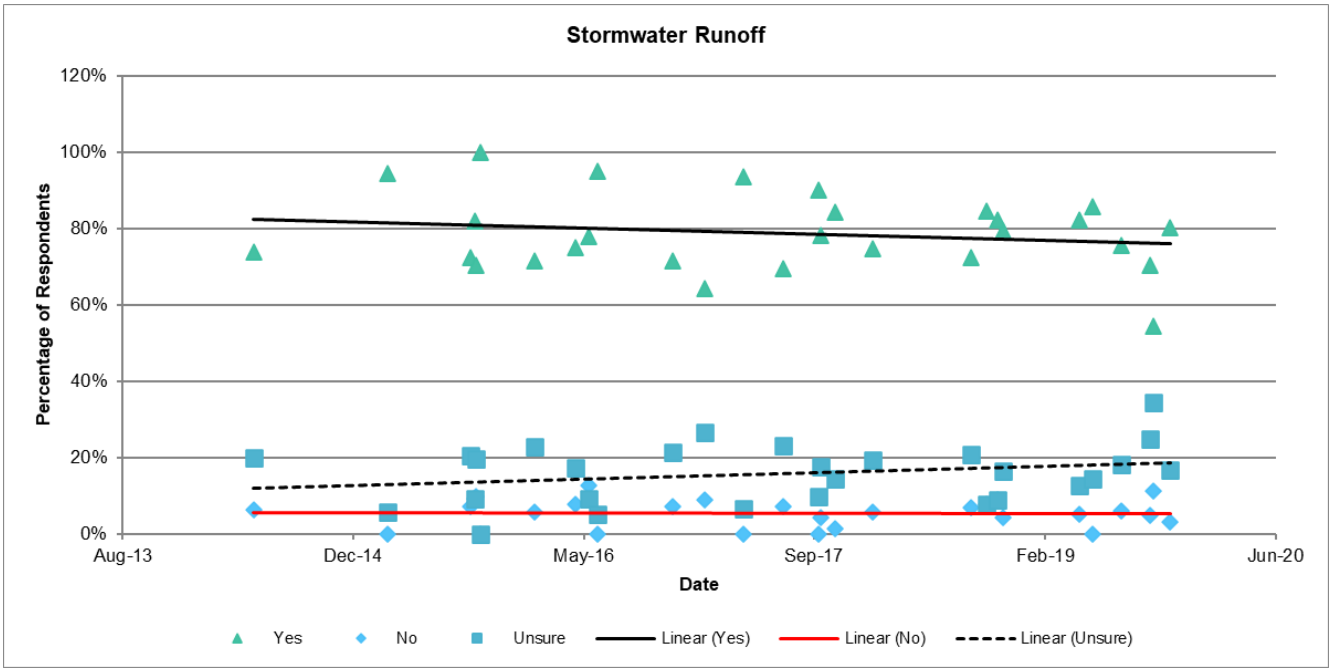
_____

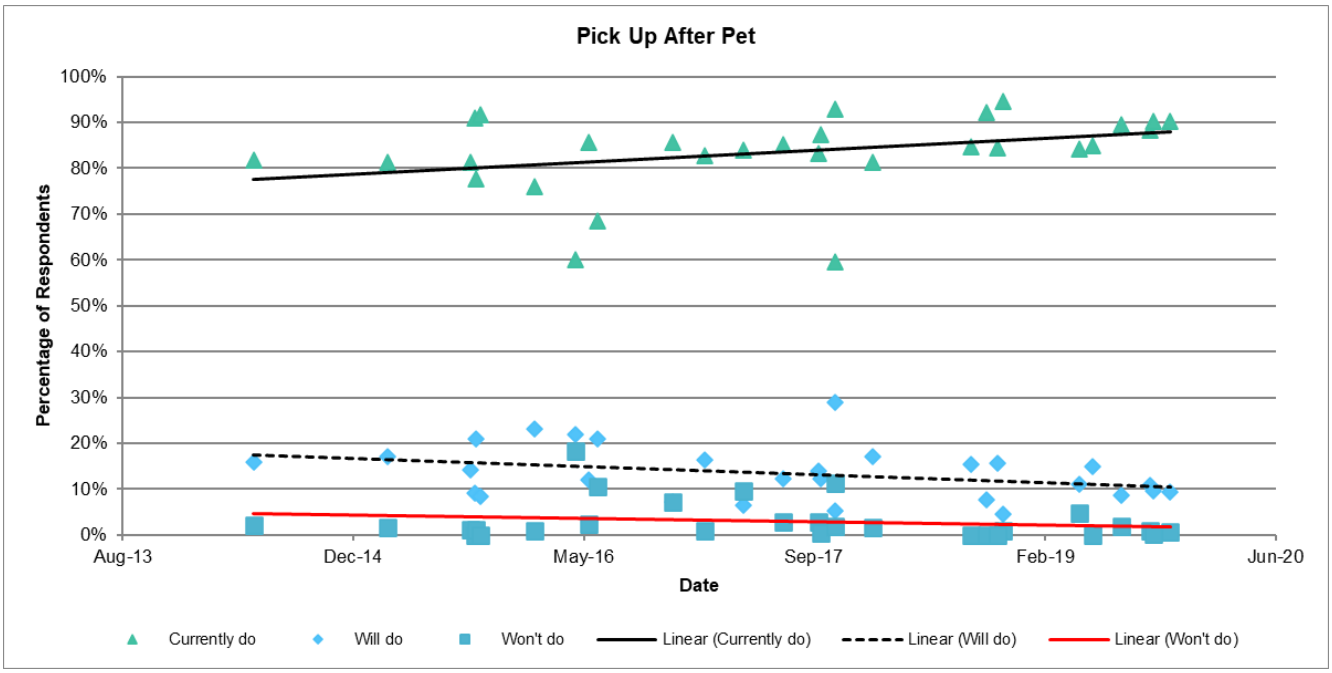
_____

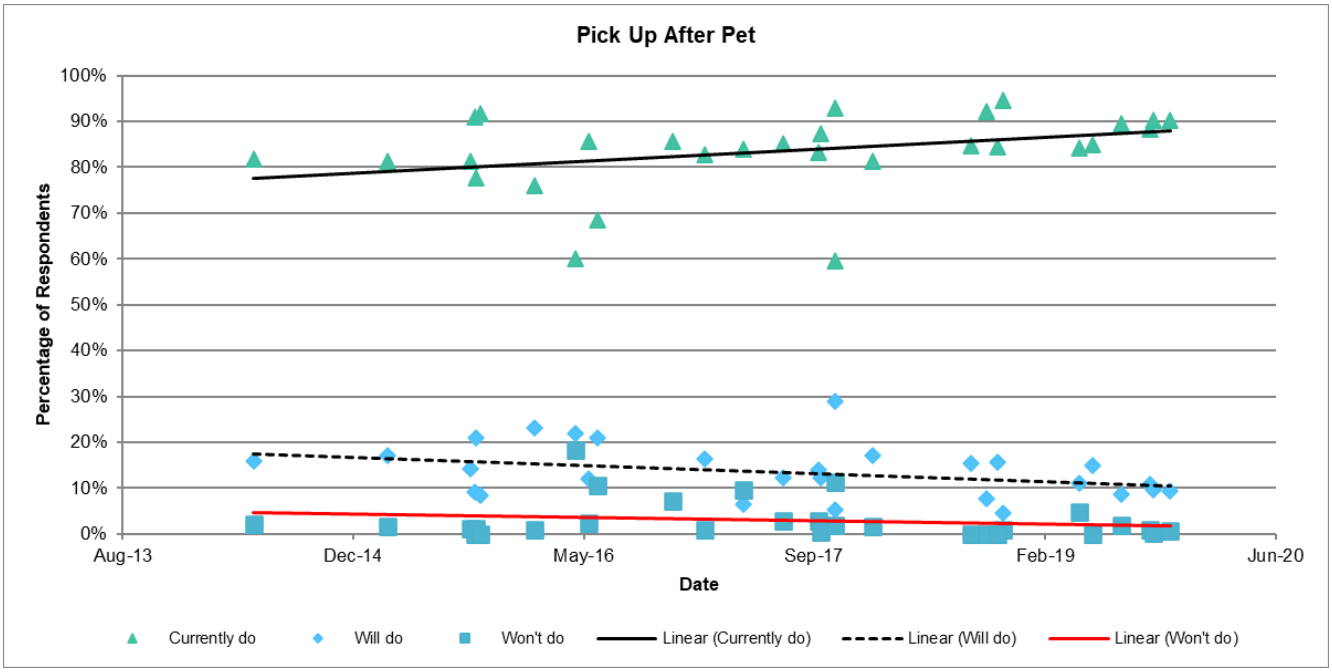
_____

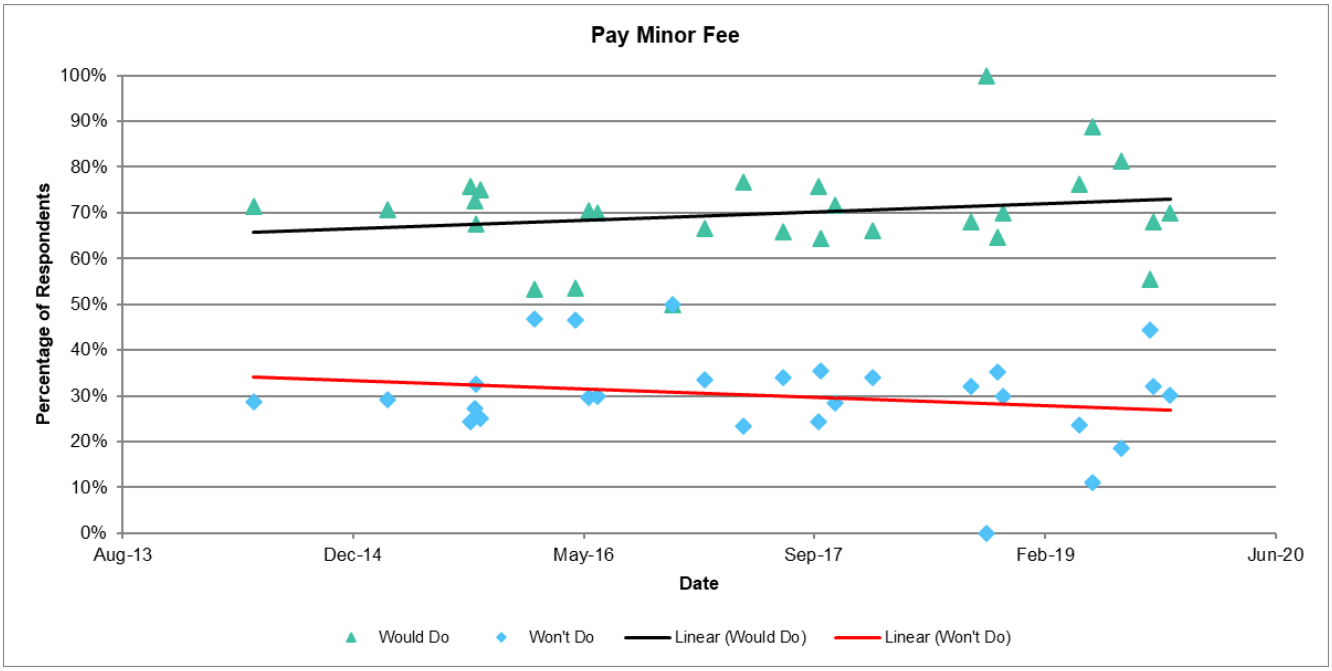

Age Category
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
<18
18-30
31-50
51-65
>65


Age Category (On Average)
7.4%
19.2%
35.3%
26.0%
12.2%
<18
18-30
31-50
51-65
>65


Stormwater Runoff
120%
100%
80%
60%
40%
20%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Yes
No
Unsure
Linear (Yes)
Linear (No)
Linear (Unsure)


Pick Up After Pet
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently do
Will do
Won't do
Linear (Currently do)
Linear (Will do)
Linear (Won't do)


Pick Up After Pet
Percentage of Respondents
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently do
Will do
Won't do
Linear (Currently do)
Linear (Will do)
Linear (Won't do)


Pay Minor Fee
Percentage of Respondents
100%
90%
80%
70%
60%
50%
40%
30%
20%
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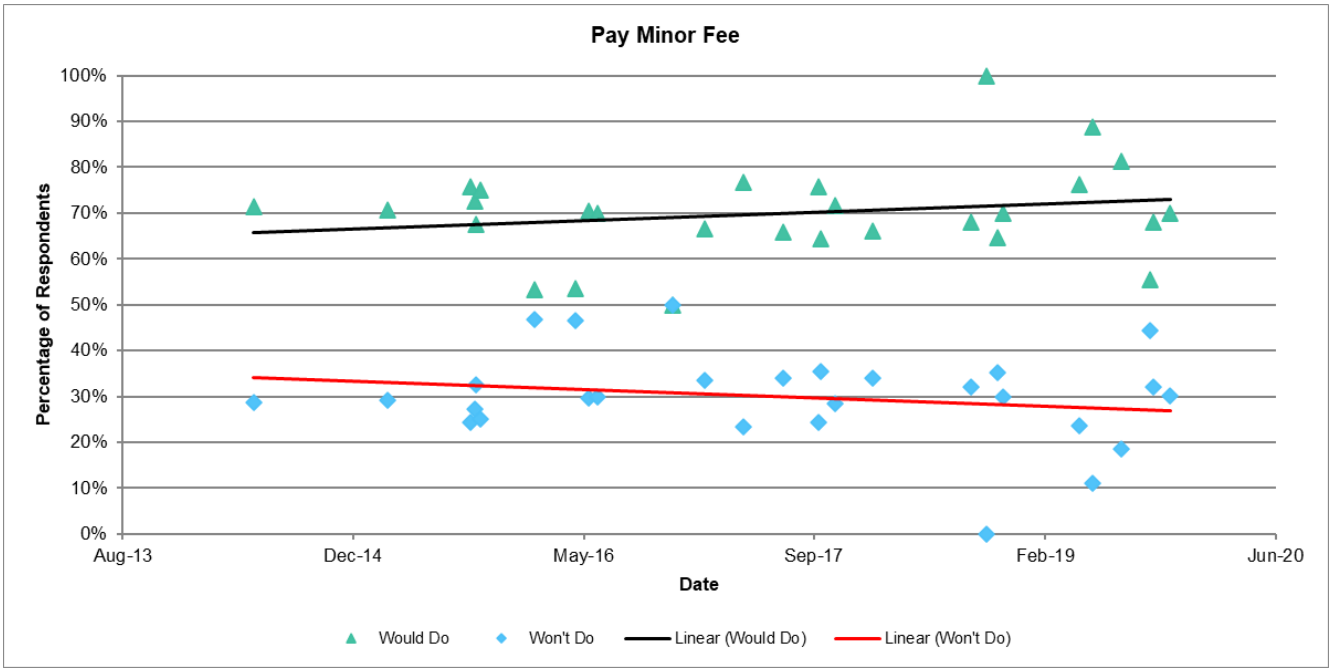
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Would Do
Won't Do
Linear (Would Do)
Linear (Won't Do)


Pay Minor Fee
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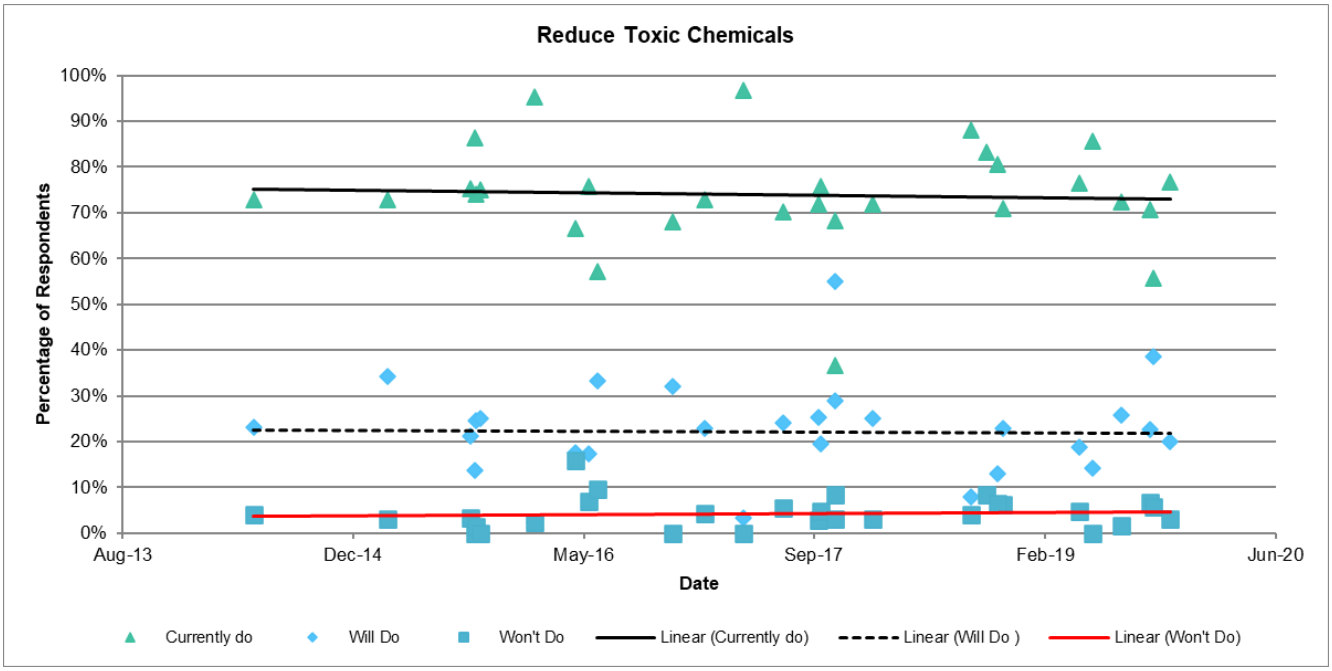
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Would Do
Won't Do
Linear (Would Do)
Linear (Won't Do)


Reduce Toxic Chemicals
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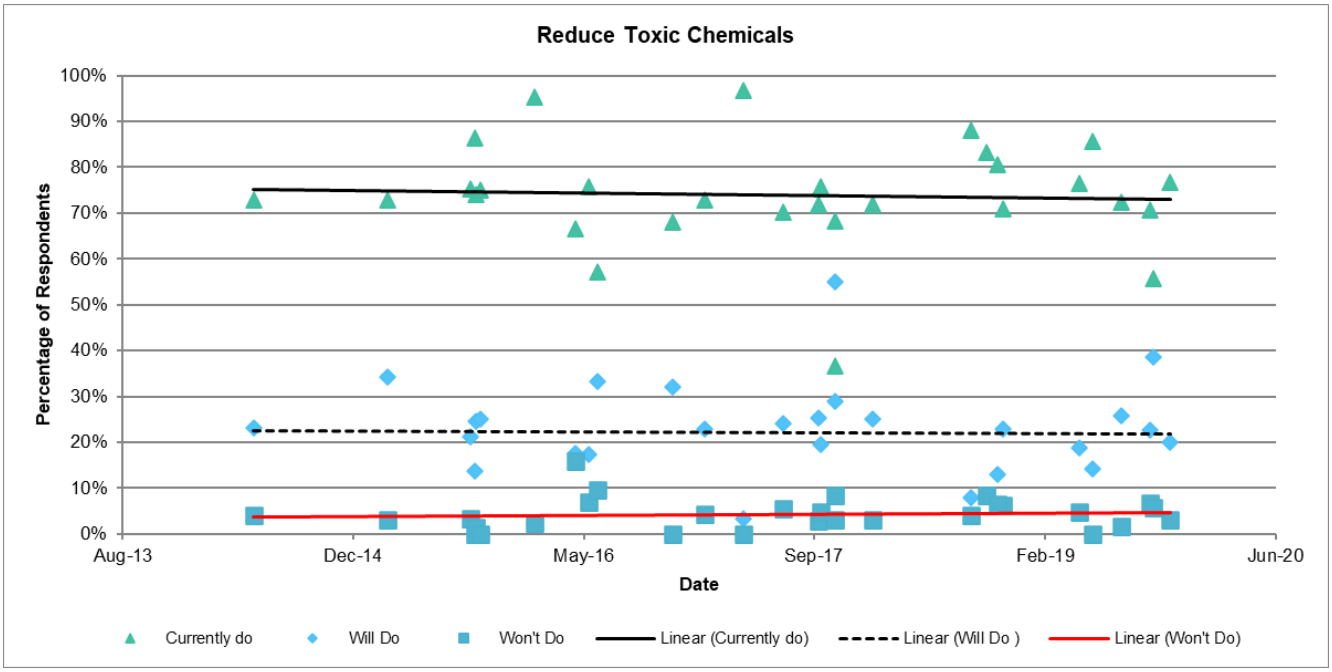
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently do
Will Do
Won't Do
Linear (Currently do)
Linear (Will Do)
Linear (Won't Do)


Reduce Toxic Chemicals
100%
90%
80%
70%
60%
50%
40%
30%
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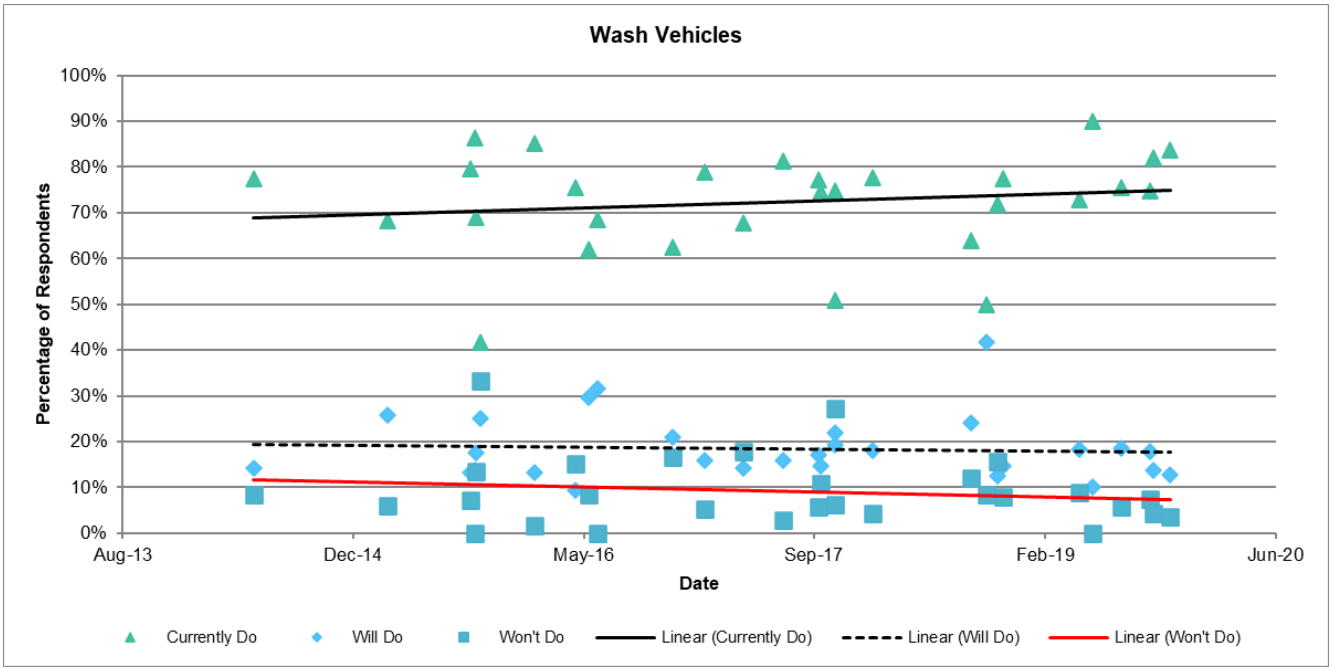
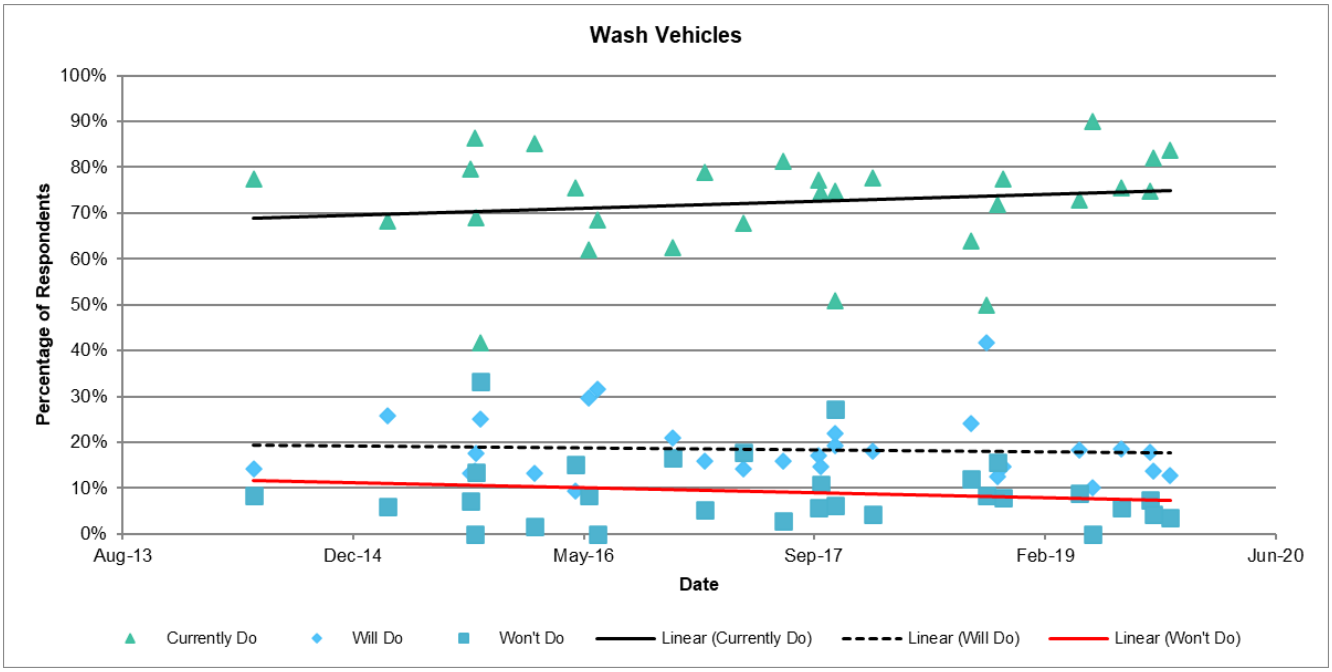
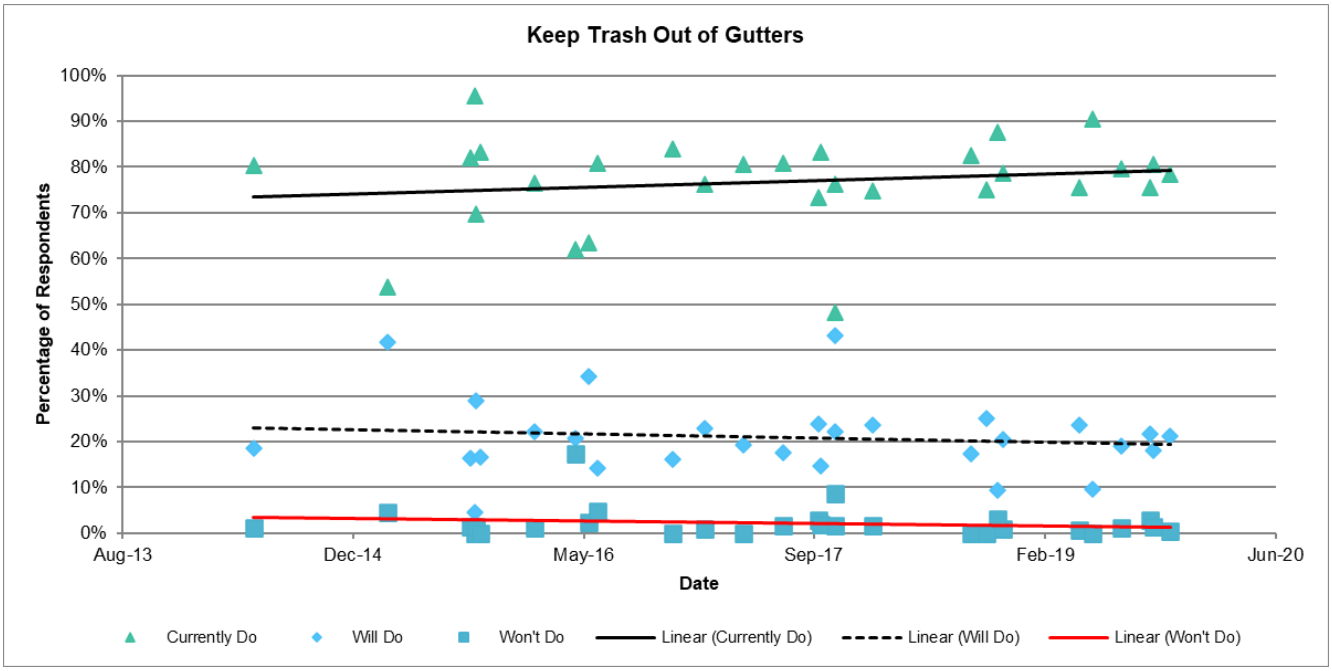
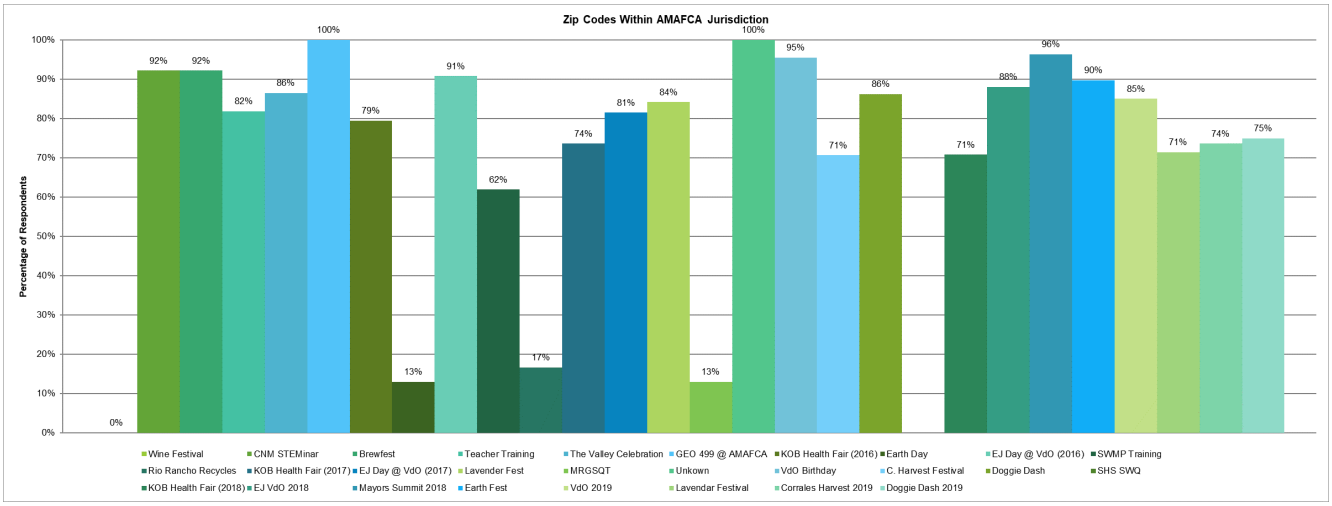
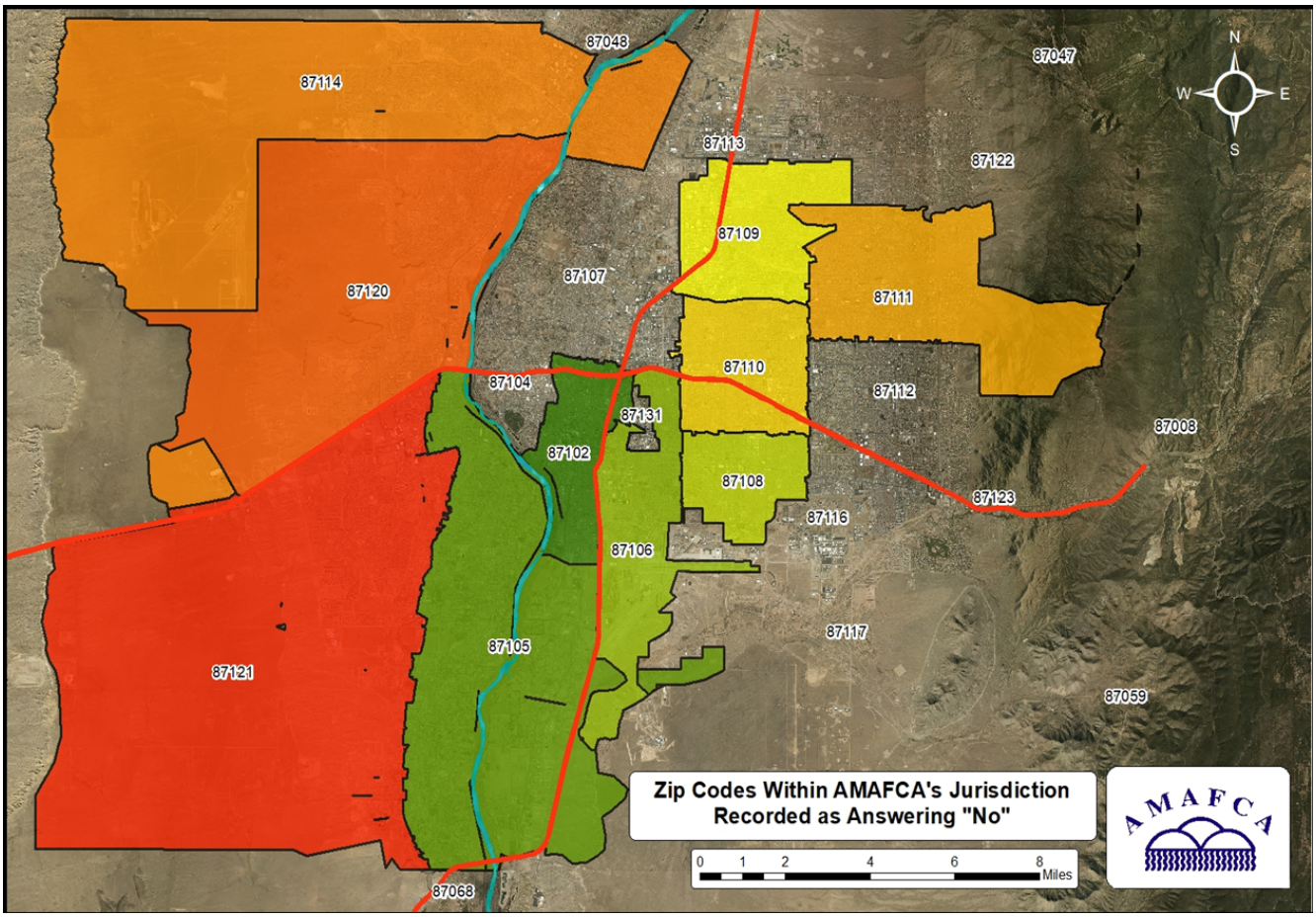
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently do
Will Do
Won't Do
Linear (Currently do)
Linear (Will Do)
Linear (Won't Do)

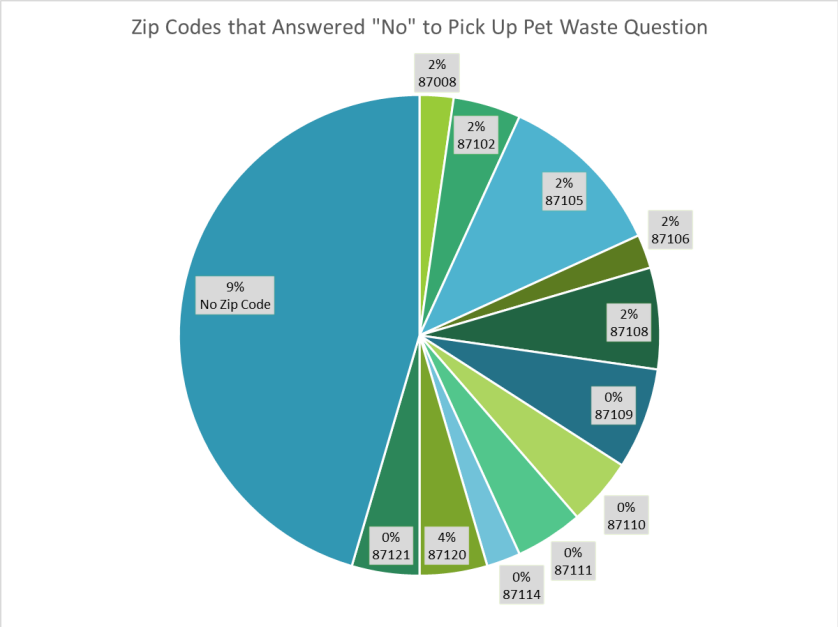

Wash Vehicles
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently Do
Will Do
Won't Do
Linear (Currently Do)
Linear (Will Do)
Linear (Won't Do)


Wash Vehicles
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently Do
Will Do
Won't Do
Linear (Currently Do)
Linear (Will Do)
Linear (Won't Do)


Keep Trash Out of Gutters
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Percentage of Respondents
Aug-13
Dec-14
May-16
Sep-17
Feb-19
Jun-20
Date
Currently Do
Will Do
Won't Do
Linear (Currently Do)
Linear (Will Do)
Linear (Won't Do)


Zip Codes Within AMAFCA Jurisdiction
Percentage of Respondents
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
0%
92%
92%
82%
86%
100%
79%
13%
91%
62%
17%
74%
81%
84%
13%
100%
95%
71%
86%
71%
88%
96%
90%
85%
71%
74%
75%
Wine Festival
CNM STEMinar
Brewfest
Teacher Training
The Valley Celebration
GEO 499 @ AMAFCA
KOB Health Fair (2016)
Earth Day
EJ Day @ VdO (2016)
SWMP Training
Rio Rancho Recycles
KOB Health Fair (2017)
EJ Day @ VdO (2017)
Lavender Fest
MRGSQT
Unkown
VdO Birthday
C. Harvest Festival
Doggie Dash
SHS SWQ
KOB Health Fair (2018)
EJ VdO 2018
Mayors Summit 2018
Earth Fest
VdO 2019
Lavendar Festival
Corrales Harvest 2019
Doggie Dash 2019


87048
87047
87114
87113
87122
87109
87107
87120
87111
87110
87104
87112
87131
87008
87102
87108
87123
87116
87106
87117
87105
87121
87059
87068
N
W
E
S
Zip Codes Within AMAFCA's Jurisdiction
Recorded as Answering "No"
0 1 2 4 6 8
Miles
AMAFCA



Answered No to Pick up Pet Waste	*Number of Votes*	*% of Votes*
79109	1	2%
79782	1	2%
87008	1	2%
87043	1	2%
87044	1	2%
87047		0%
87048		0%
87059		0%
87068		0%
87102	2	4%
87104		0%
87105	5	9%
87106	1	2%
87107		0%
87108	3	5%
87109	3	5%
87110	2	4%
87111	2	4%
87112		0%
87113		0%
87114	1	2%
87116		0%
87117		0%
87120	2	4%
87121	2	4%
87122		0%
87123		0%
87124	1	2%
87131		0%
87144	3	5%
87528	1	2%
87557	1	2%
88310	1	2%
No Zip Code	20	36%
87024	1	2%

Statistics for Pet Waste Question

Item	*# of Respondents*	*% of Respondents*
Total Number Who Answered No	56	
Total % w/in AMAFCA Jurisdiction		43%
Total Who Answered "Pet" Question	2,774	
% of Total "Pet" Votes		1.28%
Total “Already Do”	4,526	84.76%
Total “Will Do”	756	14.16%
Total “Wont Do”	108	2.02%
Total Question (Summation)	5,340	100.94%
Error		1.04%

Survey Question	Answer	Mean ± MoE
Stormwater Runoff	Yes	78%±10%
	No	06%±4%
	Unsure	16%±7%
Pick up after pet	Currently do	83%±11%
	Will do	14%±7%
	Won't do	03%±3%
Reduce, Recycle, and Recycle Trash	Currently do	89%±10%
	Will do	10%±6%
	Won't do	01%±2%
Pay Minor Fee	Would Do	70%±11%
	Won't Do	30%±9%
Reduce Use of Toxic Chemicals	Currently do	74%±11%
	Will Do	22%±9%
	Won't Do	05%±4%
Fix Oil Leaks on Vehicle(s)	Currently do	79%±12%
	Will Do	17%±7%
	Won't Do	04%±3%
Wash Vehicles at Full or Self Service Car wash	Currently Do	73%±13%
	Will Do	18%±8%
	Won't Do	09%±5%
Dispose Household Hazardous Waste	Currently Do	75%±12%
	Will Do	21%±8%
	Won't Do	03%±3%
Keep Chemicals/Trash Out of Street Gutters	Currently Do	77%±12%
	Will Do	20%±8%
	Won't Do	03%±3%

Exhibit 3

Arroyo Classroom
2019-2020 Final Report

Arroyo Classroom

2019-2020 final report

submitted by
Erin Blaz, CSWCD
May 2020

SUMMARY

The Arroyo Classroom program utilizes our natural arroyos as outdoor classrooms and brings local animals into the classroom to motivate 3rd graders to respect the arroyos as important wildlife habitat. Orilla Consulting, LLC developed the program in 2012 and initially implemented the program for 7 classes at Maggie Cordova Elementary in Rio Rancho. In 2013, the program grew to serve 20 classes. On July 1st, 2015, Orilla Consulting, LLC transferred the program to Ciudad Soil and Water Conservation District as part of the larger education and outreach efforts we are involved in throughout Bernalillo and Sandoval Counties. In the 2019-2020 school year, we served 35 classes within Rio Rancho Public Schools, reaching approximately 37 teachers and 736 students.

Participating Schools

SCHOOL	Number of classes	Number of Students
Enchanted Hills Elem.	6	104
Martin Luther King Elem. *	6	145
Sandia Vista Elem.	4	79
Maggie Cordova Elem. *	7	151
Cielo Azul Elem. *	6	132
Puesta del Sol Elem. *	6	125
TOTALS	**35**	**736**

* Title 1 school

Sponsor

- Southern Sandoval County Arroyo and Flood Control Authority (SSCAFCA)

Sponsor provided a total of $17,762.77 in cash.

Deliverables:

All presentations were completed except for 6 Arroyo Walks due to school closures due to the global pandemic.

- Watershed Presentations: 35:35
- Arroyo Walk: 29:35
- Bat Presentations: 32:35 (some classes doubled up due to a scheduling issue, all classes completed)
- Owl/Bird Presentations: 35:35

Program Description

The program consists of a four-part series of lessons, based on grade-level science standards and addressing areas of interest to SSCAFCA, such as bats, burrowing owls, ATV use, pet waste, and arroyo safety. Educators Melissa McLamb and Erin Blaz delivered two of the lessons – an introductory lesson about watersheds, and a walking field trip to nearby arroyo habitat. Justin Stevenson of RD Wildlife Management, LLC delivered a lesson using live microbats. Mikal Deese, certified wildlife rehabilitator of non-profit On A Wing And A Prayer, delivered presentations with a live Burrowing Owl or other birds of prey when requested.

The watershed lesson expounds on the water cycle, already integral in 3rd grade curriculum. This year, we developed a hands on lesson where students were able to build a model of a watershed. This lesson introduces the concept of a watershed to students, demonstrates how surface water becomes polluted through a variety of waste, and discusses the importance of keeping our arroyos clean.

The arroyo walk is a highlight for students and teachers, as the majority of participating classes only receive one other field trip during the school year, and students always come away learning something new and interesting about the uniqueness of arroyo habitat. This lesson is about the unique adaptations of arroyo animals and plants, incorporates a walk out to a nearby arroyo (when available) and extensive discussion about arroyo safety *(see lesson plan in Appendix A.)* Melissa first talked to students about the difference between concrete-lined channels and sandy-bottomed arroyos, and emphasized that it is never safe to go into concrete-lined channels, while sandy-bottomed arroyos can be visited when there are no clouds in the sky. Students searched for evidence of animals living in the arroyo banks, learned about how lizards and other cold-blooded animals are adapted to the desert environment by moving about to regulate their temperature. They also looked for certain adaptations of desert plants to minimize water loss in the desert.

In the lesson about bats, Justin discussed common myths about bats while pointing out how

these myths can pose issues for bat populations as he addressed each one. He taught students about species common in their area, including what habitat they prefer, what they eat, the challenges they face, and what to do if one sees an injured bat. He talked about how important bats are in keeping insect populations under control, shared ways to encourage and protect bats and emphasized that kids should not be frightened of them, but also should never touch a bat if they find one. Students were able to view two different species of live microbats.

This year in addition to the burrowing owl lesson Mikal Deese, certified wildlife rehabilitator of non-profit On A Wing And A Prayer,, was able to offer an alternative lesson using other birds of prey, as an accommodation for students and teachers that have cultural sensitivities to owls. When requested, Mikal brough in three birds for students to observe - an American Kestrel, Peregrine Falcon and a Swainson's Hawk. In this presentation Mikal gives a wonderful talk that covers habitat, behaviors and threats to these species. As a bird rehabilitator she also shares the personal story of each bird. After each bird, Mikal gives students a turn to ask questions and students sit attentively in and engage in a stimulating back and forth session sparked by their curiosity.

When presenting the burrowing owl, Mikal included an fun role-playing activity for students where they had to collect food (dried beans) and bring them back to their chicks. Some kids played adults, others were hungry chicks and in the midst of all the fun and chaos, important lessons are learned. Students get to experience the challenges in competing for food, and learn about human impacts on the food chain - some beans are colored differently and represent pesticides or poisons, which sadly kills off burrowing owls. Students also get to observe the burrowing owl up close and learn about ways to respect and protect their habitat.

Evaluation

Teacher feedback for 2019-2020 was positive and encouraging. Teachers overwhelmingly say they choose to participate in Arroyo Classroom to teach about local ecology and conservation issues, incorporate more science in the classroom and to offer experiential learning opportunities. They find the presentations to be uniquely engaging and meaningful for their students. Teacher's find that Arroyo Classroom is complementary to other 3rd grade units of study such as life cycles and animal adaptations and that the chance to have live animals in their classrooms really helps students integrate what they've learned. As one teacher puts it, "There is much more of an 'a ha' moment when students see this in natural forms versus a created classroom environment. Further, when they meet the animals, they like them and there is more of a connection that they can hurt that animal if they do not respect the environment" (Kelly, MLK).

Teacher's continue to ask for extension activities and some kind of pre-presentation activity to help prime students for the content presented. With the addition of 3 classes this year, there was not as much additional time as was hoped to work on providing these resources to teachers. However the creation of online/virtual/at-home alternatives to our in-class presentations (in case of future school closures) will also provide us with resources teachers can use before and after presentations during normal programming.

Highlights from teacher feedback:

"My students really got an understanding of conservation and their impact." -Lewis, MLK

"My students really enjoyed the program this year. I thought the changes to the owl/bird presentation made it so much more interactive! The greatest learning outcomes my students had were the connections they made to their surroundings and community. They were able to learn about an ecosystem that they basically lived in. They connected these ideas when learning about animal and plant reproduction and traits." - Eisenberg, MLK

"Exposure to local ecology and have students start thinking about how they can make a difference in our community to promote conservation. Increase curiosity and knowledge of local wildlife." - Cooper, Enchanted Hills

"We really enjoyed the owls and the bats! Students are more excited to learn about a subject when they have an experience to attach/ relate their learning to. We also enjoyed the hands-on activities provided with each of the lessons." -Davis, Puesta del Sol

"I believe this past year was the best year to date. The presenters were engaging and were able to manage student conduct in a knowledgeable way. The activities were also relevant and engaging. The introduction to watersheds allowed students a hands-on activity that related well to the content being taught. The arroyo walk is also a great way to expose the students to the environment directly around them , looking at it through a different lens". - O'Connor, MLK

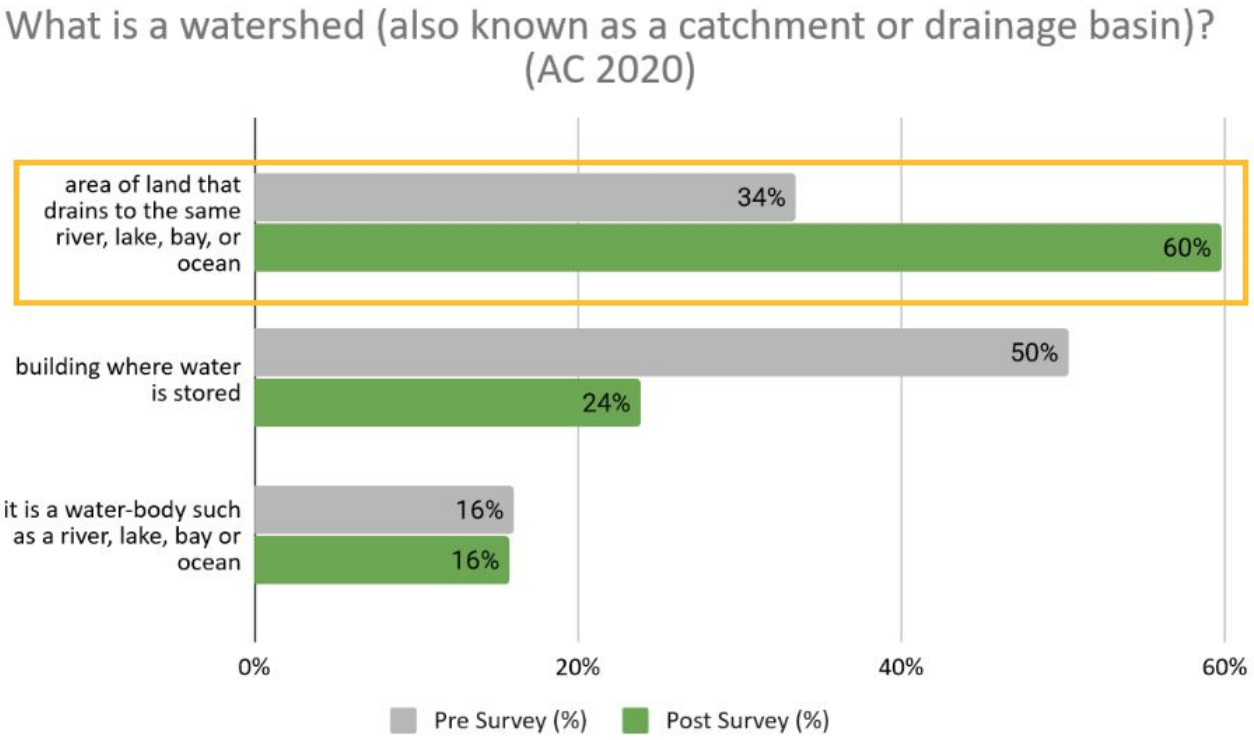
Survey Summary

This is the second year that we've administered the pre and post surveys for Arroyo Classroom and we ran into a significant challenge in getting post-survey responses because it was distributed to teachers just before COVID-19 shut down the schools. It was recommended to teachers to share it on an online platform, like google classroom, but we only received 232 responses compared to 518 pre-survey responses.

Even with fewer responses this year, in reviewing the metrics there appear to be other challenges with the survey. Across questions a majority of students are answering correctly in the pre-survey. On one hand this is great news to hear that students have an awareness of what arroyos are, arroyo habit and arroyo safety. However, this doesn't tell us much about the program's impact. We will revisit these questions over the summer to try to narrow down the learning outcomes and growth we are looking for. This survey does not have behavior questions either. While we are finding behavior change questions have their own challenges to evaluate, it may be more significant to evaluate behavior change for Arroyo Classroom in order to see how their learning is translated.

Survey Metrics:

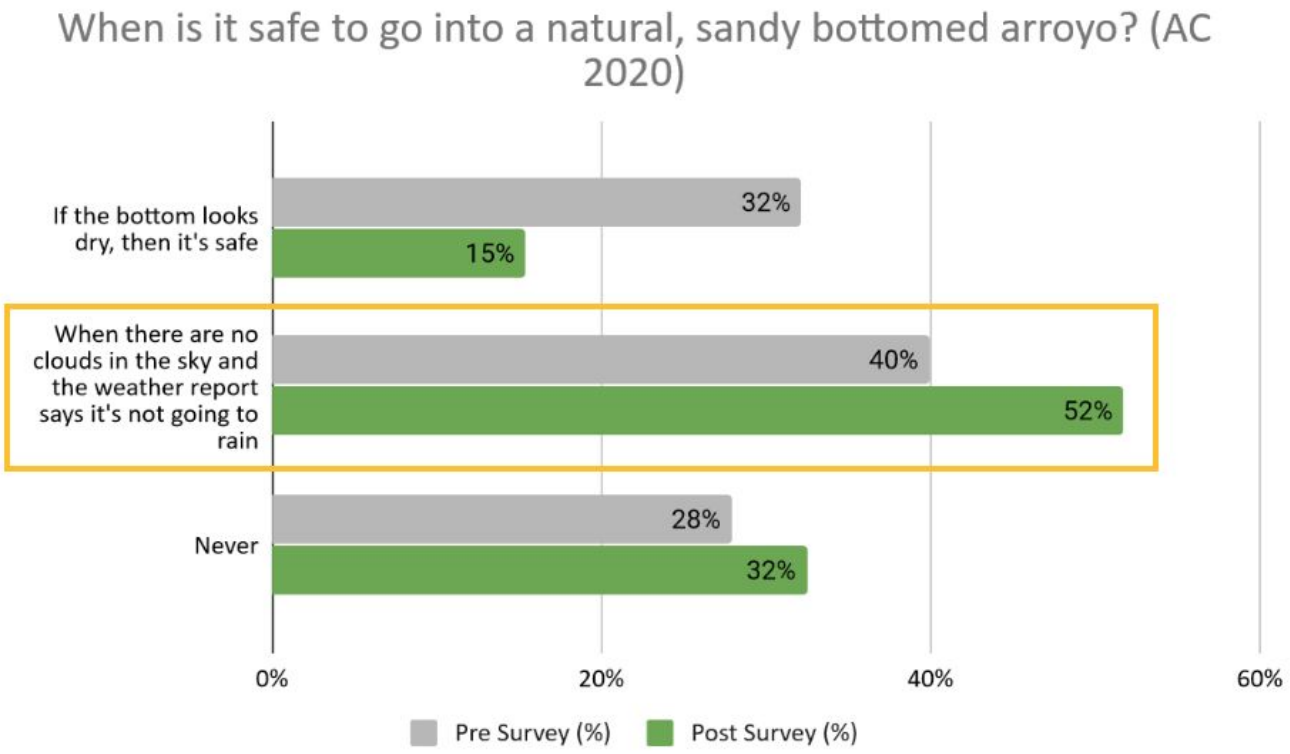
Item 1



The increase in correct answers for 'what is a watershed' is notable. This could be a result of the improved watershed lesson that was implemented last year, or that teachers are doing a better job of reinforcing the concept. Another interesting finding is that there is an increase in kids claiming it is

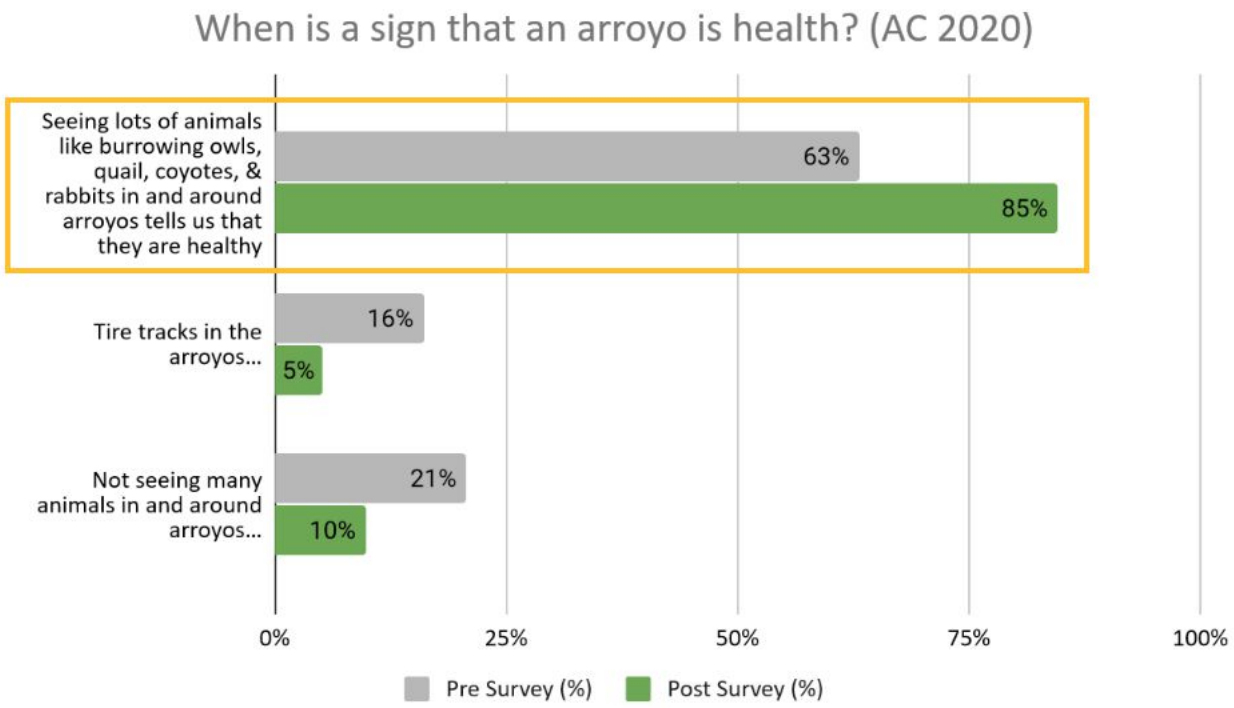
never safe to go in an arroyo in the post-survey. This happened last year as well.

Item 2



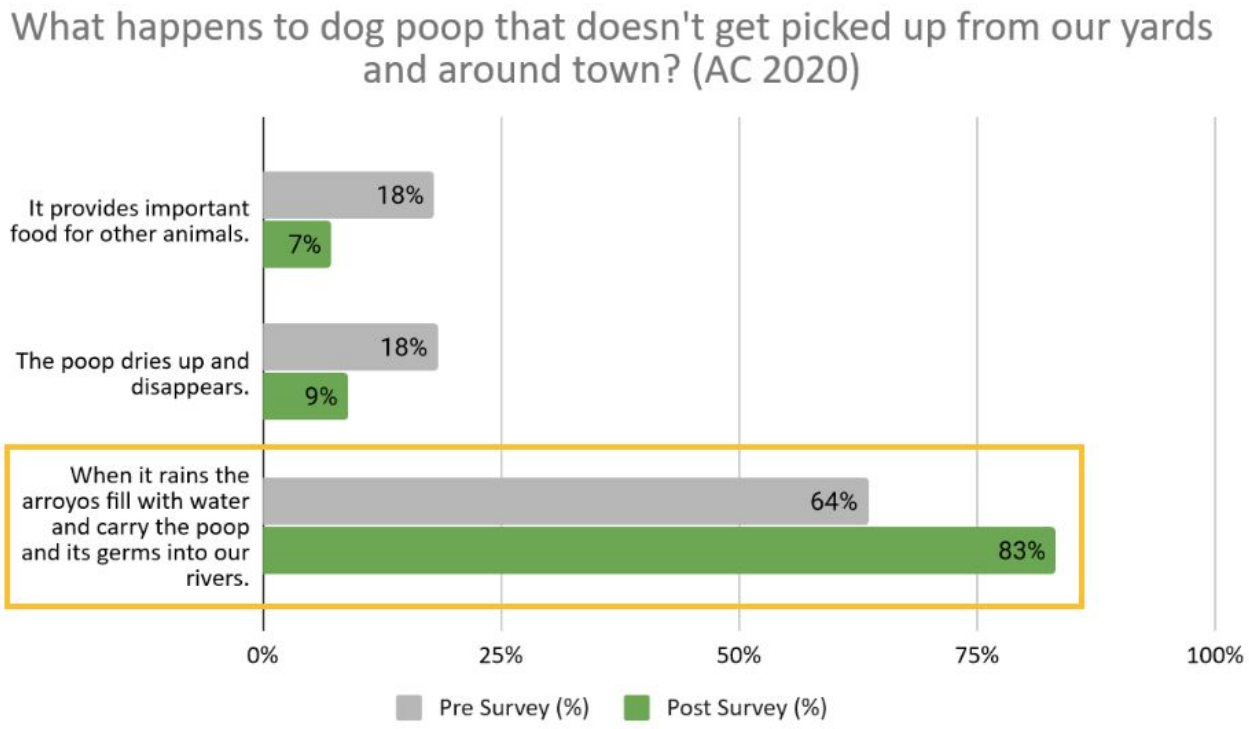
Another interesting finding is that there is an increase in kids claiming it is never safe to go in an arroyo in the post-survey. This happened last year as well. Extension activities that follow up on the presentation would be helpful in clarifying when it is safe to go in a sandy-bottomed arroyo. The Arroyo Walk can be a stimulating experience and some kids might just miss this information. It may be worth repeating in the watershed presentation as well.

Item 3

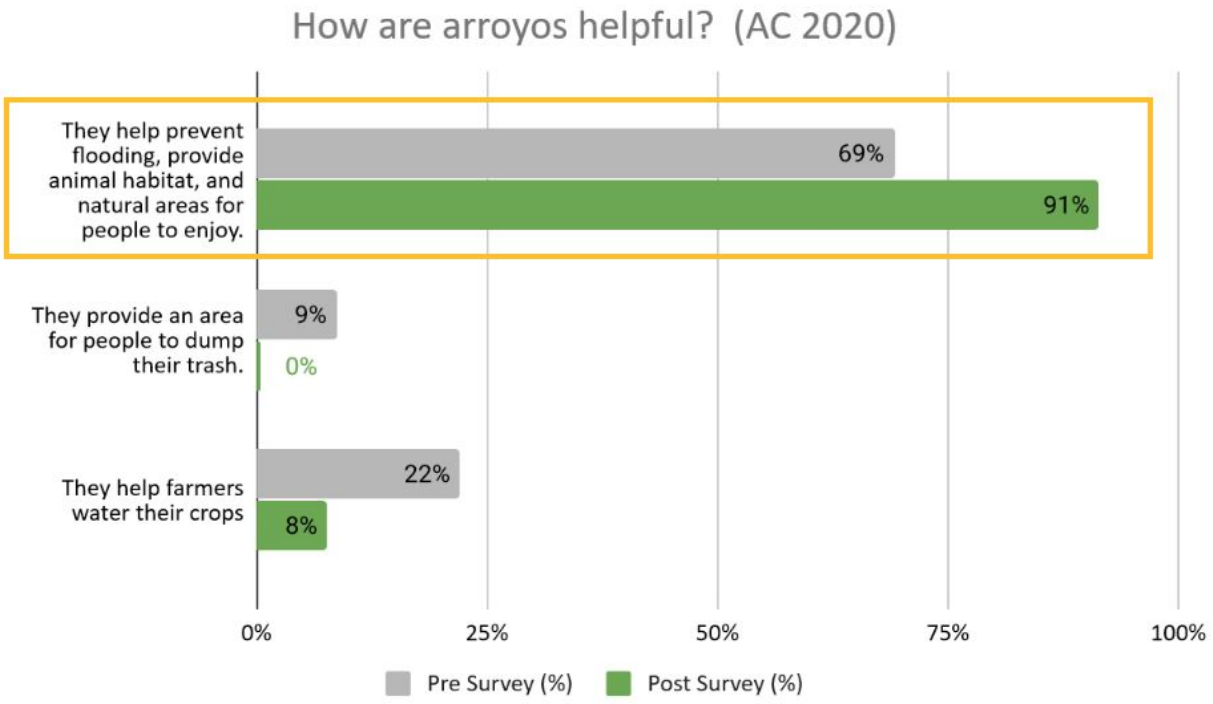


The incorrect answers in the question may be too leading. Kids might not understand the importance of species diversity when they answer this in the pre-survey, but they can assume that tire tracks and lack of animals is not a sign of health. They may have more contextual understanding in the post-survey, but we can not know for sure.

Item 4


What happens to dog poop that doesn't get picked up from our yards and around town? (AC 2020)
It provides important food for other animals.
18%
7%
The poop dries up and disappears.
18%
9%
When it rains the arroyos fill with water and carry the poop and its germs into our rivers.
64%
83%
0%
25%
50%
75%
100%
Pre Survey (%)
Post Survey (%)

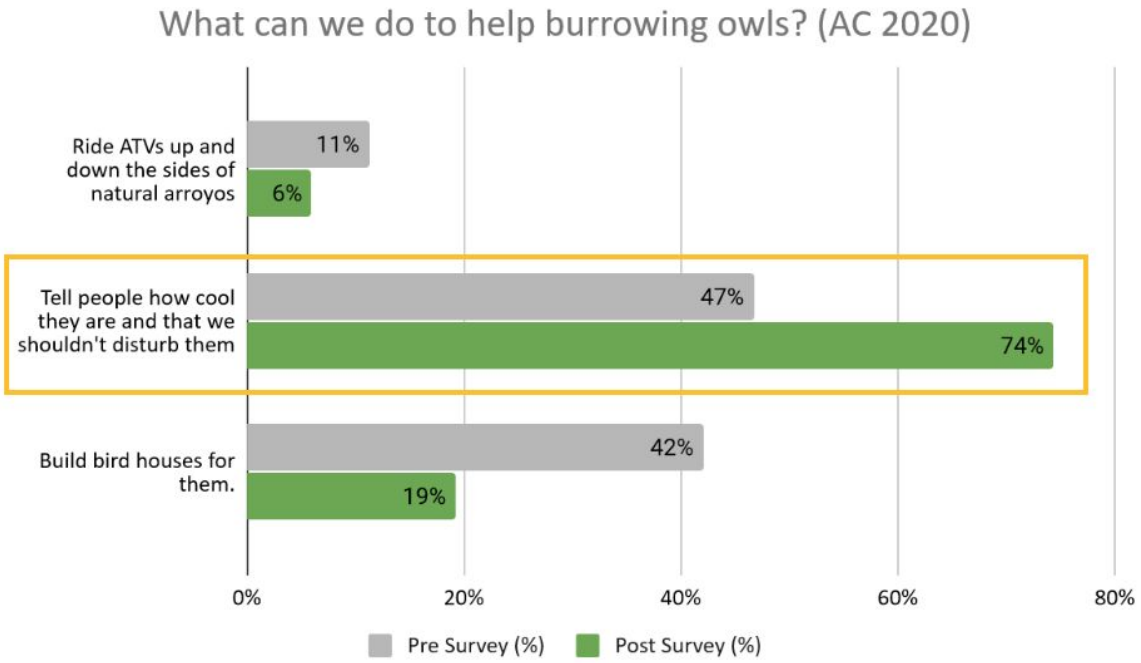
Item 5



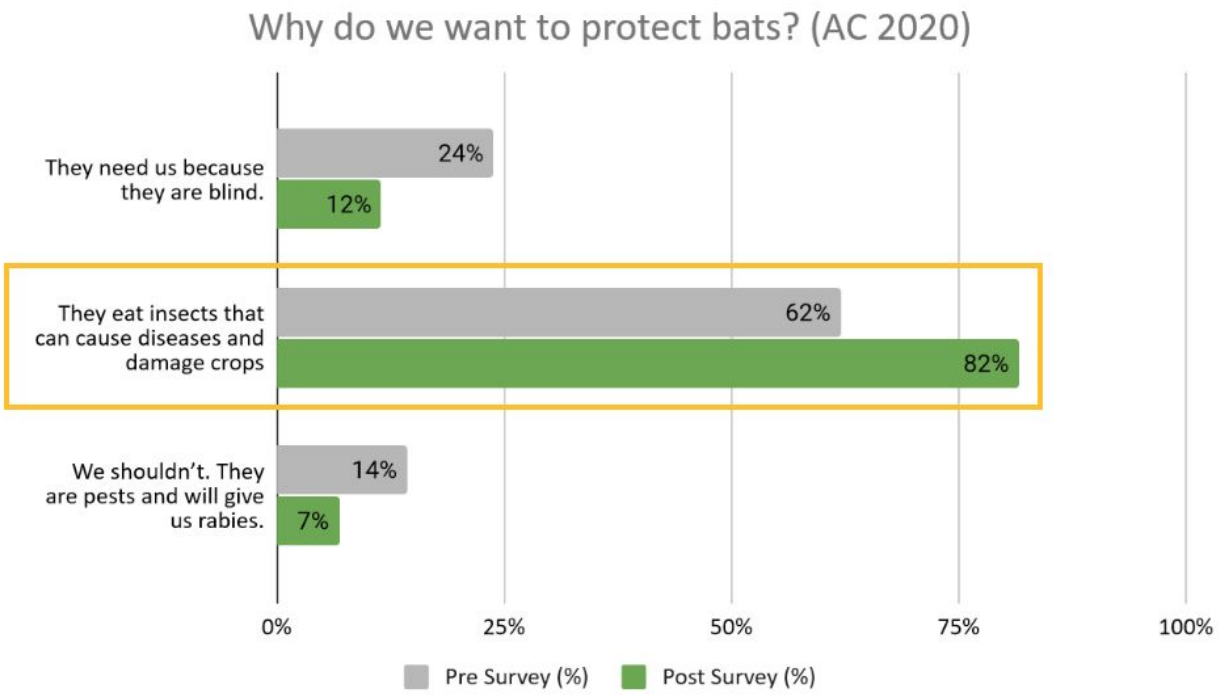
This question was adjusted to make the answers less obvious. The most important finding is that no one answered that arroyo is a place to dump trash in the post-survey!

The following items 6, 7 and 8 demonstrate similar patterns to those above where the majority of students are answering correctly on the pre-survey , with a positive increase in correct responses on the post. These results are also extremely similar to the year before and this is not particularly informative. The questions will need to be revised for next year.

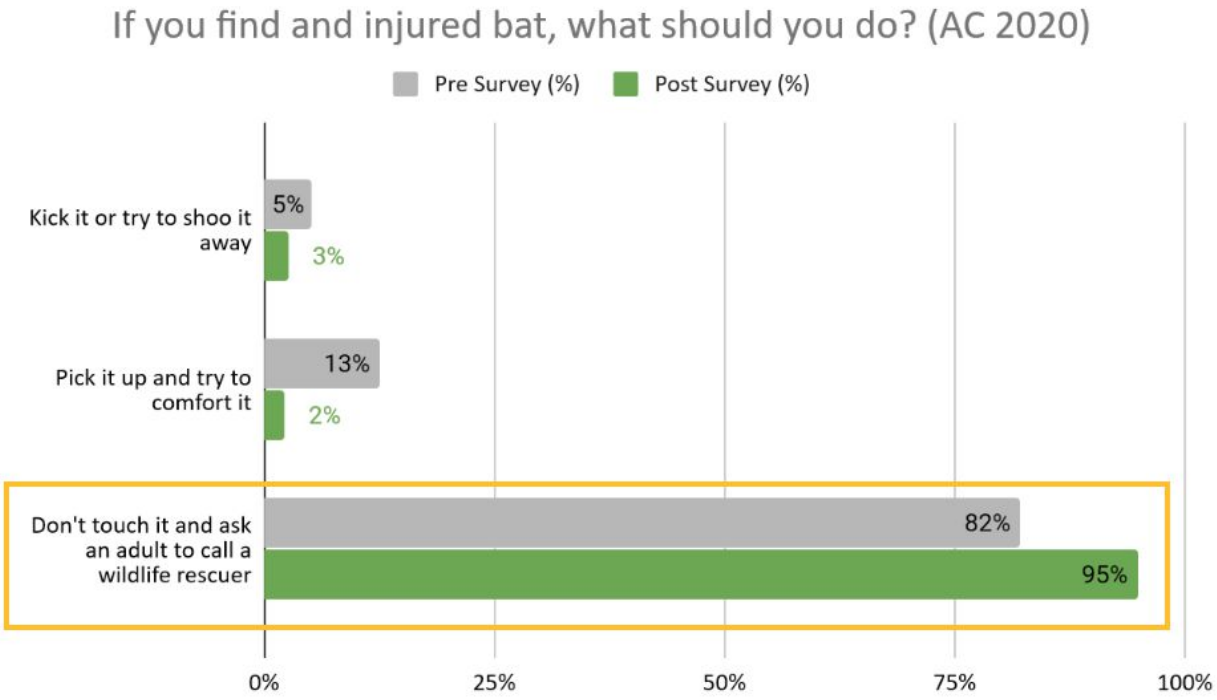
Item 6



Item 7


Why do we want to protect bats? (AC 2020)
They need us because they are blind.
24%
12%
They eat insects that can cause diseases and damage crops
62%
82%
We shouldn't. They are pests and will give us rabies.
14%
7%
0%
25%
50%
75%
100%
Pre Survey (%)
Post Survey (%)

Item 8


If you find and injured bat, what should you do? (AC 2020)
Pre Survey (%)
Post Survey (%)
Kick it or try to shoo it away
5%
3%
Pick it up and try to comfort it
13%
2%
Don't touch it and ask an adult to call a wildlife rescuer
82%
95%
0%
25%
50%
75%
100%

Appendix A contains lesson plans; Appendix B contains supplemental materials; Appendix C contains photos.

Appendix A
Lesson Plans

Activity Guide for 3rd Grade – Animal and Plant Adaptations

1. What are we trying to teach the students in this activity?
Arroyos are cool places where animals live, animals and plants are adapted to live in the desert.

2. How can we tie this activity to our teaching goals:

Our Goals	Where we can relate our goals to this activity
Animals live in arroyos	Look for evidence of animals.
We should visit arroyos carefully	Talk about when it is safe.
Picking up dog poop keeps germs out of our river	We'll probably see poop, talk about how it can make animals sick.

Supplies:
- Thermometers
- Clipboards
- Poster of leaf adaptations
- Wax paper
- Paper towels
- Tape

3. How can we tie this activity to standards?
- Measure energy (temperature change)
- Posing a question, using numerical data, various methods to display results
- Animals and plants have adaptations that improve chances of survival
- Classifying animals and plants
- Living things cause changes to their environment, some detrimental, some beneficial

5. How should this activity be organized?

I. Pre-activity (10 minutes)
- Do you ever visit/play in arroyos? What do you do?
- What are arroyos for? Managing stormwater to keep our town from flooding when we get a heavy rain. **Show first flush video.**
- Talk about arroyo safety – don't go into arroyos when you see clouds in the sky.
- Because our arroyos are natural, with sandy sides and bottom, they are safer.
- In Albuquerque, the arroyos have concrete sides and water travels so fast, it is really dangerous to ever go in arroyos. Some arroyos come from the canyon where it might be raining but you can't see.
- Our arroyos are home to all kinds of animals and plants, so they are a wonderful place to enjoy nature. What kinds of animals do you think might live in the arroyo?
- Walk out to arroyo

II. Lizard activity (15 min)
- 5min Look for evidence of animals. What kind of evidence? Scat, tracks, holes.

- What kind of animals live in holes (besides snakes)?
- What do you think makes it difficult to live out here? Heat, sunburn, not much water, cold at night. Animals and plants have special **adaptations** (special things about their bodies) that make it easier for them to live in this habitat.
- How do they get water? From plants, from condensation under rocks.
- How could they avoid heat? Stay in burrows or shade during the day, active at night.
- Some animals love the heat, though! Lizards are cold-blooded, which doesn't mean they are actually cold. It means their body temperature is determined by the environment. They need to absorb heat from their surroundings to function.
- Each student take a thermometer. This is a lizard, and it needs to maintain its body temperature at a certain level: fence lizard 35C (95F), whiptail 38.6C (101F). How can it keep from getting too hot? How can it keep from getting too cold? Lizards regulate their body temperature through behavior.
- Plants do kind of the same thing – hold one palm out flat, one sideways. Which feels hotter? Prickly pear cactus pads grow sideways instead of flat to keep themselves cool!

IV. Plant activity (15 min)

- What do plants need in order to survive? Water, sunlight, air, soil
- What makes it difficult for plants in the desert? It's so hot and there's so little rain.
- How do plants get water? **Show evapotranspiration diagram.** It's kind of like when we're hot, we sweat. But if we lose too much water from sweating we get dehydrated.
- How do they keep cool? Remember prickly pear? **Show pictures of hedgehog and prickly pear cacti.** Desert plants can **s**hade themselves! Hedgehog cactus has lots of spines that shade the surface and also blocks the wind.
- The leaves of many desert plants are **adapted** so that they don't lose too much water.
- Show leaf adaptations poster (fuzzy, small, curled, waxy, green stems but no leaves)

If weather is ok:

- Out in arroyo, we'll do an investigation.
- How many of the plants we see will have these adaptations? Hypothesize.
- To be fair, we can't just pick the plants we like. Standing in one spot, collect the first 6 *different* leaves you see.
- Draw each one, and describe what adaptation it has.
- How many of your 6 leaves have one of the adaptations listed?
- Why don't all have it? Some plants avoid the heat by just growing and producing seed really fast before the weather gets hot, and then they just die off and leave their seeds to grow next year!
- Search for seeds.

If windy, inside activity:

- Let's investigate one way they keep water. **Dab water on board, cover one spot with paper towel, one spot with wax paper.** Which do you think will evaporate faster?
- **Show prickly pear picture.** Make model of prickly pear pad: paper towels with wax paper taped around the outside. **Show cut prickly pear pad.**
- Maybe do an experiment: soak wax-covered and non wax-covered leaves in water and time how long they take to dry.

V. Conclusion (10 min)

- Arroyos are for flood control, and we shouldn't play in them when clouds are in the sky.
- But they are cool places where animals and plants live, and we can visit when it's clear weather.
- Animals and plants are adapted to live in the desert climate.
- What we do in arroyos affects the plants, and animals' habitats. Should we ride ATVs up the sides? That's something humans do to change our environment for the worse.
- Picking up dog poop is important because it can make animals sick. Where does the water go when it flows down the arroyo? The Rio Grande! Keeping dog poop out of the river is one way humans can change our environment for the better.
- Walk back to classroom

Leaf Adaptations

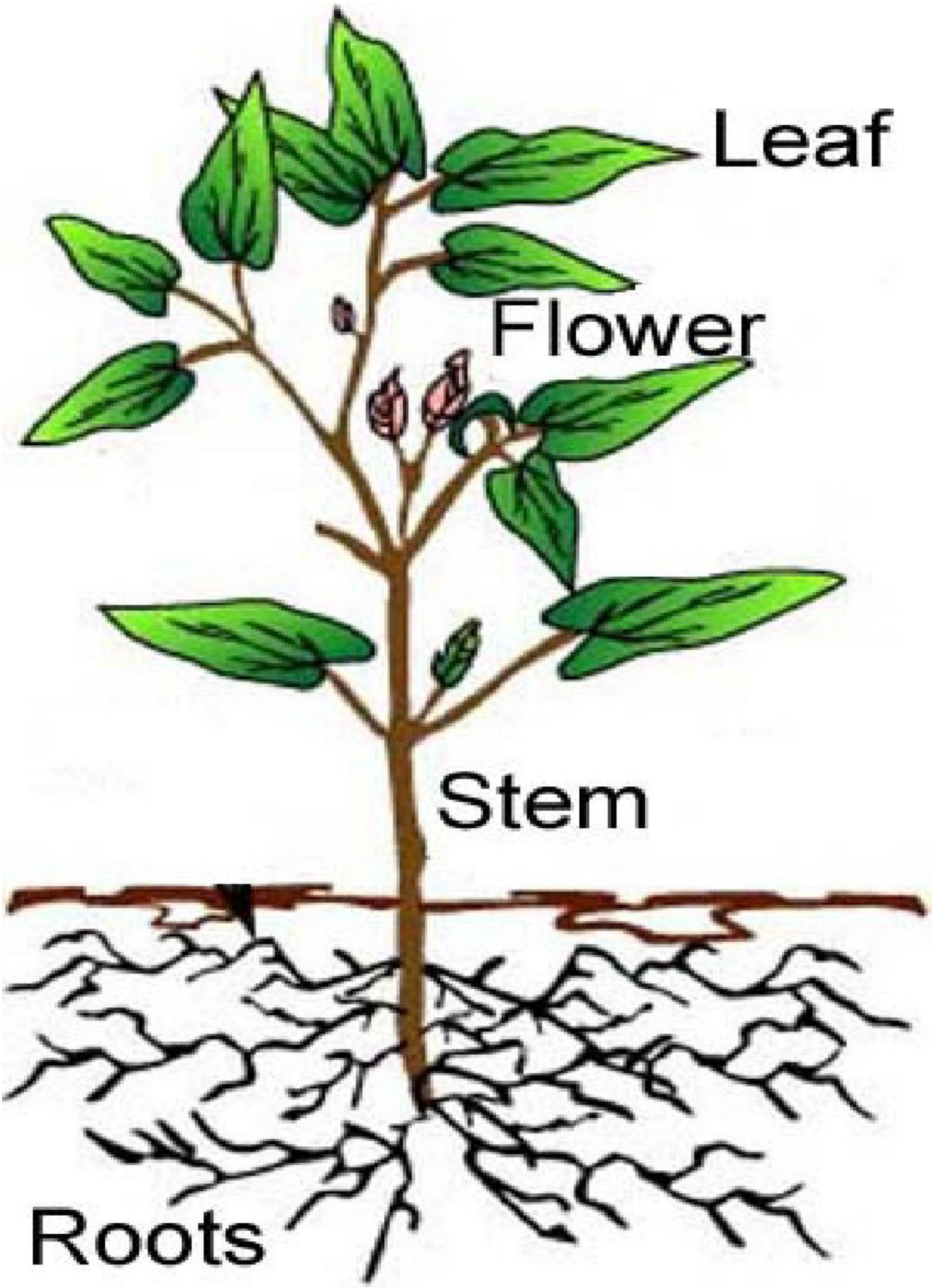
1. **Fuzzy leaves or lots of spines**

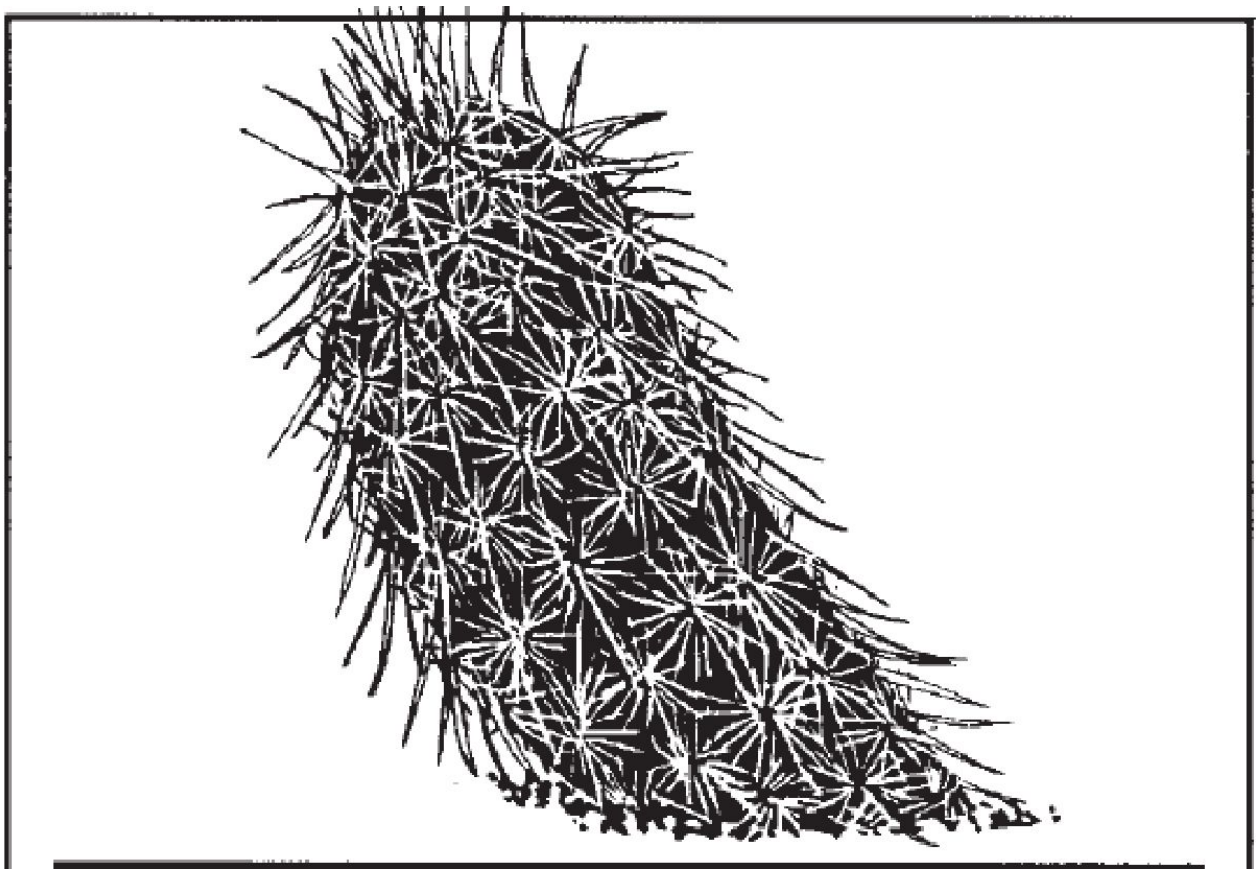
2. **Small leaves**

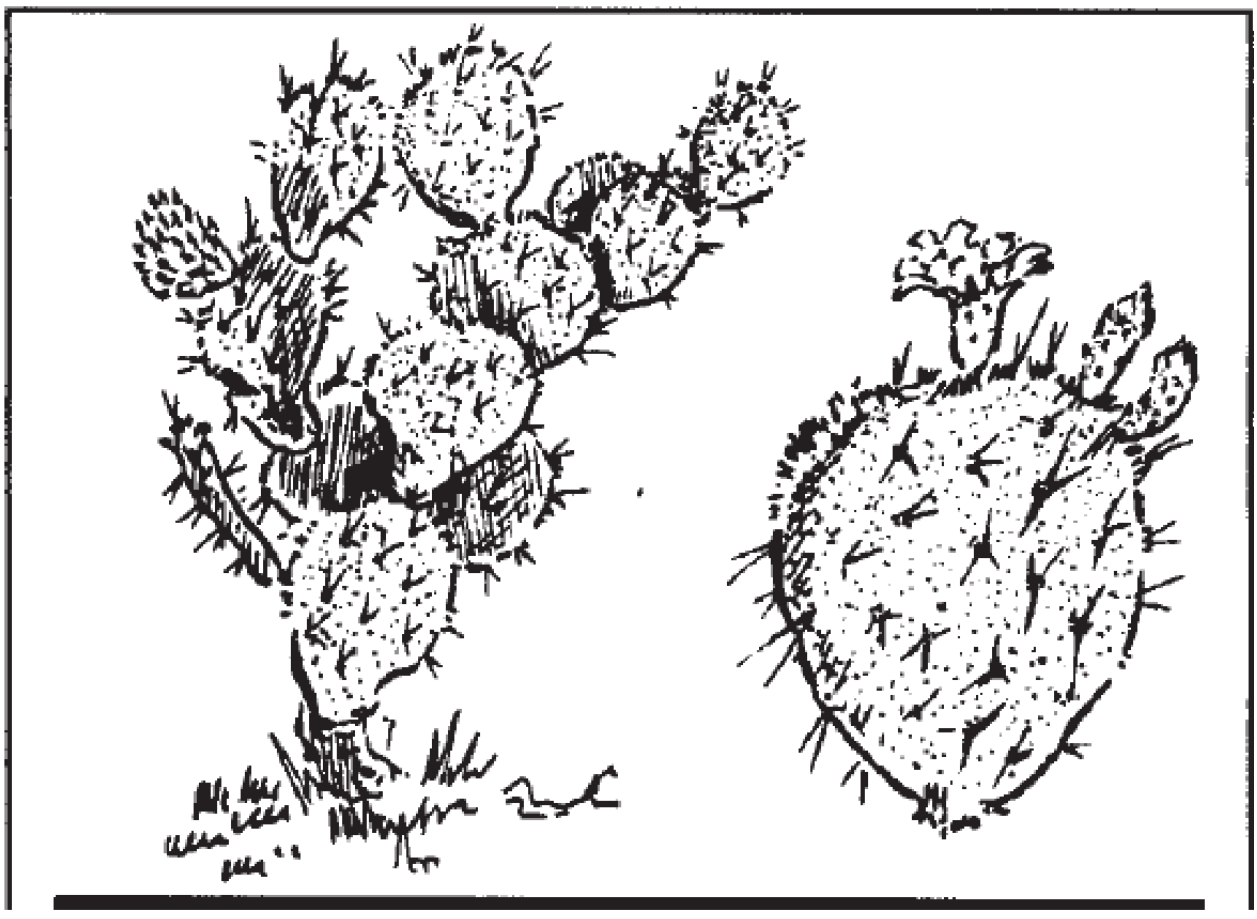
3. **Curled leaves**

4. **Waxy leaves**

5. **Green stems but no leaves!**


Leaf
Flower
Stem
Roots





Build a Watershed Activity Guide for Arroyo Classroom

1. What are we trying to teach the students in this activity?
What is a watershed? How does the water cycle work? What are different forms of pollution and how does it impact our river? Arroyos lead to the river and carries different types of pollution with it.

NM State Science Standards:

3rd Grade
Water cycles through the atmosphere, plants, soil, and bodies of water in various forms.
Describe pollution and identify different types (can be naturally occurring or human made materials). Pollutants can get into our water and harm living things.
Some animals can survive better in certain environments, some will not survive at all.
Describe how roots take up water and soil nutrients, and leaves make food from sunlight.

2. How can we tie this activity to our teaching goals:

Our Goals	**Where we can relate our goals to this activity**
How does the water cycle work?	Describe the processes of the water cycle: evaporation, condensation, precipitation, collection, run-off and infiltration.
What is a watershed?	A watershed is all the land that drains into a river or other body of water, from mountain forests to riparian zone.
What makes water dirty?	Pollution comes from all over the watershed, and erosion is one form of pollution.
Why are arroyos important?	Arroyos provide important drainage in a storm event and provide unique and critical habitat for wildlife and plants.
How does vegetation help our river?	Forests, wetlands and healthy arroyos help keep the river clean and prevent flash floods. Plants in these areas slow the runoff of water into the river, reducing erosion and flooding. They can also remove nasty chemicals from the water by taking them up through their roots.

3. What is effective in this activity? Being in small groups, students enjoy creating the model and discussing what they are observing.

4. What makes this activity difficult to teach? Students get excited and want to play with materials while you are talking.

Activity Materials

- Blank paper, markers, aluminum pans to capture water
- markers (ex: black for oil, brown for dog poop, red for trash)

- a watershed map (ex: SSCAFCA watershed map, It's All Connected in a Watershed poster)
- NM relief map

Preparation

- Post watershed map
- Draw sketch of the water cycle
- Have materials laid out and desks arranged (papers, trays, sets of markers)
- Optional: write out key for marker colors (keep hidden until time to show students)

I. Intro – 5 minutes

1. Introduce yourself and the Arroyo Classroom program: Respect and Know your Arroyos
2. Cover guidelines/expectations in order to be able to have a good time and learn together
3. Introduce what we will be learning: What is a watershed? Where does it go when it rains? We are going to find out how water moves across land, and through our arroyos, when it rains or snows. And learn about how it carries things with it as it flows.

II. Warm Up – 10-15 minutes

1. How many of you used water before you came to school today? How did you use it?
2. How else do people use water on a daily basis?
3. Where do you think all this water comes from? (Discuss the aquifer and it's connection to precipitation). Point out groundwater shown on the "It's All Connected in a Watershed" poster.
4. Pull out the NM relief map. Discuss the purpose of a map. Walk through so each student can view. Introduce the concept of a "key". Have them help you find ABQ on the map and the Rio Grande. Point out the area of Rio Rancho. Explore the map together.

Ask: (Really engage with students and listen to their ideas)

- Has anyone heard of the term "watershed" before? You can highlight that it is a compound word. Have students share what they think of when they hear this word usually, "a shed full of water." It's kind of like that! Except the shed (or container) is an area of land. *Everyone lives, plays and works on land that draws to a body of water, like a river, lake, bay or ocean.*
- Point out the Rio Grande Watershed through the middle of the NM relief map.
- Where are there mountains and hills? Where do you see rivers and lakes?
- What would happen if we sprayed water on the mountain peaks, what will happen to it? *It will flow downhill.*
- Where does the water come from in nature? *Rain or snow*

III. Activity – 25 minutes

Where does the water go? Let's find out by making our own model/map, similar to the relief map.
Part A: 10 min
While students are still sitting, demonstrate activity → crumpling paper to drawing on the ridges. Identify the ridges. Ridge as high point of range of hills or mountains. Point out that it is where the

paper has a peak pointing up not down. Maybe identify the difference between a peak and a valley using the paper.

1. With your imagination, imagine that this piece of paper is a piece of land.
2. Crumple up the piece of paper and then smooth it back out most of the way. Leave it a bit crumpled, showing small ridges (high points) and valleys (low points).
3. Find the ridgelines (tops of the fold lines). Use the blue marker to color along the ridgelines on your "land".

Model this for students briefly. Be sure everyone understands the activity. Ask students to crumple their paper and draw their ridgelines. Once they are complete - Hands on their hand so we know they are ready for the next step.

Pair students (groups of 2 or 3), with teachers help. Assign roles 1-2, or 1-3.

Give Roles***: We're all observers, everyone will have a turn.

Have groups gather around their tray. Drawers can begin drawing their ridgelines. Announce that students have 30 more seconds when it seems that each group has enough ridgelines.

Next, demonstrate a "rain event". Model for students the distance we want them to aim from as they spray (i.e. the length of your elbow to hand, vertically placed on the tray). And 4 sprays. (idea: Students can be drill sergeants about the three sprays, acknowledge that sometimes the spray bottles act funny but that we are trusting our classmates to count for themselves to do only four full sprays...).

Ask:

- What do you think will happen to your land when it "rains"?
- What will happen to the blue ridge lines? / Where will the "rainwater" travel?

1. Altogether, sprayers squirt your model a few times to create a "rainstorm" over your land.
2. Observe what happens.
3. As your rainfall accumulates, watch the pathways where the excess "rainfall" travels.

With teachers, walk around to ask each pair to explain what the water is doing and show you rivers and streams in their model.

Have teachers help pick up all the spray bottles, and ask everyone to place their hands on their head and have a small group discussion about their observations.

Part B: 15 min

Have pairs switch roles, “disposers” can throw out previous model. Tell students they will keep the same number assigned earlier and tell them what role they will be playing. You could write these on a whiteboard.

What’s In the Water?
Experiment with how “pollutants” might travel through their watersheds.

With a new piece of “land”, imagine this represents the City of Rio Rancho or the Rio Grande Watershed. Show one of the Watershed posters and point out all the human activity that happens in a watershed (driving cars, making things (manufacturing), farming, walking our dogs, etc.)

Ask:

- What might be on this land that we wouldn’t want in our water?
- What is pollution?
    - Have you ever seen it? What does it look like?

As students share, note the types of pollution on a poster or white board and create a key for groups to use. (Roads/Cars - black, Trash - Green, Dog poop-brown (and/or orange if you have more groups than markers)) Depending on the group, you could also identify Factories - Red

Before crumpling, have drawers (with their support drawers) mark their papers with the brown, red and black marker to represent farms, factories, houses, streets, dog poop and trash.
Announce that students have 30 more seconds when it seems that each group has drawn enough. Then ask all students to put their hands on their head.

Then have crumplers -crumple paper and then partially smooth it out.

Altogether, have sprayers spray the piece of paper.

Ask:

- What happened to the pollution when it rained?
- Describe what happened at the highest and lowest point in your watershed.
- How quickly did it spread? Are there any places on the land where it didn’t go?

WRAP UP: -5-10min
What do you think this means for our watershed - the Middle Rio Grande?
The water we drink comes from our watershed. Animals and plants also depend on this water. That’s why it’s important that we try not to pollute either the water or the land. Anything that pollutes the land will eventually wind up in the water.

What might be ways we could reduce pollution in our watershed?

*By picking up trash and picking up dog poop if we have dogs. (*I like to emphasize to this age group that **being responsible is powerful** and they can make a difference by caring and picking up their own trash. I also tell them that last year a whole grade level of 3rd graders at Cielo Azul Elementary helped pick up 1.8 tons of trash!)

Thank the class for their attention and participation. Tell them we look forward to seeing them again and expect that they show the wildlife biologists the same respect they have shown us.

*****Groups of 3: Each person gets to spray 3x. Model this for them.**
For groups of 3, you'll need two blue markers for Part A.

May be helpful to tell students each turn has a Lead Role and a Supporting role (Supporting role noted in parentheses).

Part A Roles:
1 - Drawers (+ spray)
2 - Crumplers (+ drawing / spray)
3 - 1st Spray (+ disposers) -- Spray 3, 2, 1

Part B Roles:
1 - 1st Spray (+ disposers)
2 - Drawers (+ spray) --Spray 2, 1, 3
3 - Crumpler (+ draw)

Groups of 2:

Part A Roles:
1 - Crumpler / Drawer
2 - Sprayer / Disposer

Part B Roles:
1 - Sprayer / Disposer
2 - Crumpler / Drawer

Appendix B
Supplemental Materials

-SSCAFCA Activity Book and Educational Videos:

KNOW YOUR ARROYOS
ENJOY • RESPECT • PROTECT

-SSCAFCA handouts:

Did you know?

SSCAFCA protects our community from flooding and erosion caused by big rain storms, and works to keep stormwater clean. Stormwater flows down arroyos into the Rio Grande.

Bugs like to live in stagnant water that collects in ponds and low places in the arroyos. Insects like mosquitoes can carry diseases that make us sick.

Brought to you by:

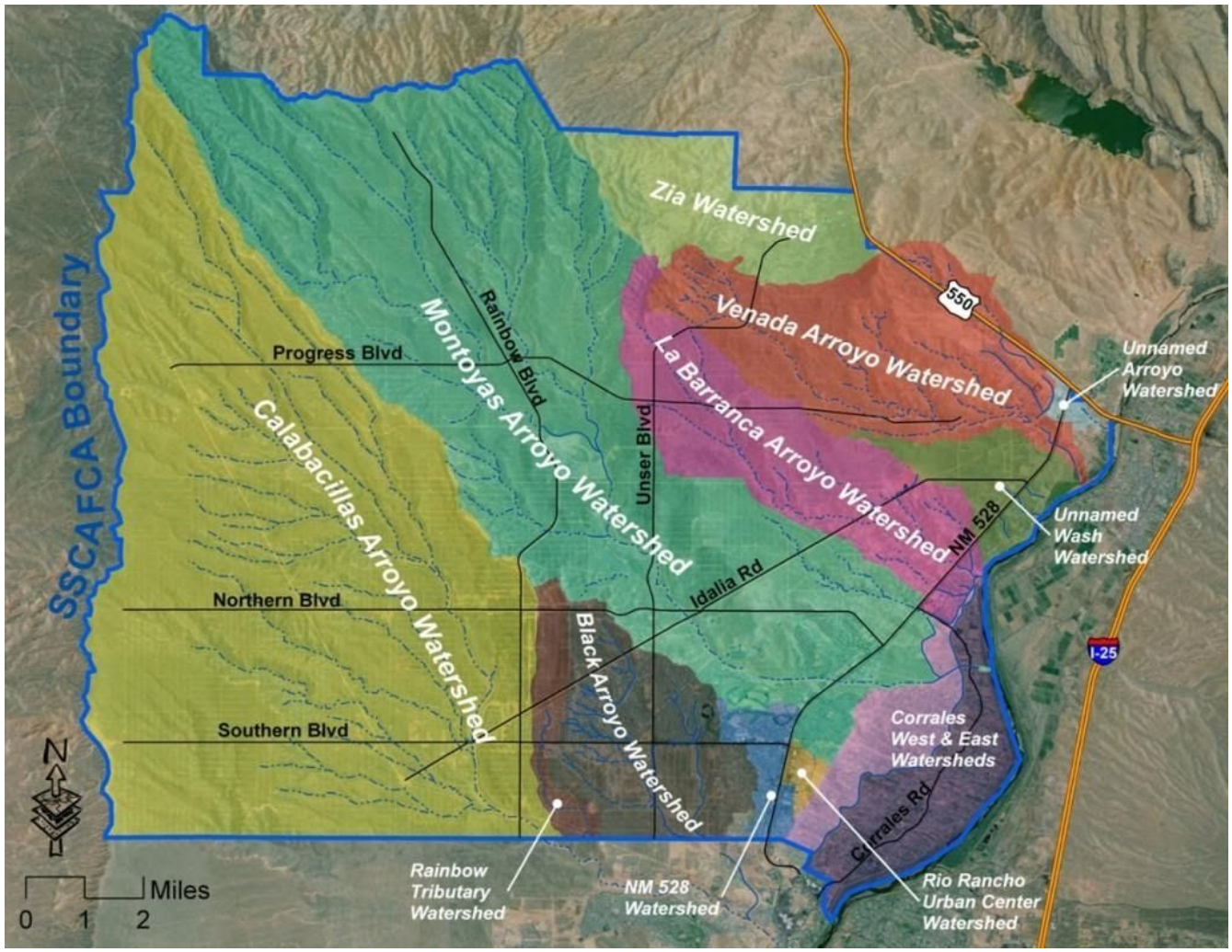
SSCAFCA

Almost all U.S. bats feed exclusively on bugs, and 1 bat can eat between 600 and 1,000 mosquitoes and other insect pests in just one hour. One bat can eat its own weight in insects in a single night!

SSCAFCA provides bat houses to encourage bats to make their homes near our arroyos, and especially near detention ponds where stormwater runoff is captured and allowed to slowly drain.

The more we help bats, the more pests they eat, so we don't have to spray pesticide that could wash down to the Rio Grande and pollute it.

SSCAFCA watershed map:



Appendix C
Program Photos

LEFT - Melissa McLamb discussing desert animal and plant adaptations by Maggie Cordova Arroyo.

BELOW - Students observing and discussing the watershed model.

ABOVE - Students having fun during the arroyo walk on school property. Students gather in between activities to discuss findings such as looking for evidence of wildlife (scat, tracks, burrows, etc.).

RIGHT- Mikal Deese with a Swainson's hawk at Maggie Cordova Elementary.

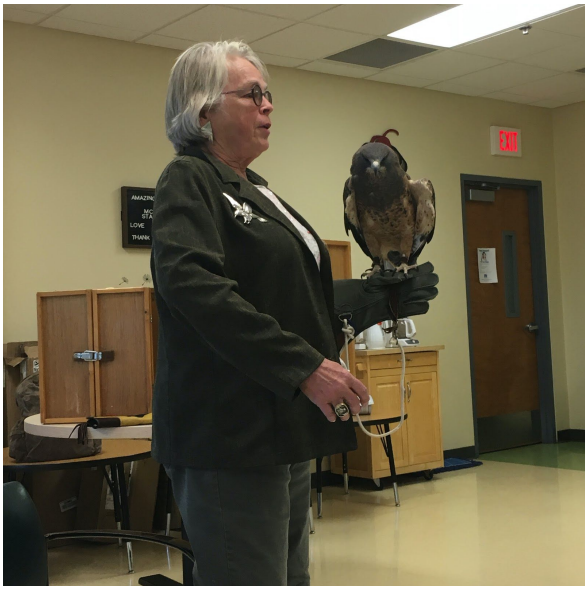


Exhibit 4

RiverXchange
2019-2020 Final Report

Making Meaningful Connections by Integrating Water Resources Topics with Language Arts & Science

2020 Report

Presented by
Ciudad Soil & Water Conservation District

May 2020

CONTENTS

SUMMARY

This year, funding enabled 38 NM classes (932 students and 38 teachers) to participate in RiverXchange® and learn about critical water resource issues in their watershed. The majority of participating classes were from Title I schools. Every NM class was connected to out-of-state partner classes on the blogging platform for a total of over 1,254 participants. All program costs and coordination are provided free of charge to NM teachers. Training, technical support, and curriculum materials are provided free of charge to partner teachers. The program required $56,157.11in cash and generated total match valued at **$82,115.32** in the form of in-kind contributions including workshop space, classroom resources, presenters' time in the classroom, field trip docents, donated trees, as well as teachers' and students' time.

Even with the impacts of the COVID-19 pandemic and the transition to a new education coordinator mid-year, RiverXchange was able to run smoothly with only a few classes missing a presentation or a field trip due to school closures mid March. The end of the year teacher feedback responses confirm that this year's program was strong as any, as many spoke to their students increased ability to understand local water resources and the impacts of society on those resources, as well as how they can take part in protecting those resources, upon completion of the programs. The following sections discuss how coordination efforts were spent keeping RiverXchange a high quality, relevant program and responding to on-going needs and challenges.

Presentations

Program presentations were completed as follows:

Agriculture: 29/38
Stormwater: 38/38
Wastewater: 38/38
Drinking Water: 36/36
Planting Field Trips: 32/38

Program Strengths

Teachers continue to report that the presentations are consistently high-quality, hands-on experiences that engage students; and that the field trip is a highlight of the year for all involved. The presentations explore different aspects of water usage in our community with professionals and experts in the field and continually reinforce to students how they can protect their watershed and the Rio Grande. The pole planting field trip allows students the opportunity to give back to the environment they have learned so much about and their enthusiasm for service learning is palpable on the trip! Furthermore, RiverXchange supports the active participation of teachers in the program by providing professional development opportunities, training to teachers on program implementation, extension activities, and access to a blogging platform for students to connect. RiverXchange incorporates STEM, place-based learning, hands-on activities; and puts conservation actions into the hands of local students and teachers while partnering with stakeholders in the community.

The following sections discuss highlights from RiverXchange this year:

I. Teacher Workshop

The teacher workshops this year were held at Valle Del Oro and Bachechi Open Space. The workshop schedule included an introduction to the site as an educational resource, an overview of RiverXchange presentations and curriculum, a break-out session, blog training, presentation scheduling and lunch. During the RiverXchange overview, we encouraged teachers to introduce RiverXchange to their class using the River Geography activities. We emphasized that starting students off with an overview of our local watershed, including the Rio Grande is a great way to kick-off the program and bring context to the future presentations. We also suggested that introducing their watershed on the blog as their first class post would be a great way to synthesize this introduction.

This year we also choose to give teachers a focused break-out session with their 5th grade team to consider each presentation and plan how to integrate their own lessons or RiverXchange presentation extension activities to deepen their students' learning experience. The goal was to highlight teacher expertise and give teachers more time to share how they make RiverXchange work in their classrooms with each other. Teachers worked in groups to discuss an assigned presentation and what activities they recommend or wanted to try out. Then they presented to the whole group so that each presentation was covered. Teachers seemed to enjoy getting ideas from each other and the chance to share their practice with everyone. It also gave each 5th grade team a chance to talk about how they were going to integrate RiverXchange into their year.

The teacher workshop also included in-depth training on Kidblog. Each teacher was able to connect to their individual blog, navigate their page, and find important information that would help them be successful. Overall, the time at the teacher workshop felt productive, engaging, reciprocal and fun.

II. Teacher Feedback

Every year teachers are asked to complete an evaluation survey to tell us why they choose RiverXchange, what works well and how we could improve. This year teachers continued to have positive feedback and shared that the presentations are exceptional and the field trip is “second to none!” Of the reasons teachers state that they participate in RiverXchange, teaching about water resources and incorporating more science into their classrooms are the top choices. Teachers also are finding more and more that RiverXchange helps their students achieve NM STEM READY! standards through hands-on experience, inquiry-based learning, solving real world problems, and engaging in the community. Some teachers still report that they struggle finding computer time and feel unsuccessful on the blog. We also had great feedback from our visually-impaired teachers about the field trip, but that it could be helpful to adapt the presentations for special education students or reach out to the teachers beforehand so they can support those students better.

Here are a few quotes about student’s greatest learning outcomes from participating in RiverXchange:

“A heightened sense of their surrounding community and the overall impact water has on our society.” - Peter Hornbecker, Colinas Del Norte

“Teamwork...the students loved working in groups during the presentations and the pole planting trip. Many of them were still talking about it before school was cancelled”. - Stanee Kitts, MLK

"Students became more aware of their environment close to their home and the impact their actions can have on the river." -Debbie Beer, Duranes

"Their knowledge about the watershed and how to care for it. The content sticks with them so well because of all the experiential learning." -Ashley Anthony, Monte Vista

"My students were able to move toward understanding water as something to think about, not just a given, unappreciated, unlimited resource." -Rona Gomez, Georgia O'Keeffe

Finally, this quotes summarizes the opportunities teachers get from participating in RiverXchange:

"RiverXchange has helped me step outside my comfort zone to explore, demonstrate, and teach areas that are new to me. It was definitely a benefit as shared by students!" -Randi Sevigny, Seven Bar

III. Supporting Next Generation Science Standards

The Next Generation Science Standards have been adopted by the New Mexico Department of Education and are in the second year of implementation. The framework of NGSS moves the focus from teaching science facts to the process of *doing* science and requires both curriculum developers and teachers to re-think science education instruction. RiverXchange supports many of the "3 Dimensions" of NGSS framework by delivering inquiry-based curriculum, hands-on learning opportunities and locally focused water resource topics. The next steps are to fully align RiverXchange to the NGSS, and while this is a lengthy process that requires practice before understanding, it will be key in both promoting RiverXchange as a 21st century science education program and encouraging the next generation of scientific thinking and problem solving.

Program Challenges and Opportunities

In an effort to remain relevant to students, stay updated on current science and technology, and keep up with teacher needs, RiverXchange is constantly evolving. While at its core the deliverables remain constant, each iteration of the program aims to be a more improved, polished version of itself. As the recently hired Education Coordinator, I believe it is valuable to share some of the insights that I have gained as a consultant to the program, and document them here as a way to convey some of the challenges and opportunities that Melissa McLamb and I were responding to during our time working together. Especially as the program is now faced with new challenges and opportunities in responding to the COVID-19 pandemic, this section serves to hold that institutional knowledge and will be important to remember once things settle down.

I. Ensuring High Quality Presentations and In-kind Partnerships

Challenge: Maintaining our agreements for in-kind partner presentations when we lose a partner.

RiverXchange is dependent on our in-kind partners to deliver the four in-class presentations and relies both on the availability of these partners and their expertly crafted lessons to meet our objectives. The only

drawback of such a strong partnership is that when an agency is no longer able to provide this service, it takes time to find another partner who can meet such a specific niche. This has been the experience with the agriculture presentation that was previously provided by Bernalillo County Extension to APS participants. As a response to this gap in 2018-2019, RiverXchange staff developed a presentation that explored the regional history of agriculture and irrigation techniques, which highlighted acequia culture and the effects of human settlement on the Rio Grande. During that year we entered discussions with CESOSS (Center for Social Sustainable Systems), as they were working on creating an Acequia Education Office in the South Valley and agreed they would be a good candidate for providing these presentations. However, the timeline for the development of the Acequia Office and their limited funds have proved to be barriers for now.

Response: Maintaining a network of in-kind partners who can provide RiverXchange presentations.

This year, we were able to call on the help of BernCo Master Naturalists and found that they are a well-suited group to recruit presenters from. This summer we intend to recruit Master Naturalists earlier to ensure availability and cover all presentations, as working with volunteers requires flexibility and grace. Furthermore, it should be noted here that all future RiverXchange staff should have an up to date understanding of each presentation and the capacity for networking to ensure partnering opportunities are easily accessible.

II. Kidblog: The current blogging platform

The continued agreement with an educational contractor this year allowed for an increase in capacity for blogging support. Time was spent working with the Kidblog support specialist, Laura Kniffin, to understand the platform and how it can work with the specific needs of our program. The following changes this year were the result of those conversations.

- **Rostering**: Rostering is an efficient way to create new blogs and users using .CSV files at once, rather than doing each blog and user one by one.
- **Individual class blogs**: We returned to each class having their own blog rather than grouping two or three on one with the goal to reduce confusion on how the blog is used and encourage classes to build a more unique identity on their blog. It also allows returning teachers to keep the same blog year after year, and further reduces time spent getting new blogs set up for both teachers and coordinators.

III. Connecting NM classes with partner classes via Kidblog.

In working closely with partner classes the previous year, our goal this year was to increase posting by partner classes and strengthen connection with NM classes. The following were challenges identified from the previous year and our responses in 2020-2021.

Challenge: Creating strong partnerships with NM and out-of-state partners on the blog takes significant coordination.

- **Out-of-state partners have varied schedules and the timing of their water-related lessons do not always line up well with our program.** This creates a challenge on both sides. Partner classes

are recruited on the premise that we will provide them with an active class on the blog that will be discussing water related topics. For a one-on-one partnership to be successful, the NM class has to be active and do so within a time frame that is convenient for the partner class and vice versa.

- **Active participation on the blog varies by teacher by year.** A teacher might be super active on the blog one year and completely absent the next. Circumstances change year by year, it is hard to rely on one teacher behaving similar to the year before.
- **Organizing who is doing their water-focused unit at what point in the school year takes time that is not well spent if neither partner actively participates on the blog.**

Response: Use coordination time available to make blog user-friendly and increase teachers fluency on the blog to increase active participation for NM and out-of-state classes.

- **Teacher workshop included training on each teacher's actual blog.** Teacher's were able to work side by side on their own blog (rather than just see examples), ask direct questions and troubleshoot. This requires all blogs to be set up before the teacher workshop, but allows for better understanding.
- **Out-of-state partners attention increased.** Each partner was interviewed to better understand their goals and their timeline. They received one-on-one, virtual training on the blog, technical assistance and general support for implementing the blog in the classroom throughout the year.
- **NM and partner classes all connected on the blog.** Kidblog has a "Connection" function that links classes to other classes visibly on each blog page - where they can easily go to another classes blog, see posts and comment. This year in addition to having assigned partners, all classes were linked to all other RiverXchange classes under the "connection" feature on Kidblog. While the goal was to create more ease in finding active classes to comment on- the number of connections seemed to have over-stressed the system and slowed down loading times on Kidblog for our users. Even with improved accessibility to partner classes, there were only a few classes that corresponded with other out of state classes this year by sharing comments back and forth.
- **Distribution of monthly Mailchimp emails with blog highlights, tips and resources.** To further increase creative blog posting, instigate class connections, and improve Kidblog fluency, a monthly newsletter went out that provided a summary of blog activity, shout-outs for recent posts and updates on out-of-state partner posts with links directly to those blogs to see their work.

Opportunity: Connect with regional upper elementary watershed programs that might provide sustained partnerships between teachers and programs over the years.

In 2020, Ciudad SWCD acquired the licensed trademark of RiverXchange® from Amy White, which grants CSCWD the sole oversight of the program and the ability to evolve the way we meet the "exchange" mission so integral to the program. Considering the challenges with the blogging platform, teacher engagement on the blog and connecting NM students with out-of-state students, we have been in search of other opportunities. One avenue is to strengthen a partnership with an out-of-state program that is similar to RiverXchange and develop a long term relationship. Another is to explore in-state programs that are similar and devise a strategy that would allow our students to connect possibly through the blog, via snail mail or even create podcasts to share. Santa Fe Watershed Association manages a 5th grade program called My Water My Watershed and could be a great candidate to try for a stronger exchange between students - one that would connect students across watersheds along the Rio Grande.

PROGRAM DESCRIPTION

Mission

The mission of RiverXchange is to deepen students' and teachers' understanding and appreciation for their local river ecosystem, motivate participants to protect local water resources by conserving water and keeping their source water clean, and to provide a high quality, high impact outreach opportunity for funders and in-kind contributors.

The Big Water Questions

The optional curriculum frames program outcomes as "guiding questions," known as *Big Water Questions*. A long term goal of RiverXchange is that students understand these questions and can formulate logical, fact-based answers by the time they finish elementary school. We believe that students who can synthesize water facts to understand larger water issues will have the proper critical thinking skills and foundation for further discussion in middle and high school so that they will become informed citizens and voters on water issues.

Understanding a Watershed

- Is every place in the world part of a watershed?
- Where does your community's stormwater go?
- How can surface water become polluted?
- How does the water cycle relate to weather?
- How are groundwater and surface water connected?
- How can groundwater become polluted?
- What actions can all of us take to keep water clean?

Water in Our Society

- In what ways does our society use water?
- Where does your community's drinking water come from?
- Does everyone have the right to use as much water as they want?
- Where does your community's wastewater go?
- What actions can all of us take to conserve water?

River Ecosystem

- How does water affect living things in an ecosystem?
- What role do forests play in a watershed?
- What role do wetlands play in a watershed?
- What are some of the ways scientists can determine the health of a river, lake, bay or ocean?
- What actions can all of us take to improve the health of our ecosystem?

Background

As producers of children's water festivals and other grade K12 water resources outreach in NM since 2007, the RiverXchange program creators observed early on that NM elementary teachers rarely incorporated water concepts in the classroom beyond what is required by the state (e.g., water cycle), and that most elementary teachers considered "water" strictly as a science topic. While teachers personally acknowledged the importance of conserving water and keeping source water clean, they continued to find that upper elementary students had little or no understanding of major water resources topics unless the teacher specifically integrates a wide range of water topics into the curriculum. For this reason, as well as successful festival work with upper elementary students, this age level was selected as the focus for the RiverXchange program.

RiverXchange was created to provide a free program that is fun, interesting, and easy to integrate into the normal curriculum. The hope was to motivate participants to explore water resources topics in depth. The program was originally designed to be carried out over eight months so that students spend more time developing a sense of pride and personal connection to their own river ecosystem, as well as a personal connection to a distant river ecosystem and the students who live near it. Today RiverXchange runs over the course of 3-4 months, as a response to the challenges of implementing a year-long curriculum with the ongoing demands on teachers and students time and requirements for testing and other curriculum.

RiverXchange began in 2007 as a pilot project of Experiential EE, LLC (under a services agreement with the New Mexico Water Conservation Alliance) and the National Great Rivers Research and Education Center, featuring partnerships between two fourth grade classes in Albuquerque, NM, and two fifth grade classes in Godfrey, IL. A curriculum was developed, a field trip to the river was coordinated, and partner classes "met" three times during the year via video tele-conferencing to present what they had learned.

After the pilot project, RiverXchange transitioned to a web-based technology called a wiki. This enabled the program to overcome limitations such as the high cost, availability, and time zone logistical issues associated with video teleconferencing – and easily involve more classes. The curriculum was updated to incorporate the writing component and classroom guest speakers were introduced to reduce teacher workload and bring up-to-date technical information into the classroom. In 2017, the program switched to a blogging platform called Kidblog, which is still being used today.

In 2012, ownership of RiverXchange transferred to Amy White of Orilla Consulting, LLC, who managed the program through July 2015. In August 2015, RiverXchange became part of the Ciudad Soil & Water Conservation District. In 2020, ownership and the trademark registration of RiverXchange® was transferred fully to Ciudad Soil and Water Conservation.

Since 2007, we have served over 18,500 students!

This year, the program featured the following components:

- Optional standards-based curriculum including hands on science and social studies lessons, as well as writing assignments
- KidBlog online posting and communication
- Partner class engagement support

- Teacher training on curriculum implementation and use of KidBlog
- Ongoing technical and motivational support
- Monthly newsletters to NM and out-of-state teachers
- End of year teacher survey
- Pre and post student surveys (NM only)
- Payment for teacher workshop substitute teachers (NM only)
- Coordination of at least four guest speakers into the classroom (NM only)
- Coordination of a field trip to the local river or important watershed feature (NM only)
- Field trip bus transportation payment (NM only)
- Field trip leadership and activity planning (NM only)

Program Management and Financial Support

The program timeframe was July 1, 2018 through June 14, 2019. All components including fundraising, design, planning, implementation, and analysis were carried out by employees and contractors of Ciudad Soil & Water Conservation District, including:

Melissa McLamb
Erin Blaz
Jenny Lloyd-Strovas
Astrid Hueghlin

Sponsors

- Southern Sandoval County Arroyo and Flood Control Authority (SSCAFCA)
- Middle Rio Grande Stormwater Quality Team (MRGSQT)

Sponsors provided a total of $56,157.11 in cash.
MRGSQT - $41,415.55 | SSCAFCA - $14,741.56

Program expenses included:

- Substitute teachers for NM teacher workshops
- Teacher workshop space rental and meals
- Field trip bus transportation for NM classes
- Field trip portable toilet rentals for NM classes
- Technology services
- Office and educational supplies
- Coordination services (planning, implementing and assessing all program components)
- Trademark Registration Fees
- Rain barrel project funds executed by The Nature Conservancy

New Mexico In-Kind Partners

- Albuquerque Bernalillo County Water Utility Authority
- Bernalillo County - Public Works Division
- City of Albuquerque – Open Space Division

- City of Rio Rancho – Environmental Programs Office
- City of Rio Rancho — Parks, Recreation and Community Services Department
- Sandia Labs
- Sandoval County Cooperative Extension
- Southern Sandoval County Arroyo and Flood Control Authority

In-Kind contributions totaled $82,115.32. For NM classes, in-kind contributions included classroom guest speakers, field trip docents, planting materials, workshop space and computer lab use, and teachers' and students' time attending the presentations and field trips. For partner classes, in-kind contributions were not calculated this year. Sponsors and in-kind partners were recognized on our website and in presentations.

Participant Selection

All 38 participating NM classes were fifth grade classes, distributed as follows:

Bernalillo County	**Sandoval County**
North Valley Academy (3)	Colinas del Norte Elementary (5)*
Cochiti Elementary (3) *	Martin Luther King, Jr. Elementary (6)*
Duranes Elementary (1) *	Sandia Vista Elementary (1)
Georgia O'Keeffe Elementary (2)	
John Baker Elementary (1)	
Monte Vista Elementary (3)	
Seven Bar Elementary (5)	
Zia Elementary (4) *	
26 classes, 607 students	**12 classes, 325 students**
* Title 1 school	**TOTAL - 38 classes, 932 students, 40 teachers**

Curriculum

A component of RiverXchange is the hands-on optional curriculum, which is offered to all participating teachers. It was developed to help students reach for deeper meaning through hands-on learning and reinforce what they have learned through the process of writing on the blog. Over the years, we have developed a curated list of activities from the curriculum, along with reflection prompts specific to each presentation. Organizers strive to incorporate emerging water resources issues into the curriculum, increase networking opportunities for teachers, reduce teacher workload, and align the curriculum with public school curriculum priorities.

Each class learns about its own local water resources issues through hands-on activities, classroom guest speakers, and a field trip. Students write about what they are learning via a private educational website that can be viewed by their partner classes. The computer technology and writing components provide a unique opportunity to reinforce what was learned, increase student motivation to learn, and collect valuable metrics about student performance.

Through RiverXchange, students take pride in sharing their knowledge of the local ecosystem and learning from their peers about another river ecosystem. Comparing the two geographical areas gives students a broader understanding of the importance of a river ecosystem to human and other life. Students gain the unique opportunity to share personal experiences and ask questions about a distant place. Teachers feel this kind of personal connection is a big deal for kids – many of whom have never traveled beyond their city limits.

All activities are correlated to NM state standards and benchmarks for Social Studies. All activities (because they require that students communicate information on the KidBlog) address Common Core Language Arts standards for writing. Some activities also address Common Core Mathematics and Science standards. As mentioned above, RiverXchange lessons and curriculum support the NGSS and will be evaluated for full alignment to the NGSS, beginning with the presentation activities and field trip. Projected date of completion: May 2021. For a summary of the RiverXchange Curriculum, see Appendix 1. For a summary of the extension activities, see Appendix 2.

Guest Speakers

We coordinated at least three guest presentations to visit each NM classroom. In all cases, guest speakers were water resources professionals from local agencies. Topics included:

- watershed/nonpoint source pollution
- drinking water
- wastewater
- water and agriculture

Field Trips

The program requires that all classes attend at least one field trip to their local river or important watershed feature, which should incorporate a service learning component if possible. Throughout the winter and spring, students planted 539 native trees and helped restore critical riparian habitat along the Rio Grande in Albuquerque near Shining River Parking Area, Albuquerque Open Space.

EVALUATION

Blog Evaluation

Engagement

Considerable effort was made to make the blog an effective resource and easily accessible to teachers. An instructional document was reviewed at the teacher workshop and made available to them to return to at any point. We also included links to curriculum and extension activities on their blog page, hoping that might encourage teachers to visit the blog more frequently. Additionally a monthly newsletter was sent out to encourage posting, with links to the instructional document and other helpful resources. Our aim was to continually remind teachers to post and make sure the information they needed was easily accessible.

Of our total number of classes, Kidblog was used by 71% of RiverXchange teachers this year and the number of blog posts ranged from 1 to 32 per class over the year. This is a similar rate of use to last year. Teacher feedback suggests that many still feel challenged about how to incorporate blogging into their classrooms as a lesson for students. One North Valley Academy teacher reached out directly for support and Erin Blaz visited his class to do an in-class tutorial of posting on the blog. This visit was highly informative as Erin was witness to some of the issues that occur from getting students onto the blog and submitting their work. However, other teachers still express that they think the blog is an important aspect to the program, as it allows students an opportunity to enhance writing skills, think critically and reflect upon what they have learned.

We ran a contest this year for creative and excellent blogging. We used a rubric to score posts for each class to determine the winner. While class use and posting was about the same as last year, this year posts were more creative and used a wider variety of media. Some favorites were videos using the changing river model, artwork that modeled stormwater impacts on a city and PSA's on poster boards that encourage water conservation. Two 1st place winners received $75 gift certificates to Acorn Naturalists, and five 2nd place winners received $25 gift certificates. The original 1st place prize was going to be a rolling river presentation or edible aquifer activity, but with school closures that was not possible.

Considering the likely need for online technology next year and teacher familiarity with the blog, RiverXchange will continue the use of Kidblog.

Student Voices

Student voices rang loud and clear this year in support of conserving water, keeping trash and pollution out of stormwater and the importance of Rio Grande!

The following are examples are from this year's students:

NEW MEXICO CLASSES

Thank you for the presentation 😃.

What we learned was clean up dog poop, or if we don't the river will be contaminated water and will kill the fish. If you litter you can kill animals so we learned that we should CLEAN UP DOG POOP!

What can we do? We can put more trash cans and recycling bins, we can ban plastic stuff. We can save more water. The community can clean trash🗑. We should make more electric cars🚗. We can stop pollution from happening in water 💧.

Hello Again! Today we'll be discussing a pretty fun topic. Storm water! A better name for storm water is polluted water! This is a bigger issue than lightning and thunder! ***We need to help save local rivers anyway we can!***

In our presentation, we learned how contaminated our river gets every time it rains. These things get in to our river and poison it...

1. Pesticides. Pesticides hurt our river by running into the Rio Grande, poisoning our fish and killing our algae witch is vital because the fish eat it!

2. Fertilizer. Extra fertilizer run into the Rio Grande because we put too much on same things with Pesticides! Any way the fertilizer does what it was meant to do under water. They make the algae grow too much and use up all the river oxygen, killing all the living things in the river!

3. Poop. All kinds of poop hurts our water! Cow poop, dog poop, etc. They release germs like E-coli into our water which is very difficult to filter out!

4. Factory oil. They harm our river by leaking or dumping their left over chemicals into the Rio Grande! The chemicals can harm the water in many ways!

5. Livestock. Livestock can harm our river by eroding the soil so we end up with slit and dirt all mixed in!

6. Trash. Trash is a very big factor. Trash floats through storm drains and blows in the wind to our river and kills fish because they swallow it.

There are a ***lot*** of things that pollute our water. We are not that happy about that.

Here are some solutions to the problems we have with our river pollution!

1. For your pesticides you can still put it on but just put the right amount on! The bag tells you how much to put on so put that amount on! Or you could use bug paper.

2. Fertilizer is the same. You can still use but just put the right amount on!

3. Pick up your animals poop! This will help decrease the pollution greatly!

4. You cant do a lot about the factory oils. But you can write letters to important figures asking to make dumping your chemicals in the river illegal!

5. How we can help the issue of livestock is, if you own livestock put a fence up around their pastures and living areas so they can not wonder down to the river and pollute it!!!

6. For trash the easiest solution to this problem is to not litter and if you do pick it up!!! But we have a bigger idea! We will try to get plastic water bottles banned in our school and try ***TRY*** to get them banned in New Mexico! Plastic bags were banned so why cant plastic bottles be banned to!!!

Trout

The Bosque means forest in Spanish.People plant native trees in the Bosque because they don't regrow by them selfs.We all agree that we all enjoy being at the Bosque because the feel of nature, planting trees, smelling fresh air, and helping the environment. Aswell as having the feeling of after planting a tree.we all felt proud, exhausted, and seeing the planted trees was beautiful.Our class planted 17 trees!We all love the beautiful nature aswell. We recommend going to the bosque because you can ride your bike around or walk and see the sights, the smells, and the feeling.There are animals there too! Like fish, squirrels, porky pines, eagles and turtles. It is worth going to the Rio Grande.

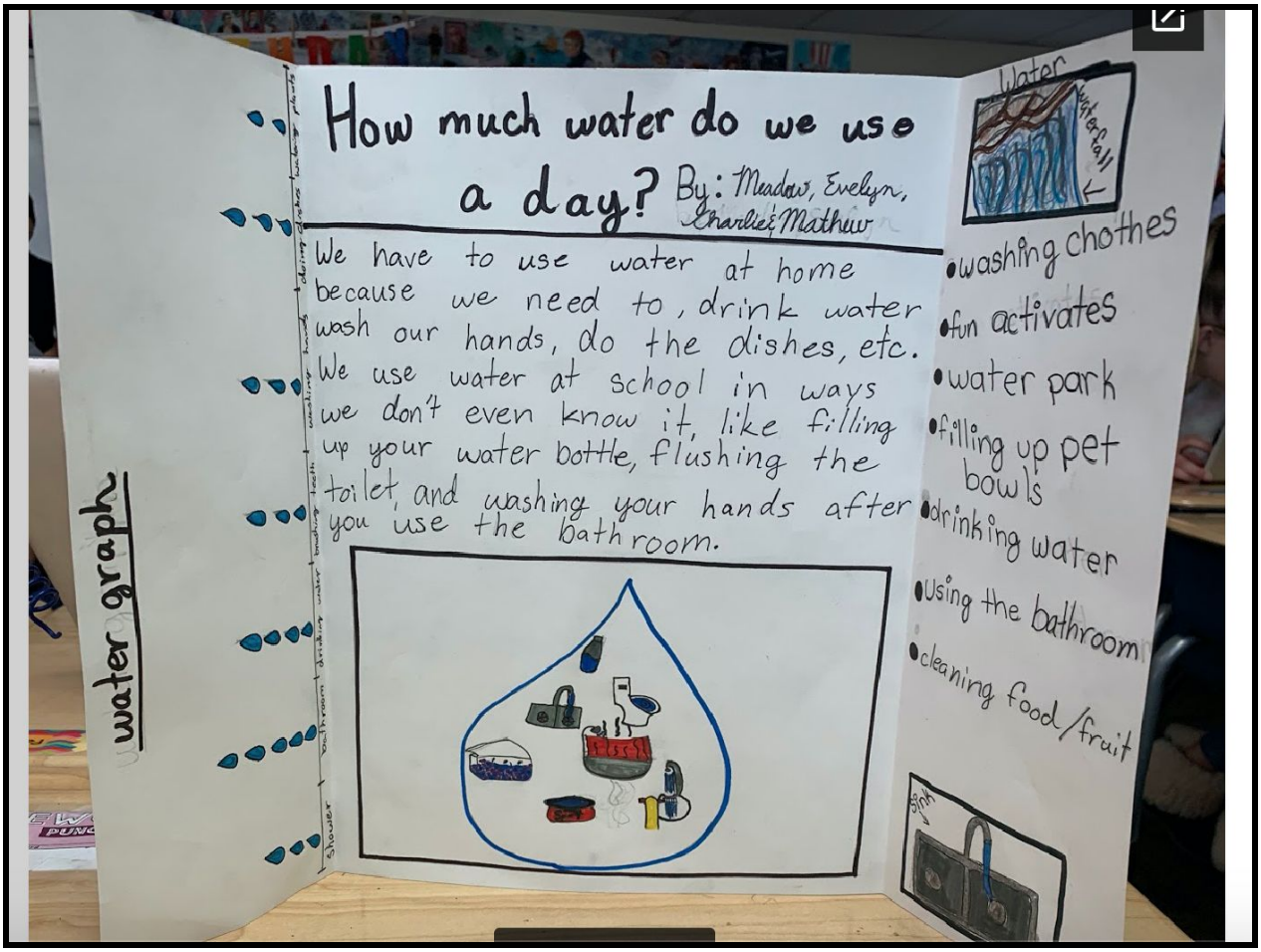
Feb 27, 2020, 1:34pm (209.189.162.95) Edit | Remove | Reply | Approve

This image shows how everywhere that you go, you'll always see pollution, stores, neighborhoods, schools, farms, anywhere, you'll always see pollution. Not only will you see trash as pollution, you can see chemicals or polluted liquids like, Oil, Gasoline and Sewage. You can also see smoke from factories and animal droppings! We should always try to be responsible and try to stop throwing our trash on the roads.

save the planet

By Irrigation Insiders on Nov 20, 2019

So I want to write this because we need to save all the beautiful animals that are being affected by pesticides and cow mi-newer.Did you know that point source pollution is were you can see the point that the pollution is coming out of.Non point source pollution is were you cant see or don't recognize it like pesticides and animal wast.In concoction don't use pesticides.



Waste Water

By Snakes on Jan 9, 2020

We learned about waste water presentation. There is a bar screen that catches every thing that clumps up that goes down the drain or toilet. Even though there is flush-able wipes your not supposed to flush them down the toilet because they can clog your toilet. Every thing that you flush down your toilet ends up turning into sludge. Waste water goes to a waste water facility and once it's cleaned it goes back into your house to be used as waste water again. A machine that cleans the waste water is called a clarifier and how the clarifier works is the waste water goes into a huge bucket and a metal arm skims the top of the big bucket of waste water and picks up the trash and waste. The last part of cleaning the waste water is called a digester, it injects chlorine into the dirty water and once that is done and the water is clean they relies it back into your homes.

Pole Planting

By Snakes on Mar 9, 2020

We went on a field trip to plant cottonwoods. We planted them because older trees are dying and we don't want them to die out. We used augers to dig the holes for the cottonwoods. We had to dig holes 10ft to 12 ft deep to get to the water line and so the trees can take root. We split into teams and took turns twisting the augers. When we pulled the augers up from the ground it was heavy because of the dirt. As we got down to the mud it was even heaver. When we thought our hole was deep enough we would yell "tree check." The conservation officers would come and see if our hole was deep enough. The poles were limbs from older cottonwoods. At the end we sat at the bank of the river and had lunch. In all we planted 39 poles. It was a great learning expirience.

PARTNER CLASSES

Should you drink New Haven River Water?

By Quinby on Dec 6, 2019

After testing three different rivers for four different things. PH, Nitrates, Dissolved Oxygen, and Temperature, New Haven water is not perfectly clean, but still drinkable. After struggling through knee deep water, my class and I have established that water in New Haven is clean enough to drink, at least after you treat it. To go along with that, my class also used leaf-packs, nets with leaves in them, that allow animals to live inside of them. We put them in the Mill River, and retrieved them two months later. We found so many macro-invertebrates, it was hard to believe! We found a lot of Macro invertebrates that could only live in clean water, which means that they were group 1.

FRESHWATER MUSSELS

By Wetland on Nov 25, 2019

Freshwater mussels live in streams they filter feed to stay alive.Freshwater mussels are related to water quality because.They filter feed and make the water clean.I learned that the mussels filter feeded and made the foggy dirty water clean.I learned how the mussels life cycle goes.They are born and spit onto fish gills when they are ready they are dropped and the mussels grow.`

the housatonic river and long island sound

By Harbor Seals on Dec 6, 2019

the housatonic river starts in massachusetts and goes into long island sound. There are a lot of things to do in the housatonic river like fishing and activities like hunting for animals.There are alot of types of fish in the housatonic river like the striped bass,brown trout,blue fish,white perch,mouth bass,sea bass and many others.

Student Evaluation

A key component of RiverXchange is measuring student learning outcomes. We collect quantitative data on learning outcomes and behavior changes by way of a pre and post survey. We make qualitative observations by reading what students submitted on KidBlog. In 2019 we were able to compile comparative metrics from the last 4 years of RiverXchange surveys to observe the longitudinal impacts of our program. Working with a team, we continue to refine the survey questions to better reflect RiverXchange learning objectives, while maintaining the ability to track comparative learning outcomes across years.

Pre/Post Behavior Survey

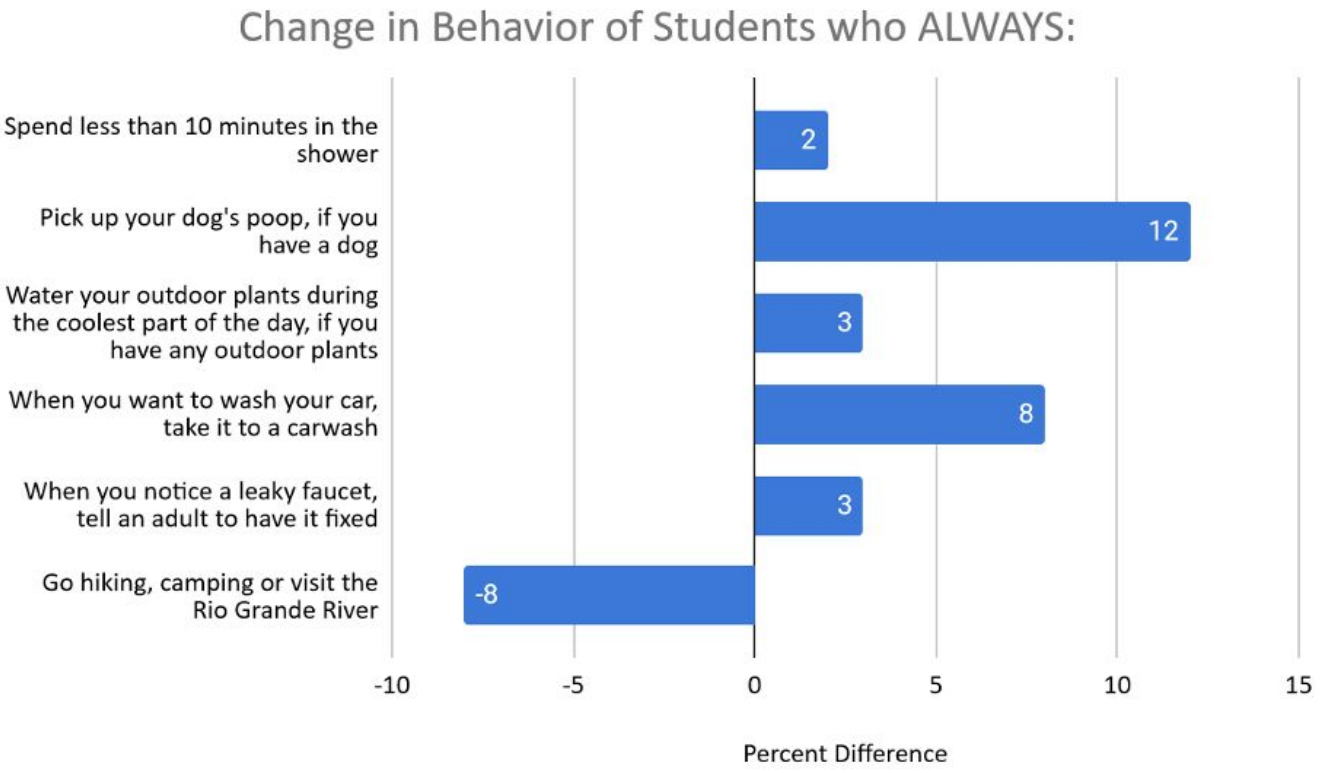
In order to quantify the learning outcomes achieved through RiverXchange, we ask our teachers to have their students fill out a survey prior to, and upon completion of the program. This year's survey was updated in summer of 2019 to reflect the suggestions for improvements that were identified at the end of 2018-2019. The survey went from 18 questions to 13 in an effort to be more concise and eliminate questions that were found to be irrelevant to programmatic impact.

Below, you will find a series of graphs used to illustrate the change in responses between the pre and post surveys. This year, 795 students completed the pre-survey, while only 410 completed the post-survey. This was due to school closures occurring right after post-surveys were distributed to teachers. Most students completed the survey from home. In order to account for the discrepancy in participation, the number of each given answer has been calculated as a percent of the total number of responses received for each given survey.

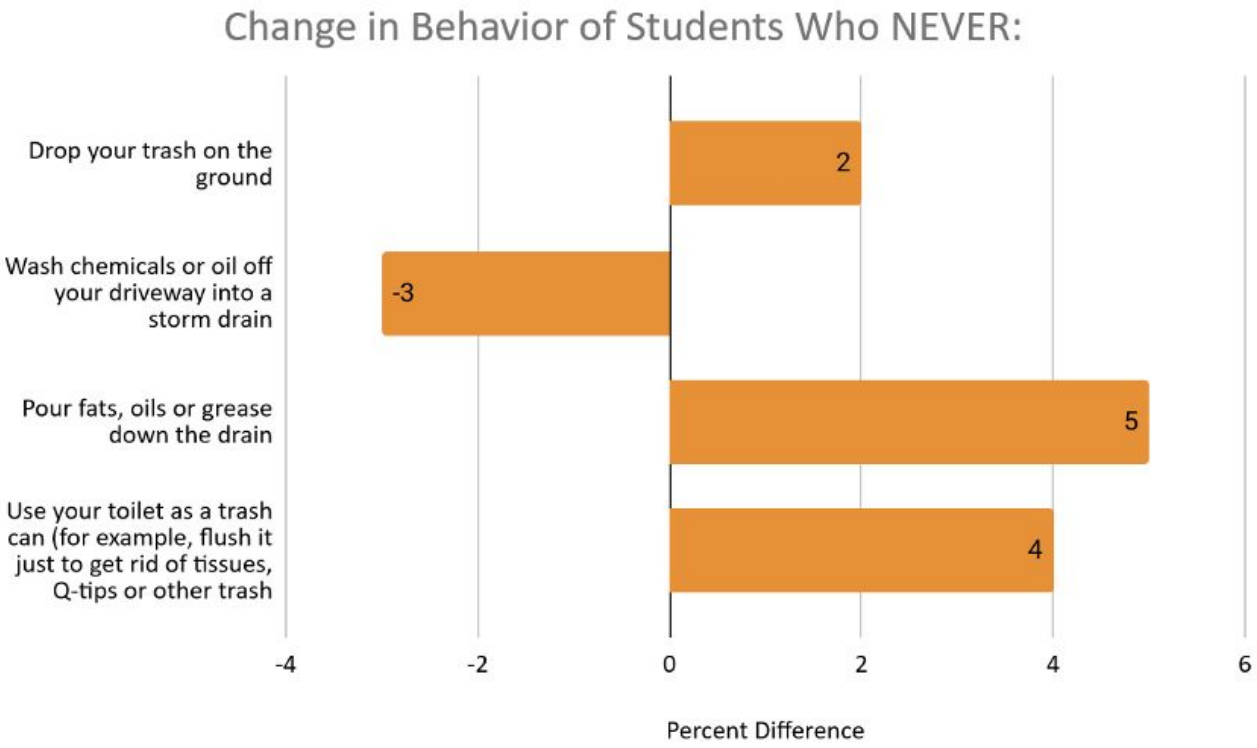
The metrics demonstrate an overall positive increase in students' knowledge about local water resources, water conservation strategies, and human impacts on water quality. After participating in RiverXchange more students correctly defined a watershed, the annual precipitation in our region and the origin and outlet of the Rio Grande. In reviewing the graphs, notes were made below on findings that were significant, or on areas where the survey needs to improve. The first question below aims to understand how students' water conservation and environmental behaviors change after taking the program. The final question highlights some responses from the open ended question: *Do you think everyone has a right to water and why?* You will find some passionate, thoughtful, and critical responses that tell us that even if they don’t fully understand what happens along the stormwater pathway yet, they overwhelmingly understand that water is life and has to be protected.

Item # 1: How Often questions

The following two graphs demonstrate the percent change in responses on questions that reflect positive and negative behaviors in regards to water consumption and conservation. The questions are framed as "How often do you…?"

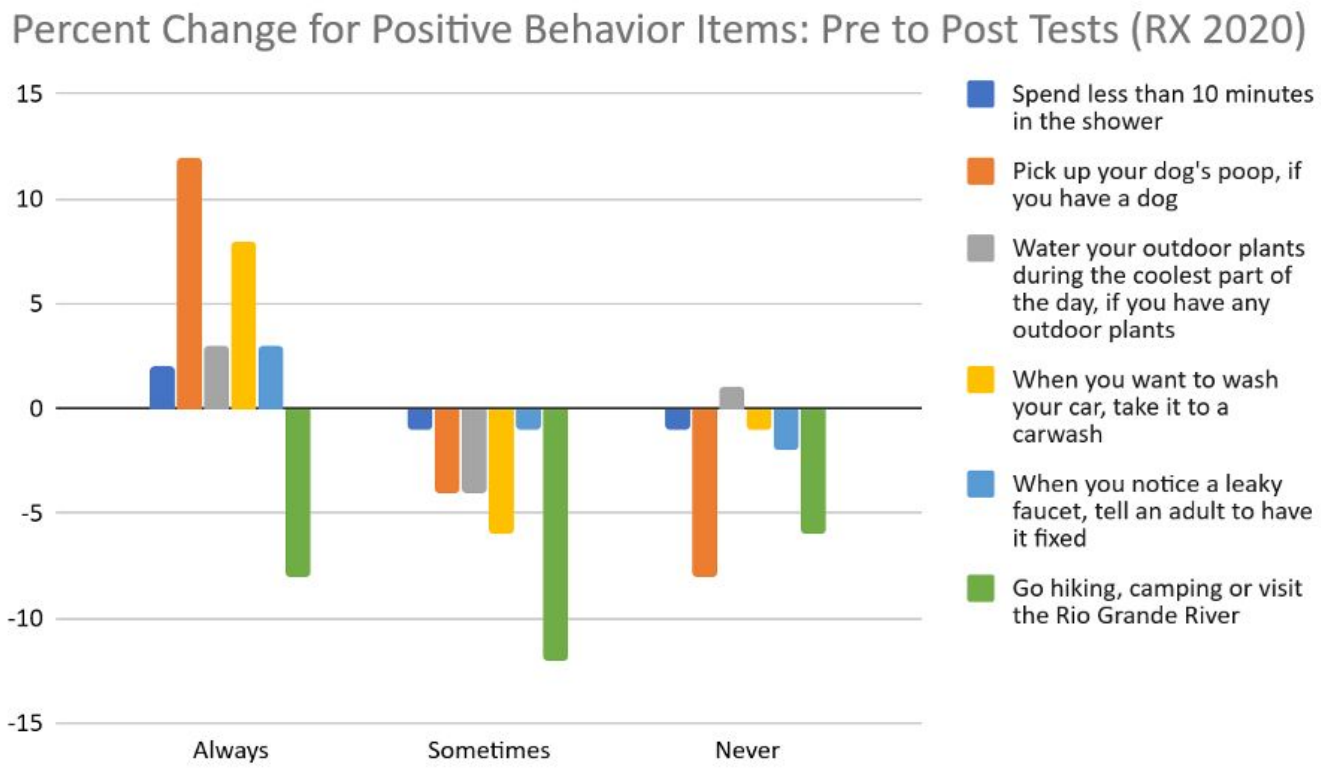


- After going through RiverXchange, 12% more students said that they pick up their dog poop (i.e. 12% more students said they learned from the program and report to have changed behaviors from the pre to the post test). However, in the pre-test, more students reported going hiking and visiting the Rio Grande than those who reported this behavior in the post-test. Two considerations are taken into account for the negative percent change in students reporting camping, hiking or visiting the river. One is that the stay-at-home order might have impacted their response and students are answering literally not in the context of normal family behaviors. Another is that once students participate in the pole planting field trip, where they walk a good distance to the river and find themselves surrounded by nature without a house in site, they might reconsider their initial answer with a different perspective on what it means to visit the river.

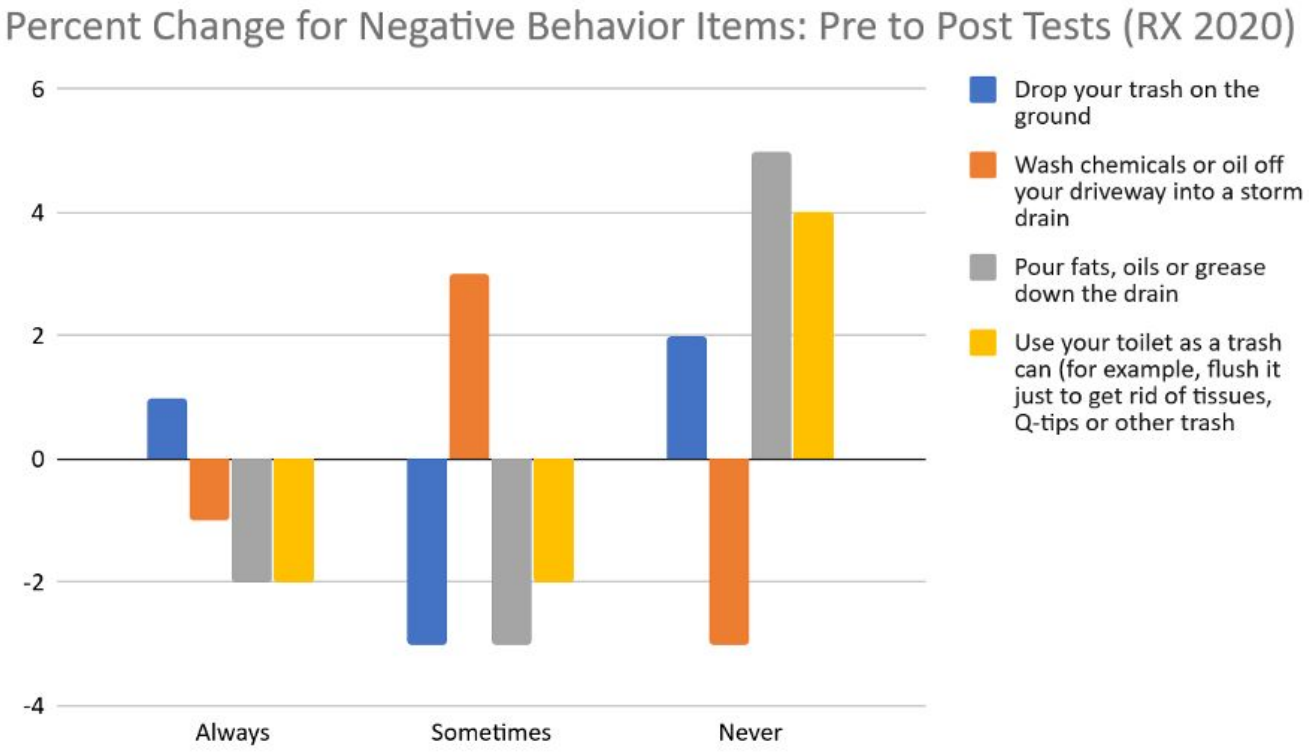


➢ In the post-test, 5% more students reported to NEVER pour fats down the drain. This means that they gained valuable information from RiverXchange and report to change their behavior (likely because of the program itself). However, we see that more students reported to NEVER wash chemicals or oil off the driveway into a storm drain in the pre-test than they did in the post test, resulting in a negative number. Likely, this is just due to error since it's such a small percentage and that there was really no change.

The following two percent change graphs include the ‘sometimes’ option for the ‘How often’ questions:

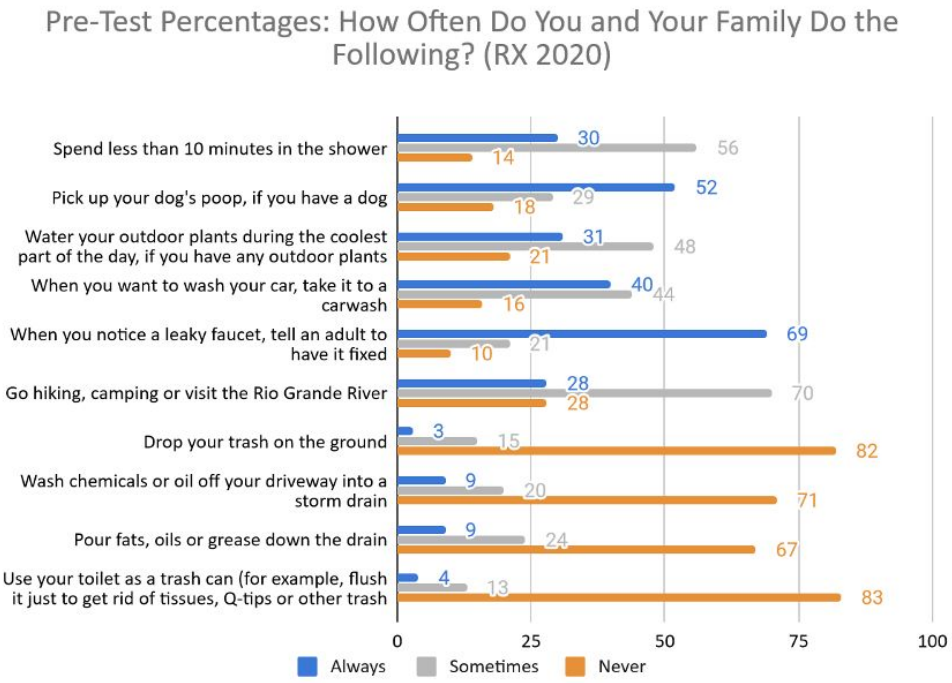


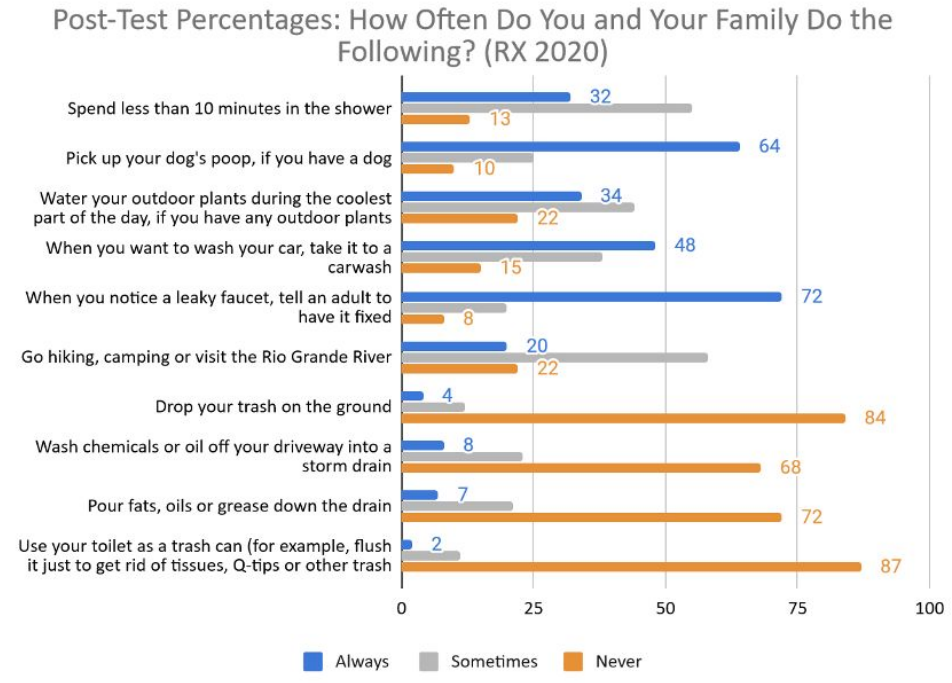
- Again, the most significant change is more students saying they always pick up their dog’s poop. However, it appears that both ‘sometime’s’ and ‘no’ answers decreased slightly, meaning that some students' behaviors changed for the positive.



➢ The increase in responses from never to sometimes "washing chemicals into a storm drain" is interesting here. This may be a case of students answering more honestly if they observed or participated in this at home after they learned about stormwater pollution.

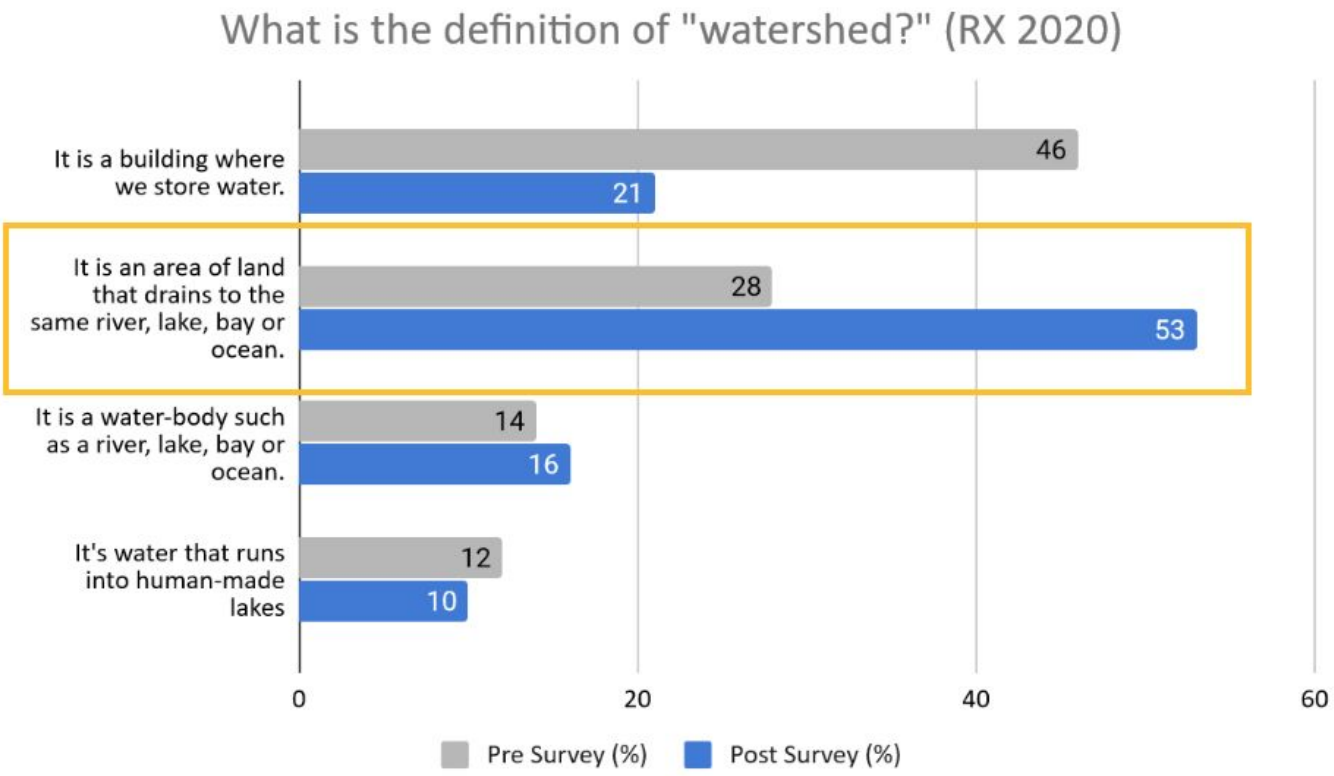
The following graphs are the raw percentages for the pre and post *how often* survey questions:



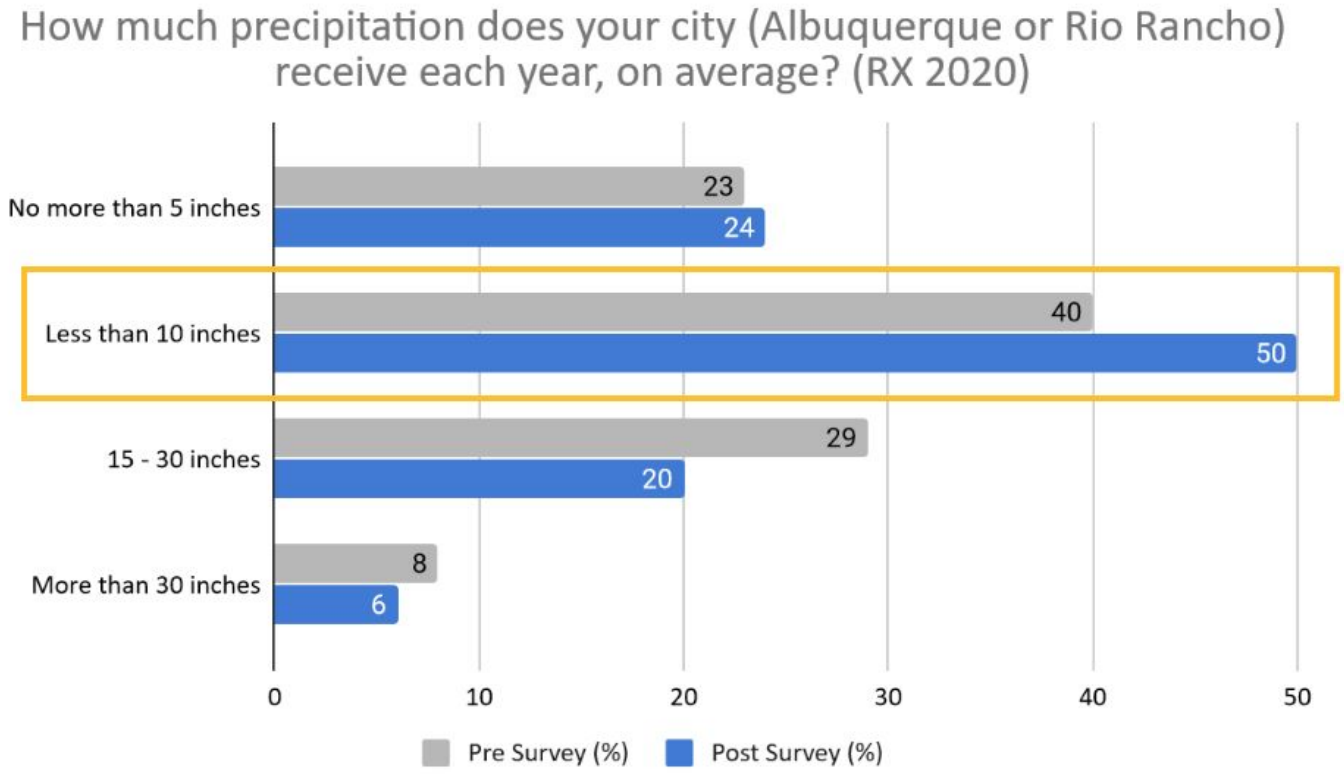


The next section of survey questions correspond to the learning objectives of RiverXchange and demonstrate student learning outcomes from pre to post evaluation. Correct answers, where applicable have been noted with a yellow outline or stars.

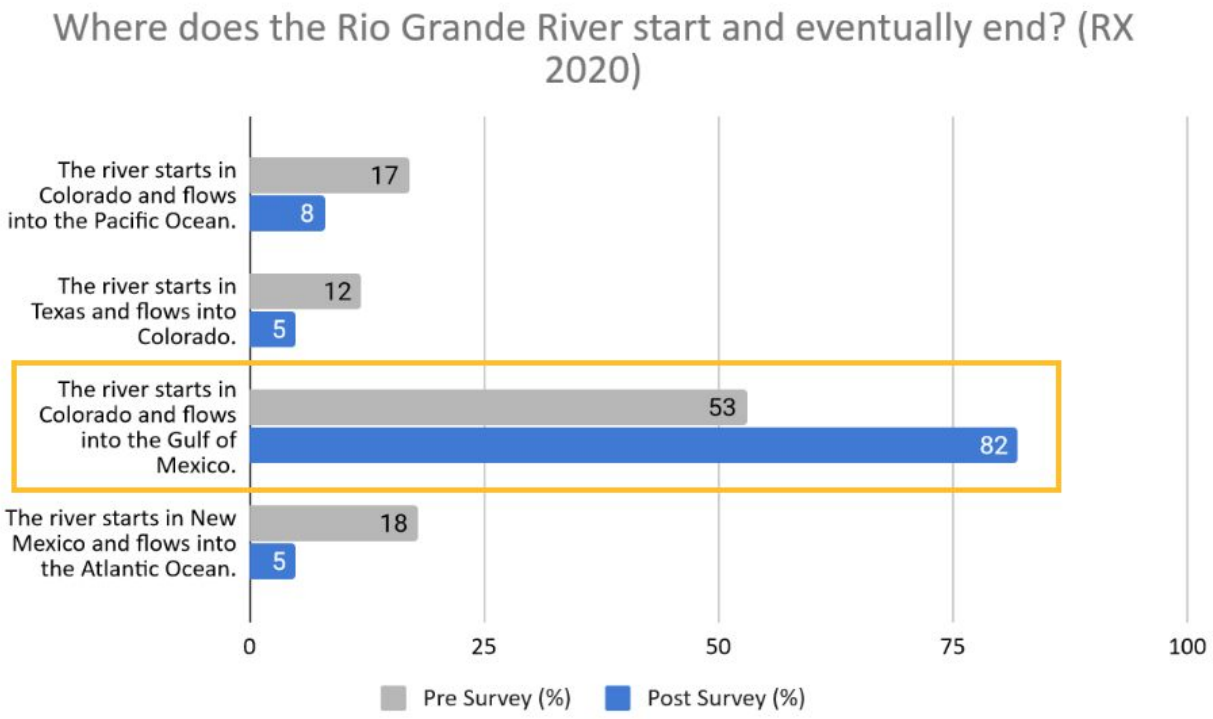
Item # 2: What is the definition of a "watershed"?



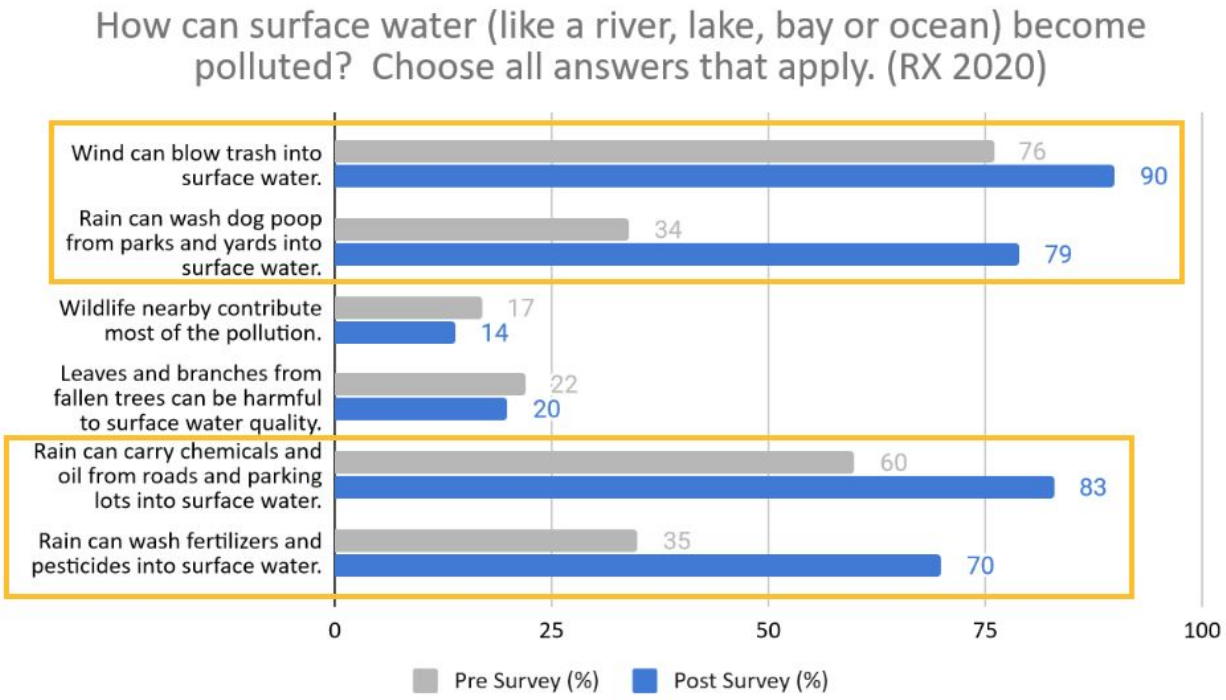
Item #3: How much precipitation does your city receive each year on average?



Item #4: Where does the Rio Grande River start and eventually end?

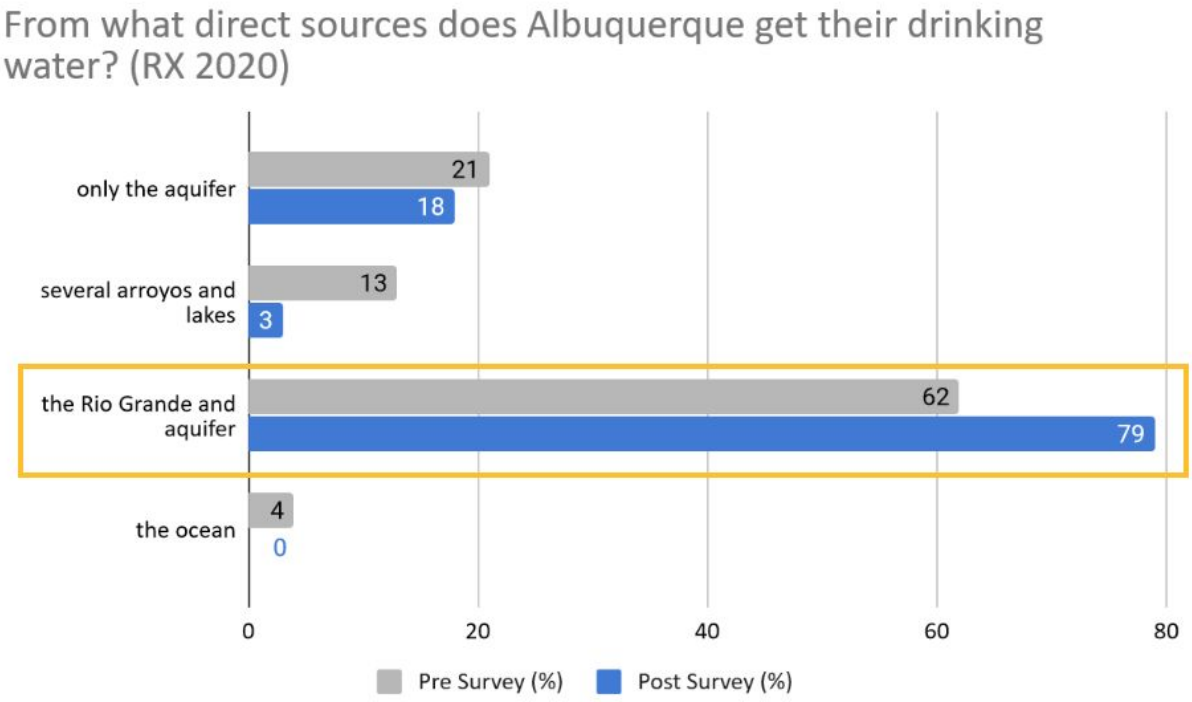


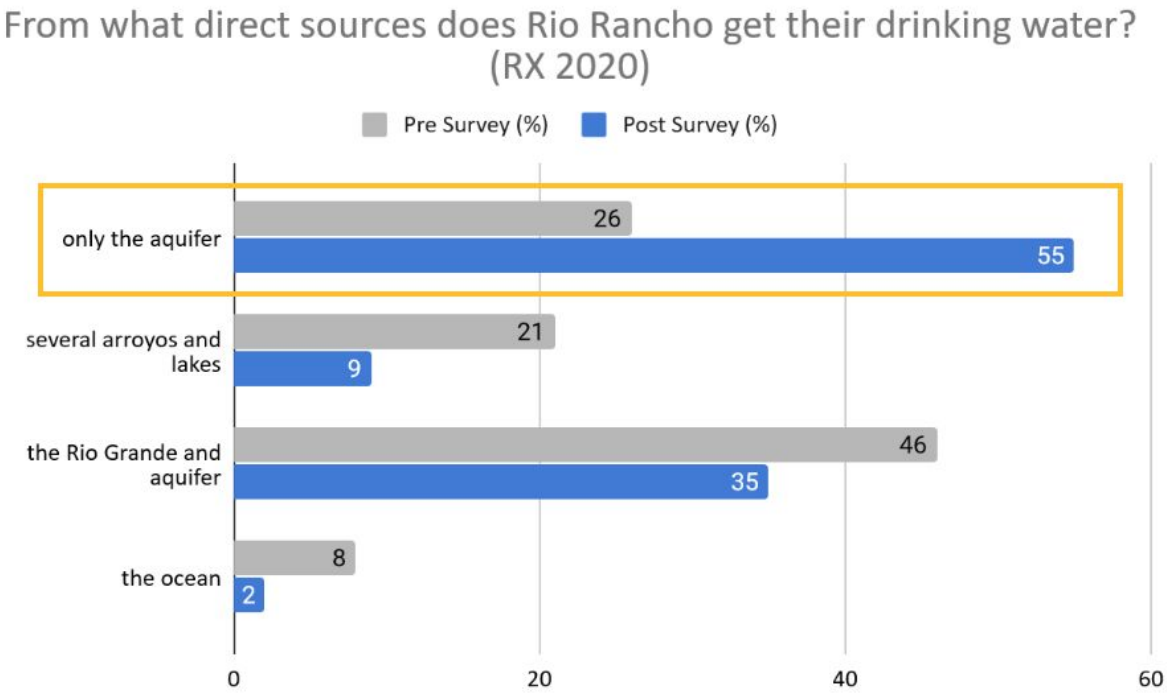
Item #5: How can surface water become polluted?



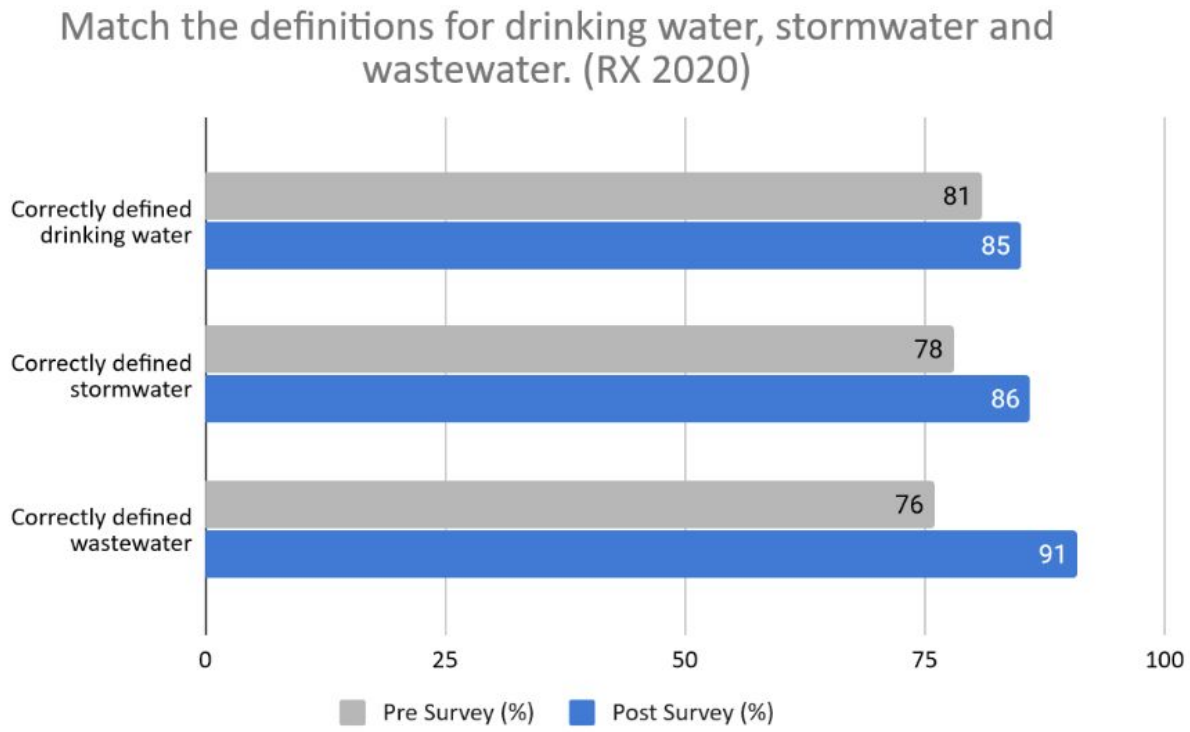
- Responses to this question were adjusted from last year to remove "all the pollution comes from factories" and "all the pollution comes from just a few people" as those answers seemed too obvious. Since this question allows for multiple responses, students who choose the incorrect answers are likely also choosing correct answers. We do see a reduction in the incorrect responses from pre to post survey. With the change in responses it may mean that our stormwater presentation may also need to incorporate some myth busting as well to clarify the incorrect responses.

Item #6: From what direct sources does ABQ/RR get their drinking water? Students are directed to only answer the question for the city in which they live.



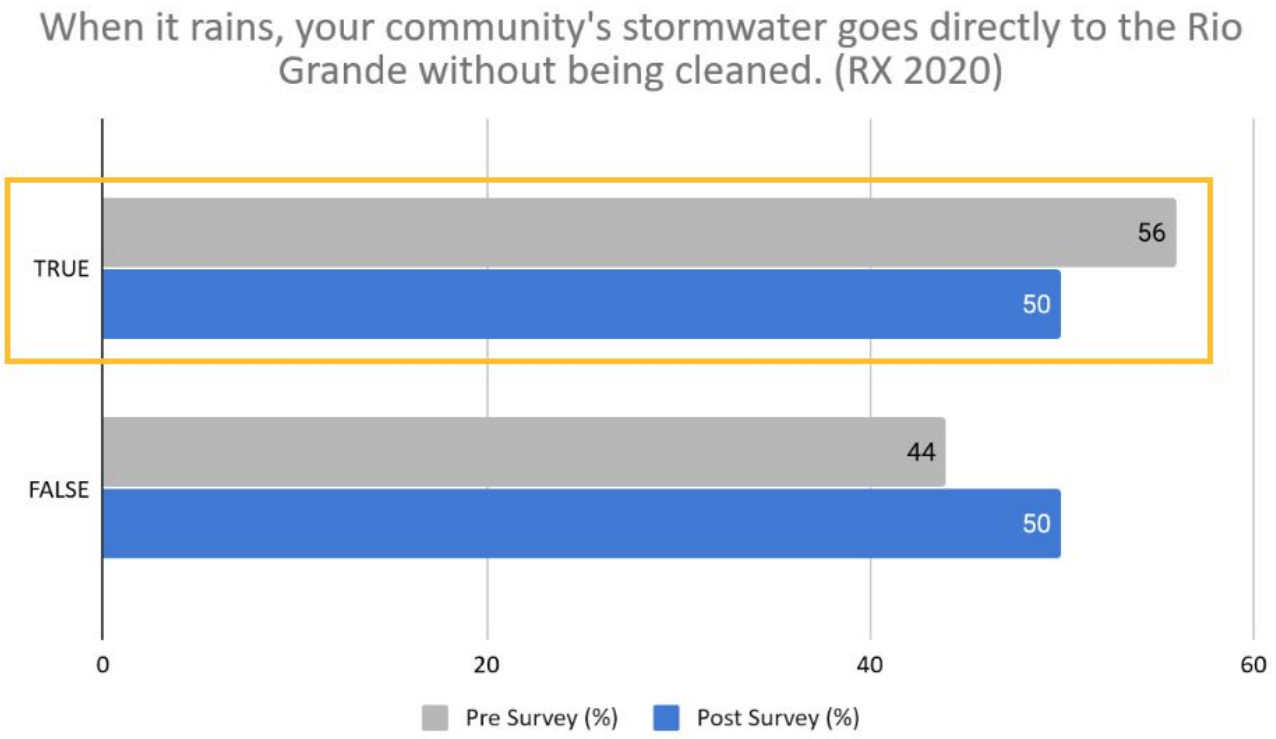


Item #7: Match the definitions for drinking water, stormwater, and wastewater.



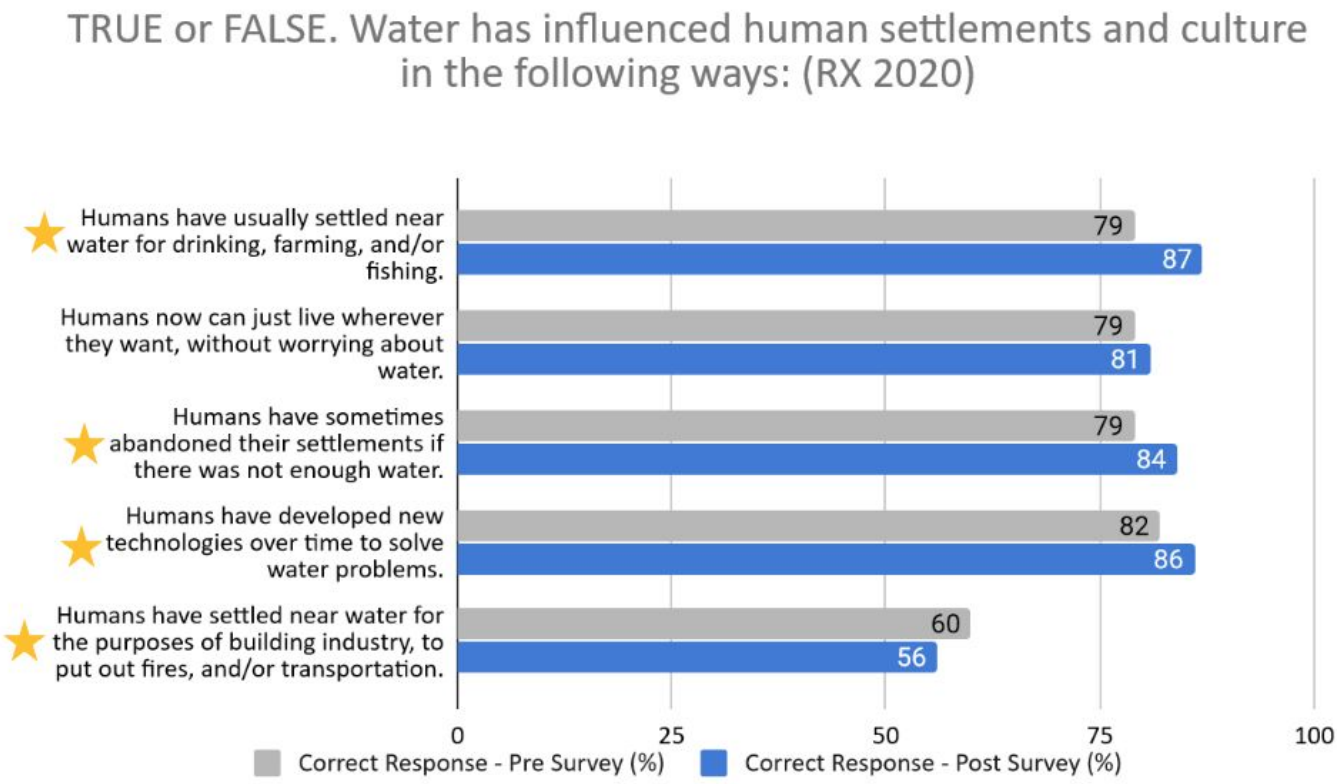
- The responses to this question do not suggest RiverXchange teaches these definitions to students as it may already be prior knowledge, although it may be that it is clear enough in the descriptions that students can easily choose answers correctly. We will explore if there is a better way to evaluate if students understand concepts that are taught about drinking water, wastewater and stormwater.

Item #8: When it rains, your community's stormwater goes directly to...



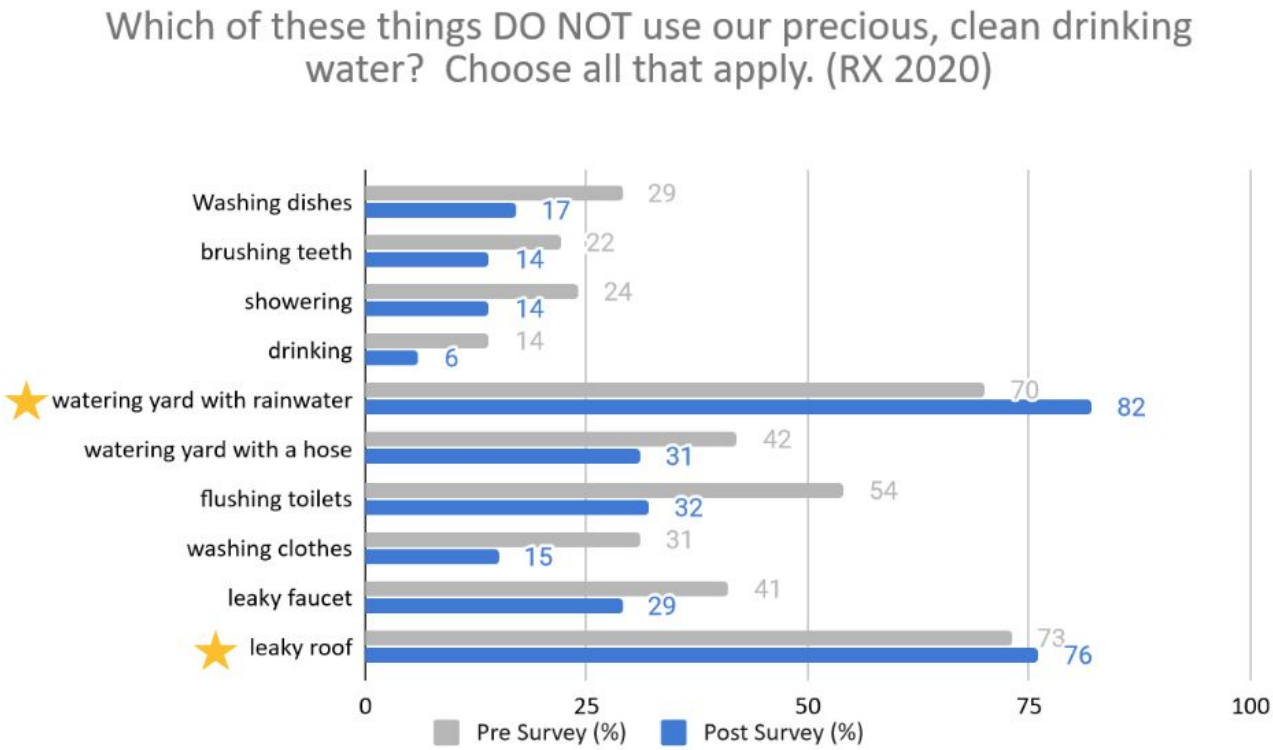
- This graph demonstrates a small decrease in correctly defining the stormwater pathway. This continues from last year, as we saw a similar percentage decrease in the correct answer. We met with presenters prior to program implementation this year and shared the concern about this misunderstanding and that it may be rooted in misinformation or confusion about a sewer drain versus a stormwater drain. However, we are still seeing similar results. It may be that there is confusion about a storm versus sewer drain. It could also be that presenters are discussing green stormwater infrastructure techniques that might lend students to think it is cleaned. They may also be another variable that is influencing this result that we have yet to identify.

Item #9: Water has influences human settlements in the following ways:



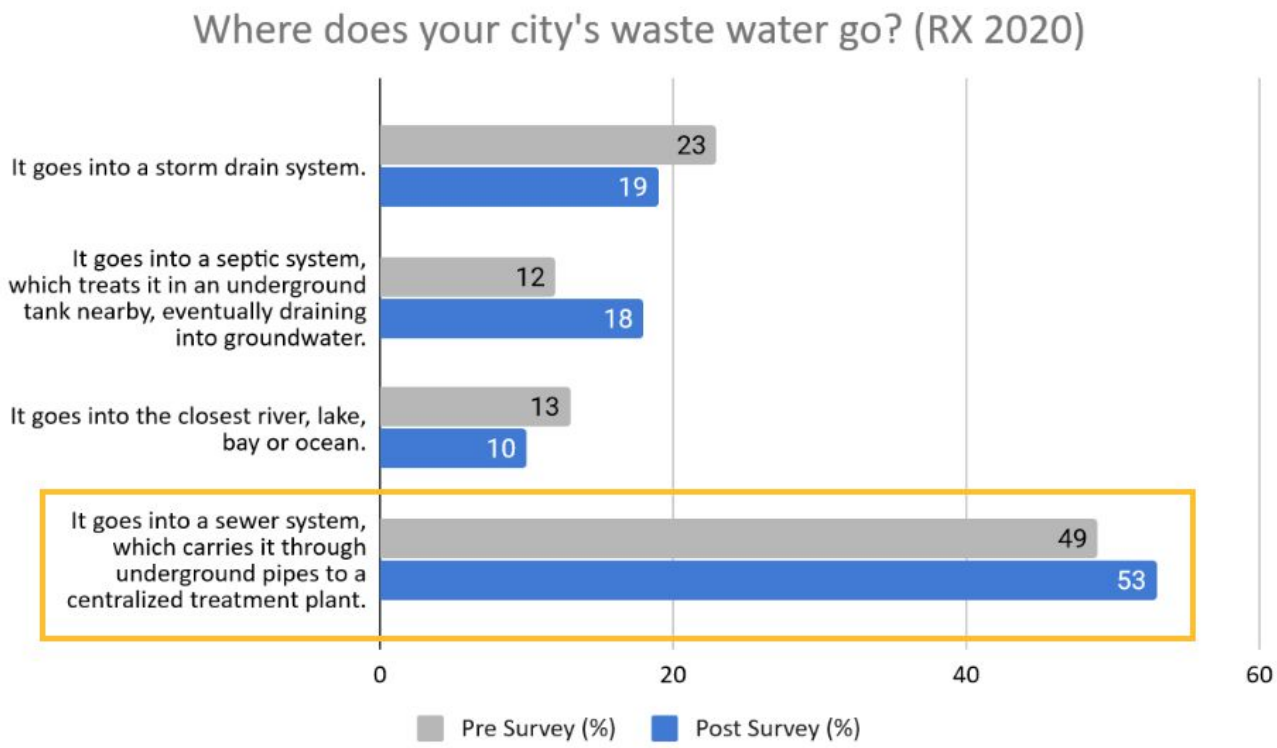
- This question was adjusted from last year to allow students to choose true or false for each response, rather than only picking true answers. We see students are answering correctly in high percentages on the pre-survey but there is still positive growth for each answer, except the final "Humans have settled near water for the purpose of…." This could be the result of the changes made in the APS agriculture presentation that highlights the historical and cultural uses of the Rio Grande with a focus on Puebloan and Spanish settlements. The discussion does not always reach modern commercial uses of rivers that are more relevant to waterways outside of New Mexico.

Item #10: Which of these things DO NOT use our precious, clean drinking water?



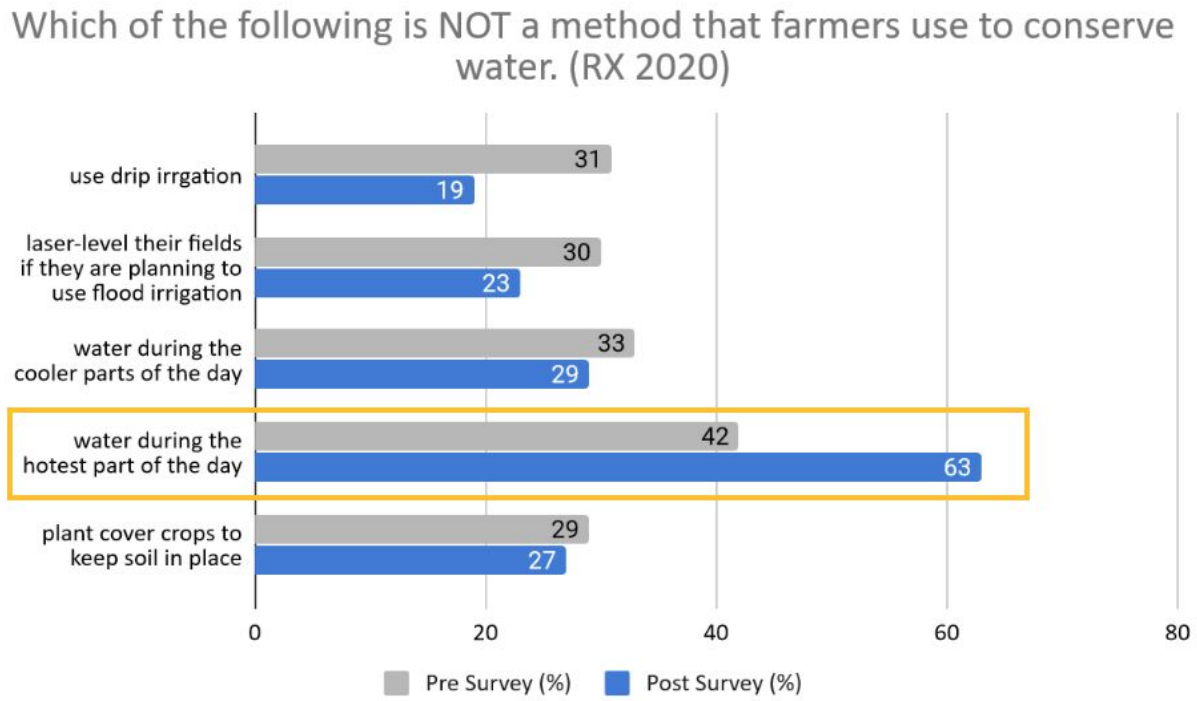
➢ This graph suggests that after participating in RiverXchange it was further clarified how often we use clean drinking water in our daily lives as the incorrect responses were reduced by 8-22 percent.

Item #11: Where does your city's wastewater go?



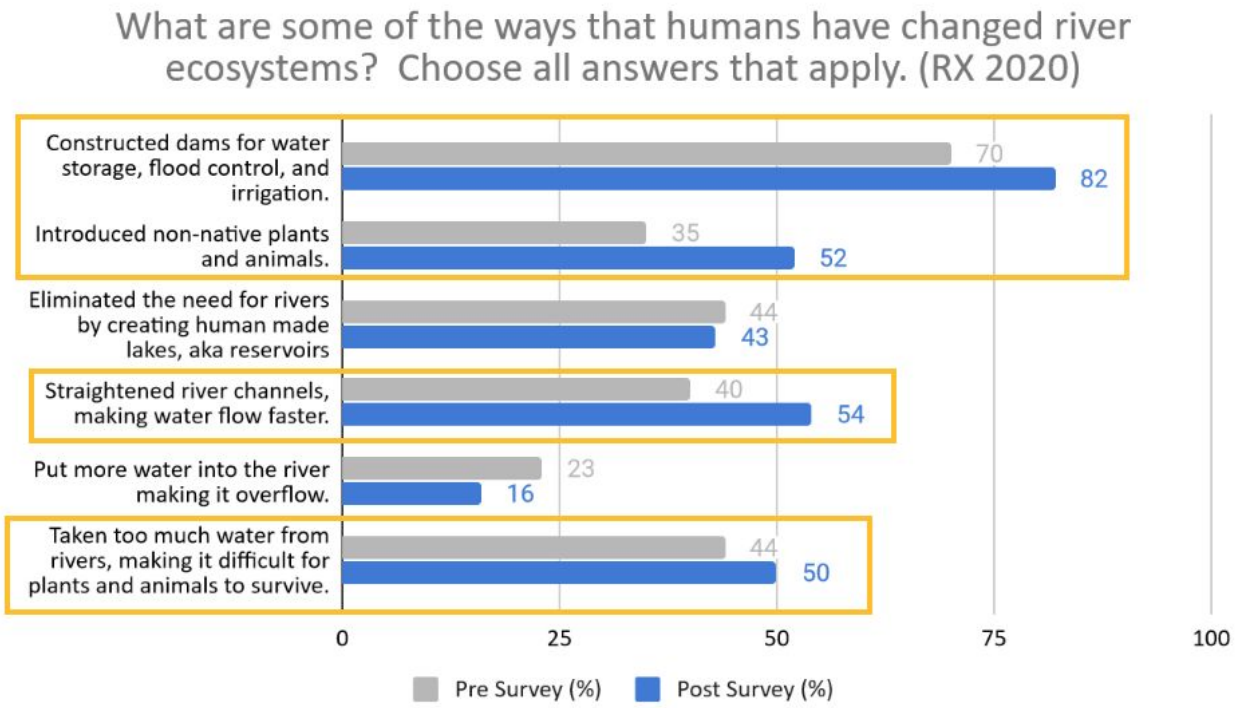
- This question was updated from last year's "When it rains, where does your community's stormwater go?" as the answer changes depending on where students live. The hope was that asking where your city's wastewater goes would prompt students to remember that Albuquerque and Rio Rancho have centralized treatment plants for the majority of residents. Considering that both incorrect answers saw a reduction in responses demonstrates that students are understanding that wastewater is either cleaned at a treatment plant or goes into a septic system (as is the case for many Rio Rancho students).

Item #12: Which of the following is NOT a method farmers use to conserve?



- Water conservation strategies for different farming methods and irrigation systems were only covered in the Sandoval County Extension agriculture presentation with Rio Rancho schools this year. Moving forward this question may need to be redefined or removed to account for the different presentations in each district.

Item #13: What are some ways that humans have changed river ecosystems?



- Overall this graph demonstrates that students increased their understanding of human impacts on river ecosystems. It is notable that their understanding of the impacts from the introduction of non-native species, straightening the river, and building dams significantly increased. The field trip experience really drives home a lot of key concepts about the Rio Grande's timeline and how anthropogenic influences on the river have impacted the riparian ecosystem.

Item #14: Does you think everyone has a right to drinking water and why? (short answer)

“Yes Everyone Has A Right To Drinking Water Because They Are Living Creatures They Need Water To Survive.”

“I think everyone should have a right to clean drinking water because water is a necessity to life.”

“Yes. If not everybody has water, then the human population will die off. I think that everybody should have access to water, especially in places where they don’t have access to supplies of water.”

“yes, I think that all people have the right to clean drinking water because humans need water to live and survive and people do have the right to live off of clean water for everyday use. Also all people should be treated fairly when it comes to drinking clean fresh water.”

“Yes! I think this because the government can’t be like you don’t have money for us so you can’t have water. That is basically starving them”

“Yes I do. I think this because everyone needs to drink water to survive and the water they drink should be clean so that they don’t get sick or get a disease.”

“I think everyone has a right to drink clean drinking water because if we drinker dirty water, we would be like Mexico because in Mexico, the only water they drink is dirty water and the people who live there often get sick by the water.”

“I think everyone doesn't have a right drinking water because some states have no clean water they still have water, but it's not all clean. Some people get sick from drinking dirty water all the time because there is no clean water.”

“This is a yes and no question for me. I don’t believe that people that waste our water should have any, but than again everyone needs water to survive. So I do think that people should have it because they need it, but some people just don’t deserve it.”

“Yes , I think that everyone should have the right to have clean drinking water . As long as people don’t waste it people should have it , and be great full for it to .”

“I think everyone has a right to drinking water but, some places in the world are really dry, so it's hard to find clean, decent drinking water.”

“Everyone of every race and country has the right to drinking water because it is a source of life and everyone in the world deserves it.”

“I think everyone has a right to drinking water because, in order to live as humans and as a community, we must have water. Water is life! But I also think everyone has a right to know how to conserve it!”

“Every one has a right to drink water because no one owns it”

Appendix 1 includes the extension activities from the RiverXchange curriculum, Appendix 2 includes photos.

Appendix 1
Extension Questions and Activities

Understanding Our Watershed:

River Geography

- **Suggested Reading:**
  - **Books:**
    - *Follow the Water from Brook to Ocean* by Arthur Dorros
    - *Paddle-to-the-Sea* by Holling C. Holling
    - *One Well: The Story of Water on Earth (CitizenKid)* Strauss, Rochelle
  - **Articles:**
    - *Albuquerque Journal:* "As Bad as it Gets: Drought Returns to New Mexico."
    - *Albuquerque Journal:* "Drought Affecting 99% of New Mexico."

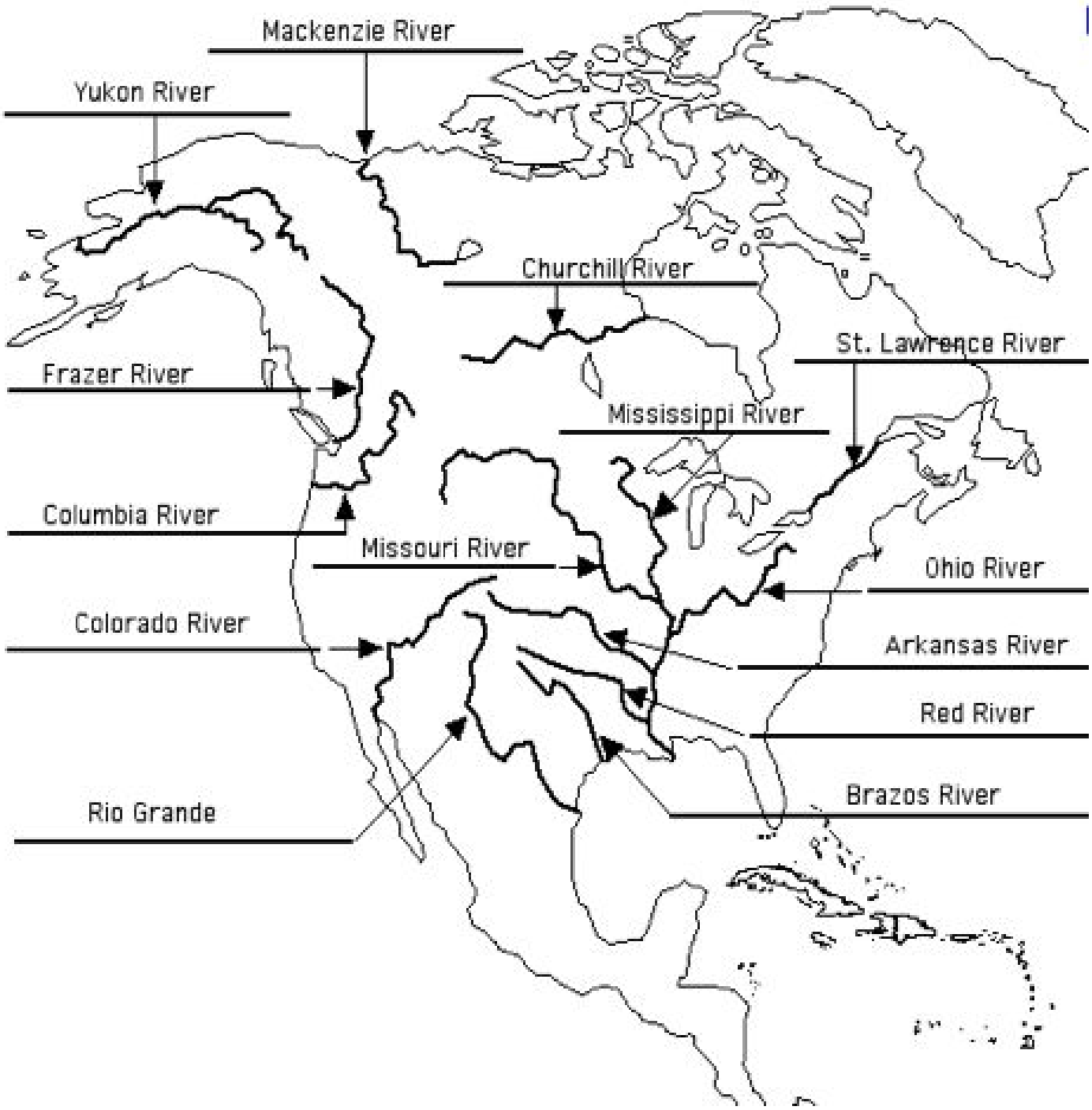
- **Watch:**
  - Watch Save Water - Save Our Rio!, a 17 minute video created by local summer camp students, sponsored by Albuquerque Water Utility Authority. Follow up with *When is the Drought Out?* http://www.abcwua.org/education/pdfs/Drought_GraphingOption.pdf

- **Write a letter to your partners or create a project, explaining:**
  - what a watershed is
  - the name of your river - this is also the name of your watershed!
  - the journey of your river from its headwaters to the ocean

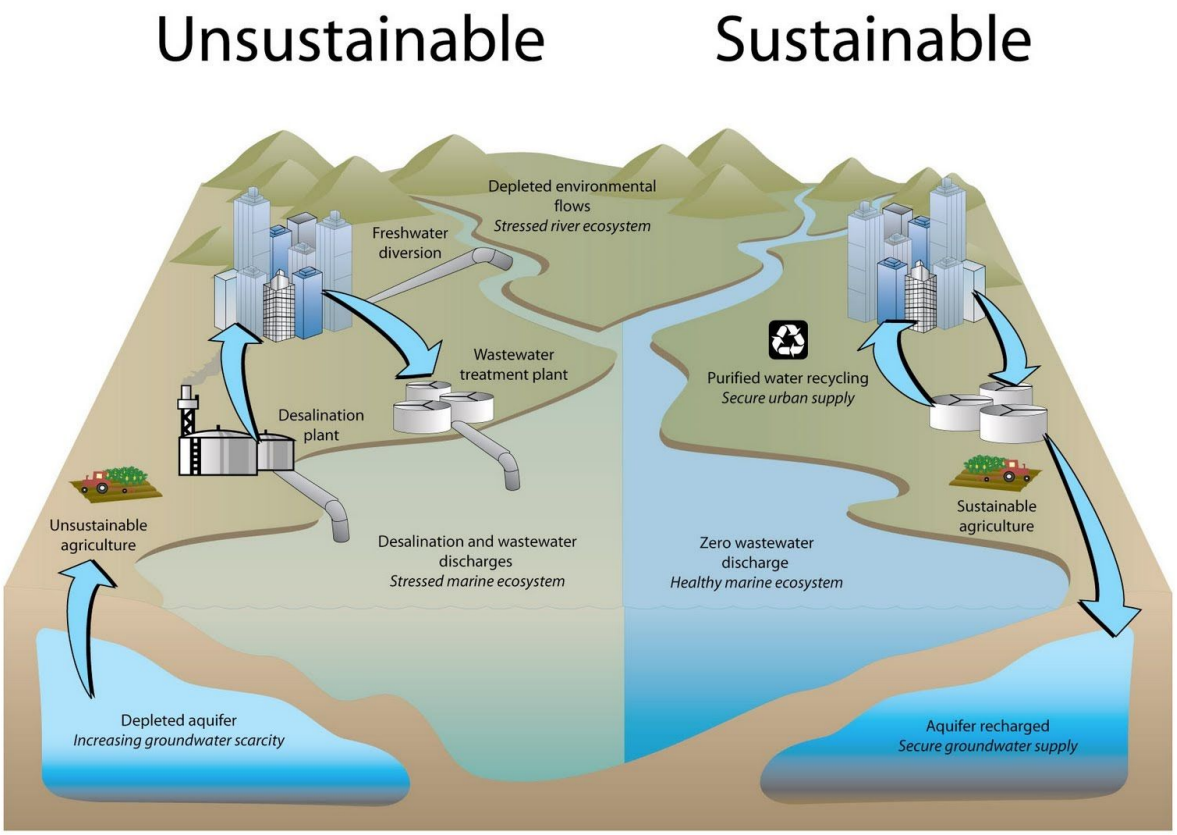
- what the river is like in your area - big/small, clear/muddy, fast/slow?
- how much precipitation your area receives each year, and what season gets the most precipitation

- **Want to explore further?** Refer to Project 1 in the RiverXchange Curriculum "Understanding a Watershed".
  - You can access the curriculum on your Kidblog homepage or by following this link: https://riverxchange.com/teachers2/curriculumpage/

North American River Map



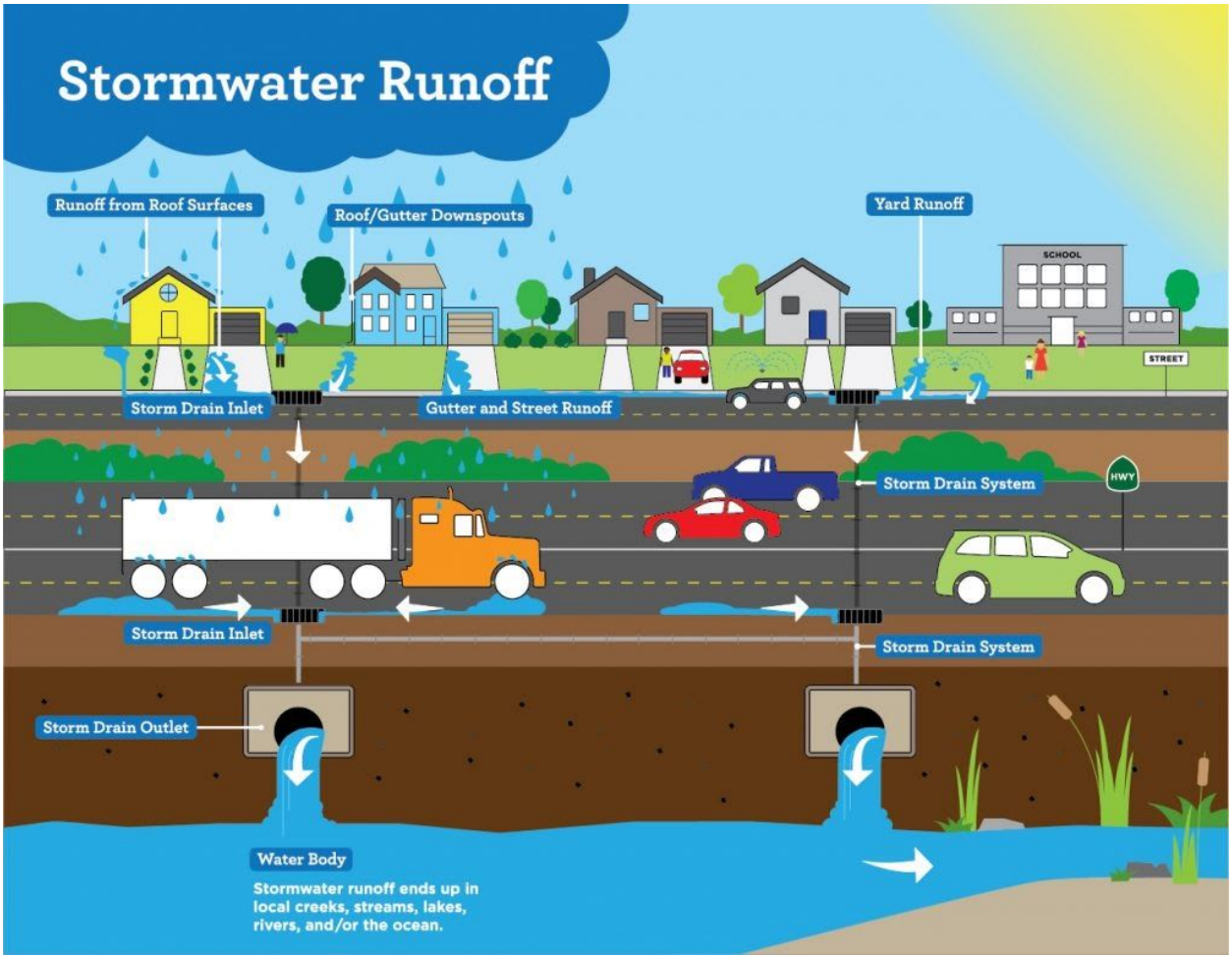
The urban water cycle



Clean Ocean Foundation 2009 - www.cleanocean.org

Understanding a Watershed:

Watershed Model / Infiltration and Runoff



Graphic credit: City of Columbia, MO

Enhance your student's blog posting and extend their learning beyond the Stormwater presentation with the following activities:

- **Suggested Reading:**
  - **Articles:**
    - *CNN* article. 2013. "Garbage Man of the River" http://www.cnn.com/2013/04/18/us/cnnheroes-pregracke-rivers-garbage
    - *Science News for Kids* article. 2012. "Suffocating Waters" https://www.sciencenewsforstudents.org/article/suffocating-waters
- **Watch:**
  - *The Human Solution to Water Pollution* video (to right of screen): http://sscafca.org/teacher-resources/
  - *The Majestic Plastic Bag* video (mockumentary): https://vimeo.com/14221747
    - For a 60 minute class activity, include this lesson to explore the Great Pacific Garbage Patch and what students can do to respond.

- Explore The Ocean Cleanup project and how an 18 year old started with a simple idea which is now making a difference in the effort to clean up the world's oceans.

❖ **Explore your watershed**

➢ Follow the link below to zoom in and explore your watershed and the watershed that family and friends live in, perhaps even your RiverXchange partners who live outside of New Mexico! Interactive Topographic Watershed Map of Earth

❖ **Lesson plan**

➢ *Don't Trash Our Rio Activity Guide* - A math based extension where students learn how much trash is pulled from Albuquerque's storm drain system yearly, and calculate how many trash bags or classrooms it would fill. (Follow links for additional handouts)

- **Reflection Questions**
  - Discuss how the gutters in our streets lead to **storm drains**, which often lead directly to the nearest body of water. Discuss the difference between **stormwater** and **wastewater** (from household drains and toilets).
  - What is stormwater and where does your community's stormwater go?
  - What did you learn about stormwater that was surprising to you?
  - How do things that happen in your yard or your neighbor's yard impact the watershed?
  - What have you noticed about stormwater in your own neighborhood?
  - What are some things you can do to clean up stormwater?
  - How can surface water become polluted?
  - What's happens when rain falls on a pervious surface compared to an impervious surface? Give examples of impervious surfaces.
  - How are groundwater and surface water connected?
  - What are ways you can minimize stormwater pollution?

❖ **Want to explore further?** Refer to Project 2 in the RiverXchange Curriculum "The Watershed".

➢ You can access the curriculum on your Kidblog homepage or by following the link below: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

Water in Our Society:

Drinking Water

Enhance your student's blog posting and extend their learning beyond the Drinking Water presentation with the following activities:

- **Suggested Reading:**
  - **Book:** *A Long Walk to Water*, by Linda Sue Park (2010: Clarion Books)
  - **Articles:**
    - **Albuquerque drinking water info**
      - from ABQ Water Utility Authority http://www.abcwua.org/education/pdfs/WaterUse_Text.pdf
      - About the San Juan Chama Project, ABQ Journal 2008: https://riverxchange.files.wordpress.com/2015/08/san-juan-chama-project.pdf
    - **Santa Fe drinking water info**
      - Buckman Diversion, ABQ Journal 2010: https://riverxchange.files.wordpress.com/2015/08/buckman-diversion.pdf
    - **Santa Fe drinking water info**
      - Buckman Diversion, ABQ Journal 2010: https://riverxchange.files.wordpress.com/2015/08/buckman-diversion.pdf

- **Lesson Plan: The Water Project**
  https://thewaterproject.org/resources/WaterLogs_5to8.pdf
  - Five simple activities and lessons to assist students in exploring how water scarcity may impact their lives and how they can contribute by conserving water.
  - Suggested activity: Students log their personal use and observation of other forms of water use over two days, then discuss their findings and explore what would happen if water scarcity were an issue. Another lesson also includes a TRUE/FALSE game to learn about water and how it impacts the human body and communities.

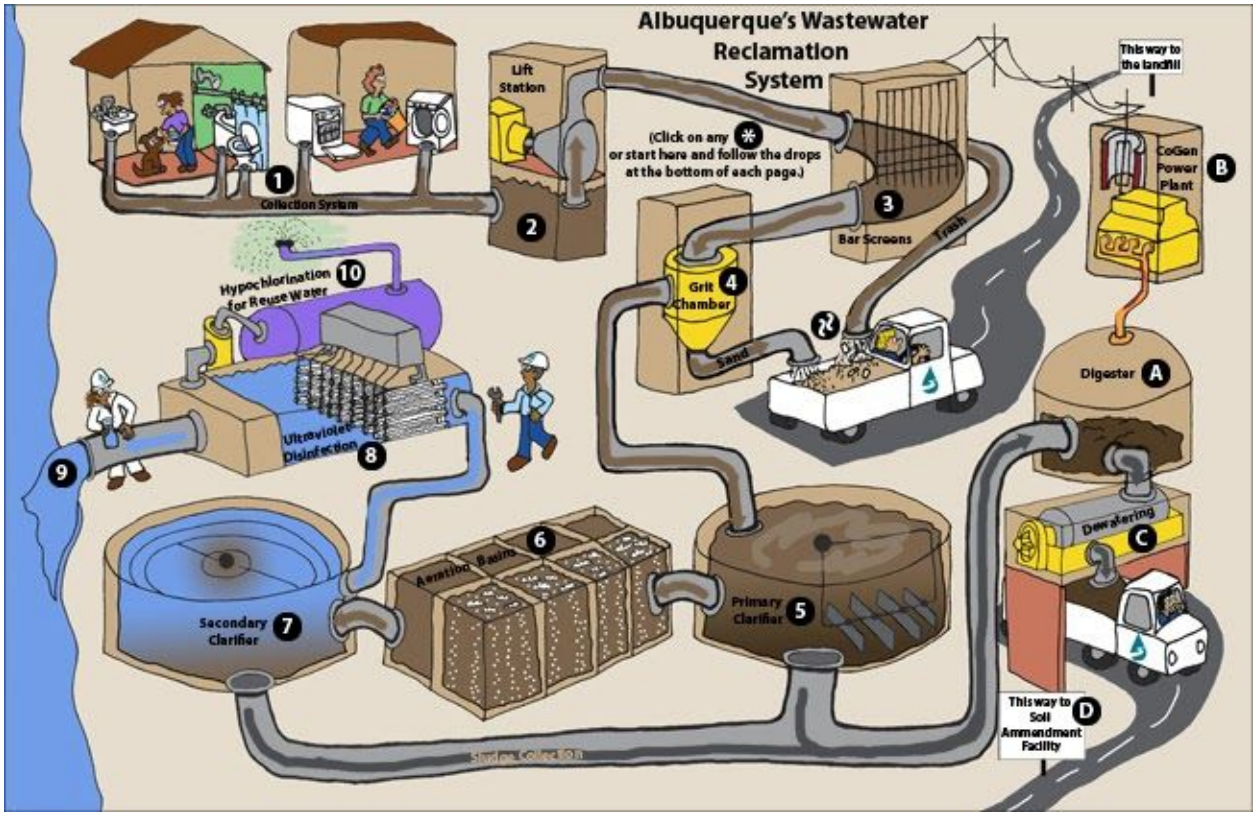
- **Lesson Plan: Cleaning Water**
  http://seplessons.ucsf.edu/node/1754
  - Create a filter in class to clean contaminated water and investigate your findings with the lesson linked below. This activity can be done over the course of a few days in class, or you can demonstrate how a filter works with your class in a shorter lesson.

- **Reflection Questions**
  - Where does your drinking water come from and what communities rely on it?
  - Drinking water is used for much more than bathing, flushing toilets and drinking. What are other ways you and your community use drinking water?
  - Did you learn anything surprising about how we use drinking water, if so what?
  - What percentage of the Earth is covered in water? Out of that amount, how much is accessible fresh water? How much is available as drinking water and why is it important to conserve it?
  - One third of the world's population does not have access to clean drinking water. How would your life be different if you had to walk miles to bring back water to your family?

- **Want to explore further?** Refer to Project 6 in the RiverXchange Curriculum "Drinking Water".
  - You can access the curriculum on your Kidblog homepage or by following this link: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

Water in Our Society:

Wastewater / Groundwater



Enhance your student's blog posting and extend their learning beyond the Wastewater presentation with the following activities:

- **Suggested Reading:**
  - *KOAT* news. 2015. "Aging Pipes Mean Higher Water Bills" http://www.koat.com/news/aging-pipes-could-mean-water-bill-hike/34284754
  - Combined sewer overflows article, by Anne Jefferson, a geology professor from Kent State. http://all-geo.org/highlyallochthonous/2013/03/combined-sewer-overflows-solving-a-19th-century-problem-in-the-21st-century/

- **Activities:**
  - Follow this link to the ABQ Water Utility Authority's website to navigate virtually through Albuquerque's wastewater system: http://www.abcwua.org/Education/SWRP_home.html
    - Want to add a project-based learning component to this exercise? Use these questions and activities to go along with your tour: http://www.abcwua.org/education/educators_WSDcur2_quest.html

- ➢ Show students the *Septic System* poster (the poster can be shown on a smartboard and explain the difference between a **sewer system** and a **septic system** – they both treat wastewater essentially the same way, but a septic tank is right by the house and uses a drainfield in rural areas.

- ➢ Create a Public Service Announcement with your class inspired about what you've learned. Take a video and post it on the blog to share with your partner class!

❖ **Watch:**

- ➢ Watch one of these videos in class to review the process of wastewater and what students can do to take care of wastewater: https://www.youtube.com/watch?v=Ldz29NqwK78 (An animation narrated by a young student)
- ➢ https://www.youtube.com/watch?v=tuYB8nMFxQA (A video of the water treatment process created by New Jersey American Water)
- ➢ Learn about recharging the aquifer in the City of Rio Rancho https://rrnm.gov/4024/Rio-Rancho-Pure

- **Reflection & Discussion:**
  - What is wastewater and how does it impact your community?
  - What is the difference between wastewater, stormwater and drinking water?
  - How can you use what you've learned to make a difference at home and at school?
  - What is the process of treating wastewater in your community? (For RRPS students, generally you are on a septic system). What is the difference between a sewer and septic system?
  - What surprised you about the process of treating wastewater from the presentation?
  - Why is it important to do what we can to keep certain things out of our wastewater, whether it goes to septic system or a wastewater treatment plant?

❖ **Want to explore further?** Refer to Project 8 in the RiverXchange Curriculum "Wastewater".

- ➢ You can access the curriculum on your Kidblog homepage or by following this link: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

Water in Our Society:

Commercial Uses of Our Waterways: Agriculture

Photo credit: Erich Schlegel

Enhance your student's blog posting and extend their learning beyond the Agriculture presentation with the following activities:

- **Suggested Reading:**
  - **Book:** *Out of the Dust* by Karen Hesse (1997: Scholastic Press)
    Written from the poetic perspective of 14 year old Billie Jo as she narrates her family's struggle in Oklahoma during the years of the Depression and the Dust Bowl.
  - **Articles:**
    - *ABQ Journal* article, 2013. "Deal Allows Farmers to Sell Irrigation Water" http://www.abqjournal.com/221194/news/deal-allows-farmers-to-sell-irrigation-water.htm
    - *National Geographic* article, 2014. "Parched: A New Dust Bowl Forms in the Heartland" http://news.nationalgeographic.com/news/2014/05/140516-dust-bowl-drought-oklahoma-panhandle-food/

- **Explore more about the Dust Bowl:** Check out the link below for an informative, interactive website developed by PBS. http://www.pbs.org/kenburns/dustbowl/educators/overview/

- **Lesson Plan: Soil is Not Trivial**
  - Using facts about the Dust Bowl, students write questions and play a trivia activity focused around the establishment of a national soil conservation program and the importance of soil. Students then explore and/or develop a plan to address a local soil conservation issue.
  - http://www.ncagr.gov/SWC/educational/documents/FLP_soil_is_not_trivial.pdf

- **Write a short story**
  - Write a short story from the perspective of someone who is living during, and affected by the Dust Bowl. Explore the PBS website link, or the suggested reading.

- **Lesson plan: Growing Plants**
  - Students will use the story of *The Empty Pot* to explore literature and science, practicing story mapping and learning about the needs of plants and the importance of soil and water. Like the characters in the story, students will plant and observe the growth of seeds. https://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=484&author_state=0&grade=3&search_term_lp=growing%20plants

- **Reflection Questions**
  - What was the Dust Bowl and how did it impact people?
  - What do you think are the major agricultural lessons for us from the Dust Bowl?
  - How may we be able to prevent a dust bowl from occurring again?
  - What is important for farmers to consider when planning how to irrigate their farm and why?
  - How does agriculture relate to water and to our daily lives?
  - What did you discover in your planting activity about the different types of irrigation?

- **Want to explore further?** Refer to Project 5 in the RiverXchange Curriculum “Commercial Uses of Our Waterways”.
  - You can access the curriculum on your Kidblog homepage or by following this link: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

Water in Our Society:
Commercial Uses of Our Waterways: Acequias

Enhance your student's blog posting and extend their learning beyond the Agriculture presentation with the following activities:

- **Suggested Reading:**
  - **Articles:**
    - *ABQ Journal* article, 2013. "Deal Allows Farmers to Sell Irrigation Water" http://www.abqjournal.com/221194/news/deal-allows-farmers-to-sell-irrigation-water.htm
    - *National Geographic* article, 2014. "Parched: A New Dust Bowl Forms in the Heartland" http://news.nationalgeographic.com/news/2014/05/140516-dust-bowl-drought-oklahoma-panhandle-food/

- **Watch:**
  - *Nuestras Acequias* (20 minutes) and/or *South Valley Acequias* (4 minutes). Discuss the **acequia** system which was put in place by the Pueblo people and early Spanish settlers, how is it organized amongst the community and maintained? What is its cultural and ecological significance?

- Explore the acequia tradition further with *El Agua Es Vida* lessons.

❖ **Lesson Plan: Prior Appropriation**

➢ Using the *Prior Appropriation* activity guide, act out the two different methods of assigning water rights to all the water users. Discuss the difference between the Riparian Rights and Prior Appropriation doctrines. Research the history of water rights in your community and compare the differences in water rights issues with your partners' area. Prior Appropriation is used in the western states, which receive far less precipitation.

❖ **Discuss**

➢ How people have developed technological solutions to solve water problems. For example, many ancient settlements in the West were abandoned because of lack of water, but irrigation technology has made it easier to survive. Dams have made it easier to control the flow of rivers, reservoirs store water, and fish ladders are built so that dams don't prevent their migration. High-efficiency toilets and other appliances help conserve water.

- **Reflection Questions**
  - What did you learn about acequias that you didn't know before this presentation?
  - How are acequias important to life and culture in New Mexico?
  - What would happen to the land if people didn't maintain acequias?
  - What is important for farmers to consider when planning how to irrigate their farm and why?
  - How does agriculture relate to water and to our daily lives?

❖ **Want to explore further?** Refer to Project 5 in the RiverXchange Curriculum "Commercial Uses of Our Waterways".

➢ You can access the curriculum on your Kidblog homepage or by following this link: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

River Ecosystems:

Pole Planting Field Trip

Enhance your student's blog posting and extend their learning beyond the Field Trip with the following activities:

- **Suggested Reading:**
  - **For teacher:** Read or review the 1st part of Chapter 4 of the Bosque Education Guide: A River of Change and discuss with your class the history of the Rio Grande River, the changes made to it's flow and channel, and the impact on the Bosque ecosystem.
- **Make a food web**
  - Make a food web for our local ecosystem, identifying producers, consumers and decomposers, native species and invasive species, as well as local endangered species. Discuss how wildlife are "water users" too. Like humans, wildlife needs clean water to live, so as a community we must consider their needs when making choices about water. Use Bosque plant and animal cards to do *The Web* activity, discussing how all living things depend on each other.
- **Learn about the STRAW Project**
  - An ongoing watershed restoration project first inspired by 4th graders in 1992, based in Marin Co. California! Add it to your school's library and show the documentary in class. http://www.pointblue.org/our-science-and-services/conservation-science/conservation-trai

ning/straw-program or read about the project in this article and discuss how youth can make an impact: http://www.marinij.com/article/NO/20150325/NEWS/150329872

- **Reflection & Discussion:**
  - What did you learn about the history of the Rio Grande River and the floodplain we planted in? How does this history impact the future of cottonwoods in the area?
  - Identify some common invasive species. Where did they come from and how are they impacting the Bosque?
  - What is the process of planting cottonwoods and willows and why do we do it in the wintertime?
  - After this field trip, how may you see and understand the Bosque differently?
  - What did you most enjoy while being down in the Bosque?
  - How can you apply what you learned or enjoyed on your field trip in your everyday life?

❖ **Want to explore further?** Refer to Project 9 in the RiverXchange Curriculum "Field Trip".

➢ You can access the curriculum on your Kidblog homepage or by following the link below: https://riverxchange.files.wordpress.com/2018/09/riverxchange-curriculum-20181.pdf

Appendix 2
Photos

Below is a selection of images from our planting field trips:

Thank you for all your hard work and dedication to RiverXchange Melissa McLamb! We will miss you!

Exhibit 5

Bosque Ecosystem Monitoring Program (BEMP) 2019-2020 Final Report

Bosque Ecosystem Monitoring Program (BEMP)
Report to the Storm Team of the
2019-2020 Stormwater Science Education Program

The main objective of the *Stormwater Science* outreach education program is to teach students how the health of the Rio Grande is directly related to the health of the surrounding watershed and what their responsibility and opportunities are to help keep the "Rio Grand." BEMP educators have developed a Stormwater Science program that includes a 90-minute classroom activity, a four-to-five-hour study trip to the Rio Grande, and optional curriculum extensions incorporating hands-on data analysis, graphing, and system modeling. **During the 2019-2020 school-year and before the schools shut down due to COVID-19, 737 students participated in Stormwater Science** activities in their classrooms, in the field, both, or in outreach events. The classroom program was delivered to **245 students** in **14 classrooms** at **3 different schools** in **Albuquerque.** After the schools shut down, BEMP continued to create new or adapted existing activities related to the Stormwater Science curriculum with the goal of creating equitable educational outreach during the pandemic (see section 10 for outreach numbers and further information).

In addition to the Stormwater Science outreach, BEMP actively involves students in water quality monitoring through the *E. coli* monitoring contract with the Mid Rio Grande Stormwater Quality Team. **11 students from La Academia de Esperanza (LADE)**, **21 University of New Mexico (UNM) undergraduates,** and **3 students from Bosque School** were directly involved in water quality monitoring of the Rio Grande in support of this contract. Students are taught the proper protocols for collecting field parameters and *E. coli* data, but, consistent with our quality assurance plan, are only allowed to collect field parameter data. Typically, students then graph and analyze the data and are supported in presenting their findings at BEMP-supported conferences, professional conferences, and to policy makers; however, this year, these events were canceled due to COVID-19. During this school year, BEMP educators started to create a field journal specific to this water quality monitoring collection to help strengthen student learning and understanding of the data and bigger picture applications.

For the regular school curriculum, the BEMP Stormwater Science program targets middle and high school students using two main formats: an indoor classroom lesson and an outdoor field experience or *Stormwater Study Trip*. This year, during the pre-COVID-19 2019-2020 school year, we continued improving our existing curriculum by making it more NGSS aligned and age appropriate. We also started to incorporate a new assessment tool, Plickers, to assess teaching and lesson content effectiveness. During the pandemic, COVID-19 limited the number of

students we could engage through classroom and field education; however, BEMP continued to support students with a variety of activities through the APS Grab & Go Lunch program in partnership with other STEM organizations across the state to support equitable education, BEMP's social media, and the BEMP's website (See section 10 of this document for more detailed information). BEMP also worked on adapting, when possible, all the spring events to become virtual events (Luquillo-Sevilleta Virtual Symposium and Crawford Symposium; see section 8). BEMP provides handouts for all activities in English and Spanish to better support inclusion and accessibility of STEM resources for New Mexico's diverse communities.

Note: This year, we have structured this report so that in the following sections, we will paraphrase and italicize from previous reports the parts of the curriculum or report that haven't changed and that we continue to adopt. We highlight new work from this contract year in a different, non-italicized paragraph

1. Classroom curriculum*: Preparation and delivery of Stormwater Science activities in the classroom for middle and high school students* **(245 students)**

The core classroom curriculum and approaches utilizing the watershed model did not change during this school year:

The principal objective for the middle school classroom curriculum is to demonstrate how some of our daily, individual actions impact the health of the Rio Grande. To reach that goal, students construct a model of the Rio Grande Watershed (See pages 2 & 15 of the curriculum attached as Appendix A & F). The watershed model has five different communities along the river: a cattle ranch, upstream and downstream eco-friendly towns, an urban city, and agricultural fields. Students add different 'runoff cards' to the river downstream of the communities where the runoff constituents originate. Some of the runoff is naturally occurring (e.g. turbidity) while some is human-caused (e.g. pesticides or oil). The model runs through two different scenarios: (1) before-the-storm and (2) after-the-storm. While working through different variations of the model, students record the number of runoff cards introduced into the river before and after a storm event (See handout table; page 2, appendix A). This helps them to conceptualize, quantify, and further discuss the impacts of these changes to the overall river health. Exploring these two scenarios demonstrates the harmful effects that stormwater contamination can have on aquatic organisms and downstream communities.

The high school classroom lesson builds upon these core concepts. After discussing the aforementioned watershed model, students learn about some key water quality parameters: temperature, conductivity, dissolved oxygen, turbidity, and dissolved organic matter. Students divide into groups assigned one parameter each. They must then predict how their parameter might be affected by a storm event along with providing justification for their prediction. Students are given graphed data of their parameter before and after actual storm events and must analyze the graphs to determine if the data supports their hypothesis. When classes have more time available, this activity is supplemented by two different curriculum extensions. The first curriculum extension uses the same key water quality parameters introduced in the regular classroom activity, but the students analyze provided data and create their own graphs. We provide (1) a blank graphing sheet with the axis labeled and with the river flow data (used as a reference to talk about the time gap between the increase in cfs and parameter peaking) and (2) a table with measurements for each parameter. This activity helps students learn how to analyze and graph data and then interpret the results, using skills aligned with Next Generation Science

Standards (NGSS). The second curriculum extension is a soil porosity and permeability experiment that deepens students' understanding of how different surfaces (natural vs. anthropogenic, permeable vs. impermeable) impact the overall water budget and water quality.

BEMP updated the middle school classroom curriculum in the 2019-2020 school year to offer the lesson as two separate visits when time allows. The second session involves a graphing activity that includes a stronger action component (page 3, appendix A). The graphing exercise helps students conceptualize the recorded numbers and better understand the impacts of each of the different 'runoff cards' to the overall river health. The action component of the lesson intends to empower students to create change in their daily actions individually but also within their family and community to help keep the "Rio Grand."

This school year, following NGSS guidelines, we added a model/simulation into our high school classroom lesson from a scientific publication (page 4, appendix A) to illustrate the impact of storm surface runoff in the overall water quality of urban versus non-urban areas. This allows us to construct an explanation based on scientific evidence using students' local ecosystem while also hitting a variety of Disciplinary Core Ideas and Performance Expectations within the same NGSS domain (ESS – Earth and Space Science, in this case). This addition also gives high school students the chance to work with recent and local science research.

2. Stormwater Study Trip: *Delivery and coordination of place-based Stormwater Science experiences* **(53 students)**

The structure and content of the Stormwater Study Trip did not significantly change from past years:

The centerpiece of BEMP's stormwater outreach is the Stormwater Study Trip. This activity builds upon classroom activities and facilitates hands-on student experiences including performing water quality testing at the Rio Grande. The Stormwater Study Trip is a four to five-hour trip to the river during which students investigate how stormwater moves through the city and sweeps pollutants and debris into the river. Students also collect and interpret water quality data. The middle school version of the program begins with an explanation of the arroyo system in Albuquerque (See map page 5, appendix B) followed by an arroyo pollution survey where students examine and categorize the amount of visible pollutants (e.g. plastics, paper, dog poop, animal scat, etc.) in Albuquerque's San Antonio arroyo which drains into the bosque. In the arroyo, students test water quality using a LaMotte water quality monitoring kit (page 6, appendix B). When the students hike to the Rio Grande, they do additional water quality testing from two locations. Students then share their results with each other, compare Rio Grande and arroyo water quality data, and discuss what their results could mean in terms of the river's health. This section of the curriculum allows students to have a more hands-on learning experience involving different types of data collection and scientific tools. The high school Stormwater Study Trip uses a similar format with an emphasis on the water quality indices (percent EPT and biotic index) through analyzing collected macroinvertebrates. At the end, the goal for high school students is to connect and understand the two collected data sets and develop a deeper sense of how the system functions on a broader scale.

In the 2019-2020 school year, BEMP revised the study trips in several ways to strengthen student learning, scientific practices, and stewardship on a local and global scale. This year, BEMP connected the study trips to GLOBE, or Global Learning and Observations to Benefit the Environment. This community science program connects data collection around the world to contribute to our global understanding of the Earth and its processes. BEMP staff redesigned the study trip handout for all grades to better reflect the GLOBE data entry layout in effort to strengthen the stewardship component of the program (pages 5-8, appendix B). BEMP adopted that tool as a way to compare the data collected in our ecosystem to other ecosystems across the globe while also stressing the importance of stewardship from a local to worldwide scale. This tool is being used mainly in our study trip portion of the curriculum.

As part of the high school study trips, BEMP has also began using a multiparameter sonde along with the LaMotte TesTabs that students have used in the past. The multiparameter sonde provides high resolution water quality measurements (temperature, conductivity, specific conductance, pH, turbidity and dissolved oxygen). Using the handout and any additional discussions led by BEMP educators, students learn how to compare results from different methodologies to see how accurate different scientific tools can be. In addition, BEMP staff have also begun to develop a new version of the study trip to work with students during monthly water chemistry monitoring. Part of this work has been spent developing a new handout so this experience has a stronger educational component. This will be further developed in the next school year. Also, the data collected during study trips is now saved in our local drive and can be shared with the Storm Team as requested.

During the 2019-2020 school year, BEMP stopped using the leaf packs for macroinvertebrate identification due to time constraints of the study trips and because of difficulties with the leaf packs themselves. Moving forward, BEMP wants to reassess this methodology in light of challenges we faced last year, as leaf packs ended up buried by sediment or swept away downstream because of the irregular water pulses in the Rio Grande.

BEMP also continued to include Stormwater Science concepts as a part of the after-school program, BEMP After School Science (BASS). A small group of high school students worked with BASS to analyze water samples and collect aquatic macroinvertebrates to gain insight into the overall health of their local ecosystems.

3. Elementary school outreach: *Continued delivery and coordination of Stormwater Science experiences for elementary school students* **(300 students)**

BEMP participated again in the Children's Water Festival at the Santa Ana Star Center (300 students and 12 teachers) where BEMP educators, using a new macroinvertebrate activity (See page 9, appendix C), taught fourth grade students about their watershed, how humans impact the health of this system, how aquatic organisms are affected by pollution, and what everyone can do to improve the health of the Middle Rio Grande.

4. Monthly Monitoring: *Continued development and delivery of Stormwater Science outreach during Monthly Monitoring*

From last year's report:
BEMP monthly monitoring is often a space where educational concepts are introduced based upon what students encounter in the bosque or what they are currently studying in class. Because of this, Stormwater Science is only taught intermittently during Monthly Monitoring and has not yet been granularly tracked.

BEMP continued to include stormwater science topics during the introductory monthly monitoring conversations and whenever appropriate. This helped students see the bigger picture of how the health of the *bosque* is directly tied to the health of the Rio Grande and its watershed.

Furthermore, in addition to the stormwater related conversations, BEMP also adapted an activity that was initially used in the 2018 Children's Water Festival to talk about stormwater related concepts like water pollution and the use of macroinvertebrates as bioindicators of water quality (See page 10, appendix D). The goal of this activity is for students to figure out which one of the four different communities in an imaginary watershed has the best water quality. To reach that goal, students identify the different types of macroinvertebrates that live in each of those communities using a key. The activity ends with a quick group brainstorm about ways to help keep the downstream ecosystems clean (pick up trash and dog poop, fix leaky cars, don't use chemicals, etc.). This activity was piloted during Fall 2019 and can be incorporated as part of the monthly monitoring educational curriculum in the future.

5. Summer programming: *Preparation and delivery of Stormwater Science presentations during summer programming* **(200 students + 750 families)**

As in past years, BEMP partnered with Horizons Albuquerque, a tuition-free academic enrichment program that intends to fill the summer learning gap that students from low-income families often encounter. Over six weeks during the summer of 2020, 200 students in grades K-8 learned about how storms impact the overall water quality of our river by working on two of the Stormwater Science activities created during the COVID-19 closure (See page 11 & 14, Appendix E). These activities help connect the students' learning with BEMP and Horizons to the places they live.

This summer, BEMP also partnered with the NM Out-of-School Time Network for their summer Storytime in the Park program where one of the Stormwater Science activities (page 11, appendix E) was given to the 750 families that participated in this year's event.

6. Stormwater Science curriculum development: *Continued development of Stormwater Science curriculum*

Part of the 2019-20 school year (before COVID-19 closure) was spent making changes to the Stormwater Science curriculum, continuing to make it more hands-on, engaging, and appropriate for a wider range of students according to NGSS principles. After the closure, BEMP staff shifted to develop curriculum, including Stormwater Science concepts, that would be easily accessible for the communities around New Mexico (see section 10 for more information).

7. BEMP educational outreach events*: *Funding covers partial costs for classrooms to participate in Otter Day and BEMP Student Congress*

Because both of these events were scheduled to happen in April 2020, they were cancelled due to COVID-19. However, BEMP expanded the educational and community outreach during the closure through other platforms including the Grab and Go APS meal program, BEMP'S social media, and BEMP's website (see section 10 for more details).

*Funds that covered partial costs for these different BEMP educational outreach events were reallocated for printing and other materials, additional translation efforts to support accessible and equitable education, and staff time in order to continue to support the Stormwater Science program.

8. Additional BEMP educational outreach and events*: *Funding covers partial costs for classrooms to participate in Luquillo-Sevilleta Virtual Symposium and Crawford Symposium* **(39 students)**

This year, due to the COVID-19 closure, BEMP continued to organize and deliver the two annual educational events where stormwater science concepts were presented by adopting a fully virtual approach. The Luquillo-Sevilleta Virtual Symposium (LSVS) brings together students involved with the Luquillo Long Term Ecological Research Site in Puerto Rico and students from Albuquerque to share their watershed research with each other via Zoom in Spanish. This year, the LSVS involved 31 students and 19 adults (See page 17, Appendix F). BEMP's Crawford Symposium is an annual conference honoring BEMP's co-founder Dr. Clifford Crawford which celebrates community science along the Middle Rio Grande and showcases environmental research by both students and professionals. The Virtual Crawford Symposium had 8 students and 4 adult presenters, with 60 participants during the live video screening and 210 views after the video was posted on our YouTube channel (page 17, Appendix F).

As part of our outreach, BEMP also participates in other types of activities labeled as "other" in the outreach table (See table page 18, appendix G). These activities included a variety of community educational outreach, ranging from variations of the regular study trip to a student independent research project presented at a water conference with different pueblo representatives in Nambe Pueblo.

9. Plickers – Assessment tool: *This tool was used to assess the overall effectiveness of the curriculum in the classroom and study trips*

For the 2019-2020 school year, BEMP started using an assessment tool, Plickers, to monitor the effectiveness of the delivery and content in the Stormwater Science curriculum. Plickers is usually used by teachers to instantly collect multiple-choice responses from students. This tool doesn't require students to have any device; instead, BEMP staff provides printed cards with a unique design (similar to a QR code) to each student and then scans student responses using a phone app (See page 16, Appendix F). Although BEMP cannot publish the results of the assessments in this report due to a lack of IRB approval for research with human subjects, BEMP staff are using assessment results to learn what parts of the stormwater science curriculum are working well or could be improved. Due to time constraints in the classroom and field, BEMP will evaluate the continued use of this tool while also pursuing funding for more formal assessment of student learning.

10. Outreach during COVID-19 closures: *Continued delivery of Stormwater Science concepts through the APS Grab & Go Lunch program, BEMP's social media and BEMP's website* **(5811 students)**

Paraphrased and updated from BEMP's report to City of Albuquerque:

Due to the COVID-19 pandemic, Albuquerque Public Schools closed on March 16th, 2020, through the remainder of the 2019-2020 school year. During this time, BEMP continued educational support with 5 of the BASS schools (Van Buren MS, Arroyo del Oso ES, Sombra del Monte ES, Inez ES, and Comanche ES). As many students in New Mexico do not have consistent or reliable access to the Internet, computers, or printers for online distance learning, BEMP created equitable educational outreach through both virtual and physical access.

BEMP delivered weekly, bilingual STEAM activities to each school for distribution in the APS Grab & Go Lunch program. Each school requested at least 150 copies of the activities in English as well as 20-50 copies in Spanish. BEMP staff followed best practices for handling these materials with gloves, washing hands or using hand sanitizer frequently, and packing materials in Ziploc bags. Since early April, BEMP has collaborated with other STEAM organizations, such as NM MESA, Wild Friends and ABCWUA (for full list, see page 16, appendix F) to distribute these activities to even more schools and community locations around Albuquerque and New Mexico as a whole. The BEMP activities focus on getting students and their families to look outside and/or explore their yards and neighborhoods for life around them, while also collecting their own data. Four of those activities had a direct stormwater science focus (pages 11-14, appendix E).

From March 26 to June 30, 2020, approximately 10,100 students received BEMP activities through the five Grab & Go meal locations and free Little Libraries around the city. About 5,800 of those students received an activity with a stormwater science focus. During that time frame, BEMP also worked with Children's Choice coordinators at three of the schools to distribute 270 handouts to participating students, many of which were children of essential workers during the pandemic. For summer 2020's Storytime in the Park program through the NM Out-of-School Time Network, BEMP reached 750 families with a hands-on, place-based SWS activity.

In addition to distribution at the Grab & Go locations, these activities were also posted on BEMP's website (www.bemp.org/education-resources ; See page 16, appendix F) using a GitHub database to keep track of engagement through the number of downloads and views. These numbers can be provided directly to the Storm Team upon request.

BEMP has also increased presence on social media, such as Facebook and Instagram, to reach more of the community. The weekly Grab & Go activities were shared on social media to engage people who might not get them from the schools. Every day of the week, BEMP staff highlighted BEMP activities, ecological information, and resources from partners. SWS related concepts were presented usually once a week in our Water Wednesday posts (Page 17, appendix F). These posts included topics like (1) water pollution and its effect on wildlife, along with how to help; (2) local water use/consumption; (3) good practices to reduce impacts on water quality; (4) FOG waste disposal; (5) options to reduce water usage, and more. Besides Water Wednesday, the

weeks that the Grab & Go activities were about stormwater concepts, BEMP also dedicated the full week in social media to talk about water-related topics. BEMP provided English and Spanish versions of all the activities and social media posts previously mentioned.

Table 1: Social media interactions from March 16 – June 30, 2020

	INSTAGRAM	FACEBOOK
REACHES	3344	5007
ENGAGEMENTS	539	509

Note: BEMP used Creator Studio to track Facebook and Instagram engagement through a variety of different metrics. “Reaches” refers to how many people saw either a specific post or any content from the social media pages. Then, “engagements” refers to the total number of likes, shares, clicks, and people clicking “see more” for longer posts.

Exhibit 6

Children's Water Festival
2019 Report

Children's Water Festival

Rio Rancho, 2019

Table of Contents

Executive Summary

The 2019 Children's Water Festival (Festival) was held Monday, October 21st and Tuesday, October 22nd at the Santa Ana Star Center in Rio Rancho. 1,437 students, mostly fourth-graders, attended from 61 classrooms from Placitas Elementary School, St. Thomas Aquinas, and all of the elementary schools in Rio Rancho Public Schools. The students attend three 30 minute presentations in a half-day format. Eighteen presenters taught the classes and three to four schools were on-site at one time. Schools attended a morning or afternoon program.

The eighteen presentations represented twenty-one professional organizations that ranged from federal, state, regional governments, and private industry. The organizations all have water interests and focused on subjects such as the water cycle, water quantity and conservation, water distribution, and water quality/pollution.

Students were evaluated on basic water knowledge before and after the Festival. On average, for all testing returned, **the students showed an increase in knowledge of 6 percentage points on the post testing**.

A teacher wrote on the event evaluation, "Very well organized, thank you! My 9th year with this event and you guys always do a great job. I will say that activities this year were very hands on and engaging."

The Festival costs an estimated $24,000. The City of Rio Rancho contributed $10,000 to the Festival and additional funding was raised through the New Mexico Water Conservation Alliance 501(c)(3). Festival sponsors include: Jacobs, Waste Management, Southern Sandoval County Arroyo Flood Control Authority, NM Water, CWA Strategic Communication, Carollo Engineers, All Type, and Baker Utility Supply.

Introduction

The Children's Water Festival (Festival) has been held in Rio Rancho since 2007. The 2010 Festival was the first event hosted by the City of Rio Rancho's Water Conservation Office. This report is for the 2019 Festival; the tenth event hosted by the Water Conservation Office. As in years past, the Festival was held at the Santa Ana Star Center. 1,437 students attending from 61 classrooms; Placitas Elementary School, St. Thomas Aquinas, and all of the elementary schools in Rio Rancho Public Schools. The event was held on Monday, October 21st and Tuesday, October 22nd.

Purpose and Intent

The principal focus of the Festival is to educate fourth-grade school children about water and its relationship to humans, animals and other natural resources in a fun and interactive atmosphere. The Festival's vision is to:

- Introduce students and teachers to new ideas, options, and solutions so they will conserve and protect water for the future,
- Lay the foundation for further learning, and
- Reach as many students and teachers as possible.

Public participation is essential to successful water conservation, and educating the public promotes better water conservation planning and implementation. Early education influences the future acceptance of water conservation concepts. This early education experience also has shown that training efforts affected behavioral changes and improved water use practices. Water conservation goals are only as effective as water users' willingness to adopt and implement appropriate water conservation measures. Through special training activities, water users are taught proper water use practices and techniques. Efficient use of water supplies decreases waste and prevents degradation of water quality leading to healthier ecosystems for fish and wildlife, including locally listed endangered species, such as, the Rio Grande Silvery Minnow (*Hybognathus amarus)* and the Southwestern Willow Flycatcher (*Empidonax traillii extimus*).

The Festival was designed specifically to introduce and explain new and unfamiliar water management tools to present and future water users and managers. Research concerning water conservation education indicates the targeted group of the Festival, fourth-grade students, is ideal for achieving long-term goals. Through sharing water conservation and water quality tools at home and with extended family, the estimated 1,600 participants (students, teachers, and chaperones) represent a potential audience of 10,000 to 15,000 people for the Festival program.

A series of activities that cover a wide range of core curriculum areas were presented at the Festival. These activities included language arts, mathematics, science, social studies, visual arts, and health/wellness; all of which are tied to water conservation, water quality, and water quantity in the arid Southwest desert.

The updated Water Resources Management Plan (Plan), adopted by the City of Rio Rancho Governing Body in 2014, details water efficiencies and water conservation measures to be taken by the City to better manage the existing water supplies. Policy E.4 of the Plan sets forth this

initiative: “Continue consulting with and improving the partnership with Rio Rancho Public Schools to implement a robust water resources educational curriculum.”

Additionally, the City of Rio Rancho Strategic Plan was formally adopted by the City of Rio Rancho Governing Body on March 25, 2009 and updated August 2017. One important element of the Infrastructure Strategies section of the Strategic Plan pertains to water sustainability and conservation to support growth and development of the City.

Funds

Festival Cost

The Festival costs are listed in the table below. Please note that the cost for the Santa Ana Star Center is only for the personnel time, including two police officers per day for security. This will be the last year for pipe and drape rental as we have purchased the pipe and drape. The cost of the buses is estimated because not all invoices were received as of the report date.

Cost Description	**Amount**
Santa Ana Star Center	$2,839.71
Pipe and Drape rental	$3,000.00
Catering for volunteers & presenters	$4,479.80
Buses *	$4,000.00
T-shirts with art/logos (1,471 shirts)	$7,420.00
Shadow box (for T-shirt winner)	$42.07
Banner for Display Stand	$72.00
Poster	$76.00
White paper for T-shirt artwork	$37.29
Thank you cards	$88.66
Fiscal Sponsor	$1,000.00
Olla activity supplies	$504.97
Stamps for VIP invitations/thank you cards	$63.50
Total	**$23,624.00**

*Estimated, final invoice still pending.

Sponsorships

Through its fiscal partner, the New Mexico Water Conservation Alliance, a 501(c)3 non-profit organization, the City of Rio Rancho was able to secure several sponsors to fund the Festival. Additionally, the City sponsored $10,000 for the Festival.

A heartfelt "thank you" to these valuable Festival partners!

Steering Committee

The Festival was directed by a diverse steering committee. The core group contained members from:

- City of Rio Rancho's Water Conservation Office
- City of Rio Rancho's Keep Rio Rancho Beautiful Office
- Jacobs
- Sandoval County Master Gardeners
- Sandoval County Master Composters
- New Mexico Environment Department – Surface Water Quality Bureau
- Citizen volunteers

Design of Festival

Students attended the Festival for a half day program that included three presentations. This ensures participation by all Rio Rancho fourth graders. There is a transition period in the middle of the day where the morning classes are leaving and the afternoon classes are arriving.

Teachers and students experienced the Festival in three parts: pre-Festival activities, the Festival itself, and post-Festival activities.

Pre-Festival Activities

- Each school provides a lead fourth grade teacher who confirms their commitment to participate, provides the number and names of the teacher/classes and the number of anticipated students for each.
- Elementary schools are provided the information on how to participate in the student T-shirt artwork project; student art work is submitted to the Water Conservation Office and a winner is selected.
- The pre-Festival tests are provided to the schools via Google Forms and the teachers administered the test to the students. The post-Festival tests were sent after the Festival, again via Google Forms. Two schools were given paper tests for the students because they were not able to do Google Forms for tests.
- Teachers received resource kit materials that included the T-shirts and miscellaneous items donated by our sponsors (e.g., pens, rulers.).

Rio Rancho Children's Water Festival Event

Students at the "Rio Grande Bosque Water Cycle" activity.

- The Water Festival ran from 9:45 a.m. through 1:30 p.m.
- Students attending the Festival in the morning boarded buses at 9:15 a.m. at their school. Students attending the afternoon program boarded the buses at 11:25 a.m.
- Each class was met by a guide/timekeeper who escorted them to each of their three assigned presentations.

- Presentations lasted 30 minutes and topics included: water quality, water conservation, water cycle, wastewater, ecosystems, and built water infrastructure.
- All students received a Festival T-shirt. Lilianna Lugo from Ms. Straley's class at Puesta del Sol Elementary, was the winner of the T-shirt student artwork contest. Her design was displayed on the front of the T-shirt and Festival sponsor logos were on the back.

Lilliana Lugo – T-shirt artwork winner from Ms. Straley's
Puesta del Sol Elementary class

Post-Festival Activities

- Post-Festival tests were completed by students.
- Teacher evaluation forms were completed.
- Teachers will receive a copy of this report.

All aspects of the Festival planning and implementation were created with the *Big Water Questions* in mind. Each presentation addressed at least one of the *Big Water Questions*, as well as the Festival's mission and objectives. The long-term outcome goal is that all elementary

school students will be able to provide reasonable answers to these questions by the time they reach middle school.

Big Water Questions

- Why is water so important to life?
- How do all living things depend on each other?
- What is the water cycle?
- What is a watershed?
- Where does my drinking water come from?
- What makes water dirty?
- How much water does my family use?
- Who are the other water users in our society?
- How can *I* protect our water?
- Where does my wastewater go?

Schools Attending the Festival

The following table outlines which schools attended.

Elementary School	**Number of Teachers**	**Number of Students**
Cielo Azul Elementary	6	156
Colinas del Norte Elementary	5	133
Enchanted Hills Elementary	6	137
Ernest Stapleton Elementary	6	136
Maggie Cordova Elementary	7	165
Martin Luther King Elementary	6	145
Placitas Elementary	1	27
Puesta del Sol Elementary	6	113
Rio Rancho Elementary	5	122
Sandia Vista Elementary	6	137
St. Thomas Aquinas Elementary	2	51
Vista Grande Elementary	5	115
Totals	**61**	**1,437**

Festival Presentations

One teacher wrote, "My students loved all of the presentations we went to."

"Let's Settle This Outside" activity. Students learn about wastewater treatment while becoming a wastewater operator.

Each year the Festival relies on numerous professionals who volunteer their expertise and presentation time. These professionals represent federal, state and regional government entities, local engineering firms, and the school district. They choose presentations that represent their missions or specialties. A description of all the presentations, the presenters and their contact information has been provided in Appendix A.

Volunteer Hours

The Festival could not be held without the assistance of a number of volunteers, presenters, and steering committee members. New in 2017, was a requirement that the volunteers use the City's on-line application process to have a background check. It was hopeful that this year process would be smoother and it was not.

The table below lists an estimate of the in-kind volunteer hours.

Presenters	394.25 hours
Volunteers	185.25 hours
Steering Committee Meetings	66 hours
Total Hours	**645.5 hours**

Lessons Learned

Steering Committee Comments from the Festival

There were only a few comments from the steering committee including:

- Bus issues continued and were worse than last year. On the second day, we had four schools late because of bus issues, missing the entire first rotation. Next year, we will try to find a better solution for the transportation.
- Food for the vegetarian presenters and volunteers was very poor in 2018. We made sure that the vegetarian meal options were available especially since the meals were enchiladas one day and lasagna the other.
- A comment from last year was to have ice packs, or something quick, when a child either pinches a finger or trips. We had ice packs at the registration table this year. We did have a student get an elbow to his mouth and we were able to quickly have ice for the child.
- The food was awesome!

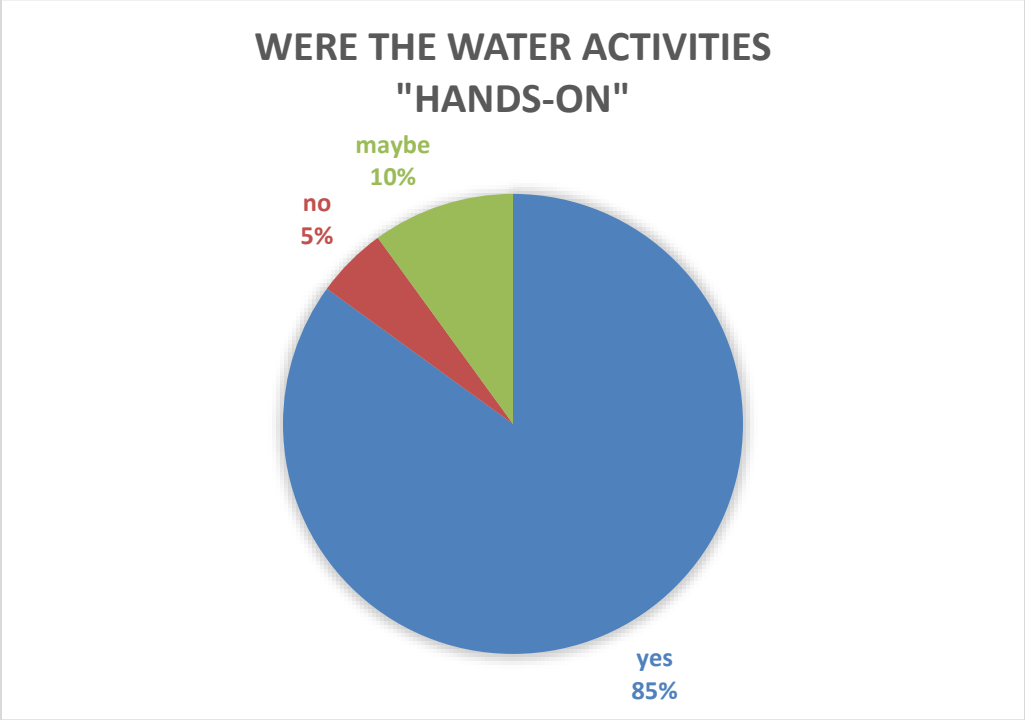
Comments from Teacher Evaluation Forms

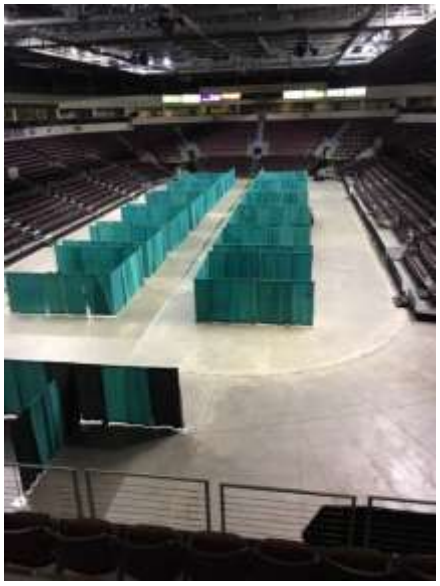
Problems or issues you had with the buses

- The bus for our wheel-chair accessibility was late, causing a domino effect for the other buses.
- We needed a special education us for a wheelchair at MLK. The bus was not here. One class was supposed to go with this bus. We had to fit 6 classes on 2 buses. My class had to split up on the two buses. The students had to wait for the wheelchair accessible bus and that group was about an hour late.
- No specific problems.
- None. Our bus driver was wonderful, arrived on time, left on time. All was great!
- Only got 2 buses, when we ordered 3.
- Our bus was 30 minutes late. The transportation director (Liz) was very rude when I called to inquire about when the bus might arrive.

- SVE had no issues with buses. Thank you.
- Everything was fine with the transportation.

Were the water activities your students attended informative and "hands-on" and did they learn anything from the activities?





Festival layout.

If there was an activity that could have been presented better, which one was it and how do you think it could be improved?

- Our activities were all well done!
- All of our activities were great!
- To Discharge or Not presented by Insight Lighting. First of all, using an IPad to show a video of his business was not effective. It was a cool business, just hard to see. Only a few of the students were able to participate in hands on activities. However, I thought he was really interesting. Just a little tweaking would make the presentation even better.
- I think they were o.k.
- The water pollution one because students are crowded around and unable to see very well.
- My students loved all of the presentations we went to. I loved that they had one with a "make-and-take" activity. Other teachers from our school said there was a presenter that was less than professional with the students in her group. I do not know which presentation, but I believe that it was in the foyer of the Star Center.
- Some of the presentations were good, but a few only incorporated a small amount of students doing the "hands-on".
- All were informative.
- Booth that was presented by UNM students could have been presented better. Although they tried to make it hands-on, they did not think of logistics. I think of they called on a few students to add items to the display one at t time, instead of all at one, it would increase focus and understanding. I appreciate the students taking their time to share. I just think they don't think about the "how" as much as the "what" they would present.
- All of the activities were at least partly "hands-on". Some more than others. Several years ago, three was an activity where the students acted out the water cycle. I would like to see more activities like that.

How to improve overall organization

- Seemed smaller and disorganized. It didn't seem like the presenters put any effort to make the presentations child friendly. The water festival is becoming less hands on every year. It is very hard for fourth graders to sit and listen to a lecture for 30+ minutes and have only a small amount of time for a hands on activity.
- Very organized and easy. I would like to have more time. Due to buses and getting there we only has about an hour and 20 minutes for the booths and it was very fast. A longer day would be nice.
- I thought it was very organized. No improvement needs noted.
- Very well organized, thank you! My 9th year with this event and you guys always do a great job. I will say the activities this year were very ands on and engaging. We may need to look at moving this event to another grade level because our science standards have changed.
- It would have been nice to have attended sessions that covered different topics. Our first and third sessions were very similar about testing pH levels, oxygen, acidity, etc.. The first one was about Water Quality and each student got to participate. It was presented by USGS. It was very cool. The male presenter should probably talk a little less so the students have time to finish the activity. The second activity was about following the

path of the trash in the river. It was very well done. The message came across beautifully. Every student got to participate. I thought it was very well organized. Well done City of Rio Rancho.

- I just feel like it isn't exciting for kids. You hear festival and you get there nobody seems as though they want to be there. The volunteers seem to hate it and honestly, it isn't a fourth grade standard, so I feel as though a different grade should go.
- Have third graders attend as it is a third grade standard.
- Apply to grade level standards.
- I love the location being so close to our schools. However, it does become difficult to hear the presenters in this venue. Maybe have the presenters speak up a little?
- Because of the venue it was difficult to hear the presenters at times. Microphones?
- As always the water festival runs very efficiently. I appreciate you putting this all together. It is a classroom favorite of field trips.
- It is fine. It would be better if it was a little longer.

Festival Event

The two days of the Festival ran very smooth except for issues with buses:

- St. Thomas Aquinas – the bus was late and students missed the first rotation
- ML King – the lift bus was late and those students on that bus missed the first rotation
- M. Cordova – two buses were late and the students missed the first rotation
- E. Stapleton – one of the buses was late causing one class to miss the first rotation

A new source for buses will be investigated for next year's water festival because this was the third year in a row that there has been issues with transportation.

The City of Santa Fe held their Water Fiesta on Tuesday and Wednesday, October 22nd and 23rd. All of our presenters decided to participate with our two days. The City of Rio Rancho was unable to participate with the Fiesta because of the conflict.

We did not have a dedicated photographer this year and there was a low return of the photo release forms from the parents. Because of this, we did not take very many photos. Many of the photographs of students in Appendix C are from prior years.

Appendix A - Working Timeline

The following was used to ensure that steps of the Festival preparation were completed in a timely manner.

- April - Ask for sponsors (done 5/13/19)
- May update VIP list
- June 15 – Design poster with the theme
- August 1 – PO for RR Sponsorship
- August 1 – PO for Buses
- August 14 – RR schools starts
- August 20 - Email teachers about CWF date and artwork delivery
- August 22 – Drop off artwork paperwork, poster, photo release forms
- September 5 – email volunteers
- September 4 - email reminder to teachers including schedule
- September 5 – Pick up artwork, photo release forms
- September 11 – Meeting to select the winner
- September 11 – Artwork to Wayne at Rio Rancho T Shirts
- September 15 - update VIP list and mail invitations
- September meet with SASC about food, etc.
- October 11 – Pick up T Shirts
- October 15 - email layout to SASC
- October 15 – Meeting to pack bags
- October 17 – Drop off bags this week
- October 21st and 22nd – Water Festival
- October 28 – Remind teachers about post-test pickup
- November 30 - Pick up post-tests

Appendix B – Teacher/Class Rotation Schedule

Booth	MON Oct 21 morning		9:45 – 10:15	10:18 – 10:48	10:51 – 11:21
#	Presentation	Category			
1	Incredible Journey – NMED	Water Cycle	Valdez Sandia Vista	XXXXXX XXXXXX	Ulibarri Puesta del Sol
2	RG Bosque Water Cycle - RGNC	Water Cycle	Armendariz Puesta del Sol	Andujo Colinas del Norte	Fox Sandia Vista
3	NM Past and Present – NM Cultural Services	Historical Perspective	Serna Puesta del Sol	Pichette Sandia Vista	Andujo Colinas del Norte
4	Water Jeopardy – Bohannan Huston	General Water	Silva Colinas del Norte	Serna Puesta del Sol	Wiberg Colinas del Norte
5	My Water Footprint – OSE	General Water	Morrissette Colinas del Norte	Niman Colinas del Norte	Rambaldi Sandia Vista
6	BEMPing it Up – BEMP	Ecosystems	Smith Puesta del Sol	Silva Colinas del Norte	XXXXXX XXXXXX
7	Leaky Faucet – RRPS	Conservation	Ulibarri Puesta del Sol	Morrissette Colinas del Norte	Serna Puesta del Sol
8	Olla Olé - SCMG	Historical Perspective	Wadsworth Sandia Vista	Armendariz Puesta del Sol	Straley Puesta del Sol
9	Watersheds & Aquifers – UNM	Source Water	Fox Sandia Vista	Straley Puesta del Sol	Silva Colinas del Norte
10	To Discharge or Not - Insight Lighting	Wastewater	Pichette Sandia Vista	Romero/Langdon Colinas del Norte	Armendariz Puesta del Sol
11	Basic Surface Water Treatment – Carollo	Water Quality	Niman Colinas del Norte	Smith Puesta del Sol	Glauvitz/Cook Sandia Vista
12	Nitrogen – The Other Cycle – Fish & Wildlife	Water Quality	Straley Puesta del Sol	Valdez Sandia Vista	Romero/Langdon Colinas del Norte
13	Stormwater & Watersheds – SNL	Watersheds	Glauvitz/Cook Sandia Vista	Wadsworth Sandia Vista	Morrissette Colinas del Norte
14	Weather or Not - NOAA	Weather	Wiberg Colinas del Norte	Ulibarri Puesta del Sol	Wadsworth Sandia Vista
15	Let's Settle this Outside – Jacobs	Wastewater	XXXXXX XXXXXX	Glauvitz/Cook Sandia Vista	Pichette Sandia Vista
16	Recycle Relay – Waste Management	General Water	Andujo Colinas del Norte	Rambaldi Sandia Vista	Niman Colinas del Norte
17	Keep the Rio Grande – Stormwater Team	Watersheds	Romero/Langdon Colinas del Norte	Wiberg Colinas del Norte	Smith Puesta del Sol

18	Water Quality- USGS	Water Quality	Rambaldi Sandia Vista	Fox Sandia Vista	Valdez Sandia Vista
	18 Presenters		**17 Classes**		

Booth	MON Oct 21 afternoon		11:54 – 12:24	12:27 – 12:57	1:00 – 1:30
#	**Presentation**	**Category**			
1	Incredible Journey – NMED	Water Cycle	Boldt Rio Rancho	Dannenberg Enchanted Hills	Armstead Cielo Azul
2	RG Bosque Water Cycle - RGNC	Water Cycle	Marsh Enchanted Hills	Lambson Cielo Azul	Fuchs Enchanted Hills
3	NM Past and Present – NM Cultural Services	Historical Perspective	Carey Enchanted Hills	Klein Rio Rancho	Bailey/Baum Rio Rancho
4	Water Jeopardy – Bohannan Huston	General Water	XXXXXX XXXXXX	Carey Enchanted Hills	Marsh Enchanted Hills
5	My Water Footprint – OSE	General Water	Estes/OS Cielo Azul	Bailey/Baum Rio Rancho	Griego/Murphy Rio Rancho
6	BEMPing it Up – BEMP	Ecosystems	Dannenberg Enchanted Hills	Armstead Cielo Azul	Lambson Cielo Azul
7	Leaky Faucet – RRPS	Conservation	Rivera Rio Rancho	Estes/OS Cielo Azul	Mandich Enchanted Hills
8	Olla Olé - SCMG	Historical Perspective	McCann Cielo Azul	Infantino Cielo Azul	Klein Rio Rancho
9	Watersheds & Aquifers – UNM	Source Water	Bailey/Baum Rio Rancho	Boldt Rio Rancho	McCann Cielo Azul
10	To Discharge or Not - Insight Lighting	Wastewater	Infantino Cielo Azul	Marsh Enchanted Hills	Wiebelhaus Enchanted Hills
11	Basic Surface Water Treatment – Carollo	Water Quality	Griego/Murphy Rio Rancho	XXXXXX XXXXXX	Boldt Rio Rancho
12	Nitrogen – The Other Cycle – Fish & Wildlife	Water Quality	Armstead Cielo Azul	Fuchs Enchanted Hills	Infantino Cielo Azul
13	Stormwater & Watersheds – SNL	Watersheds	Lambson Cielo Azul	Messenger Cielo Azul	XXXXXX XXXXXX
14	Weather or Not - NOAA	Weather	Fuchs Enchanted Hills	Griego/Murphy Rio Rancho	Rivera Rio Rancho
15	Let's Settle this Outside – Jacobs	Wastewater	Messenger Cielo Azul	Rivera Rio Rancho	Carey Enchanted Hills
16	Recycle Relay – Waste Management	General Water	Mandich Enchanted Hills	McCann Cielo Azul	Messenger Cielo Azul
17	Keep the Rio Grande – Stormwater Team	Watersheds	Klein Rio Rancho	Wiebelhaus Enchanted Hills	Dannenberg Enchanted Hills
18	Water Quality - USGS	Water Quality	Wiebelhaus Enchanted Hills	Mandich Enchanted Hills	Estes/OS Cielo Azul
	18 Presenters		**17 Classes**		

Booth	TUE Oct 22 morning		9:45 – 10:15	10:18 – 10:48	10:51 – 11:21
#	**Presentation**	**Category**			
1	Incredible Journey – NMED	Water Cycle	Grant Vista Hills	Pasternaki Vista Grande	Lawton St. Thomas
2	RG Bosque Water Cycle - RGNC	Water Cycle	XXXXXX XXXXXX	Walker/Haase Vista Grande	Landreth ML King
3	NM Past and Present – NM Cultural Services	Historical Perspective	Hollingshead Vista Grande	XXXXXX XXXXXX	Zeilman ML King
4	Water Jeopardy – Bohannan Huston	General Water	Walker/Haase Vista Grande	Lewis ML King	O'Conor ML King
5	My Water Footprint – OSE	General Water	Pasternaki Vista Grande	Landreth ML King	XXXXXX XXXXXX
6	BEMPing it Up – BEMP	Ecosystems	Griego St. Thomas	Kelly ML King	Hollingshead Vista Grande
7	Leaky Faucet – RRPS	Conservation	XXXXXX XXXXXX	Griego St. Thomas	Kelly ML King
8	Olla Olé - SCMG	Historical Perspective	Bird Vista Grande	Eisenberg/Fritch ML King	Lewis ML King
9	Vacant				
10	To Discharge or Not - Insight Lighting	Wastewater	Lawton St. Thomas	Bird Vista Grande	Walker/Haase Vista Grande
11	Basic Surface Water Treatment – Carollo	Water Quality	O'Conor ML King	Grant Vista Hills	Griego St. Thomas
12	Nitrogen – The Other Cycle – Fish & Wildlife	Water Quality	Lewis ML King	Zeilman ML King	Eisenberg/Fritch ML King
13	Stormwater & Watersheds – SNL	Watersheds	Landreth ML King	Hollingshead Vista Grande	Pasternaki Vista Grande
14	Weather or Not - NOAA	Weather	Eisenberg/Fritch ML King	XXXXXX XXXXXX	Grant Vista Hills
15	Vacant				
16	Recycle Relay – Waste Management	General Water	Kelly ML King	O'Conor ML King	Bird Vista Grande
17	Keep the Rio Grande – Stormwater Team	Watersheds	Zeilman ML King	Lawton St. Thomas	XXXXXX XXXXXX
	15 Presenters		**13 Classes**		

Booth	TUE Oct 22 afternoon		11:54 – 12:24	12:27 – 12:57	1:00 – 1:30
#	**Presentation**	**Category**			
1	Incredible Journey – NMED	Water Cycle	Zirpel M Cordova	Shafer M Cordova	Marcotte E Stapleton
2	RG Bosque Water Cycle - RGNC	Water Cycle	Rojas E Stapleton	Sidor M Cordova	Lautt E Stapleton
3	NM Past and Present – NM Cultural Services	Historical Perspective	Kirby E Stapleton	Olivas Placitas	Shafer M Cordova
4	Water Jeopardy – Bohannan Huston	General Water	Shafer M Cordova	Sheering M Cordova	Pineda M Cordova
5	My Water Footprint – OSE	General Water	Skousen M Cordova	Kirby E Stapleton	Sheering M Cordova
6	BEMPing it Up – BEMP	Ecosystems	Sheering M Cordova	Pineda M Cordova	Sidor M Cordova
7	Leaky Faucet – RRPS	Conservation	Marcotte E Stapleton	Lautt E Stapleton	Skousen M Cordova
8	Olla Olé - SCMG	Historical Perspective	Lowe E Stapleton	Presser M Cordova	XXXXXX XXXXXX
9	Vacant				
10	To Discharge or Not - Insight Lighting	Wastewater	Lautt E Stapleton	XXXXXX XXXXXX	Kirby E Stapleton
11	Basic Surface Water Treatment – Carollo	Water Quality	Zuniga E Stapleton	Zirpel M Cordova	Rojas E Stapleton
12	Nitrogen – The Other Cycle – Fish & Wildlife	Water Quality	XXXXXX XXXXXX	Lowe E Stapleton	Presser M Cordova
13	Stormwater & Watersheds – SNL	Watersheds	Sidor M Cordova	Marcotte E Stapleton	Zirpel M Cordova
14	Weather or Not - NOAA	Weather	Presser M Cordova	Skousen M Cordova	Zuniga E Stapleton
15	Vacant				
16	Recycle Relay – Waste Management	General Water	Pineda M Cordova	Zuniga E Stapleton	Olivas Placitas
17	Keep the Rio Grande – Stormwater Team	Watersheds	Olivas Placitas	Rojas E Stapleton	Lowe E Stapleton
	15 Presenters		**14 Classes**		

Appendix C – Festival Presentations

This appendix lists all of the Festival presentations and contacts. For each section, there is the name of the presentation, a brief description of the activity, the correlation of the presentation with the Next Generation Science Standards (NGSS), the contact information of the presenter and if available, where the teacher can locate a similar presentation if they would like to teach it in the classroom.

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Basic Surface Water Treatment
Students learn about processes used to clean water in a contemporary water treatment facility through an interactive process. This activity teaches children about the importance of water quality for drinking water.

Next Generation Science Standards, Grades 3-5:
Practice 2, Practice 3

Carollo Engineers
Rob Buss rbuss@carollo.com

****

BEMPin' It Up
Students learn about the plants, mammals, arthropods, and water table along the Bosque and how they are all supported by water in the Rio Grande.

Next Generation Science Standards, Grades 3-5:
Practice 6, Practice 7

Bosque Ecosystem Monitoring Program, UNM Dept. Biology & Bosque School
Alex Levine alex.levine@bosqueschool.org

Similar activity found on web: Habitats of the World, Discovery Education
http://www.discoveryeducation.com/teachers/free-lesson-plans/habitats-of-the-world.cfm

****

Incredible Journey
During this activity, students become water molecules and move through the water cycle. They learn about the movement and distribution of water – as well as pollution – on the earth.

Next Generation Science Standards, Grades 3-5:
Practice 6, Practice 7

NM Environment Department, Surface Water Quality Bureau
Heidi Henderson heidi.henderson@state.nm.us

A similar activity found on web: Incredible Journey, Project WET
http://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf

****

Keep the Rio Grande

Keep the Rio Grande Activity is an interactive game where the students become an arroyo supplying stormwater to the Rio Grande. The stormwater picks up a variety of items as the flow increases creating a flood of raindrops, trash, pet waste, bacteria, and plastics as the students pass the items down to the river. The students learn about stormwater quality and the impact we have on water in our neighborhoods and town. After the rain has stopped, students discuss the water and debris on the ground around them and at the end of the line the river. Then they are tasked with sorting all of the items to bins labeled: trash, compost, recycle and rain.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

Middle Rio Grande Stormwater Quality Team
Xavier Pettes (505) 891-5045 xpettes@rrnm.gov

****

Leaky Faucet

Students create a water leak and scientifically measure the leak using graduated cylinders over three tests. The students then compute the average milliliters of water leaked over one minute to the amount of gallons of water leaked and wasted over one year.

Next Generation Science Standards, Grades 3-5:
Practice 4, Practice 5

Rio Rancho Public Schools
Lou Cusimano (505) 975-0326 lou.cusimano@rrps.net

A similar activity found on web: Leaky Faucet, Utah Education Network
http://www.uen.org/Lessonplan/preview.cgi?LPid=27247

****

Let's Settle This Outside
Students become wastewater operators and learn how the wastewater treatment plant cleans dirty water. They then create wastewater using everyday materials and clean the wastewater by sorting it into three stations: water, sludge, and trash.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

Jacobs
Bill Jaquez (505) 891-5024 billy.jaquez@jacobs.com
Wendell McCall (505) 891-5017 wmccall@rrnm.gov

A similar activity found on web:
Wastewater: We Treat it Right, City of Boise
http://bee.cityofboise.org/media/216580/43385_Wastewater.pdf

****

My Water Footprint

A Water Footprint represents how a person uses water to meet their needs (direct use) and the water that others such growers, manufacturers, processers use (indirect use) to provide the products we purchase and use every day. The activity teaches the importance of water and introduces/explains the terms direct and indirect water use and challenges students to think of ways to conserve water. The students also create a collage that illustrates their water needs by incorporating both direct and indirect water use along with ways to conserve water.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

New Mexico Office of the State Engineer, Water Conservation Bureau
Julie Valdez julie.valdez@state.nm.us

****

New Mexico Past and Present

Students learn where water comes from (the water cycle), where water is today in New Mexico, and what they can do to protect and conserve water. The students then become detectives using fossils to discover where water occurred in the past in New Mexico.

Next Generation Science Standards, Grades 3-5:
Practice 3, Practice 6

New Mexico Museum of Natural History and Science
Mike Sanchez (505) 841-2583 michael.sanchez1@state.nm.us

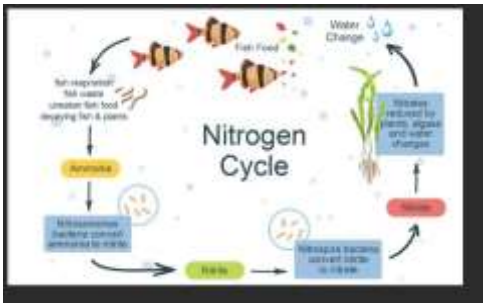
****

Nitrogen – the Other Cycle

Students are introduced to the nitrogen cycle. Where is nitrogen found on Earth? Why is it important? They learn that nitrogen travels with the help of bacteria, water, fish, and plants in an aquatic system. Students role-play various organisms in the nitrogen cycle; nitrosomonas bacteria, nitrobacter bacteria, fish, or plants. Students learn how each organism creates or consumes various forms of nitrogen, creating a dependency on other organisms for provide food or to remove toxins from the aquatic environment.

Next Generation Science Standards, Grades 3-5:
Practice 6, Practice 7

US Fish and Wildlife Service
Angela Palacios (505) 342-9900 angela_palacios@fws.gov



A similar activity found on web: UCAR Center for Science Education
https://scied.ucar.edu/activity/nitrogen-cycle-game

****

Olla Olé
Students learn the history of collecting water in the ancient southwestern United States using clay pots. They also learn how ollas (clay pots) were used as an irrigation technique for crops and then the students make an olla to take home for use.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

Sandoval County Master Gardeners
Pat Barger pfbarger@gmail.com

****

Recycle Relay
Students were provided with examples of indirect water savings through recycling and learned about what resources are and how the use of resources, like water, is decreased when they recycled. Students participated in a fun, educational obstacle course made almost entirely of recycled materials. They navigated the obstacle course in relay teams, building communication and teamwork skills. Stations included a crab walk, army crawl, and trash bag hop.

Next Generation Science Standards, Grades 3-5:
Practice 1

Waste Management
Laila Amerman lamerman@wm.com

****

Rio Grande Bosque Water Cycle

In the semi-arid climate of New Mexico, our scarce precipitation limits the quantity of water available for use by plants, animals and humans. Students become water molecules traveling through a water cycle. The presentation emphases, with evidence and cause and effect, why we need to consider all water users when making water-use decisions.

Next Generation Science Standards, Grades 3-5:
Practice 6, Practice 7

Rio Grande Nature Center
Tanja George (505) 344-7240 Tanja.George@state.nm.us

A similar activity found on web: Incredible Journey, Project WET
http://files.dnr.state.mn.us/education_safety/education/project_wet/sample_activity.pdf

****

Stormwater and Watersheds

Students learn about watersheds by examining and manipulating watershed models. They learn that a watershed is the land area that drains to a water body such as a river or lake. They see for themselves how watersheds can influence water quality.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

Sandia National Laboratories
John Kay (505) 344-7240 jtkay@sandia.gov

A similar activity found on web: Protecting Our Water Resources, Midwest Research Institute (See Level 2) http://www.stormwater.ucf.edu/toolkit/vol3/Contents/pdfs/Student%20Activities/student_activities.pdf

****

To Discharge or Not

Students learned the importance of how industrial process water is tested and brought to an acceptable pH level before it is allowed to be disposed of into the sanitary sewer prior to discharge to the river.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 3

Insight Lighting, Inc.
Craig Barta (505) 348-0888
cbarta@insightlighting.com

****

Water Jeopardy

Students learn basic concepts and differences about groundwater vs. surface water supply for potable drinking water. The concepts are reinforced by participation in a Jeopardy game where students compete to determine the correct water "question" for a series of given "answers" (like the TV show).

Next Generation Science Standards, Grades 3-5:
Practice 1

Bohannon Huston, Inc.
Nathan Roberts (505) 823-1000
nroberts@bhinc.com

A similar activity found on web: The Water Cycle Jeopardy, Super Teacher Tools (online Flash game for up to 5 teams)
http://www.superteachertools.com/jeopardy/usergames/Jan201205/game1327973751.php

****

Water Quality

Students learn about water quality and test their water sample for several parameters including pH, temperature, dissolved oxygen, and turbidity. Students learn about what these parameters mean, how they are related to each other, and why they are important for humans and organisms dependent on the water.

Next Generation Science Standards, Grades 3-5:
Practice 2, Practice 3

United States Geological Survey
Amy Galanter (505) 830-7939
agalanter@usgs.gov

****

Watersheds and Aquifers
Students learn about watersheds by examining and manipulating both types of models. They learn that a watershed is the land area that drains to a water body such as a river or lake. The students also learn how drinking water comes from aquifers and how pollution can influence water quality.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2

University of New Mexico, Civil Engineering
Alysha Toya atoya01@unm.edu

A similar activity found on web: Protecting Our Water Resources, Midwest Research Institute (See Level 2)
http://www.stormwater.ucf.edu/toolkit/vol3/Contents/pdfs/Student%20Activities/student_activities.pdf

****

Weather or Not
Students analyze meteorological and hydrological data to determine if a flash flood might occur, issue warnings, and monitor the flood event.

Next Generation Science Standards, Grades 3-5:
Practice 1, Practice 2, Practice 3,

National Oceanic & Atmospheric Administration, National Weather Service
Kerry Jones (505) 243-0702 kerry.jones@noaa.gov

A similar activity found on web: Create Your Own Water Cycle, The Water Project
http://thewaterproject.org/resources/lesson-plans/create-a-mini-water-cycle.php

Appendix D – Information to Teachers

The following information was included in the teacher packets.

2019 Children's Water Festival

Monday, October 21st
Tuesday October 22nd

Santa Ana Star Center

3001 Civic Center Circle NE
Rio Rancho, NM 87144

Theme: "***Who are the other water users?***"

The Children's Water Festival has been arranged so **ALL** fourth-grade students in Rio Rancho can attend the event. This is a ***FREE*** event for the students and teachers using monies donated from local businesses who care about water-related education.

The water festival is organized with three activities in the morning and three activities in the afternoon. Each school will attend on one day at either the morning or afternoon session. Each class will attend three activities during their session.

Morning Session	Afternoon Session
9:45-10:15	11:54-12:24
10:18-10:48	12:27-12:57
10:51-11:21	1:00-1:30

Chaperones

It is recommend at least one adult be present for every ten students. Chaperones are responsible for their own transportation to the Star Center. They have not been included in the bus count. Please ask all chaperones and any volunteers from the school to wear their school badges. **We ask that only the approved chaperones attend from your school. Please no "extra" parents/grandparents that show up to watch; they will be turned away!** If you do have any of these "extras", have them contact me prior to the event and I can assign them to be volunteers at the event.

Transportation

Buses are provided and paid by the Children's Water Festival. There will be no place or time for students to eat lunch at the Star Center, so plan on your students' lunch period to be at your school either before or after the water festival.

RRPS TEACHERS ARE RESPONSIBLE FOR FILLING OUT THE TRIP TRACKER.

- **Morning Sessions - Schedule for 9:15 pick up and 11:25 pick up**
- **Afternoon Sessions – Schedule for 11:25 pick up and 1:30 pick up**
- **St. Thomas will be scheduled by City Staff**

These are the schools that will be attending with dates and arrival times.

Elementary School	Lead Teacher	Email	Number Classes	Day	Time
Colinas Del Norte	Ashley Niman	ashley.niman@rrps.net	5	10/21	9:45
Puesta del Sol	Kristy Straley	kristy.straley@rrps.net	6	10/21	9:45
Sandia Vista	Merry Wadsworth Veronica Valdez (Mont.)	merry.wadsworth@rrps.net veronica.valdez@rrps.net	6	10/21	9:45
Rio Rancho	Angela Murphy	angela.murphy@rrps.net	5	10/21	11:54
Cielo Azul	Karin McCann	karin.mccann@rrps.net	6	10/21	11:54
Enchanted Hills	Christina Mandich	christina.mandich@rrps.net	6	10/21	11:54
Vista Grande	Bethany Grant	bethany.grant@rrps.net	5	10/22	9:45
M.L. King	Sinta O'Connor	Sinta.oconnor@rrps.net	6	10/22	9:45
St. Thomas	Pat Lawton	pat.lawton@stasnm.net	2	10/22	9:45
M. Cordova	Amanda Garcia-Presser	amanda.garcia-presser@rrps.net	7	10/22	11:54
E. Stapleton	Carey Rojas	carey.rojas@rrps.net	6	10/22	11:54
Placitas	M. Olivas	molivas@bps.k12.nm.us	1	10/22	11:54
Total (as of 9/6/19)			61		

Water Conservation staff would love to meet with all your 4th grade teachers to go over the festival and the logistics. The meeting should take about 15 minutes or so.

Please contact Marian Wrage, Rio Rancho Environmental Programs Manager and Festival Director, if there are any questions and to schedule the meeting with your 4th grade team.

Marian's telephone number is (505) 896-8737, her cell is (505) 681-7325, and her email is mwrage@rrnm.gov.

The Rio Rancho Children's Water Festival funding has been provided by:

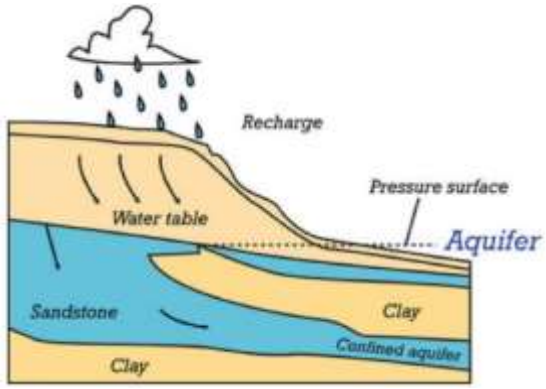
SPONSORS

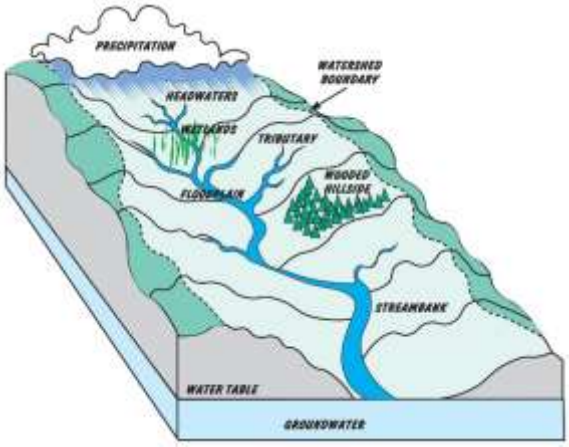
Appendix E - Pre and Post Test

The Festival steering committee rewrote the student test in 2017; diagrams and pictures were added to help the students visualize the concepts. In 2019, Google Forms was used with the Rio Rancho students to take the tests. These tests were without diagrams and pictures. Google Forms was able to grade all the tests and run statistics on the answers. St. Thomas Aquinas and Placitas did not have that technology available so paper tests were given. Note that references to "Rio Rancho" on the test was changed to "Placitas" for the students attending from Placitas Elementary.

1. Many substances and objects can make river water dirty. Which of the following items can make the Rio Grande dirty?
   a) Trash
   b) Dog poop
   c) Leaky cars
   d) All the above

2. An **aquifer** is a layer of water-saturated porous rock. It lies below the water table. Most people who live in New Mexico get drinking water from a well drilled into an aquifer. If you live in Rio Rancho, is the water coming from your faucet from an aquifer?
   a) True
   b) False





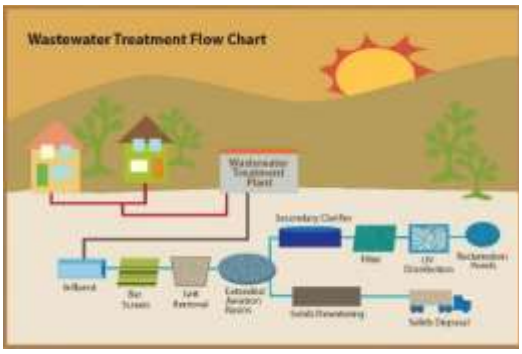
3. A **watershed** is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. Is the following statement true or false: We all live in a watershed?
   a) False
   b) True

4. Everyone in Rio Rancho uses, on average, about 65 gallons of water per person per day. If you have four people in your home, what is your family's daily average water use?
   a) 260 gallons of water per day
   b) 200 gallons of water per day
   c) 2,600 gallons of water per day

5. Water users in our state include plants, animals, and people. Why is water so important to life?
   a) People need it to survive
   b) Plants need it to survive
   c) The river needs it to support nature
   d) All the above

6. The **water cycle** happens as the earth is warmed by the sun and water circulates between the earth's oceans, atmosphere, and land. Which of the following are terms associated with the water cycle?
   a) Pumping, Treatment, Delivery
   b) Evaporation, Condensation, Precipitation
   c) River, stream, aquifer

7. How can we protect our water?
   a) Litter
   b) Tell your parents when you see a leak
   c) Pour chemicals on the ground



8. **Wastewater** (or sewer water) is the used water from toilets, showers, and clothes washers and it is too dirty to go straight into the river or into the ground. Septic tanks and wastewater treatment plants clean the water before it goes to the river or into the ground.
   a) True
   b) False

Appendix F - Outcomes from Students' Tests by Question

The following table shows the percentage of correct answers on both the pre and post-test. Because most of the answers were provided using Google Forms, there was no way to distinguish answers by class or school. Not every teacher from every school provided pre and post-tests. The questions are in the same order as in Appendix E.

There was a 6 percentage point increase from pre- to post-tests for all the participating students.

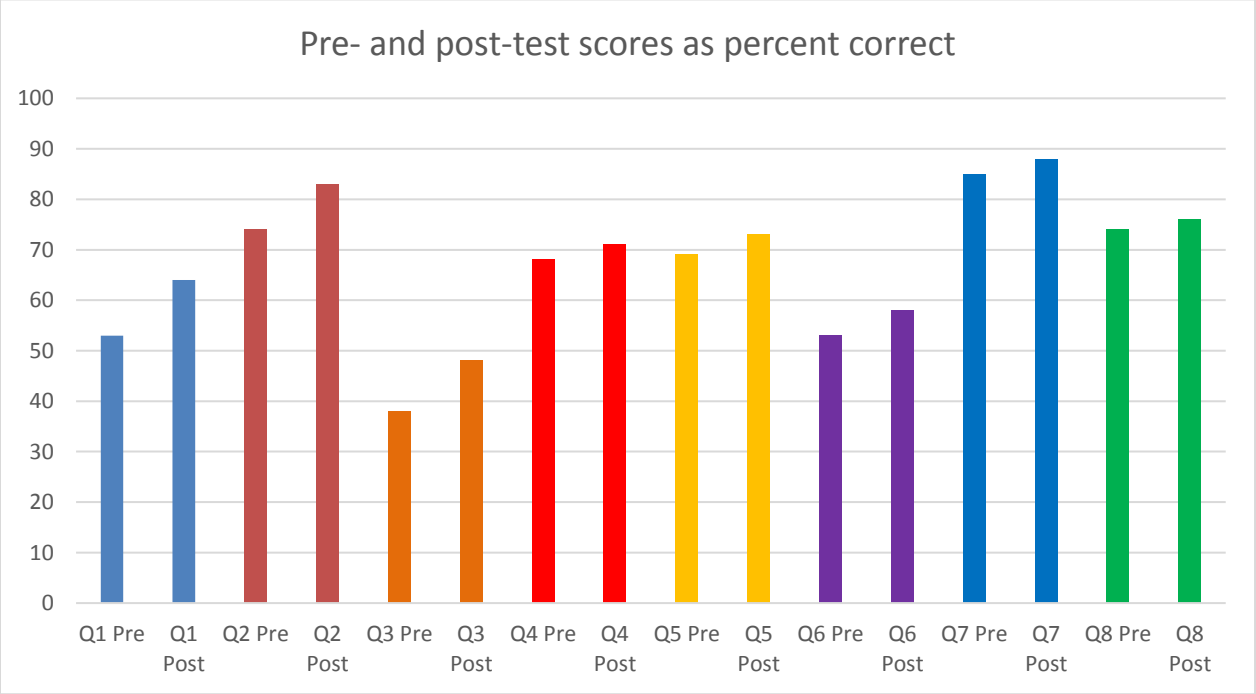


Table 1 shows the increase/decrease by question for the entire testing group.

Table 1 **Test Question**	**Increase from Pre to Post-Test**
1 Makes river dirty	12%
2 DW come from	9%
3 Watershed	10%
4 How much Water	3%
5 H2O important to life	4%
6 Water Cycle	4%
7 Protect water	3%
8 Wastewater	2%

As in year's past, the students do not have a good understanding of what a watershed is or the fact that we all live in a watershed.

RioRancho
City of Vision

City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5002 • FAX (505) 981-7274

August 15, 2017

Mr. Jerry Lovato, Executive Engineer
Albuquerque Metropolitan Arroyo Flood Control Authority
2600 Prospect Ave NE
Albuquerque, NM 87107

RE: Memorandum of Understanding for Delegation of Authority for Data Entry into NetDMR System

Dear Mr. Lovato,

As you are aware, twelve permittees covered under the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) General Permit (NPDES No. NMR04A000) have entered into a cooperative agreement for the performance of permit-mandated water quality monitoring. Currently, results from the samples taken during monitoring events are shared among the twelve members of the Compliance Monitoring Cooperative (CMC) and must be entered by each entity into the Network Discharge Monitoring Report (NetDMR) database individually, creating twelve identical (barring typos or other data entry error) records. This is clearly inefficient, at best.

Following discussions between the CMC and the Environmental Protection Agency (EPA), EPA has approved a methodology whereby one member of the CMC will enter data in NetDMR on behalf of any other CMC-member entity. Each CMC-member entity that wishes to participate will delegate authority to the data entry CMC-member entity or their designed contractor, for this purpose. We appreciate Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) volunteering to be the data entry CMC entity on behalf of the CMC.

Therefore, the City of Rio Rancho, Permit Tracking No. NMR04A007, hereby delegates authority for data entry and approval of sampling results into NetDMR to AMAFCA for the purposes of compliance with MS4 General Permit requirements. Please provide us notification, via email, of the completion of data entry for our records.

In the event that AMAFCA becomes unable to perform this function on behalf of the City of Rio Rancho, please notify me a minimum of 60 days prior to the deadline, or by December 1st, for data entry in order to perform this function internally.

Please contact Xavier Pettes via email at xpettes@rrnm.gov or phone at (505)891-5045 if you have questions or concerns regarding this memorandum. Thank you again for your willingness to perform this function on behalf of the membership of the CMC.

Requested
Keith Riesberg
City Manager, City of Rio Rancho

Acknowledged and Accepted
Jerry Lovato, P.E.
Executive Director, AMAFCA

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

This Cooperative Funding Agreement is made and entered into this 21st day of July, 2014, by and among the County of Bernalillo, the City of Albuquerque ("COA"), the Albuquerque Metropolitan Arroyo Flood Control Authority ("AMAFCA"), the New Mexico Department of Transportation ("NMDOT"), and the Southern Sandoval County Arroyo Flood Control Authority ("SSCAFCA"), all political subdivisions of the State of New Mexico (hereinafter collectively referred to as the "Storm Water Team"), and City of Rio Rancho (hereinafter referred to as "Annual Member").

WHEREAS, the Intergovernmental Agreement Regarding the Operation, Function, and Funding of the Storm Water Team, as amended by the First Amendment thereto dated January 22. 2014 ("Intergovernmental Agreement"), provides that potentially eligible MS4s may be added to the Team at any time on an annual basis as additional voting members, provided all requirements for membership have been fulfilled, including providing payment for the expected contribution; and

WHEREAS, the Storm Water Team wishes to add the Annual Member as an additional voting member to the Team on an annual basis; and

WHEREAS, the Annual Member wishes to be added to the Team as an additional voting member on an annual basis; and

WHEREAS, the Annual Member agrees to fulfill all requirements for membership, including providing payment for its expected annual contribution; and

NOW, THEREFORE, in consideration of the covenants and promises set forth herein, the Annual Member agrees as follows:

1. The Annual Member will be invoiced by the Storm Water Team for its annual contribution for Fiscal Year 2015 as tabulated below. The Annual Member agrees to pay the annual contribution to the Storm Water Team's fiscal agent within forty-five (45) days of the date of invoice. Failure to provide payment prior to the deadline will result in the Annual Member's membership being suspended as provided for in the Intergovernmental Agreement.

2. Upon payment of the annual contribution and fulfillment of any other requirements of membership, the Storm Water Team will update Attachment A, Contribution Schedule, and Attachment B, Annual Roster, to include the Annual Member.

3. The Annual Member agrees that by executing this Agreement it is subject to the requirements of the Intergovernmental Agreement as it may be amended from time to time, which is hereby incorporated by reference as if fully set forth herein. The Annual Member agrees to abide by the terms and conditions of the Intergovernmental Agreement as it may be amended from time to time.

4. This Agreement, including Annual Member's membership on the Team, shall be effective for the 2015 fiscal year. This Agreement may be extended beyond the initial fiscal year for additional one (1) year periods running concurrently with the fiscal year. Any extension must be completed in writing at the initiative of and authorization of AMAFCA, as the fiscal agent of the Storm Water Team, with concurrence of the Annual Member. All extensions are subject to the terms set forth herein, provided however, that the annual contribution for any subsequent years shall be established by the Storm Water Team in the Contribution Schedule, which shall be incorporated fully as if set forth herein.

5. The Annual Member's contact, designated voting member, and billing information is as follows:

Annual Member Entity:	City of Rio Rancho
Designated Voting Member:	Eugene Pettes 3200 Civic Center Circle NE Rio Rancho, NM 87144 505-891-5045 xpettes@rio-rancho.nm.us
Billing Instructions:	check
Expected Contribution:	$10,000.00

The Annual Member agrees to immediately notify the Storm Water Team and its fiscal agent in the event of any changes to the information listed herein.

Middle Rio Grande Stormwater Quality Team
Annual Member
Cooperative Funding Agreement

Date: 11/4/14

City of Rio Rancho

[Name, Title]

Keith Riesberg
City Manager

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 891-0986

June 20, 2016

US EPA, Region 6
Compliance Assurance and Enforcement Division
Water Enforcement Branch (6EN-WC)
1445 Ross Avenue
Dallas, Texas 75202-2733

RE: Albuquerque Metropolitan Area Municipal Separate Storm Sewer System (MS4) Wet Weather Monitoring Site Certification, Permit No. NMR04A000

Per Table 10, Wet Weather Monitoring Program Implementation Schedules, enclosed as Attachment 2 in the letter from EPA Region 6 dated February 10, 2016, the City of Rio Rancho submits certification that the wet weather monitoring sites in the Middle Rio Grande are operational and ready for sampling. As a member of the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, the City of Rio Rancho meets the criteria for a permittee with a cooperative program and qualifies for the cooperative deadline of June 21, 2016. Copies of the Intergovernmental Agreement and Cooperative Monitoring Plan are attached. Please contact Xavier Pettes by phone at 505-891-5045 or by email at xpettes@rrnm.gov if you have any questions regarding the agreement or plan.

CERTIFICATION STATEMENT

I, the undersigned, certify under penalty of law that this document, the Intergovernmental Agreement that creates the Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative, was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

David Serrano, P.E.
Engineering Division Manager

6/20/2016
Date

Middle Rio Grande Stormwater MS4 Compliance Monitoring Cooperative

INTERGOVERNMENTAL AGREEMENT

AN INTERGOVERNMENTAL AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 COMPLIANCE MONITORING COOPERATIVE, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

RECITALS

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in central New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area, under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande valley urbanized area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande valley urbanized area entities that are eligible for authorization under NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit"), and therefore eligible to enter into this Intergovernmental Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit, are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Village of Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Co-permittees"); and

WHEREAS, the proposed MS4 Permit requires each Co-permittee to obtain and report stormwater compliance monitoring results in their MS4 Annual Report; and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among the Co-permittees, including compliance monitoring activities, to reduce the amount of pollutants discharged with stormwater into the Rio Grande; and

WHEREAS, cooperation among the Co-permittees in the MS4 Permit through the Middle Rio Grande Compliance Monitoring Cooperative ("CMC"), with regard to monitoring requirements, offers the opportunity to reduce each individual Co-permittee's monitoring costs by cooperatively developing, funding, and executing a common monitoring plan without reducing the effectiveness of the monitoring plan.

NOW, THEREFORE, BE IT AGREED THAT:

1. **PURPOSE.** The CMC will serve as the focal point for the development, execution, and, as needed, the amendment of the Monitoring Plan required as part of the MS4 Permit. The intent of the CMC is to attain and demonstrate permit compliance for member Co-permittees with respect to the provisions of the MS4 Permit. The Monitoring Plan will be developed cooperatively among the member Co-permittees of the CMC.

2. **ELIGIBILITY.** All Co-permittees specifically identified in the MS4 Permit are eligible to be members of the CMC.

3. **MEMBERSHIP.** The CMC will include as members all Co-permittees that have signed this Intergovernmental Agreement ("Members"). Members are expected to provide funding for the ongoing operations of the CMC and to contribute financially or materially to the benefit of the CMC, either from their own assets or through the securing of contributions from others. The Members shall elect a Chairman of the CMC. The Chairman shall be elected by a majority vote of the members.

4. **VOTING.** The CMC will be made up of one voting Member from each Co-permittee in good standing, which is defined as having paid their expected contribution, as defined in the Contribution Schedule included as Attachment 1. Attachment 1 shall be updated annually by the Fiscal Agent (See Paragraph 7) to reflect Members in good standing. Each Member will designate a staff person to represent the Member's interest on the CMC and to vote on that Member's behalf. Designation of a representative may be completed at any time and under any circumstances. Other/outside agencies may participate on the CMC by attending meetings and giving input; however, only the Members in good standing may vote on CMC decisions. Decisions of the CMC will be decided by majority vote of the Members in good standing. The CMC may take action during a meeting, by telephone, or by e-mail.

5. **TERM.** The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Members to this Agreement.

6. **FISCAL MATTERS.** In the first Calendar Year of this Agreement, the CMC will meet to develop a budget based on the costs for implementing the Monitoring Plan for MS4 Permit compliance. To ensure sufficient funding is available to carry out the Monitoring Plan, the budget shall equal 110% of the estimated costs associated with the Monitoring Plan, including estimated contingencies. In subsequent years, the budget will be based on the actual expenditures from the prior year's monitoring activities plus any reasonable increases identified by the CMC. Each Member shall commit funding to the CMC based on the Contribution Schedule established for that year, which Contribution Schedule shall be in a total amount of not less than the budgeted costs. In-kind contributions shall be permitted in lieu of all or a portion of a Members cash contribution,

provided however, that participation in the CMC shall not be considered in-kind contributions. The value of in-kind contributions will be determined by the membership of the CMC by equating the value of the service to the cost that would be paid by the membership of the CMC to have the in-kind service performed by a third party (non-CMC member) contractor. The Contribution Schedule is located in Attachment 1 to this Agreement. This Contribution Schedule may be modified by the CMC annually without requiring modification to this agreement, provided however, that it shall be adopted by unanimous vote of the Members. Any funds remaining at the end of the Agreement Year will be carried into the next Calendar Year of this agreement. In such event, the CMC may either elect to retain the excess funds from the prior Calendar Year as a contingency fund, or may lower the annual contribution schedules for that year for all Members in equal proportion, based on the total amount carried forward. In the event a Member does not have the resources to provide full payment for any funds required by the Contribution Schedule, the remaining Members may agree, by unanimous vote, amend the Contribution Schedule if it is in the best interest of the CMC. Each Member's obligations under this Agreement are contingent upon sufficient appropriations being made therefor by such Member's governing body sufficient to fulfill such Member's said obligations. If such appropriations are insufficient to such Member's obligations hereunder, such Member's shall promptly notify the other Members, and this Agreement shall terminate forthwith with respect to such Member.

7. **FISCAL AGENT.** The Members shall select one (1) Co-permittee to act as Fiscal Agent for the CMC for the purposes of this Agreement. The Fiscal Agent shall act as the custodian of the CMC's funds, securities, and property. All funds will be held in a separate bank account for the purposes of this Agreement. All CMC funds shall be deposited promptly by the Fiscal Agent to the credit of the CMC. The CMC shall adhere to the Fiscal Agent's accounting and procurement procedures, provided such procedures comply with law. The Fiscal Agent shall make available to any interested Member, all records, receipts, and other documentation with respect to all matters concerning this agreement and shall have this account included in its annual audit. The Fiscal Agent shall maintain funds in accordance with all applicable state and Federal statutes. The Fiscal Agent shall be authorized on the CMC's behalf to sign checks, drafts, or other instruments for payment of money, acceptances, notes, or other evidences of indebtedness, to enter into contracts, or to execute and deliver other documents and instruments. This authority to enter into any contract or negotiated agreement shall be subject to approval by the CMC and subject to any limitations as set forth in this Agreement. Subject to the provisions of this Agreement, no loans shall be contracted on behalf of the CMC and no evidence of indebtedness shall be issued in its name unless authorized by a unanimous vote of the CMC Members. In consideration of the in-kind contributions anticipated from the Fiscal Agent, the total financial contribution requirements of the Fiscal Agent's Member agency, under any applicable agreement, shall be credited by the sum of one thousand dollars ($1,000.00) for the term of the permit in which that Member serves as the Fiscal Agent.

8. **PAYMENTS.** The Fiscal Agent will invoice each Member for their respective participation, minus the values of any CMC approved in-kind contributions at the start of each member entity's Fiscal Year. Each Member will pay such invoices to the Fiscal Agent within one hundred twenty (120) days of the date of the invoice. Failure to pay invoices within 120 days of

the date of the invoice shall deem the Member not in good standing status until payment is made in full. Invoices will be sent to CMC Member entities listed in Attachment 1.

9. **PARTICIPATION.** It is intended that the CMC's operation and function described in this Agreement are ongoing, subject to continued support and authorized funding by each of the Members. Each Member has the option to not participate in this Agreement in the future by sending written notice to all the other participating Members twelve (12) months prior to the Member's proposed withdrawal. This time requirement is made so that all Member Co-permittees will have the opportunity to update their Storm Water Management Plans (SWMP) to reflect the change in status of the cooperative sampling effort and obtain EPA's concurrence on the amended SWMP. In such an event, the terminating Member shall not be entitled to return of any contribution(s) made under this Agreement, and this Agreement shall remain in full force and effect by and among the remaining Members.

10. **OUTSIDE CONTRIBUTIONS.** The CMC may accept contributions from outside funding sources, to be used to support the CMC's mission. Such contributions shall not establish any voting privileges on the CMC, which privileges are reserved exclusively to eligible Members. Outside contributions shall be supplementary to the Contribution Schedule, and no Member's contribution shall be reduced based on receipt of any outside contributions except upon adoption of an amended Contribution Schedule by the Members.

11. **CONTRACTING.** Each Member agrees that a variety of contractors (e.g. sample collection, laboratory, sample results interpretation, geotechnical, etc.) may need to be hired in accordance with the State Procurement Code, in advance of any contractor taking any actions on behalf of the CMC. No contractor shall be an employee of either the Fiscal Agent or any Member of this Agreement. Responsibilities of the contractor shall be included in any resulting contract and the contractor shall only be authorized to provide approved services determined to help Member Co-permittees comply with the provisions of the MS4 permit. For procurement purposes, the CMC will form a Selection Advisory Committee ("SAC"), composed of representatives from Members in good standing. Each Member in good standing will have one representative on the SAC for the RFP process. The SAC will rank proposals and recommend the top three respondents to the Fiscal Agent for selection through the Fiscal Agent's existing procurement selection process. Upon approval, the Fiscal Agent will negotiate an agreement with the selected contractor. The CMC will provide input on scope and fees; however, final negotiations and approval will be the Fiscal Agent's responsibility. If contractor services are obtained using the procurement process set forth in this paragraph, then, with concurrence of the other members of the CMC, funds collected as part of the CMC group may be used to pay that contractor directly for services associated with execution of the monitoring plan. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract but shall be deemed third party beneficiary hereunder.

12. **ALTERNATIVE CONTRACTING.** As an alternative contracting process, and in order to leverage existing and future contracts between Contractors and Members in good standing of the CMC, contracts may be used, with concurrence from all Members of the CMC,

that have been issued by Members to perform elements of the monitoring program. If a contractor is used that has been procured by a Member in good standing of the CMC instead of the Fiscal Agent, then, with concurrence of the other Members of the CMC, an entity that is not the Fiscal Agent for the CMC may contract to have the services performed and upon successful completion of the services, submit an invoice, with no mark-up, to the Fiscal Agent for reimbursement. Reimbursement shall only be authorized for reasonable and necessary costs. All contractor's utilized for the purposes identified in this Agreement shall be procured in accordance with the State Procurement Code. Contractors will be agents of the Member issuing the contract. Other Members of the CMC shall not be bound by the terms of the contract.

13. **EVALUATION.** The Members agree that the Stormwater Monitoring contract is an ongoing program. The effectiveness of the Stormwater Monitoring contract, with regard to permit compliance, will be evaluated by the CMC prior to annual renewal(s) or request for proposals.

14. **LIMITATION ON SAMPLING ACTIVITIES.** The contractor's scope of services will be limited to the CMC-developed and EPA approved sampling plan and associated reporting. If, in the event of an exceedence during routine monitoring events, additional investigation is required by the EPA to identify the source of a potential contaminant, the CMC may expand monitoring activities to the degree necessary to locate the likely entry point of the potential contaminants. Once the likely entry point is identified, further investigation into the source of the potential contaminant will become the responsibility of the specific Co-permittee(s) having jurisdiction at the location where the likely entry occurred. The CMC shall have no responsibility, fiscal or otherwise, to investigate potential sources of contamination outside of the river or its affiliated Middle Rio Grande Conservancy District-owned water conveyances.

15. **PARTICIPATION AFFECTED.** If any situation arises which adversely affects any Member's participation in this Agreement, said Member will immediately, and in writing, notify the other Members. Any circumstance that materially affects this Agreement will be promptly and equitably resolved by all Members and if necessary, an amendment to this Agreement shall be executed.

16. **COMPLIANCE WITH GOVERNING LAWS.** The obligations of each Member under this Agreement shall be performed in compliance with all applicable laws, statues, and ordinances. Nothing herein is intended to constitute any agreement for the Members to perform any activity in violation of the Constitution or Laws of the State of New Mexico or the Ordinances of any Co-permittee that is a Member of this Agreement.

17. **SEVERABILITY.** If any clause or provision of this Agreement is illegal, invalid or unenforceable, under present or future laws effective during the term of this Agreement, then and in that event, it is the intention of the Members hereto that the remainder of this Agreement shall not be affected thereby.

18. **NO RIGHTS CREATED.** It is specifically agreed among the Members that this Agreement does not, and is not intended to, create in the public, or any member thereof, any rights whatsoever, such as but not limited to, the rights of a third Party beneficiary, and does not authorize anyone not a Member of this Agreement to maintain a suit for wrongful death or any other claim whatsoever.

19. **LIABILITY.** As among the Members, each shall be solely responsible for any and all liability from personal injury, including death, or damage to property, arising from any negligent or intentional act or failure to act of the respective Member, its officials, agents, contractors or employees pursuant to this Agreement. Liabilities of each Member shall be subject to the immunities and limitation of the New Mexico Tort Claims Act, §§41-4-1, et seq., NMSA, 1978, and any amendments thereto. By entering into this Agreement, all public agencies and its "public employees" as defined in the New Mexico Tort Claims Act, do not waive sovereign immunity, do not waive any defense and/or do not waive any limitation of liability pursuant to law. No provision in this Agreement modifies and/or waives any provision of the New Mexico Tort Claims Act.

20. **AMENDMENT.** This Agreement may only be altered or amended upon written approval by a majority of the CMC Members.

21. **DATE OF EFFECTIVENESS.** Regardless of the date when this Agreement is signed by each Permittee, this agreement shall not become effective for each Permittee until that Permittee has received official notification from the Environmental Protection Agency that they have received coverage under NPDES General Permit No. NMR04A000.

City of Rio Rancho

Keith Riesberg
City Manager

5/27/16
Date

Approved as to Form:

Jennifer Vega-Brown
City Attorney

Date: 5/26/16

Date for of beginning of Fiscal Year: July 1

ATTACHMENT 1

CONTRIBUTION SCHEDULE

ATTACHMENT 1

Sampling Cooperative Cost Allocation Determination (CAD) Tool

28-Apr-16

Number	Participant			$ 132,000.00	ENTITY PAYMENT	FISCAL AGENT CREDIT ($1k)
1	City of Albuquerque		1.38	$ 45,574.50	$45,600.00	
2	AMAFCA		0.43	$ 14,319.39	$14,400.00	$ (1,000.00)
3	UNM		0.41	$ 13,553.53	$13,600.00	
4	NMDOT		0.12	$ 3,865.56	$3,900.00	
5	Bernalillo County		0.59	$ 19,549.95	$19,600.00	
6	Sandoval County		0.46	$ 15,094.20	$15,100.00	
7	Village of Corrales		0.04	$ 1,393.20	$1,400.00	
8	City of Rio Rancho		0.42	$ 13,997.46	$14,000.00	
9	Los Ranchos de Albuquerque		0.02	$ 705.79	$1,000.00	
10	Town of Bernalillo		0.03	$ 903.81	$1,000.00	
11	ESCAFCA		0.01	$ 338.88	$500.00	
12	SSCAFCA		0.08	$ 2,703.72	$2,900.00	
	Ratio Check (Sum = Weighting Factor)		4.00		$132,000.00	

Middle Rio Grande Stormwater MS4 Technical Advisory Group

MEMORANDUM OF AGREEMENT

A COOPERATIVE AGREEMENT, CREATING THE MIDDLE RIO GRANDE MS4 TECHNICAL ADVISORY GROUP, IN SUPPORT OF COMPLIANCE EFFORTS FOR A STORMWATER DISCHARGE PERMITTING SYSTEM FOR THE MIDDLE RIO GRANDE VALLEY IN ACCORDANCE WITH THE FEDERAL CLEAN WATER ACT.

WHEREAS, the United States Environmental Protection Agency (EPA), Region 6 regulates the discharge of stormwater from municipal separate storm sewer systems (MS4s) in New Mexico through the issuance of an MS4 permit for the Middle Rio Grande valley urbanized area under the authority of the National Pollutant Discharge Elimination System (NPDES) regulations (40CFR122); and

WHEREAS, the Middle Rio Grande area is comprised of many diverse local, state, federal and tribal entities, each with separate and distinct authority and responsibilities; and

WHEREAS, the Middle Rio Grande area entities potentially eligible for authorization under the proposed NPDES General Permit No. NMR04A000 (hereinafter "MS4 Permit") and therefore are eligible to enter into this Agreement (hereinafter "Agreement") in furtherance of the requirements of the MS4 Permit are the City of Albuquerque, Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA), University of New Mexico, New Mexico Department of Transportation District 3, Bernalillo County, Sandoval County, Village of Corrales, City of Rio Rancho, Los Ranchos de Albuquerque, Kirtland Air Force Base, Town of Bernalillo, State Fairgrounds/Expo New Mexico, the Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA), the Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA), Sandia National Laboratories/Department of Energy, Pueblo of Sandia, Pueblo of Isleta, and Pueblo of Santa Ana (collectively "Stormwater Management Entities"); and

WHEREAS, the proposed MS4 Permit encourages cooperative efforts among separate local, state, federal and Tribal governments to reduce the amount of pollutants discharged with stormwater from the Middle Rio Grande urbanized area MS4s; and

WHEREAS, continued cooperation among the Stormwater Management Entities in the MS4 Permit offers an enhanced opportunity each entity to remain aware of the requirements in the MS4 Permit and facilitating compliance with conditions of the permit;

NOW, THEREFORE, BE IT AGREED THAT:

1. The signatories to this Agreement (hereinafter collectively referred to as "Parties" and individually referred to as "Party") support and encourage a cooperative commitment to assist one another with technical issues regarding compliance with the MS4 Permit and agree to form the Middle Rio Grande MS4 Technical Advisory Group (MS4TAG).

2. The purpose of the MS4TAG will be to exchange technical information regarding compliance with the MS4 Permit, exchange ideas among Parties regarding compliance efforts, and exchange information regarding illicit discharges detected within each Party's jurisdiction. The MS4TAG shall have no binding financial authority and shall be strictly advisory in nature.

3. Nothing in this Agreement shall be construed as obligating a Party to this agreement to expend funds for any purpose, and no Party shall be required to contribute any funds in order to participate in this Agreement. In the event the Parties determine that any expenditure of funds becomes necessary in order to comply with the requirements of the MS4 Permit, a separate agreement shall be entered into between the affected Parties regarding any and all such expenditures at that time.

4. The term of this Agreement shall run from the date the MS4 Permit is issued by the EPA until the date the MS4 Permit is terminated or expires, whichever occurs first. This Agreement may be terminated in its entirety at any time upon the mutual agreement of all of the then-existing Parties to this Agreement. In the event any Party wishes to withdraw from this Agreement without terminating the other Parties' interests in this Agreement, withdrawal shall become effective upon ninety (90) days prior written notice to the other Parties. Withdrawal shall fully and completely terminate that Party's interest in and obligations under this Agreement. Following any Party's withdrawal, this Agreement shall continue in full force and effect as to all remaining Parties to the extent possible.

5. This Agreement does not address the "Public Education and Outreach: or "Cooperative Sampling" sections of the MS4 Permit. Any MS4TAG efforts regarding either of these sections of the MS4 Permit under this Agreement shall be strictly in furtherance of the spirit of cooperation intended among the Parties. Each Party acknowledges its obligations under the "Public Education and Outreach" and "Cooperative Sampling" sections of the MS4 Permit are separate and apart from its activities under this Agreement, and a separate agreement will be required for any collaboration among the Parties with respect to those permit requirements.

6. The Parties will appoint two (2) Co-Coordinators from among the Parties, one of which must be from a Party located within the Bernalillo County geographical area and one of which must be from a Party located within the Sandoval County geographical area. Appointment of a Co-Coordinator shall be by majority vote of the voting Parties, with only those Parties located in the county of Bernalillo voting on the Co-Coordinator from that area, and only those Parties located in the county of Sandoval voting on the Co-Coordinator from that area. Co-Coordinators must be appointed annually in each subsequent permit year, or earlier if the position becomes vacant for any reason. For the New Mexico Department of Transportation District 3, which operates stormwater management facilities in both counties, for the purposes of this section, they shall select one county affiliation in year one of the agreement and alternate affiliations is subsequent years of this Agreement. The Co-Coordinators will be expected to coordinate the Parties' efforts under this Agreement, including facilitating meetings of the MS4TAG at least monthly for the first year of the MS4 Permit. In years two through five of the permit, the frequency of meetings may be reduced to quarterly with additional meetings called as necessary to discuss issues regarding MS4 Permit compliance.

7. Each Party shall be entitled to one (1) vote on any action items.

8. This Agreement creates no obligations on behalf of any Party to any other Party to this Agreement, including for any requirements imposed or determinations made by EPA. The Parties acknowledge and agree that each shall at all times remain individually liable for full compliance with the requirements of the MS4 Permit, including EPA's determination regarding the implementation schedule.

9. This Agreement may be modified in writing at any time upon the mutual agreement of the Parties.

10. Parties can be added at any time during the life of this Agreement. A potential future Party's submittal of a signature page to the Co-Coordinators and approval by the Co-Coordinators shall add the Party to the Agreement.

.

NOTE: Each approving entity would have a separate signature page

City of Rio Rancho

Approved as to Form:

City Attorney

Date: 10/1/13

Recommended By:

Dolores Wood, Director

Date: 11.4.13

Approved By:

Keith Riesberg, City Manager

Date: 11/1/13

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5005 • FAX (505) 981-5203

December 19, 2015

SENT VIA EMAIL

Ms. Nelly Smith
Municipal Stormwater Coordinator
EPA Region 6
Permits and Technical Assistance Section
1445 Ross Ave., Suite 1200
Dallas, TX 75202

Re: NPDES General Permit No. NMR04A000 - Proposed Monitoring Plan

Dear Ms. Smith,

Please consider the attached document as City of Rio Rancho's formal submittal of our proposed monitoring plan for NPDES General Permit No. NMR04A000. This submittal is being made in response to Part III.A.1.b., Cooperative Monitoring. The proposed cooperative monitoring agreement includes the following entities:

1. City of Albuquerque
2. City of Rio Rancho
3. Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
4. Eastern Sandoval County Arroyo Flood Control Authority (ESCAFCA)
5. Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
6. New Mexico Department of Transportation (NMDOT)
7. University of New Mexico (UNM)
8. Village of Corrales
9. Village of Los Ranchos de Albuquerque
10. Town of Bernalillo
11. Bernalillo County
12. Sandoval County

The above listed entities are currently negotiating the Cooperative Agreement for cost sharing. Upon completion of the Cooperative Agreement, the final membership of the agreement will be reported to the EPA and New Mexico Environment Department.

Should you require any further information, please feel free to contact Xavier Pettes at xpettes@rrnm.gov or at 505-891-5045.

Sincerely,

David Serrano, PE
Engineering Division Manager

Enclosure: Cooperative Monitoring Plan
Sampling Location Map

Cc: Sarah Holcomb, New Mexico Environment Department

City of Rio Rancho
Cooperative Monitoring Plan – MS4 Watershed-based permit
December 17, 2015

Sampling must be conducted at a minimum of seven (7) events per sampling location during the permit term with at least three (3) events in the wet season and two (2) events in the dry season. Seasonal monitoring periods are the Wet Season: July 1 – October 31 and Dry Season: November 1 – June 30. Monitoring methodology for both seasons will consist of collecting a minimum of four grab samples spaced at a minimum interval of 15 minutes each. Individual grab samples for each sampling location, will be preserved and combined into a single composite sample at the laboratory.

Qualifying Storm Event

Due to the nature of rainfall in the middle Rio Grande Valley, the MS4s are proposing that a qualifying event be defined as a 0.25-inch or greater storm anywhere in the watershed that creates a discharge to the Rio Grande. Additionally, no antecedent dry period will be required in order to ensure that a sufficient number of qualifying events are available for sampling.

In order to determine whether or not a qualifying storm event has occurred, the MS4s may use a variety of different data sources for representative locations within the watershed to identify the qualifying storm event. Sources for determining a qualifying storm event may include, CoCoRahs, wundermap.com data, calibrated National Weather Service radar, and/or USGS weather data based on rainfall measurements taken within the watershed.

Wet Weather Monitoring (Wet Season: July 1 – October 31/Dry Season: November 1 – June 30)

Wet weather monitoring gathers information on the response from the receiving waters to wet weather discharges. The following parameters must be sampled: TSS, TDS, COD, BOD5, DO, TPH/oil, E.coli, pH, total kjeldahl nitrogen, nitrate plus nitrite, dissolved phosphorus, ammonia plus organic nitrogen, phosphorus, PCBs and gross alpha. DO, pH, conductivity, and temperature must be analyzed in the field within 15 minutes of sample collection.

Sampling Locations

Rio Grande (NORTH)- In stream sampling within the Rio Grande will be performed upstream of the Angostura Diversion Dam at the north end of the water shed (upstream or background)..

Rio Grande (SOUTH) – In stream sampling within the Rio Grande will be performed at the Isleta Bridge at the south end of the watershed and downstream of all inputs from the Urban Area to the river to provide the downstream water conditions.

These locations have been identified and are proposed to meet the permit requirements as identified in Part III.A. These up and down stream sample locations capture all inputs to the river within the Urbanized Area. See Attachment 1 for a map of sampling locations.

Sample Collection

The greatest difficulty the MS4s will have in sample collection are the logistics for collecting the sample(s) and getting them to the laboratory within the required holding time limitations for each sample type, particularly E.coli. In order to expedite this process, the MS4s are proposing the following actions:

1. On days where rainfall in excess of the qualifying storm event are predicted to take place within a timeframe where an in-stream sample can be collected and delivered to the laboratory in time to meet holding time requirements, the upstream sample (Angostura Diversion Dam) will be collected by noon (12:00 PM) on the day of the predicted event.
2. After collection of the upstream samples, the e-coli sample will be submitted to the laboratory for analysis and the remaining samples will be preserved as required and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
3. When a Qualifying Storm Event is anticipated within the watershed, a river staging timing methodology will be used to identify the proper time for the sample to be taken from the downstream location(s) per Table 1. For example, if it typically takes one hour for water from the North Diversion Channel to reach the Isleta Bridge sampling location, then the sample will be taken one hour after the discharge from the NDC has occurred.
4. Upon collection of the downstream sample(s) from the Isleta Bridge location, the e-coli sample(s) will be taken to a laboratory for analysis and the balance of the samples will be preserved, as required, and held until the determination can be made regarding whether or not there is a Qualifying Storm Event.
5. In the event that a Qualifying Storm Event is NOT recorded, all non-e-coli samples will be dumped and not analyzed. In the event a Qualifying Storm Event is recorded, samples (upstream and downstream) will be submitted to a laboratory for analysis.

During sample collection, the sampler shall maintain a log book recording the site conditions at the time of sampling, actions taken to collect the samples, and any other pertinent information that may be relevant to the sample event. All collected samples shall have a chain-of-custody form associated with each sample container. This chain-of-custody form shall be maintained by the sampler until the sample is delivered to the laboratory for analysis. Greater detail will be contained in the Quality Assurance Program Plan (QAPP) that will be developed for this plan.

Example CoCoRaHS Rain Gages and Assumed Travel Times for Sampling Stormwater Events in Watershed						
Zonal Segments of River (north to south travel times)		Western Side of Watershed (west to east travel times)		Rio Grande	Eastern Side of Watershed (east to west travel times)	
		3 hours -->	1.5 hours -->	<-- <-- <-- <-- <--	<-- 20 min.	<-- 40 min.
7.4 hours	Rio Grande at Angostura to Rio Grande at Alameda	NM-SN-59	NM-SN-70		N/A	N/A
4.4 hours	Rio Grande at Alameda to Rio Grande at Central	NM-BR-113	NM-BR-144		NM-BR-71	NM-BR-162
5.2 hours	Rio Grande at Central to Rio Grande at Isleta 147 Bridge	NM-BR-159	NM-BR-104		NM-BR-150	NM-BR-41

TABLE 1 – HYDROGRAPH TIMING FOR RAIN EVENTS TO SOUTHERN SAMPLING POINT

Rainfall information associated with the above Station Numbers can be obtained from the Community Collaborative Rain, Hail and Snow Network website (www.cocorahs.org). The Station Numbers provided in the table are for representative purposes only. The actual CoCoRaHS rainfall data utilized to confirm a Qualifying Event will be from the appropriate zone in the watershed but may not be from the exact Station Number listed in the table.

Response to Monitoring Results

In the event of an exceedance, the MS4 Sampling cooperative will examine all meteorological and stream gauge data available and correlate rainfall event/timing with sampling timing to determine the most likely source location and discharge point to the river. Once the most likely source location has been determined, MS4s will cooperatively develop a pollutant-specific response plan whose elements may include a review of land use for potential sources of the specific pollutant exceeded or enhanced public outreach and education to specific user or industry groups.

In the event of rainfall in the same distribution as the storm event associated with the exceedance, additional sampling may be conducted to monitor for potential sources, if appropriate. Only the constituent(s) identified in the exceedance will be analyzed.

Sample Collector Training Requirements

Any person collecting samples for compliance purposes shall be trained in the proper technique for collecting stormwater samples. Experience in the collection of stormwater samples may be

considered in lieu of receiving formal training in sampling requirements. Greater detail will be contained in the QAPP that will be developed for this plan.

Sample Analysis

After a sample collection event has been performed, the validity of the qualifying storm event must be determined before the samples can be counted as an official sample event. However, since the holding time for the E.coli is so short, the MS4s are proposing analyzing the E.coli samples prior to determining the validity of the storm event as a qualifying storm event. The balance of the samples will be held until the determination of the storm event as qualifying can be made. In the event that the storm event is deemed qualifying, the remaining samples will be run for the required parameters. If an event is deemed by an analysis of rainfall data to be non-qualifying, the results from the E.coli samples will be kept but not reported as part of the official sampling event for permit compliance and the preserved samples will be appropriately discarded without analysis.

Field obtained results (D.O., pH, and temperature) will be handled in a similar fashion as E.coli sampling results. In the event the storm is deemed qualifying during the review of rainfall data, the results from these field obtained measurements will be reported with the balance of the sample results. If the storm event is deemed non-qualifying, these results will be kept but not reported for permit compliance.

QAPP

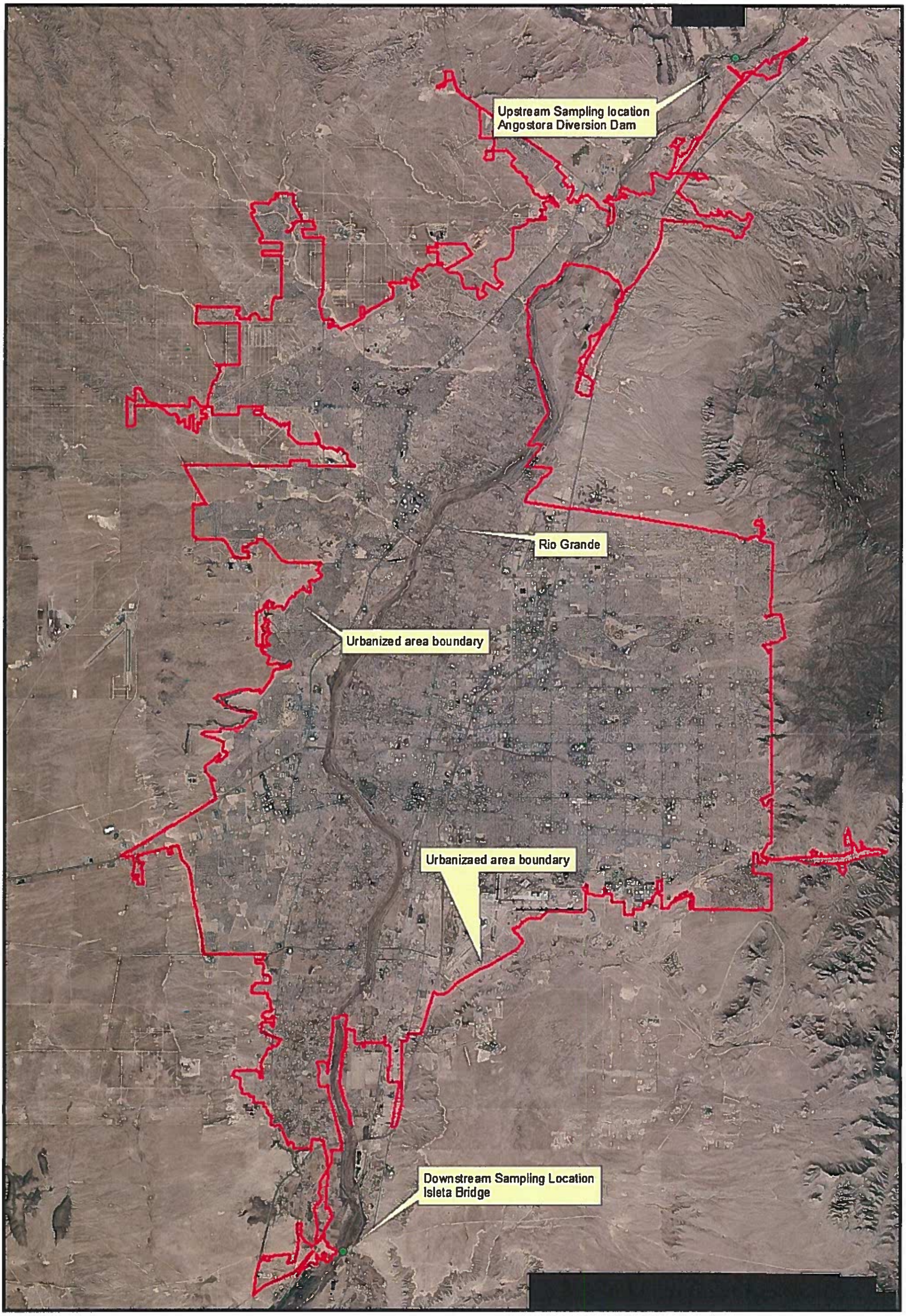
All sampling collection and analysis shall conform to the QAPP to be developed for the sampling program in accordance with Part III.A.5.b and III.Q. of the permit and the methods specified at 40 CRF §136.

Monitoring Records

A QAPP will be developed, conforming to Part III.P requirements.

Permittees Cooperating in Monitoring Program

City of Albuquerque
Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
University of New Mexico (UNM)
New Mexico Department of Transportation (NMDOT)
Bernalillo County
Sandoval County
Village of Corrales
City of Rio Rancho
Los Ranchos de Albuquerque
Town of Bernalillo
Eastern Sandoval County Arroyo Flood Control Authority
Southern Sandoval County Arroyo Flood Control Authority



1 inch = 2.367424 miles

Miles
0 1 2

N

WSB MS4 Sampling Locations

Southern Sandoval County
Arroyo Flood Control Authority

Date: November 13, 2015

Attachment 1

Path: Q:\Environmental_Services\MS4\Sampling\Sampling map 11-13-15 - whole area.mxd

RioRancho
City of Vision

City of Rio Rancho
3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144-4501
(505) 981-5002 • FAX (505) 981-7274

August 15, 2017

Mr. Jerry Lovato, Executive Engineer
Albuquerque Metropolitan Arroyo Flood Control Authority
2600 Prospect Ave NE
Albuquerque, NM 87107

RE: Memorandum of Understanding for Delegation of Authority for Data Entry into NetDMR System

Dear Mr. Lovato,

As you are aware, twelve permittees covered under the Middle Rio Grande Watershed Based Municipal Separate Storm Sewer System (MS4) General Permit (NPDES No. NMR04A000) have entered into a cooperative agreement for the performance of permit-mandated water quality monitoring. Currently, results from the samples taken during monitoring events are shared among the twelve members of the Compliance Monitoring Cooperative (CMC) and must be entered by each entity into the Network Discharge Monitoring Report (NetDMR) database individually, creating twelve identical (barring typos or other data entry error) records. This is clearly inefficient, at best.

Following discussions between the CMC and the Environmental Protection Agency (EPA), EPA has approved a methodology whereby one member of the CMC will enter data in NetDMR on behalf of any other CMC-member entity. Each CMC-member entity that wishes to participate will delegate authority to the data entry CMC-member entity or their designed contractor, for this purpose. We appreciate Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA) volunteering to be the data entry CMC entity on behalf of the CMC.

Therefore, the City of Rio Rancho, Permit Tracking No. NMR04A007, hereby delegates authority for data entry and approval of sampling results into NetDMR to AMAFCA for the purposes of compliance with MS4 General Permit requirements. Please provide us notification, via email, of the completion of data entry for our records.

In the event that AMAFCA becomes unable to perform this function on behalf of the City of Rio Rancho, please notify me a minimum of 60 days prior to the deadline, or by December 1st, for data entry in order to perform this function internally.

Please contact Xavier Pettes via email at xpettes@rrnm.gov or phone at (505)891-5045 if you have questions or concerns regarding this memorandum. Thank you again for your willingness to perform this function on behalf of the membership of the CMC.

Requested
Keith Riesberg
City Manager, City of Rio Rancho

Acknowledged and Accepted
Jerry Lovato, P.E.
Executive Director, AMAFCA

Mid Rio Grande
STORMWATER QUALITY TEAM
www.keeptheriogrand.org

STORM WATER QUALITY TEAM PARTNERS

Albuquerque Metropolitan Arroyo Flood Control Authority • Town of Bernalillo
City of Albuquerque • NM Department of Transportation
Southern Sandoval County Arroyo Flood Control Authority • Eastern Sandoval County
Arroyo Flood Control Authority • City of Rio Rancho • Bernalillo County • CIUDAD Water and
Soil Conservation District • Sandoval County • Village of Los Ranchos • Village of Corrales

2600 Prospect Avenue NE
Albuquerque, NM 87107
Phone: (505) 884-2215
Fax: (505) 884-2214

Middle Rio Grande Stormwater Quality Team Invoice FY 2021 Participation

July 7, 2020

Approved and Paid on 7/17/2020
Account # 101-5030-434.32-07

TO: City of Rio Rancho
Attention: Xavier Pettes
3200 Civic Center Circle, NE
Rio Rancho, NM, NM 87144

City of Rio Rancho contribution to:

Middle Rio Grande Stormwater Quality Team
participation for FY 2021: $12,000.00

Please make check to "AMAFCA - Stormwater Quality Education Program" and remit to:

Middle Rio Grande Stormwater Quality Team
c/o AMAFCA
2600 Prospect Avenue NE
Albuquerque, NM 87107

Thank you,

Patrick J. Chavez

Patrick Chavez, P.E., LEED AP+
Storm Water Quality Engineer, AMAFCA

Section 7	Public Review and Comment
	7.1 Public Comment 7.2 TAG Administrative Continuance Letter

Public Review and Comment Period

The City of Rio Rancho published a public notice announcing the draft 2019-2020 Annual Report in the *Rio Rancho Observer* on October 18, 2020. A copy of the draft annual report was made available for review and comment at Rio Rancho City Hall, Development Service Department. The comment period closed on November 30, 2020. The City of Rio Rancho did not receive comments from individuals or organizations during the 45-day comment period.

NPDES Stormwater Program Website

The City of Rio Rancho continues to update and provide information on its NPDES Stormwater Program website. The draft annual report for the 2019-2020 reporting period was made available from October 16, 2020 through November 30, 2020.

https://www.rrnm.gov/2184/NPDES-Stormwater-Program

Firefighters

From page - 1

munity and other communities in the area," he said.

Volunteerism is decreasing at the Zia Volunteer Fire Department. The facility is not equipped for every type of call, such as search and rescue; SCFR answers these calls.

"We are seeing a significant impact with certain call types throughout this corridor," Masterson said. "There was a couple of weeks in late July and early August that we were doing a search-and-rescue call daily in the Jemez Mountains."

Response times are about 20 minutes to get to the Jemez corridor and can reach 45 minutes to get to the Cuba or La Cueva region, Masterson said.

"We are definitely feeling the impact of the increased volume in the region," Masterson said.

With additional staff being housed in the corridor, response times can average 20 minutes faster, he said.

Other News You Can Use

Astronomical meeting

Amateur astronomers can learn about programs meant to increase their skills with the Rio Rancho Astronomical Society virtual public meeting at 7:30 p.m. Friday.

The meeting is limited to 100 participants on a first-come, first-served basis. Pre-registration is required at rrastro.org.

RRAS President Jon Schuchardt will discuss the Astronomical League's numerous programs designed to help amateur astronomers hone their skills and what it takes to participate in the programs.

For more information, visit rrastro.org or call RRAS Vice President Melanie Templet at 220-5355.

Teachers get mini-grants

Local nonprofit Bound for Success has announced recipients of its mini-grants for teachers:

• Donna Barnitz, teacher at Colinas del Norte Elementary, received $350 for art supplies for students who can't afford them.

• David Schulte, a teacher at St. Thomas Aquinas School, received $250 to help sponsor sixth- through eighth-graders in the SuperComputing Challenge.

City seeks board members

The City of Rio Rancho is seeking residents to volunteer on city boards or committees.

Residents are encouraged to apply by Oct. 30, and must submit an application and résumé to the Office of the City Clerk.

Applications are at the clerk's office in City Hall and at rrnm.gov/applicationform. They'll be accepted until these positions are filled:

• **Arts Commission**: Seats in council districts 2, 3, 5 and at-large; three-year terms. Applicants need professional experience or knowledge in an art-related discipline.

• **Library Board of Trustees**: Seats in council districts 3, 6 and at-large; three-year terms. Applicants should be interested in efficient operation of the libraries.

For more information, call 891-5004 or visit rrnm.gov.

School protection

Courtesy photo

Rio Rancho Education Foundation board Vice President Mike Mierzejewski, left, and President Bill Stanage delivered personal protective equipment to Rio Rancho Public Schools on Tuesday. The foundation provided more than $12,000 of PPE for teachers, staff and students to use during in-person learning. To promote excellence in education, the foundation raises money through the private sector for community education programs, enhanced student opportunities and facility needs. This year, it created an endowment fund designed to supplement the funding of the annual grant requests. The endowment has more than $300,000, with a goal of $1 million by 2025.

GOV'T LEGALS

CITY OF RIO RANCHO PUBLIC NOTICE

The City of Rio Rancho has prepared its 2019-2020 Municipal Separate Storm Sewer System (MS4) Annual Report describing activities conducted and accomplishments made by the City pursuant to Environmental Protection Agency (EPA) MS4 Permit issued December 22, 2014, NPDES Permit No. NMR04A000. The draft Annual Report is available for public review and comment prior to submission to U. S. EPA, Region 6 during regular business hours at Rio Rancho City Hall, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144. The draft Annual Report is also available online at https://rrnm.gov/2184/NPDES-Stormwater-Program. Individuals wishing to comment on the Annual Report should submit written comments within 45 days from the date of this notice to: City of Rio Rancho, Development Services Department, Attn. Stormwater Program, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144.

Observer: October 18, 2020

GOV'T LEGALS

The Rio Rancho Public School District is preparing to destroy Special Education Records of students whose birthdate is between 1993 - 1998. If you would like to request a copy of your/your student's Special Education records, please notify the Records Secretary at the district office (505-896-0667 x 51182) prior to October 28, 2020.

El distrito de escuelas publicas de Rio Rancho se prepara para destuir expedients de educacion especial de alumnos cuya fecha de nacimiento es enfre 1993 - 1998. Si desea solicitor una copia de Educacion especial registros S/u/s estudiante, por favor notivicar al Secretario de Registros en la oficina de Distrito (505-896-0667 x 51182) Antes del 28 de-octubre 2020.

Observer: September 27, October 4, 11, 18, 2020

NON-GOV'T LEGALS

THIRTEENTH JUDICIAL DISTRICT COURT
COUNTY OF SANDOVAL
STATE OF NEW MEXICO
NO. D-1329-PB-2020-00073

In the Matter of the Estate of RAYMOND G. GRIEGO, Sr., Deceased.

PERSONAL REPRESENTATIVE'S NOTICE TO CREDITORS

Notice is hereby given that on the 24th day of August, 2020, RAYMOND G. GRIEGO, Jr. was duly appointed Personal Representative of the Estate of RAYMOND G. GRIEGO, Sr., Deceased, by the District Court of Sandoval County, New Mexico. Having qualified as such Personal Representative, all persons having claims against the Estate of said Decedent are hereby notified and required to present such claims to the undersigned within four (4) months after the date of the first publication of this notice or said claims will be forever barred. Claims must be presented either to the undersigned at the address listed below, or filed with the Sandoval County Judicial Complex located at the following address: 1500 Idalia Rd., Building A, Bernalillo, New Mexico 87004 or P.O. Box 600, Bernalillo, New Mexico 87004, along with a copy to the undersigned.

Dated: October 1, 2020.

NON-GOV'T LEGALS

MICHAEL E. KUSHNER, P.A.
Attorneys for Personal Representative

ELECTRONICALLY FILED
By: /s/Michael E. Kushner
Michael E. Kushner
P.O. Box 35487
Albuquerque, New Mexico 87176-5487
(505) 254-8332

Observer: October 11, 18, 25, 2020

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
13TH JUDICIAL DISTRICT COURT
NO. D1329CV202001579

IN THE MATTER OF A PETITION FOR NAME CHANGE AND/OR BIRTHDATE CORRECTION FOR MICHAEL CHARLES MEISLER, PETITIONER

NOTICE OF CHANGE OF NAME AND/OR BIRTHDATE CORRECTION

TAKE NOTICE that in accordance with provision of NMSA 1978 Sections 40-8-1 through 40-8-3 the above captioned Petitioner will apply to the Honorable James A. Noel, District Judge of the 13th Judicial District, Sandoval County, New Mexico, at 8:30 a.m. on the 30th day of November, 2020 for an ORDER FOR CHANGE OF NAME AND/OR BIRTHDATE CORRECTION from: Michael Charles Meisler to Charles Michael Micellar.

NON-GOV'T LEGALS

Audrey Garcia
Court Manager
By: /s/ Jacqueline Gallegos-Rivera
Judicial Specialist
Submitted by: /s/ Michael Charles Meisler

Observer: October 18, 25, 2020

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
13TH JUDICIAL DISTRICT COURT
No. D-1329-CV-2020-1573

NOTICE OF NAME CHANGE AND/OR BIRTH DATE CORRECTION FOR ROBERT STEPHEN ROMERO, Petitioner

NOTICE OF NAME CHANGE AND/OR BIRTH DATE CORRECTION

TAKE NOTICE that in accordance with provision of NMSA 1978 Sections 40-8-1 through 40-8-3 the above captioned Petitioner will apply to the Honorable James A. Noel, District Judge of the 13th Judicial District, Sandoval County, New Mexico, at 8:30 a.m. on the 30th day of November, 2020 for an ORDER FOR CHANGE OF NAME AND/OR BIRTH DATE CORRECTION from: Robert Stephen Romero to Monica Angelica Romero.

Audrey Garcia
Court Manager

By:/s/ Julianna Wiggins

NON-GOV'T LEGALS

Judicial Specialist

Submitted by:
/s/ Robert Stephen Romero

Observer: October 11, 18, 2020

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
THIRTEENTH JUDICIAL DISTRICT COURT
No.D-1329-PB-2020-00077

IN THE MATTER OF THE ESTATE OF MICHAEL MATZ, JR., Deceased.

NOTICE TO CREDITORS

NOTICE IS HEREBY GIVEN the undersigned has been appointed Co-Personal Representatives of the Estate of Michael Matz, Jr., Deceased. All persons having claims against this Estate are required to present their claims within four (4) months after the date of the first publication of this Notice or the claims will be forever barred. Claims must either be presented to the Personal Representative, c/o Pregenzer Baysinger Wideman & Sale, PC, 2424 Louisiana Boulevard NE, Suite 200, Albuquerque, New Mexico 87110, or filed with the Thirteenth Judicial District Court, County of Sandoval, P.O. Box 600, Bernalillo, NM 87004.

Dated: October 2, 2020.

/s/ Antonia Emmons
Antonia Emmons

NON-GOV'T LEGALS

4157 Foxwood Trail SE
Rio Rancho, NM 87124
(916) 751-8209
Co-Personal Representative
/s/Ginny Ann Kelly
Ginny Ann Kelly
725 Dennison Park Loop SE
Rio Rancho, NM 87124
(916) 706-8600
Co-Personal Representative

PREGENZER BAYSINGER WIDEMAN & SALE, PC

By:/s/ Margaret A. Graham
Margaret A. Graham
2424 Louisiana Blvd. NE, Suite 200
Albuquerque, New Mexico 87110
(505) 872-0505
mgraham@pbwslaw.com
Attorneys for Co-Personal Representatives

Observer: October 11, 18, 25, 2020

STATE OF NEW MEXICO
COUNTY OF SANDOVAL
THIRTEENTH JUDICIAL DISTRICT COURT

NO. SCPB2020163

IN THE MATTER OF THE ESTATE OF GERALDINE L. HOOVER, DECEASED.

NOTICE TO CREDITORS

NOTICE IS HEREBY GIVEN that the undersigned has been appointed as Personal Representative of The Estate of Geraldine L. Hoover, deceased (the "Estate"). All persons having claims against this Estate

NON-GOV'T LEGALS

are required to present their claims within four (4) months after the date of the first publication of this notice, or sixty (60) days after the day of the date of mailing or other delivery of this notice, whichever is later, or the claims will be forever barred. Claims must be presented to the Personal Representative's attorneys, Lastrapes, Spangler & Pacheco, P.A., Post Office Box 15698, Rio Rancho, New Mexico 87174, or filed with the Probate Court of Sandoval County, New Mexico, located at 1500 Idalia Road, Building D, Bernalillo, New Mexico 87004.

Dated: 6/29/2020

/s/ Robert J. Hoover Jr.
Personal Representative of the Estate of Geraldine L. Hoover, Deceased

Submitted by:

Lastrapes, Spangler & Pacheco, P.A.

/s/ Alexandra N. Lopez
Matthew M. Spangler
Alexandra N. Lopez
Attorneys for Personal Representative Robert J. Hoover Jr.
P.O. Box 15698
Rio Rancho, New Mexico 87174
Telephone: 505-892-3607
nl@lsplegal.com

Observer: October 18, 25, November 1, 2020

GOV'T LEGALS

CITY OF RIO RANCHO
PUBLIC NOTICE

The City of Rio Rancho has prepared its 2019-2020 Municipal Separate Storm Sewer System (MS4) Annual Report describing activities conducted and accomplishments made by the City pursuant to Environmental Protection Agency (EPA) MS4 Permit issued December 22, 2014, NPDES Permit No. NMR04A000. The draft Annual Report is available for public review and comment prior to submission to U. S. EPA, Region 6 during regular business hours at Rio Rancho City Hall, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144. The draft Annual Report is also available online at https://rrnm.gov/2184/NPDES-Stormwater-Program. Individuals wishing to comment on the Annual Report should submit written comments within 45 days from the date of this notice to: City of Rio Rancho, Development Services Department, Attn. Stormwater Program, 3200 Civic Center Circle NE, Suite 130, Rio Rancho, NM 87144.

Observer: October 18, 2020

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amafca.org

October 15, 2019

Mr. Robert Houston
Chief, Special Projects Section
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270

RE: NPDES Permit No. NMR04A000 Administrative Continuance – Duty to Re-Apply

Dear Mr. Houston:

This correspondence serves as a written notification that the members copied below of the Middle Rio Grande Technical Advisory Group (TAG) will continue to operate and discharge into the Rio Grande under the coverage and the conditions set forth in NPDES Permit No. NMR04A000 (Permit), after December 19, 2019, based on Permit language in Part IV:V and required notification in Part IV:C.

On June 27, 2019 the Middle Rio Grande TAG MS4 permittees met with and were informed by EPA Region 6 staff Brent Larson & Maria Martinez that the Permit, which expires on December 19, 2019, would likely go into administrative continuance. As EPA staff explained during the meeting, EPA is not required to issue a public notice related to the administrative continuance and the current permittees do not need to complete any actions or submit renewal applications to have continued coverage under the current Permit.

This guidance from EPA was confirmed in the Permit, in Part IV:V. CONTINUATION OF THE EXPIRED GENERAL PERMIT. *If this Permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued Permit until the earlier of:*

1. *Reissuance or replacement of this Permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or*
2. *Issuance of an individual permit for your discharges; or*
3. *A formal permit decision by the permitting authority not to reissue this general Permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.*

Closer review of the Permit noted the language in Part IV:C: DUTY TO REAPPLY. *If the permittee wishes to continue an activity regulated by this Permit after the Permit expiration date, the permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days prior to expiration of this permit. The EPA may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Continuation of expiring permits shall be governed by regulations promulgated at 40 CFR § 122.6 and any subsequent amendments.* It is unclear from the Permit language in Part IV: C, if this section applies to permits that are administratively continued.

This letter is to inform EPA that, based on the provided guidance from EPA and the MS4 Permit language in Part IV:V, members of the Middle Rio Grande TAG will continue to operate with coverage under the current MS4 Permit when the Permit is administratively continued on December 19, 2019. If these assumptions are incorrect or if an application is required for continued coverage under MS4 Permit NMR04A000, please let us know as soon as possible.

We appreciate your attention to this matter. Please contact me if you have any questions.

Sincerely,
Middle Rio Grande TAG

Patrick Chavez, PE
AMAFCA Storm Water Quality Engineer and TAG Member

TAG Members Included and Copied:

Albuquerque Metropolitan Arroyo Flood Control Authority (AMAFCA)
City of Rio Rancho
Sandia National Labs (operated by NTESS for US DOE)
Bernalillo County
Kirtland Air Force Base
Village of Los Ranchos
Eastern Sandoval County Arroyo Flood Control Authority (ESCACA)
Southern Sandoval County Arroyo Flood Control Authority (SSCAFCA)
City of Albuquerque
Village of Corrales
Sandoval County
Town of Bernalillo
New Mexico Department of Transportation (NMDOT)
University of New Mexico

Section 8	Signature on Certification of Annual Reports
	8.1 Letter of Delegation

RioRancho
City of Vision

City of Rio Rancho

3200 Civic Center Circle NE
Rio Rancho, New Mexico 87144
(505) 981-5005 • FAX (505) 981-0986

"Director"
US EPA Region 6
1445 Ross Ave., Suite 1200 (6EN-WT)
Dallas, TX 75202-2733

NPDES Permit No. NMR04A000
Delegating an "Authorized Representative" for the City of Rio Rancho

Dear Director:

This letter serves to designate either a person or specifically described position as an authorized person for signing reports, storm water pollution prevention plans, certifications or other information requested by the Director of required by the permit. This authorization cannot be used for signing an NPDES permit application (e.g. Notice of Intent (NOI)) in accordance with 40 CFR 122.22. The following person or position is herby authorized to sign reports, storm water pollution prevention plans or certifications other than the NOI application:

Name: David Serrano, P.E. Position: Engineering Division Manager

By signing this authorization, I confirm that I meet the following requirements to make such a designation as set forth in Part IV.H.1-4 of the Municipal Separate Storm Sewer System Permit [79 Fed Reg 76328].

> *For a municipality, State, Federal or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g. Regional Administrators of EPA).*

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Keith Riesberg	City Manager	6/18/15
	Title	Date