City of Santa Fe

Agenda

CITY CLERK'S OFFICE
DATE 6/1/16 TIME 12:55
SERVED BY Melissa McDonald
RECEIVED BY

Santa Fe River Commission Agenda
Thursday, June 9, 2016 (Round House Room), 6 pm to 8 pm
City Offices at the Market Station Building at the Rail yard
500 Market Street, Suite 200, Santa Fe, NM
505-955-6840

1. **ROLL CALL**
2. **APPROVAL OF AGENDA**
3. **APPROVAL OF MINUTES FROM MAY 12, 2016**
4. **Communication from other Agencies/Committees**

5. **INFORMATION/DISCUSSION/ACTION:**

   a) **Chapter 25 Code Re-write (Andrew Erdmann)**
   b) **Living River Releases (Alex Puglisi, Melissa McDonald)**

   c) **Reports from sub-committees**
      - Watershed Revitalization, Emile Sawyer
      - Promoting a Living River, John Buchser
      - Species Resiliency, Zoe Isaacson
      - Outdoor Economy, Luke Pierpont

6. **MATTERS FROM COMMISSIONERS**
7. **MATTERS FROM SUBCOMMITTEES**
8. **MATTERS FROM STAFF** – Project Updates, Stormwater Resolution, etc...
9. **SUB-COMMITTEE BREAKOUT SESSION (optional)**
10. **CITIZENS' COMMUNICATION FROM THE FLOOR**
11. **ADJOURN**

Next Scheduled for the River Commission is July 14, 2016
Packet Material due by July 6, 2016
Persons with disabilities in need of accommodations, contact the City Clerk's office at (505) 955-6521 five (5) working days prior to the meeting date.

Santa Fe River Commission
Meeting Index
June 9, 2016

Cover Sheet		0
Call to Order	Mr. John Buchser, Chair called the meeting of the Santa Fe River Commission to order at 6:03 p.m. at 500 Market Station, Santa Fe, NM.	1
Roll Call	A quorum was established by roll call.	1
Approval of the Agenda	*Ms. Hansen moved to approve the Agenda as presented with a second from Mr. Jacobi which passed by voice vote.*	1
Approval of Minutes from April 14, 2016 and May 12, 2016	*Ms. Hansen moved to approve the minutes of April 14, 2016 as amended previously with a second from Ms. Isaacson which passed by voice vote.* CORRECTIONS FOR MAY MINUTES Page 3 ~~Mr. Kerry~~ change to Mr. Steve Cary, and ~~Ms. Hanses~~ change to Ms. Hansen *Mr. Pierpont moved to approve the minutes of May 12, 2016 as amended with a second from Ms. Doremus which passed by voice vote.*	1 2
Communication from other Agencies/Committees	Discussion Only	2
Information/Discussion/Action a.)Chapter 25 Code Re-Write (Andrew Erdmann) b.) Living River Releases (Alex Puglisi, Melissa McDonald) c.) Reports from Subcommittees • Watershed Revitalization-Emile Sawyer • Promoting a Living River- John Buchser • Species Resiliency-Zoe Isaacson • Outdoor Economy-Luke Pierpont	Discussion Only *Ms. Doremus moved the Santa Fe River Commission to recommend to the Governing Body that they view the Upper River as important significance to support a healthy river and riparian ecosystem including the Santa Fe Canyon Preserve, with a second from Ms. Hansen which passed by voice vote.* Discussion Only	2 2,3,4 4
Matters from Commissioners	Discussion Only	4
Matters from Subcommittees		4
Matters from Staff-Project Updates, Stormwater resolution, etc.	Discussion Only	5
Sub-Committee Break Out Session		5
Citizen's Communication From the Floor	Discussion Only	5
Adjourn	There being no further business to come before the Santa Fe River Commission Ms. Hansen moved to adjourn at 8:11 p.m. with a second from Mr. Pierpont which passed by voice vote.	5
Signature Page		5

Santa Fe River Commission
Meeting Minutes-June 9, 2016
500 Market Street Santa Fe, New Mexico
6:00-8:00 p.m.

CALL TO ORDER
Mr. John Buchser, Chair called the meeting of the Santa Fe River Commission to order at 6:03 p.m. at 500 Market Station, Santa Fe, NM. A quorum was established by roll call.

1. ROLL CALL

Present
John R. Buchser, Chair
Phil Bové, Vice Chair
Jerry Jacobi
Dale Doremus
Anna Hansen
Luke Pierpont
Zoe Isaacson

Not Present/Excused
Emile Sawyer
F.M. Patorni

Others Present
Melissa McDonald, Santa Fe River Watershed Coordinator, City of Santa Fe Staff
Andy Otto, Santa Fe Watershed Association
Raquel Baca-Thompson, Santa Fe Watershed Association
Bob Findling, The Nature's Conversancy
Alex Puglisi, Santa Fe Water Division
Alan Hook, Santa Fe Water Division
Kelley Brennan, City Attorney
Neil Williams
Linda Vigil, Stenographer

2. APPROVAL OF THE AGENDA

***MOTION:* Ms. Hansen moved to approve the Agenda as presented with a second from Mr. Jacobi which passed by voice vote.**

3. APPROVAL OF THE MINUTES FROM April 14, 2016 and May 12, 2016

***MOTION:* Ms. Hansen moved to approve the minutes of April 14, 2016 as amended previously with a second from Ms. Isaacson which passed by voice vote.**

CORRECTIONS FOR MAY MINUTES

Page 3 ~~Mr. Kerry~~ change to Mr. Steve Cary, and ~~Ms. Hanses~~ change to Ms. Hansen

***MOTION:* Mr. Pierpont moved to approve the minutes of May 12, 2016 as amended with a second from Ms. Doremus which passed by voice vote.**

4. COMMUNICATION FROM OTHER AGENCIES/COMMITTEES

There was no communication from other agencies/committees.

5. INFORMATION/DISCUSSION/ACTION

A.) Chapter 25 Code Re-write (Andrew Erdmann)

Ms. McDonald reported that Mr. Erdmann was called away on business and could not attend tonight. *See Exhibit A.*

Mr. Hook explained the whole section is going to be rewritten in sequence. The Water Division feels it needs to be rewritten.

B.) Living River Releases (Alex Puglisi, Melissa McDonald)

(See Exhibits B1-B9)

Chair Buchser explained the reasons the releases take place. Mr. Findling described the issue with the Santa Fe Canyon Preserve. There was restoration work done to the dam and the channel that flows to Cerro Gordo through a culvert. Mr. Findling discussed the issue with the low flow to the pond and the channel. Mr. Findling explained the preserve is used by many schools and the Audubon Center. Therefore if the flow stops the water will become stagnant and the vital ecosystem will be effected.

A discussion was held about the order from the OSE (Office of State Engineer) , the administrative procedures for the Santa Fe River Target Flow and the City Ordinance regarding the Santa Fe River Target Flow for a Living River Initiative and how these are all interpreted.

A discussion was held about the initiative and the priorities the City has to make deliveries downstream and to the acequias for irrigation purposes. Mr. Hook described the evaporation and losses that are a factor.

Mr. Puglisi discussed the bypass channel and the use for diversion as it was built for the seepage. The Cerro Gordo diversion is no longer on the natural channel from the Santa Fe River. Mr. Puglisi explained the work that would need to occur and the cost to the neighborhood. The culvert could not hold the flow otherwise.

A discussion was held about the interpretation of the "Upper Santa Fe River". Mr. Puglisi discussed the flows from McClure and Nichols pond would have to draw from storage to keep the Preserve alive.

Mr. Puglisi described there is not a water right allocated to TNC (The Natures Conservancy). The OSE would require permits for releases. Mr. Puglisi again explained the City's duty by ordinance to deliver to the water customers and acequias.

Mr. Puglisi discussed flood flows and the bypass channel. Flood management would need to come into play.

A discussion was held about the living river flows that are needed to meet the demand downstream. Ms. McDonald recovered a presentation from a public meeting in 2011regarding bypass flows in the Santa Fe River. The goal was to get water farthest downstream as possible.

Chair Buchser discussed the different interpretations and the balance that the ordinance needs. There should be some minimum flow to the preserve for the ecosystem to thrive, however the losses of flow to the living river will have to be taken into account.

Mr. Puglisi explained the City Council will have to make the decision on the amount that would get released. There is an infiltration study in the works now the data will have to be analyzed.

Mr. Bove stated there is some loss, nearly 30% but the bypass channel should be maintained at a low flow. Mr. Williams described the design of the diversion and monitored the flow for years. He believes the flow to Acequia Madre can be managed with a valve. When the area was owned by PNM the OSE ordered them to improve the bypass where it was overgrown. Once the City acquired the area there has not been any maintenance.

Mr. Williams described the stone sill between the gate that delivers to then to the Cerro Gordo is higher so the water has to rise above the gate to get there. At this time there is too much flow. Mr. Puglisi agrees that area could be improved.

Mr. Hook and Ms. McDonald discussed the levels will be lowered now that the Fishing Derby is over. Ms. McDonald stated those events are written in the ordinance.

Mr. Puglisi discussed the fact that OSE doesn't have statutory authority to regulate channel alignment. It cannot be impounded because there is an outlet and up to 10 acre feet can be detained in the pond.

Ms. Isaacson discussed the issues and believes the language can be changed in the ordinance and emphasizes what is most important which is to use the water most beneficially.

Ms. McDonald mentioned there are projects downstream that are relying on the flow. Ms. Isaacson suggested a study be done. Mr. Hook stated there were some seepage studies and service flows done a few years ago. The tricky part is the baseline and how wet is the channel below Cerro Gordo and the bypass channel.

Mr. Otto agrees the science would be crucial. Mr. Williams described where there are gauges and flumes that can be read. Mr. Williams stated when the sand filter plant was removed that was an important step. He suggested that the City daylight the water through a pipe and then a gravel bed. It could make a gravity ditch and deliver it to the acequia on the north side of the river. The bypass channel could then be for flood control.

Ms. Hansen agrees it is important to keep the preserve alive and rewrite the ordinance to describe it as part of the "Upper River".

Chair Buchser asked if is possible to provide to the preserve after deliveries are made. Mr. Puglisi states the City Council would have to make that decision. They were instructed not to divert to TNC unless instructed by the Council. Ms. Brennan stated it will have to make it through other committees and then to Council.

Ms. Doremus suggested a study group be formed to figure this out and look closely and at the administrative procedures and make recommendations. The administrative procedures were adopted by resolutions. Mr. Hook suggested as part of the study group that a visit to the area be conducted to see it the vegetation and understand the issues.

Mr. Bove stated he has to make deliveries on Tuesday and the water will be lowered by then. A subcommittee could be gathered to get answers and work out the details.

Mr. Jacobi asked if the water levels in the preserve pond have dropped below the pipe and if the flow stops when will it be depleted? Mr. Findling stated the head gate and the channel was modified that concluded delivery there was now flow and it dropped then it was increased then water went around the obstruction and has stayed sufficient.

A discussion was held about the leakage from the old pipes.

Ms. Brennan suggested the Commission make a motion to clarify the interpretation in the ordinance.

A discussion was held on the wording of the motion to be made.

***MOTION:* Ms. Doremus moved the Santa Fe River Commission to recommend to the Governing Body that they view the Upper River as important significance to support a healthy river and riparian ecosystem including the Santa Fe Canyon Preserve, with a second from Ms. Hansen which passed by voice vote.**

c.) Reports from Sub-committees

There was not enough time to hear each subcommittee reports, those not heard will be tabled until the next meeting.

- Watershed Revitalization-Emile Sawyer
- Promoting a Living River-John Buchser
- Species Resiliency-Zoe Isaacson
- Outdoor Economy-Luke Pierpont

Mr. Otto discussed the options for the benches and would like feedback via email. *See Exhibits C1 and C2.* PNM will hold an announcement event at 2:00 pm on June 15, 2016 near the State Land Office.

6. MATTERS FROM COMMISSIONERS

Mr. Jacobi asked about the discharge down by the bypass out of Nichols and where will it go? Mr. Puglisi stated the gate stays open. It is mean to control flows but that is not part of lowering the amount.

7. MATTERS FROM SUB-COMMITTEES

See above.

8. MATTERS FROM STAFF

Ms. McDonald will send an email with all updates. The Stormwater Resolution will go before the Sustainable Committee then onto City Council on July 27, 2016.

Chair Buchser announced he will not be able to attend the next meeting. Ms. Hansen will not be able to attend the next two meetings. Ms. McDonald will make sure there is still a quorum.

9. SUB COMMITTEE BREAK OUT SESSION (OPTIONAL)

10. CITIZEN'S COMMUNICATION FROM THE FLOOR

There were no communications from the floor.

11. ADJOURN

***MOTION:* There being no further business to come before the Santa Fe River Commission Ms. Hansen moved to adjourn at 8:11 p.m. with a second from Mr. Pierpont which passed by voice vote.**

SIGNATURES

FOR **John Buchser, Chair** CO-CHAIR

Linda Vigil, Stenographer

25-8 VOLUNTARY RIVER CONSERVATION FUND.

25-8.1 Title; Authority.

A. [redacted] shall be known as the Voluntary River Conservation Fund and is enacted pursuant to the express statutory authority conferred upon municipalities to enact ordinances pursuant to its police power [redacted] and pursuant to legislation that recognizes and promotes the public welfare and the conservation of water within a municipality and the right of a municipality to acquire and hold unused water rights in an amount no greater than its reasonable needs within forty (40) years ([redacted]). It is also adopted pursuant to the city of Santa Fe's powers under its municipal charter, adopted effective March 15, 1998, pursuant to the Municipal Charter Act, [redacted]

B. The city of Santa Fe is a charter municipality, empowered to make and enforce all laws concerning municipal affairs, subject to limitations of the city charter and the constitution and laws of the state of New Mexico. A reasonable exercise of municipal authority includes planning for the operation and growth of the municipal water utility, and planning for orderly urban development. Such planning includes the regulation of the amount and types of uses of water from the city's system to ensure that a reliable source of water exists to meet water requirements of the existing customers and that additional supplies of water in the system can be allocated for the care, conservation, and preservation of the waterways that pass by and through the city, in a manner consistent with priorities established by the governing body.

25-8.2 Voluntary River Conservation Fund.

A. The city shall create a voluntary contribution program/voluntary check-off provision on its monthly utility billing statements for the citizens to donate money to the city for deposit in the voluntary river conservation fund.

(1) Money deposited in the voluntary river conservation fund before March 16, 2013, shall be dedicated to the purchase, acquisition, long-term leasing of consumptive water rights in quantities sufficient to sustain the total water demand for either a living Santa Fe River or for the preservation and continuation of sufficient water flowing through the Rio Grande.

(2) Money deposited in the voluntary river conservation fund after March 16, 2013, shall be dedicated to projects that improve the flow of water in the Santa Fe River in ways that enhance the ecosystems of the Santa Fe River and its riparian corridor.

B. The governing body shall review for approval projects that are to be funded with voluntary river conservation funds.

[redacted]

C. The city shall make public on at least an annual basis regular reports of all funds allocated and all purchases, acquisition, leases of water rights made and proposed, ongoing and completed projects resulting from the use of the voluntary river conservation fund.

D. Subject to the Bateman Act, the city shall appropriate sufficient funding that matches (on a dollar for dollar basis) on an annual basis all money that is contributed by the public to the voluntary river conservation fund.

25-13 SANTA FE RIVER TARGET FLOW.

25-13.1 Short Title.

[redacted] may be cited as the "Santa Fe River Target Flow Ordinance."

25-13.2 Legislative Findings.

The governing body finds that:

A. Through the adoption of [redacted], [redacted] and [redacted] the governing body authorized the city to support a living Santa Fe River by allowing water to bypass McClure and Nichols reservoirs in 2009, 2010 and 2011.

B. The Santa Fe river is an important element of the city of Santa Fe and the city's origin was due to the existence of the river.

C. There is widespread community support for maintaining a living Santa Fe river for recreational and cultural purposes.

D. A healthy river provides riparian habitat for wildlife and minimizes erosion and flood damage, removes pollutants from storm water and helps recharge groundwater.

[redacted]

F. Implementation of this ordinance will not cause the city to operate the municipal water utility in any way that is inconsistent with any local, state or federal rules, regulations or laws.

25-13.3 Purpose.

The purpose of [redacted] is to formalize the city's commitment to provide for a target flow within the Santa Fe River in order to enhance and further the objective of restoring the Santa Fe river as a living river by committing to use up to one thousand (1,000) acre-feet per year (AFY) of the city's water supply, depending upon hydrologic conditions in the Santa Fe River watershed. This section shall be interpreted to further this objective.

25-13.5 Santa Fe River Target Flow.

The city water division shall operate the city's system of reservoirs to ensure that a bypass target flow of up to one thousand (1,000) AFY of river water flows into the Santa Fe river below Nichols reservoir. In average and wet conditions, the target flows will be one thousand (1,000) AFY. In drier years, seventy-five percent (75%) of the average watershed yield or less, the target flows shall be scaled in such a way that the target flows will equal the percentage anticipated watershed yield multiplied by one thousand (1,000) AFY. When the anticipated watershed yield is equal or less than thirty percent (30%) average watershed yield, the target flows will be three hundred (300) AFY. Additional information regarding the daily target flow pattern is provided for in the administrative procedures. Water that is released and/or spilled for flood management will count toward the daily target flows and target hydrograph when the flows are within the daily target flows of the target hydrograph. If water greater than the daily target flows is released or spilled into the river, the quantity of water that exceeds the daily bypass target flow will not be counted toward the target hydrograph. Except for flood management as described above, the water for the target hydrograph shall not include water released for any other purpose at the time of release, provided that nothing in this section shall require the release of bypass water if the release might jeopardize the city's water right under [redacted].

25-13.6 Coordination with Santa Fe River Community Events.

When possible, target flows and target hydrographs shall be patterned to support community events scheduled along the Santa Fe river.

25-13.7 Water Emergency Target Flow Adjustment.

A. Pursuant to [redacted], upon declaration of a water emergency, the city manager is authorized to adjust target flows to the Santa Fe river.

(1) For the "Water Warning — Orange" implementation stage, target flows to the Santa Fe river may be suspended.

(2) For the "Water Emergency — Red" implementation stage, target flows to the Santa Fe river shall be suspended.

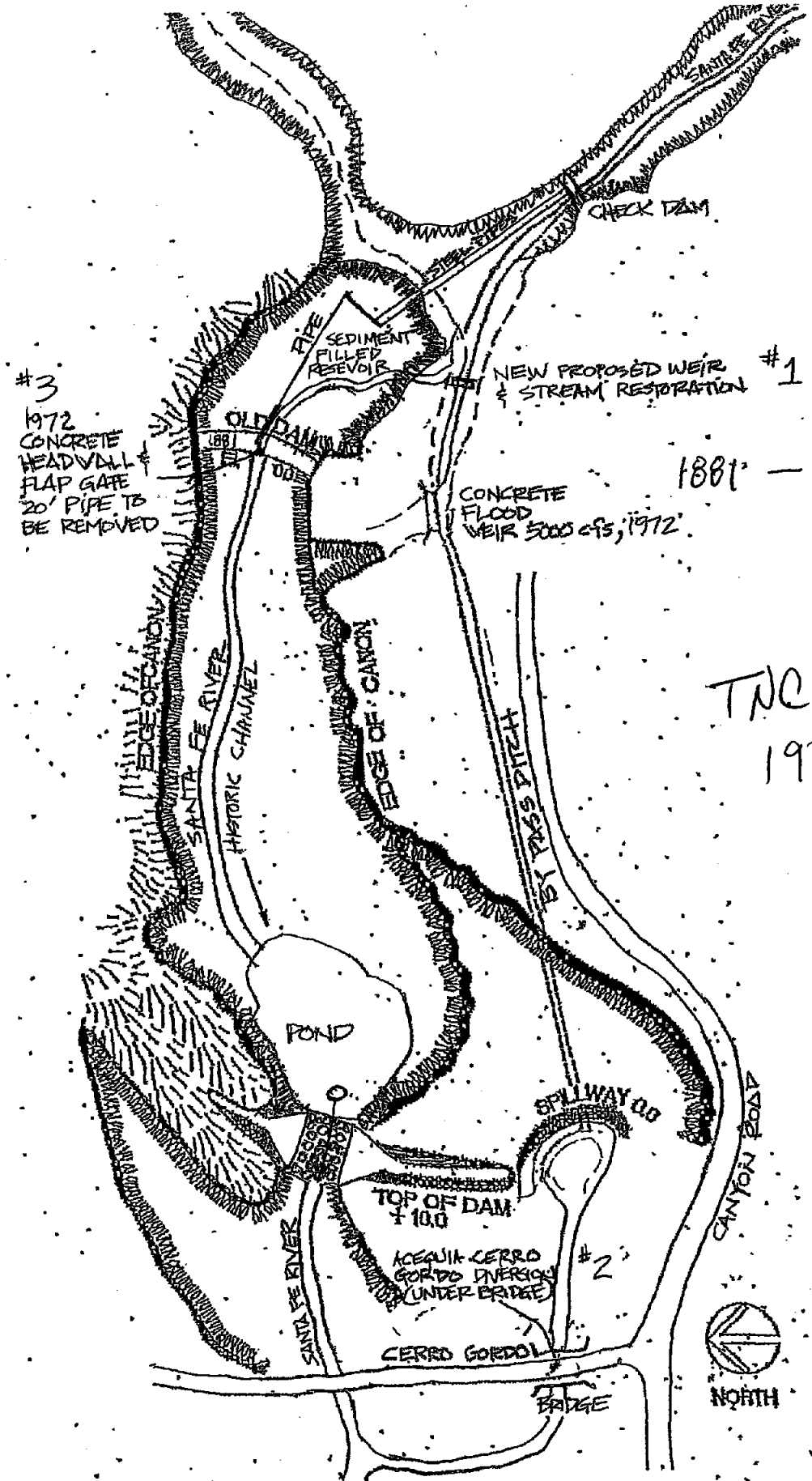
B. The administrative procedures provide the detailed process for adjusting target flows to the Santa Fe river during a declared water emergency.

25-13.8 Reporting and Review.

Annually city staff shall provide a report to the governing body summarizing the previous year's target flows and projection for the next year's target flows. The annual report shall provide the governing body the opportunity to review this section. Additional information regarding accounting and reporting is provided for in the administrative procedures.

25-13.9 Effective Date.

This section shall become effective five (5) days after publication of adoption.



1/1 HISTORIC PLAN OF DAM AT SANTA FE, NM

BASED ON ENGINEERING NEWS, 197 [redacted] SCALE

CITY OF SANTA FE, NEW MEXICO

RESOLUTION NO. 2012-28

INTRODUCED BY:

Mayor Coss
Councilor Bushee

A RESOLUTION

ADOPTING ADMINISTRATIVE PROCEDURES FOR THE SANTA FE RIVER TARGET FLOW ORDINANCE, ARTICLE 25-13 SFCC 1987.

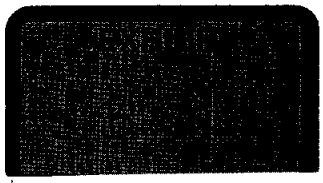
WHEREAS, through the adoption of Resolution No. 2009-47, Resolution No. 2010-15 and Resolution No. 2011-28 the governing body authorized the city to support a living Santa Fe River by allowing water to bypass McClure and Nichols reservoirs in 2009, 2010 and 2011; and

WHEREAS, the origin of the City of Santa Fe was due to the existence of the Santa Fe River, and the subsequent history of Santa Fe, the development of the City's unique culture, and the development of tourism in Santa Fe depended on the River; and

WHEREAS, there is widespread community support to revive the Santa Fe River for recreation and wildlife habitat; and

WHEREAS, in on-going effort to support a living Santa Fe River, on February 29,2012 the Governing Body adopted Ordinance No. 2012-10 which established the Santa Fe River Target Flow Ordinance ("Ordinance"), Article 25-13 SFCC 1987; and

WHEREAS, the purpose of the Ordinance is to formalize the City's commitment to



provide for a target flow within the Santa Fe River in order to enhance and further the objective of restoring the Santa Fe River as a living river; and

WHEREAS, there is a need to adopt and implement administrative procedures for the Ordinance that will guide City staff on how to implement the Ordinance in order to provide target flows to the Santa Fe River.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF SANTA FE that the Governing Body hereby adopts the *Administrative Procedures for the Santa Fe River Target Flow Ordinance, Article 25-13 SFCC 1987*, attached hereto as Exhibit A.

PASSED, APPROVED, and ADOPTED this 29th day of February, 2012.

DAVID COSS, MAYOR

ATTEST:

YOLANDA Y. VIGIL, CITY CLERK

APPROVED AS TO FORM:

GENO ZAMORA, CITY ATTORNEY

M/Melissa/Resolutions 2012/2012-28 Santa Fe River Target Flows Adm Procedures Reso

Exhibit A

CITY OF SANTA FE

ADMINISTRATIVE PROCEDURES FOR SANTA FE RIVER TARGET FLOWS

Adopted by: Resolution No. 2012-28
Date Adopted: February 29, 2012

Table of Contents

Article I: Introduction

These administrative procedures describe how City staff will implement Section 25-13 SFCC 1987 to provide 1,000 AFY in target flows to the Santa Fe River.

As the City of Santa Fe has worked in recent years to further diversify its water supply portfolio, it has also worked on a range of initiatives to make substantial improvements along the Santa Fe River and within the river's broader watershed. These improvements have included forest management practices in the upper watershed; riparian rehabilitation projects along the entire river corridor; a variety of erosion control and storm water management projects; construction of significant new reaches of the Santa Fe River Trail; and enhancements within the City's parklands along the river's banks. Consistent with these efforts to protect the City's water supply, improve the drainage and hydrologic functions of the river system, support greenery, shade and wildlife habitat, and to beautify the corridor with aesthetic enhancements, the City also seeks to increase water flows in the river below the City's reservoirs.

A commitment to manage water resources in ways that allow for a programmatic approach to provide for water flows in the Santa Fe River is consistent with the City's Long Range Water Supply Plan (LRWSP). The LRWSP states that, "The City will provide water to maintain a living Santa Fe River, except under drought or emergency conditions." Further, the Plan states, "After the BDD (the Buckman Direct Diversion facility) is online in 2011 and barring legal restrictions, the City will, in accordance with public input, initially release approximately 1,000 AFY [acre feet per year] of water from the Santa Fe River canyon reservoirs to the Santa Fe River, except under drought or emergency conditions."

Following successful river flow programs that were implemented during 2009, 2010 and 2011, the City now seeks to formalize its commitment to provide for river flows in the Santa Fe River in future years. These Administrative Procedures, along with enabling legislation (City ordinance and resolution), establish an approach to codify and give guidance for the City's river flow commitment.

Prior year flows administered for the Santa Fe River yielded valuable information regarding the management of flow regimes; resulted in positive impacts within the riparian corridor; and were extremely popular with people who visited the river, experienced water flowing through the City, and sat or played along the river's banks. These Administrative Procedures address issues such as ideal and contingent flow scenarios; flow volume accounting procedures; adjustments to flow scenarios due to water surpluses or shortages; and other operational details.

Article II: Title, Authority, Applicability, Purpose & Interpretation

2.1 **Title.** Administrative Procedures for Target Flows in the Santa Fe River shall be cited and referred to herein as the "Administrative Procedures."

2.2 **Authority.** Administrative Procedures for Target Flows in the Santa Fe River are adopted pursuant to the Santa Fe River Target Flow Ordinance, Article 25-13 SFCC 1987 and Resolution No. 2012-____.

2.3 **Applicability.** Pursuant to the Santa Fe River Target Flow Ordinance, these Administrative Procedures apply to target flows on or after February 29, 2012, the date of adoption of the Santa Fe River Target Flow Ordinance.

2.4 **Purpose.**
Ord. No. 2012-10 directs the City of Santa Fe to bypass flow to the Santa Fe River downstream of Nichols Reservoir. These administrative procedures describe the means and methods by which the flows will be administered, monitored, measured, adapted to variable conditions and reported in order to ensure that the objectives for the flows are met to the greatest extent possible.

2.5 **Interpretation.**
These Administrative Procedures shall be liberally interpreted to accomplish the purposes set forth in Article 25-13 To the extent of ambiguity, omission or clear error in these Administrative Procedures, City staff and the flow manager shall have authority to interpret and clarify any such matter during implementation of these regulations and procedure so as to effectuate the intent of Article 25-13.

Article III - Definitions of Terms and Phrases

Defined Terms and Phrases. The following defined terms and phrases shall apply to the Administrative Procedures.

1. **"above McClure gage":** the stream gaging station 08315480 (or 08315479 for low flows) located above McClure Reservoir; this is the measuring point for flows entering McClure Reservoir.
2. **"acre-foot (af)":** a quantity or unit of water that is equal to the amount of water required to fill an area of 1 acre with 12 inches (i.e., 1 foot) of water; one acre-foot is equal to 325,851 gallons.
3. **"actual daily flow":** the daily rate of stream flow at the below Nichols gage as recorded by the flow operator.
4. **"annual target":** the quantity of water in af to be bypassed to the river based upon anticipated watershed yield, within the target year.
5. **"anticipated watershed yield":** the expected annual yield of water to the Santa Fe River and the municipal reservoirs within the Santa Fe River upper watershed, expressed as the percentage of the historical average; the anticipated watershed yield is estimated as of April 15th using the best available information including the amount of snow, both as depth (in inches) and snow-to water equivalent (in inches) at the weather stations in the upper watershed (Santa Fe and Elk Cabin); the Santa Fe Basin forecast predictions from Natural Resource Conservation Service (NRCS); weather forecast from the National Weather Service and NOAA; and any other pertinent appropriate weather-related information.
6. **"below Nichols gage":** the stream gaging station 08316505 located below Nichols Reservoir, or at a comparable location of measurement at or below the outlet from Nichols Dam; this is the measuring point for target flows administration under these Administrative Procedures.
7. **"Buckman Direct Diversion Project (BDD)":** a water supply project that provides water supply to the region using the San Juan Chama Project water and Rio Grande surface waters; the project began producing water in January of 2011 and is expected to be fully operational by July of 2011.
8. **"bypass constraint":** an operating principle that requires the rate at which water is passed through the outlet works of Nichols Reservoir dam is always equal or less than the stream inflow at the 'above McClure' gage.
9. **"bypass flows":** generally, water that flows past a diversion or storage facility. In these Administrative Procedures, it refers to water that the City chooses not to store in the municipal reservoirs and thus allows to flow to the Santa Fe River below Nichols Reservoir

provided that the rate at which the bypass flow is passed through the outlet works of Nichols Reservoir dam is always equal to or less than the stream inflow at the 'above McClure' gage.

10. **"critical-dry year":** a year in which the anticipated watershed yield is less than 30% of the historical average watershed yield.
11. **"critical-dry year hydrograph":** the graphical representation of the desired target flows in critically dry years in which the annual discharge is 300 afy.
12. **"cubic feet per second (cfs)":** a *rate* of water flow; one cubic feet per second equals two acre-feet per day and 0.65 million gallons per day
13. **"daily target flow":** the desired daily stream flow at the below Nichols gage.
14. **"dry year":** a year in which the anticipated watershed yield is between 30% and 75% of the historical average watershed yield.
15. **"dry year hydrograph":** the graphical representation of the desired target flows in dry years in which annual discharge is scaled down from 1000afy (to between 300 and 700 afy) based on decreased, anticipated watershed yield.
16. **"flow manager":** a member of City of Santa Fe staff responsible for managing releases of water to the River, record-keeping, reporting, and determining changes to daily target flows as prudent under adaptive management; the flow manager is the River and Watershed Coordinator, unless otherwise designated by the City Manager.
17. **"flow operator":** a water Division staff member responsible for making water utility system adjustments to meet the daily target flow and for measuring and recording the actual stream flow.
18. **"historical average watershed yield":** the average of annual yield of stream flow in the Santa Fe River within the Santa Fe River upper watershed as determined by stream flow measurements at USGS gage 08316000 (Santa Fe near Santa Fe) and USGS gage 08315479 and 08315480 (18-inch and 8-foot above McClure Reservoir, respectively); between 1914 to 2007 the average annual yield measured at Santa Fe near Santa Fe gage was 4,909 af.
19. **"hydrograph":** a graphic representation of the variation in stream discharge, in cubic feet per second, plotted against time.
20. **"municipal reservoirs":** the reservoirs on the Santa Fe River in the upper watershed - Nichols and McClure with 684 and 3,256 acre-feet of capacity, respectively.
21. **"natural hydrograph":** the graphical representation of stream flow as it varies over time in response to climatic (snow melt, precipitation) and man-made (storage, urban storm flow runoff) conditions. The natural hydrograph herein refers to the condition prior to the addition of the target flows governed by these Administrative Procedures, as measured on the Santa Fe River at the existing stream gage locations.
22. **"public process":** the public engagement and community outreach process through which the objectives for river flows were developed. From December 2010 through February 2011 input was gathered through conversations with over thirty stakeholders (including many River Commissioners) and two community meetings with over ninety, culturally and generationally diverse participants.
23. **"river":** The Santa Fe River reach that begins below Nichols Reservoir
24. **"release flows":** the flows from the outlet works of Nichols Reservoir that are discharged from Nichols dam in order to manage flood or potential flood flows.
25. **"spills":** flows from Nichols Reservoir that are discharged over the Nichols dam spillway when the reservoir is full.
26. **"target flows":** the daily, seasonal or annual amount of water (as a volume or a rate) desired in the river as measured at the below Nichols stream gage. The quantity is variably identified in various sections of the Administrative Procedures depending upon the anticipated watershed yield.
27. **"target hydrograph":** means the graphical representation of the daily target flow

necessary to provide up to 1,000 acre-acre of water in the Santa Fe River as measured at the below Nichols gage. The quantity of water is variably identified in several sections of the Administrative Procedures for Target Flows in the Santa Fe River depending upon anticipated watershed yield.

28. **"target year":** the period beginning April 15th and continuing through April 14th the following year; this definition allows the flow manager to adjust the target flows as necessary according to anticipated watershed yield from the mountain snow pack.
29. **"upper river":** the reach in the river for which target flows are maintained year-round to support all aspects of a healthy riverine and riparian ecosystem; at a minimum as far as Two-Mile Pond, and ideally, as far as the head gate for the Acequia Madre.
30. **"water service":** water provided to a customer through the municipal water utility system.
31. **"water service emergency":** a situation that would cause an interruption in the Water Division's ability to provide water service or that threatens public health and safety.
32. **"water system":** the water utility system owned and operated by the City, and includes without limitation all the physical plant, wells, pumps, transmission and distribution facilities, water treatment facilities, storage facilities and all water rights and rights to water owned by the City for use in its water utility.

Article IV – Administrative Procedures

4.1 Objectives

4.1.1 Target Flow Objectives

a) Create an ecologically healthy vegetative corridor
b) Benefit the entire community with flows (e.g., equity)
c) Nurture a beautiful, natural urban greenspace with water in an arid environment
d) Provide an educational resource for schools and steward the resource for the community

4.1.2 Adaptive Management to Address Objectives and Purpose

The hydrographs presented in these Administrative Procedures provide guidance, or examples, for the administration of flows in a manner that meets the objectives and purpose of the target flows. Actual flows may be adjusted in response to watershed yield forecasts, evolving seasonal conditions and/or feedback from monitoring. When changes to daily target flows are necessary or merited (i.e., adaptive management), the flow manager and/or flow operator shall take into consideration the objectives identified above and the purpose identified for the various components of the hydrographs.

4.2 Target Hydrograph and Target Flow Seasons

4.2.1 Target Hydrograph and Target Flows

The target hydrograph (Figure 1) contains stream flow targets in cfs and af and a schedule for increasing and decreasing flows. The total volume of the target hydrograph is 1,000 afy. The target hydrograph will be adjusted in dry and critical-dry years to conform with the dry year hydrographs and critical-dry year hydrograph as described in Section 3. The schedule is approximate and subject to modification under the guidelines in the Article 4.11: Adaptive Management.

The target hydrograph includes the following aspirational goals:

- **Low Flows for the Upper River.** Flows are 0.3 cfs during the colder season from mid-

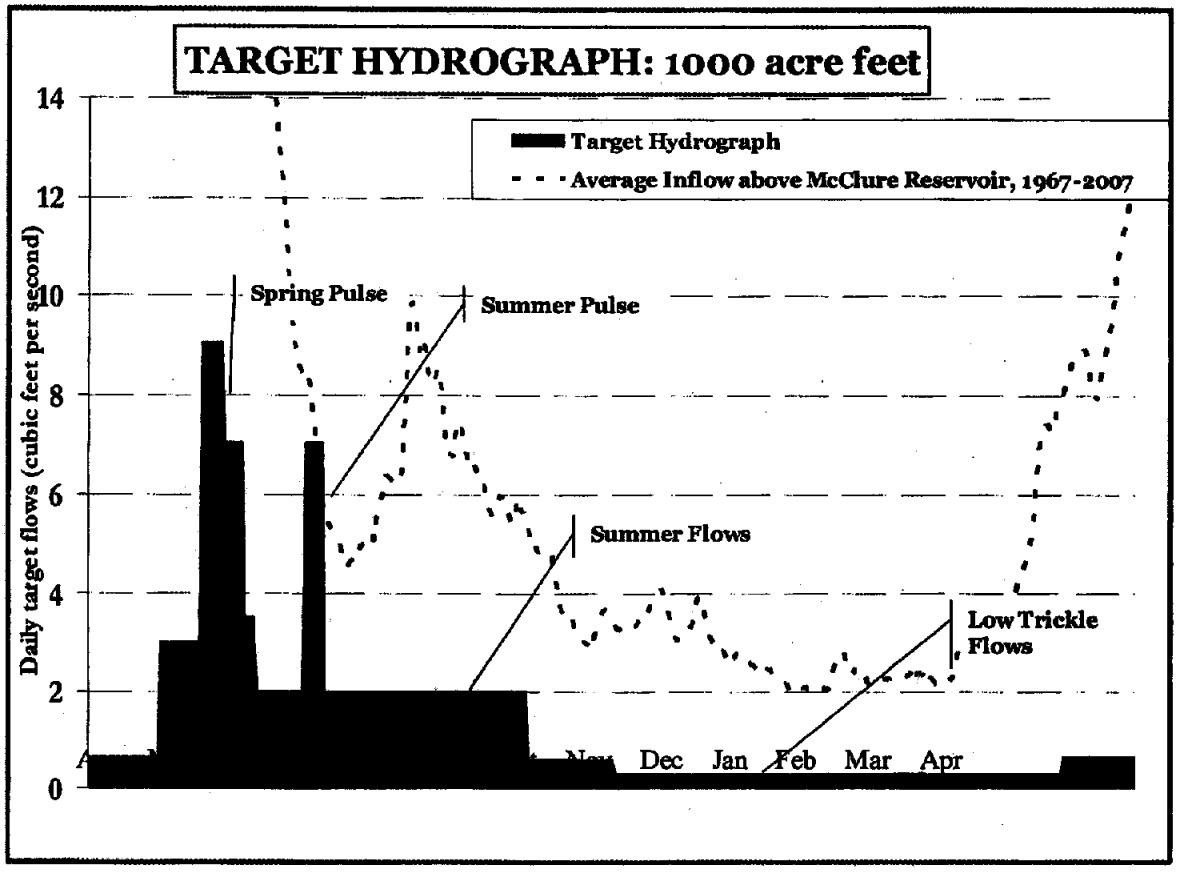
October to mid-March when vegetation is dormant. Flows increase to 0.6 cfs from mid March to early May and from mid-September to mid-October. The purpose of the mid-September to early May flows is to provide for flows in the upper river to:

- support plant life with irrigation and maximize riverine and riparian ecological health;
- recharge ground water, subsurface flows and bank storage during periods of plant dormancy to increase availability of water in the warmer months;
- maintain a wet environment to support the life cycles of macroinvertebrates;
- recharge local groundwater and sub-surface flows;
- ensure a wetted river bed so that spring and summer flows will travel farther and more efficiently along the river course.

- **Spring Pulse.** Flows are 3 cfs for two weeks beginning in early May, then increase to 9 cfs for a week following, and then drop to 7 cfs for a week in early June. The purpose of the spring pulse is to provide as much water to the river reach (including San Ysidro crossing and the intersection with Route 599) as feasible. The timing and magnitude of the spring pulse is designed to provide necessary flows through downtown for the Fishing Derby and River Festival and for the blessing of the river in the village of Agua Fria around the day of San Ysidro, patron of the crops. The purpose of the spring pulse is to:
  - mimic natural spring runoff that is provided by the melting of accumulated winter snows;
  - irrigate the trees and other vegetation along the river corridor to support the typical spring time activities within tree/plant (and faunal) annual life cycles as plants are beginning to draw water, beginning to produce buds and leaves;
  - extend surface water flows as far as possible with the objective of reaching beyond the San Ysidro crossing down to the City's Waste Water Treatment Plant;
  - recharge local groundwater and sub-surface flows;
  - continue the process of ground water recharge that will benefit plant life into the summer months.
- **Summer Flows.** Flows are an average of 2 cfs from mid-June to mid-September. The flow manager may increase or decrease the flow rates to meet flow objectives, with particular regard for major events in Santa Fe, provided that the average is maintained and flows are not reduced below .3 cfs.

  The purpose of the summer flows is to:
  - provide flows through downtown, and the Santa Fe River Park, for aesthetic and social benefit;
  - supply irrigation to enhance the river's function as an appealing urban greenbelt;
  - recharge local groundwater and sub-surface flows;
  - maintain the wetted river bed so that flows from rainfall events will travel downstream farther and more efficiently.
- **Summer Pulse.** Flows are 7 cfs for one week in early July. The purpose of the summer pulse is to:
  - push flows once again downstream to San Ysidro Crossing and the river's intersection with Route 599 during the hot and dry periods in advance of the summer monsoon rains;
  - sustain vegetation during the hottest time of year, with moisture for new/germinating seedlings, and ultimately enhancing the river corridor as an appealing urban greenbelt;
  - provide flows for river bank irrigation and wetting of the river bed in the period between spring runoff and the likely arrival of monsoon rainfall.

Figure 1



4.3 Dry and Critical-Dry Year Target Flow Reductions

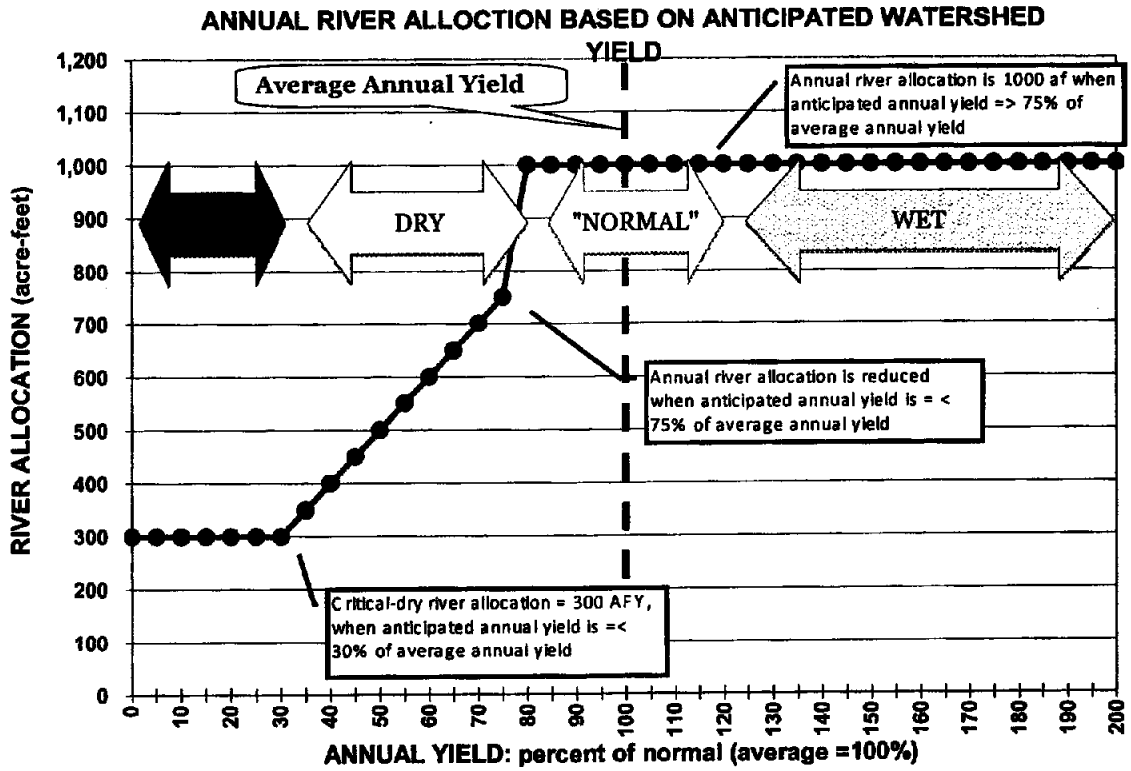
4.3.1 Reduction of Target Flows in Dry and Critically Dry Years

A dry year is defined as a year in which the anticipated watershed yield is equal to or less than 75% but greater than 30% of historical average. A critical-dry year is a year in which the anticipated watershed yield is equal or less than 30% of the historical average. In dry and critical-dry years, the total volume of the target hydrograph (1,000 af) will be reduced, by multiplying 1,000 by the percentage of the anticipated watershed yield:

$$TargetHydrograph \times AnticipatedWatershedYield_{yearX} = target\ flows_{yearX}$$

For example, in a year where the anticipated watershed yield is 65% of average, the target flow for the target year is calculated by 1,000 afy x 65% = 650 af. The reduction calculation is depicted graphically in Figure 2.

Figure 2



4.3.2 **Dry Year Hydrographs**

In dry years, the flow manager will allot the timing and magnitude of the daily target flows in a manner consistent with the following guidelines:

(a) reduction in summer flows,

(b) scaling-down – but not eliminating – the spring pulse and,

(c) reduction in low flows from 0.30 cfs to 0.15 cfs.

The timing and magnitude of dry year target flows for 700 af, 600, afy, 500 afy, and 400 afy are described in the Dry Year Hydrographs in Appendix A.

While scaling back the quantity of the annual target flow in dry years, the priority is to provide for spring and summer pulses to fulfill the purposes of the pulses as outlined for the 1000 afy target flow in section 4.2.1 above.

4.3.3 **Critical-Dry Year Hydrograph**

In critical-dry years, in which the total target flows equal 300 af per target year, the daily target flows will be managed in a manner consistent with the following guidelines and as illustrated by Figure 3:

a) sustained low flows of 0.15 cfs,

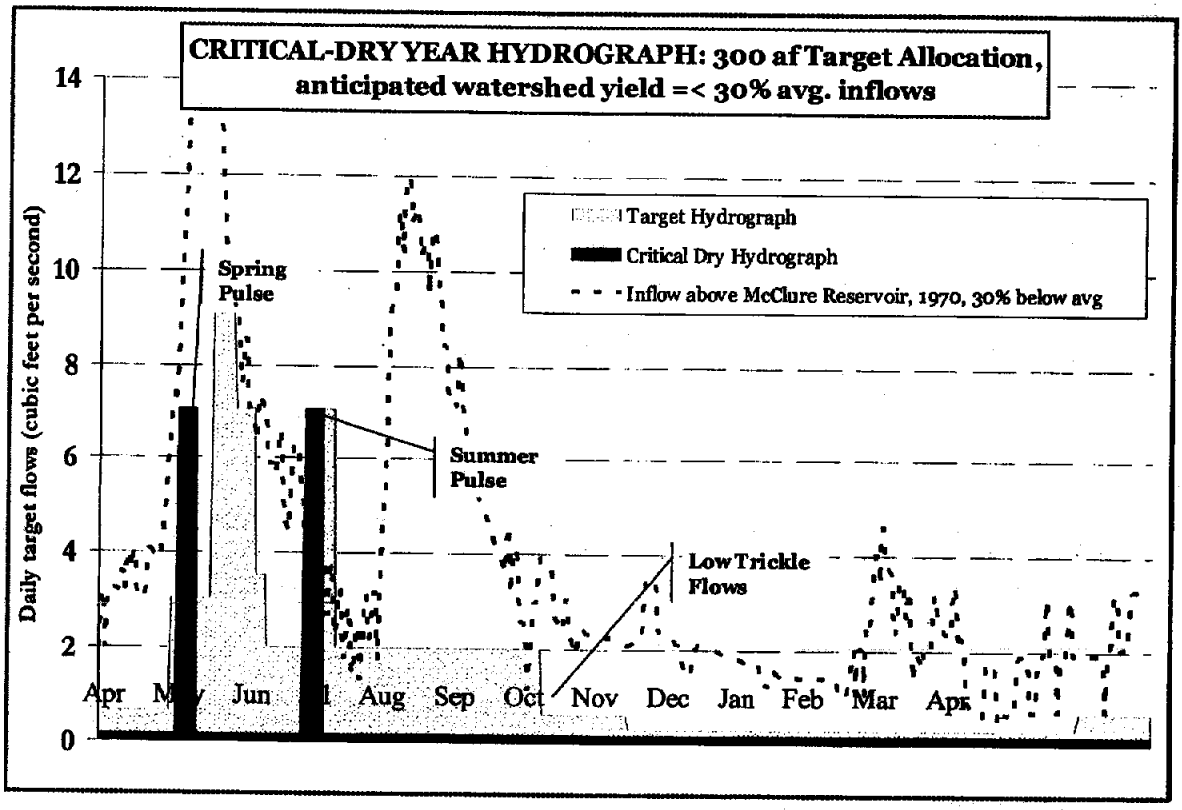
(b) one spring and one summer pulse, each of approximately 100 afy.

The schedule of the pulses shall generally follow the timing of the pulses in the target

hydrograph. The magnitude of the pulses shall be approximately 7 cfs, provided that the daily target flows are within the bypass constraint. The river shall retain flows of at least 300 afy barring an emergency or unforeseen infrastructure constraint (e.g., failure of Nichols's Reservoir outfall structure). The purpose of the critically dry year hydrograph is to maintain a wet corridor in the upper river for riverine and riparian ecological benefit while providing two downstream pulses for the purposes of the pulses as outlined for the 1000 afy target flow in section 4.2.1 above.

In critical-dry years, since the daily target flows for the Fishing Derby cannot be reliably met, the Fishing Derby will be suspended.

Figure 3



4.4 Wet Year Flows

During wet years, defined as when the anticipated watershed yield is greater than the historical average, the river will be allocated water according to the target hydrograph (e.g., 1,000 afy) in the target year. In wet years, the actual daily flows will likely be greater because of flow contributions from reservoir flood management, and because of greater flows within the urban watershed. These greater daily flows will meet many of the objectives described in Article 4.1. Furthermore, the irrigation needs of the river corridor will be supplemented by the above-average spring precipitation. By not increasing the target hydrograph in a wet year, in wet years the City may be able to put the full amount of the City's Santa Fe River water rights under License 1677 to beneficial use and thus rest the City's well fields and use of local groundwater resources.

4.5 Management and Accounting of Releases and Spills

4.5.1 Management of Municipal Reservoir Flood Flows

The City manages the municipal reservoirs in part, in a way that protects the river and the urban watershed from floods. Flood management includes both the capture of peak inflows from the upper watershed and the management of release flows and spills from Nichols and McClure Reservoirs.

Pursuant to Article 25-13 SFCC 1987, the flow manager and flow operator are directed to manage, as much as possible, the release of flows and spills in a manner consistent with the target hydrograph and the objectives herein. This includes:

a) matching the timing and magnitude of the flows,
b) scaling the additional release flows in a manner which increases the magnitude of the spring pulse
c) discharging the release flows in a manner to augment the magnitude of the low flow.

4.5.2 Accounting of Releases and Spills vis-à-vis the Target Hydrograph

Water that is released and/or spilled for flood management will count toward the daily target flows and target hydrograph, when the flows are within the daily target flows of the target hydrograph. If water greater than the daily target flows is released or spilled into the river, the quantity of water that exceeds the daily target flow will not be counted toward the 1,000 afy of the target year. For example, if the total planned target flow for a period of May 20 to June 3 is 300 af, but necessary reservoir management results in actual flow of 1,000 af, then 300 af shall be counted toward the planned commitment and 700 af shall not be counted, provided that the 300 af met the daily flow targets desired under the target hydrograph.

The purpose of allowing water spilled or released to count toward the 1,000 af target hydrograph is so that the municipal water utility can store excess water in wet years for water supply to compensate for the additional use of groundwater required in critically dry years. The water released or spilled in excess of the target hydrograph and daily target flows cannot be stored and released for the river later in the season because of the water right and storage limitation discussed in the next section.

4.5.3 Except as described above in section 4.5.2, the 1000 acre-feet volume of water shall not include water released for any other purpose at the time of release.

4.6 Water Rights

4.6.1 Use of the City's Santa Fe River Water and Storage Rights

The City is not using any of the water rights under License 1677 and Declaration No. 01278 to comply with Article 25-13 SFCC 1987. The City will continue to periodically put all the water rights under License1677 and Declaration No. 01278 to beneficial use.

4.6.2 Bypass Constraint

In order the assure that the administration of Ord. No. xxxx does not adversely interfere with the storage, diversion and use of water under License 1677 and Declaration No. 01278, the flow manager and flow operator will manage the daily target flows in a manner such that the target flows will not come out of water stored under License 1677 and Declaration No. 01278 in the municipal reservoirs. This means that the City will not discharge water to the river that it has stored. To accommodate this constraint, the flow operator will regulate the daily target flow in a

manner such that discharges from Nichols Reservoir to the river shall not be greater than the daily inflow into McClure Reservoir; hence the flow operator will only bypass water for daily target flows.

4.6.3 **Recognition of Other Surface Water Right Users**

The City recognizes that there are other surface water right holders of Santa Fe River surface water, including those with partially adjudicated rights. Nothing in these Administrative Procedures should be construed to define, manage or be in conflict with the valid rights of other surface water right holders.

4.7 Management and Operational Procedures

Management and administration of daily target flows to the river require participation by the flow manager, flow operator, the Water Division director, other Water Division staff, and the River Commission Chair to ensure that flows are released in a timely manner according to the target hydrograph, dry year hydrographs, or the critically dry year hydrograph.

4.7.1 **Flow Management**

The flow manager, in consultation with the Water Division staff, shall be responsible for determining the quantity of water allocated to the target year based on the anticipated watershed yield. The flow manager will also determine the daily target flows of the target hydrograph, or deviations therefrom based on the anticipated watershed yield, by fitting the annual target and associated hydrographs to the upcoming target year. The flow manager will annually present the hydrograph for the upcoming target year to the River Commission at its April meeting for review. The flow manager will provide a copy of the target year hydrograph to the Water Division Director, the Water Division source of supply manager and the Level Four operators at the Canyon Road Water Treatment Plant for implementation.

When necessary, the flow manager may alter the daily flow targets in a manner consistent with the adaptive management objectives described in Section 11. These alterations may incorporate consultation with the River Commission Chair or designee, the flow operator, and the Water Division director. The flow manager will be the city's river and watershed coordinator or another member of city staff designated by the city manager. All adjustments to the daily target flow shall be made via email to the Water Division Director, the Source of Supply Manager, the Canyon Road Water Treatment Plant Level 4 Operators. The River Commission Chair shall be copied (cc:) on all communications directing the adjustment of daily target flows.

4.7.2 **Flow Operations**

The flow operator shall be the Water Division Source of Supply staff person on duty and responsible for controlling the daily release rates. The flow operator will adjust the discharge water from Nichols Reservoir in accordance to the daily target flow, and record the actual daily flow at the below Nichols gage. The flow operator may reduce the daily flow target to match daily inflow at the McClure reservoir, should the daily flow target exceed the daily inflow.

4.7.3 **Flow Adjustment Infrastructure**

The flow operator adjusts the daily target flows for the river by regulating the "splitter box" valve at the Canyon Road Water Treatment Plant control panel, and then sending a system operator to the below Nichols gage to see what effect the adjustment had on the actual instantaneous flow. Because of the cumbersome nature of this procedure, the daily flow targets in these Administrative Procedures are adjusted no more than weekly. Should, in the future, the outlet works be reengineered to be more nimble, and the below Nichols gage provide real time data, the daily target flows may be managed and adjusted more frequently, in particular in response to

climatic conditions.

4.8 Emergencies and Flow Adjustment

To help prevent an interruption in water service and to protect public health and safety, target flows to the river may be adjusted during a water emergency. Upon implementation of a Water Emergency Management Plan, target flows to the Santa Fe River will be adjusted pursuant to Chapter 25-5.6 and Exhibits C (Water Warning Orange) and D (Water Emergency – Red) SFCC 1987.

4.8.1 Water Emergency Implementation Stages

If the operational water system supply as determined by the water division director's sole discretion, equals between eighty percent (80%) and ninety-nine percent (99%) of operational water system demand, the city manager may declare a "Water Warning - Orange" water emergency implementation stage. If the operational water system supply as determined by the water division director's sole discretion, is less than eighty percent (80%) of operational water system demand, the city manager may declare a "Water Emergency - Red" water emergency implementation stage.

Chapter 25-5, Exhibit C (Amended: November 30, 2011 by Ord. No. 2011-38) states that under "Water Warning – Orange" water emergency implementation stage, target flows to the Santa Fe River may be suspended.

Chapter 25-5, Exhibit D (Amended: November 30, 2011 by Ord. No. 2011-38) states that under "Water Emergency – Red" water emergency implementation stage, target flows to the Santa Fe River shall be suspended.

4.9 Monitoring

The City shall monitor the impacts of providing daily target flows to the river, to determine whether the objectives identified in Section 4.1 are being met. Monitoring will provide the feedback necessary for the flow manager to institute adaptive management as identified in Article 4.11; and/or to amend these Administrative Procedures to ensure that the objectives and purposes of the target flows are being met to the fullest extent possible. City staff will coordinate and collaborate with community volunteers, local non-governmental organizations and other agencies to implement a monitoring program.

4.9.1 Stream flow

The City will continue to monitor stream flow (in cfs) at 15 minute increments at the below Nichols gage and the above St. Francis gage. Each of these gages will be calibrated periodically to assure high quality data.

4.9.2 Wetted Distance

The City, in conjunction with community volunteers and cooperating agencies, shall develop a methodology by which the distance the daily target flows have traveled can be measured.

4.9.3 Future Monitoring

The City shall consider additional river monitoring that will assist in adaptive management and in determining appropriate daily target flows in the future. Potential parameters include:

Soil moisture: to understand the water available for riparian vegetation under varying daily target flows, hydrographs, and climatic conditions;

Ecological health indicators: the presence, location, and characteristic of flora and fauna in the river corridor;

Storm flow peak: to understand if or the how the target flows have altered the timing and magnitude of urban storm runoff;

Water quality: to understand if or the how the target flows have altered the water quality in the river;

Surface water infiltration: to understand the temporal and spatial distribution of stream flow loss;

Surface/ groundwater interaction: to understand the fate of stream flow infiltration, and the contribution, if any, of groundwater to surface water.

4.10 Accounting and Reporting

4.10.1 Flow Accounting

The flow manager, with data provided by the Water Division and flow operator, shall account quarterly for the volume of water released per target year at the below Nichols gage using the assumption that all water passing the gage has either been discharged pursuant to Article 25-13 SFCC 1987, spilled or released. The flow manager shall make adjustments as necessary to manage the target year water allocation. The basis of the volumetric accounting will be the official below Nichols gage record, and shall identify the periods of time during which flow estimates were estimated (missing stream flow data results from frozen equipment, battery failure, equipment vandalism, etc). Interim estimates can be made using the actual daily flow as recorded by the flow operator and reported on the daily water report. Released or spilled water shall be accounted as described in Section 5.

4.10.2 Reporting

The City shall endeavor to keep elected officials, the River Commission, the city manager, the Water Division director and the public informed regarding the activities associated with Article 25-13 SFCC 1987. The reports outlined below identify specific reporting recommendations.

Report on Annual Target and Hydrograph for Upcoming Year

After April 15th, the flow manager will report by email to the River Commission, the Water Division director, Public Utilities Committee and the city manager the target year hydrograph based on the anticipated watershed yield. The report shall include the relevant information on which the anticipated watershed yield was based (e.g., NRCS basin forecasts, snow-to-water equivalent from SNOTEL sites in the upper watershed, climate predictions for the National Weather Service and NOAA). The target year hydrograph will be posted on the City's website.

Annual report

At the end of each year, the flow manager shall prepare reports which describe the previous year's activity relevant to Article 25-13 SFCC 1987. For the previous target year the report shall include the daily actual stream flow data (daily mean and cumulative), the annual volume released, and annual flow, a summary of routine or special activities along the river (e.g., Fishing Derby, River Festival) a description and explanation of deviations from the target hydrograph, observations or recommendations related to adaptive management, and an estimate of the amount of groundwater pumped to accommodate the daily target flows. For the current target year, the

report shall include the annual target quantity and the target hydrograph. The flow manager will submit the report to the River Commission, the Public Utilities Committee, the City Council, and post the report to the City's website.

Periodic Actual Stream Flow Report
The flow operator and Water Division staff will record and track actual daily flow at the below Nichols gage in an Excel-compatible spreadsheet. The flow operator shall send the electronic spreadsheet to the flow manager approximately monthly.

Daily Water Report
The flow operator and Water Division staff will report actual daily flow at the below Nichols gage on the Daily Water Report, which is emailed to any interested party and posted on the City's website.

4.11 Adaptive Management

4.11.1 Adaptive Management Goals

The goal of Article 25-13 SFCC 1987 is to provide for flows in the river, while providing the City with flexibility in managing both the water supply system and river flows. The target hydrograph, dry year hydrographs and critically dry year hydrograph are designed to match Article 25-13. \, and these Administrative Procedures, that the flows to the river be managed in a manner to optimize the benefits of the flows to meet the objectives. Hence, these procedures allow for and encourage adaptive management, provided that the annual target is not impacted.

4.11.2 Adaptive Management Conditions and Considerations

The following conditions and considerations may influence or provide cause for adaptive management:

a. High flows or flood risk
b. Timing, intensity and/or scale of monsoon events
c. Periods of exceptionally dry weather
d. Scheduled community events
e. Maintenance/improvement work within the river channel or on water supply infrastructure
f. Maintaining daily target flows equal or below inflow into McClure Reservoir
g. Feedback from monitoring data
h. Change in snowpack or watershed yield conditions (e.g., late snowfall) after the beginning of the flow year

5. Annual Fishing Derby

The City of Santa Fe's Annual Fishing Derby takes place each year on the first Saturday in June. The Fishing Derby provides opportunities for children and families to join with neighbors to experience a fun and engaging day by the river, to learn about the Santa Fe River and riparian ecology, and to learn fishing skills.

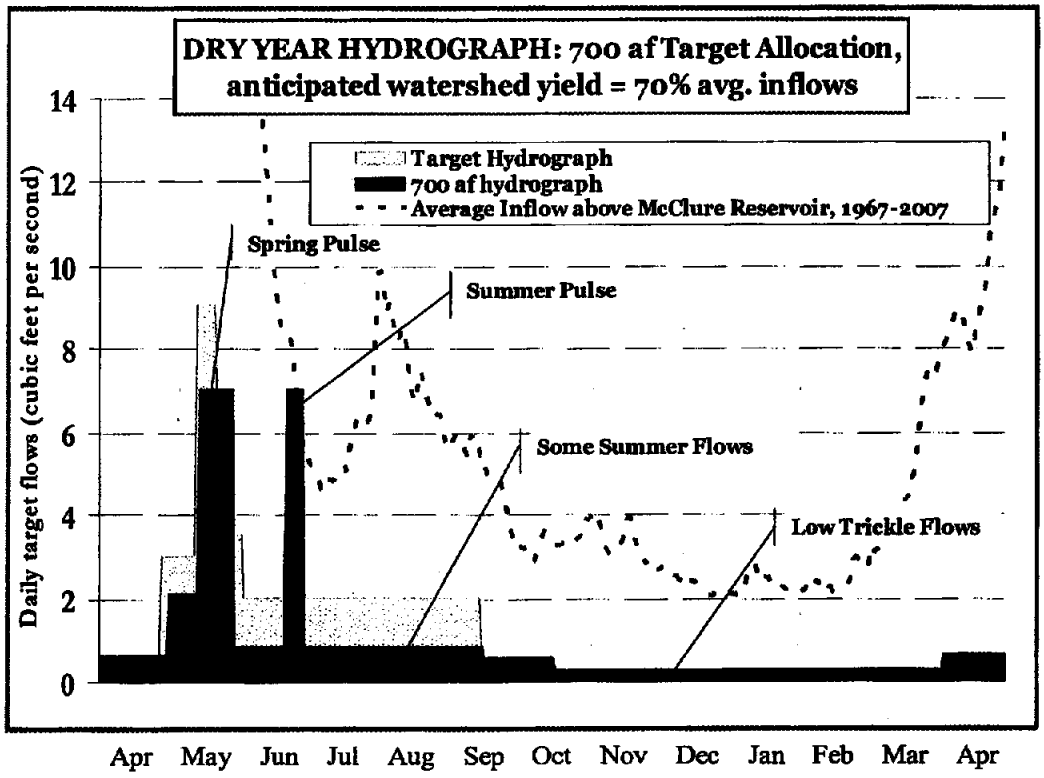
In dry years when the anticipated watershed yield is less than 50%, or, if for other climatic or hydrologic reasons daily target flows adequate for the Fishing Derby cannot be met, the Fishing Derby will be suspended.

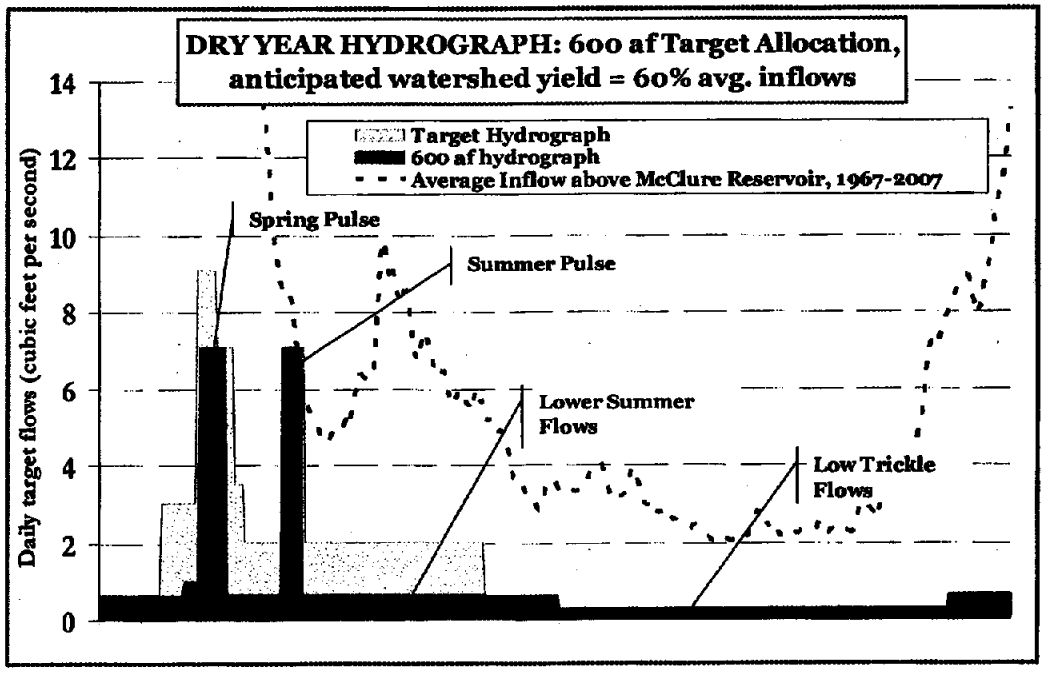
6. Miscellaneous Provisions

6.1 **Amendments.** These Administrative Procedures may only be amended pursuant to a duly adopted resolution of the Governing Body.

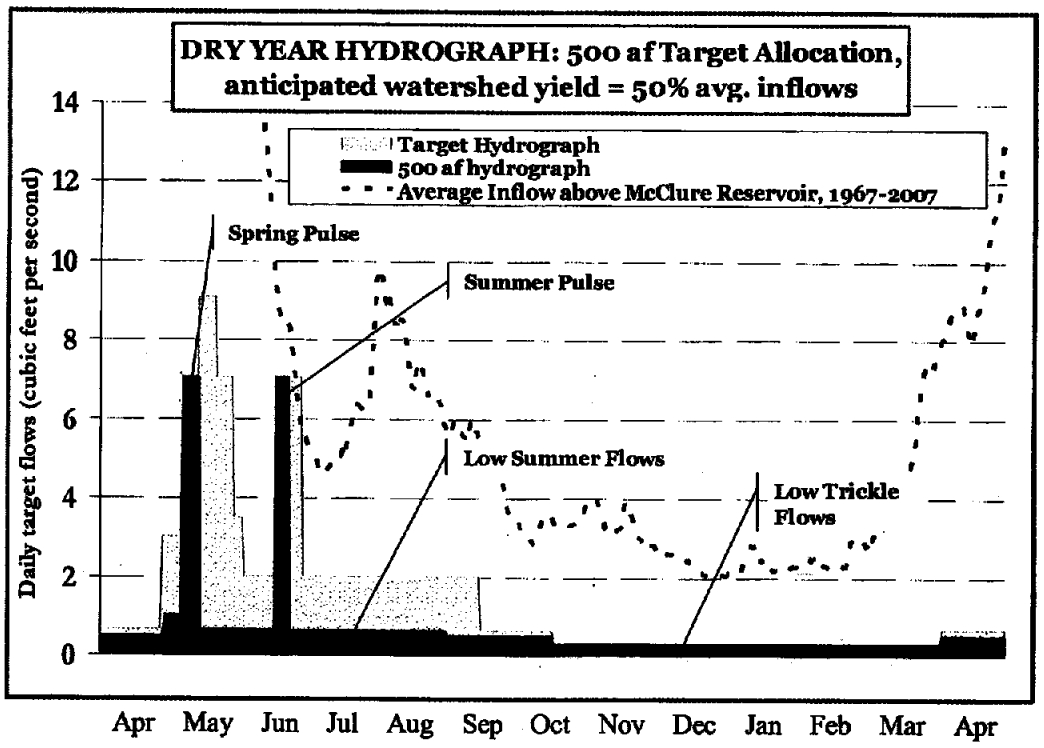
6.2 **Severability.** In the event that a court of competent jurisdiction shall determine that any provision these Procedures are invalid, unlawful or unenforceable, the remainder of these Administrative Procedures shall remain in full force and effect.

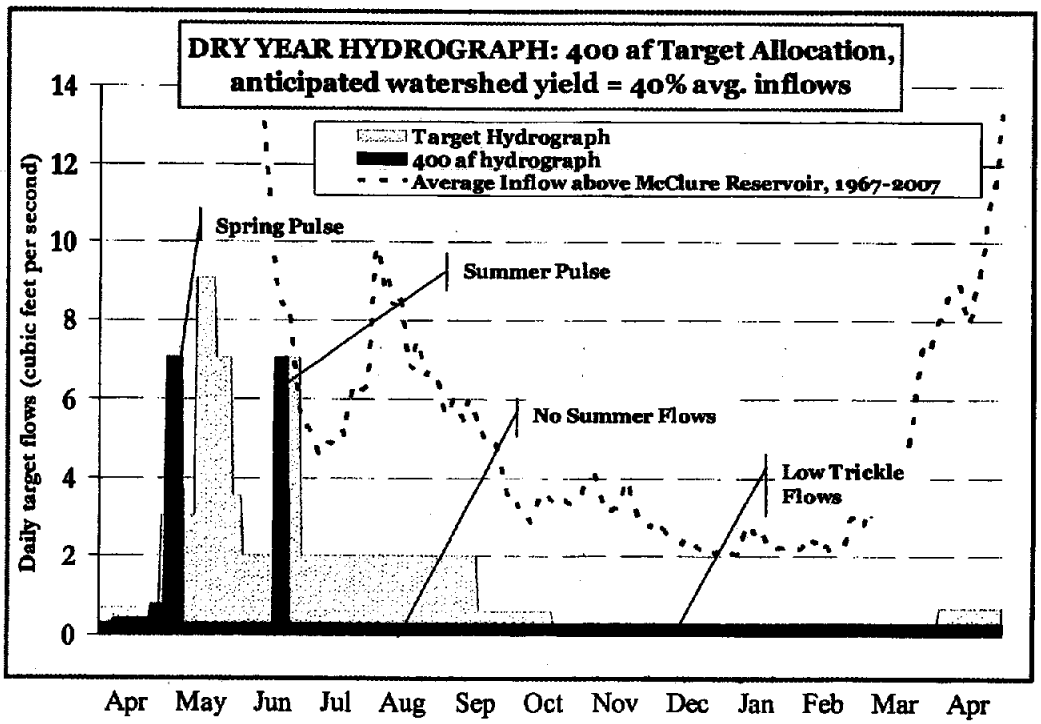
Appendix A
Dry Year Hydrographs

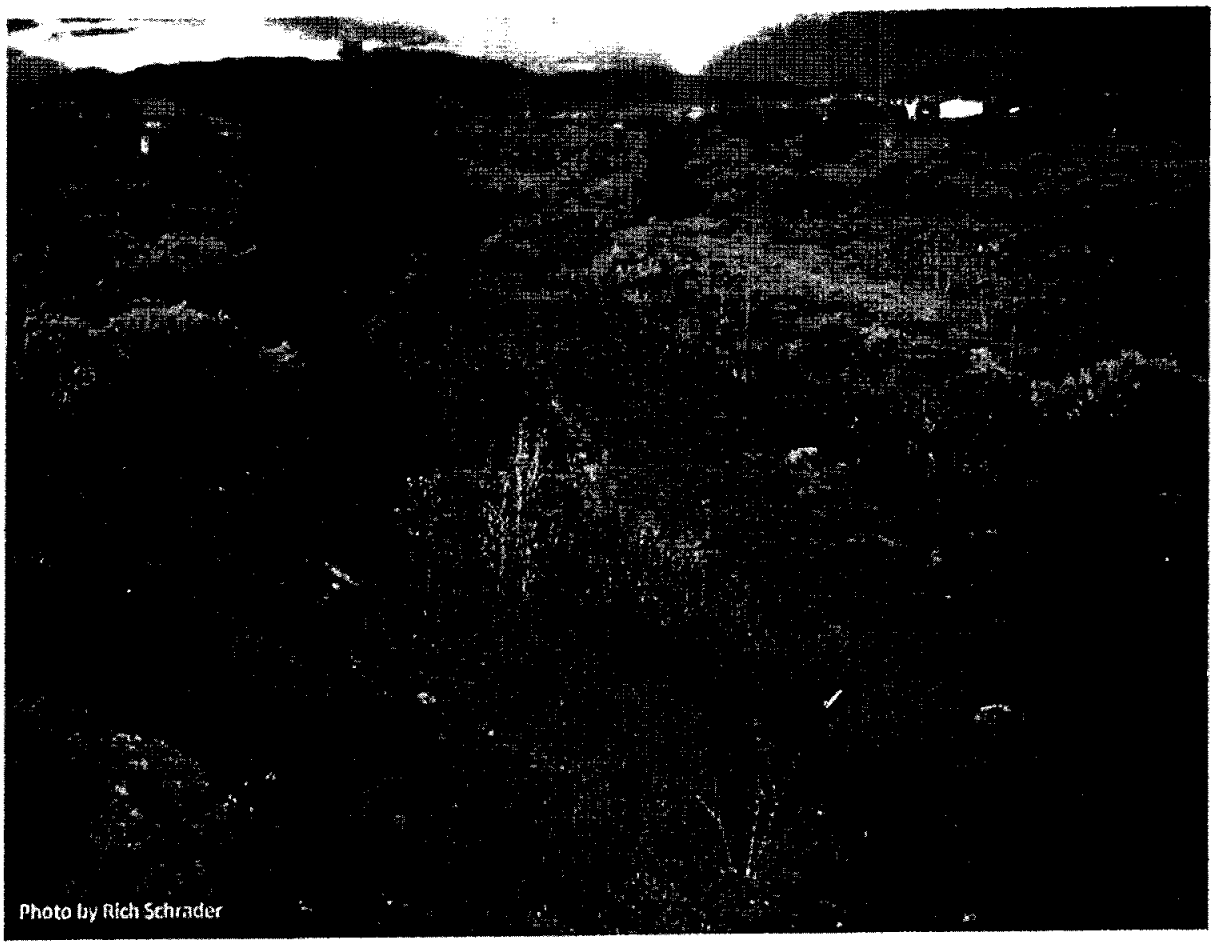




Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr







BYPASS FLOWS IN THE SANTA FE RIVER
PUBLIC FACILITATION & COMMUNITY OUTREACH

Reports, Notes and Related Documents

2.23.11

Submitted by:
Toby Herzlich of Toby Herzlich & Co
Erin English, PE LEED AP, of Natural Systems International

NATURAL SYSTEMS INTERNATIONAL
3600 Cerrillos Road, Suite 1102
Santa Fe, NM 87507
(505)-988-7453
www.naturalsystemsinternational.com

TOBY HERZLICH & COMPANY
119 La Joya Rd
Santa Fe, NM 87501
(505) 984-1284

NSI

EXHIBIT
tabbies
B-3

February 23, 2011

Brian Drypolcher
River and Watershed Coordinator
City of Santa Fe
PO Box 909
Santa Fe, NM 87504

Dear Brian,

Toby Herzlich & Co and Natural Systems International have compiled the following documents from the Public Facilitation & Community Outreach Process for the "Bypass Flows for the Santa Fe River – 1000 AFY" project. We feel that the community and key stakeholders were successfully engaged through this public process and we hope that these results prove useful to the City as you move to approve an ordinance and administrative procedures.

We have also provided a digital draft of administrative procedures that are based upon the recommendations in this document, copies of the flow hydrograph/calculations and digital versions of this report.

We have enjoyed working with the City through this process and wish you the best of luck in moving forward from here.

Regards,

Erin English

Toby Herzlich & Erin English

TABLE OF CONTENTS

BYPASS FLOWS IN THE SANTA FE RIVER
PUBLIC FACILITATION & COMMUNITY OUTREACH
Reports, Notes and Related Documents
2.23.11

THE QUESTIONS – AND HOW THE PROPOSED FLOW HYDROGRAPH ADDRESSES THEM

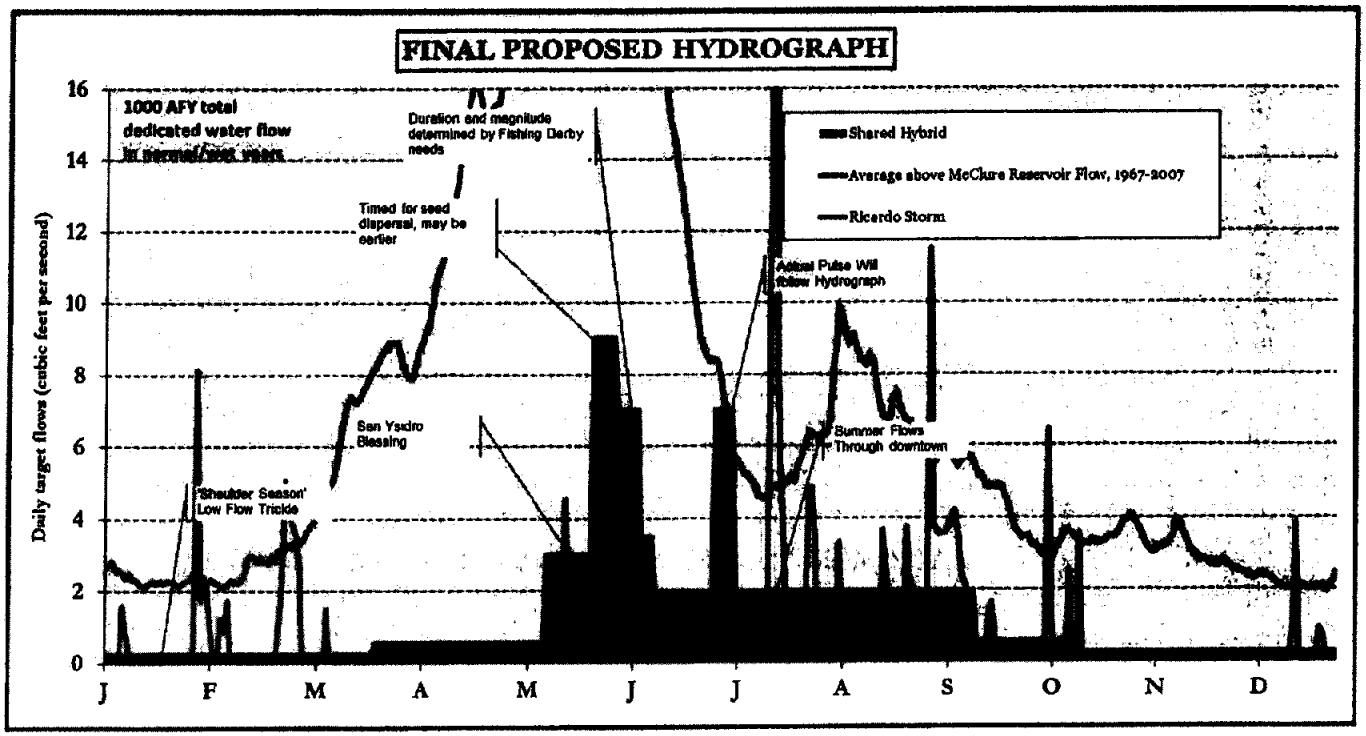
1. *Community Objectives for 1000 AFY Flows?*
    a. Create an Ecologically Healthy Vegetative Corridor
    b. Benefit the Entire Community with Flows
    c. Nurture a Beautiful, Natural Urban Greenspace w/ water in arid environment
    d. Provide an Educational Resource for Schools & Community Stewardship
2. *Target Flow Season? Start/End Dates?*
    a. Year-Round Trickle during 'Shoulder Seasons' (Jan-Mar & Oct-Dec)
    b. Spring Pulse to San Ysidro/Rt. 599 (Mid May-Mid June)
    c. Summer Flows through Downtown (Mid June-Mid Sept)
    d. Summer Pulse to San Ysidro/Rt. 599 (Early July)
3. *Preferred Flow Regime? Desired Flow Season Hydrograph?*
    a. See Target Flow Season/Start-End Dates above.
    b. The proposed hydrograph represents an average; operators need the flexibility to shift pulses, dates and minimum flows based upon seasonal triggers such as seed dispersion, community cultural events, snowpack levels and monsoonal storm activity.
4. *Adjustments during dry years?*
    a. The proposed general philosophy is to support flow in the River even during dry years/drought.
    b. 1,000 acre-feet annual dedication will be maintained in conditions equal or greater to 75% of average watershed yield.
    c. When watershed yield drops to levels 75% or lower of average snowpack on April 15th, the 1000AFY will be proportionately reduced according the percentage of average watershed yield. For example, in a year with a 55%-below-average-yield, the water dedicated to the River will be: 1000 AFY x 55% = 550 acre feet.
    d. In extremely dry years, defined as watershed yield <30%, flows will be kept at a minimum amount needed for two 100 acre-foot pulses, plus year round flows of 0.15 CFS, for a total of approximately 300 AFY.
5. *What constitutes an 'emergency' to suspend that flow?*
    a. Flows may be adjusted or curtailed by the City Water Division in response to an emergency situation: to prevent an interruption in water service and to protect public health and safety.
6. *Adjustments during wet years?*
    a. Flows will not be increased above 1000 AFY, but 'spills' may provide additional flows in the River. Any water 'spilled' may count toward the dedicated flow for that day or period, but will not substitute for dedicated flows scheduled before or after the 'Spill' period.
    b. The reason that a portion of some spills are counted toward the 1000 AFY is to balance benefits between wet and dry years, allowing the 'resting' of groundwater wells during the wet years and dedication of water to the River in drought years.
7. *Other Considerations*
    a. Working toward water management agreements with local Acequia associations.
    b. Infrastructure improvements for controlling and measuring water releases from Nichols Reservoir more efficiently.

NORMAL & WET YEAR FLOW HYDROGRAPH

Note: 1 cubic-foot-per-second (cfs) = 448 gpm and 1 acre-foot (AF) = 325,851 gallons

1. **Low Trickle Flows during "Shoulder" Seasons** (0.3 CFS from Jan 1-Mar. 20 & Oct. 15-Dec. 31) to support upper watershed section as an ecological refuge. Increase flows to 0.60 CFS from Mar. 21-May 9 & Sept. 15-Oct. 14.
2. **Spring Pulse** (3 CFS May 10-23, 9 CFS from May 24-31 and 7 CFS from June 1-7) to push flows downstream to San Ysidro Crossing/Rt. 599 and create substantial flows through downtown. Spring Pulse helps distribute tree/plant seeds, moisten the river channel, keeps downstream trees alive and also coincides with the Fishing Derby/River Festival and the San Isidro River Blessing.
3. **Summertime Low Flows** (average of 2 CFS June 14-Sept. 14) through downtown to enhance the public's greenspace.
4. **Early Summer Pulse** (7CFS from July 1-7) to push flows once again downstream to San Ysidro Crossing/Rt. 599 during one of the hottest and driest periods in advance of monsoon season rains. The Early Summer Pulse is crucial to sustain vegetation and provide moisture for new/germinating seedlings and enhanced public greenspace.

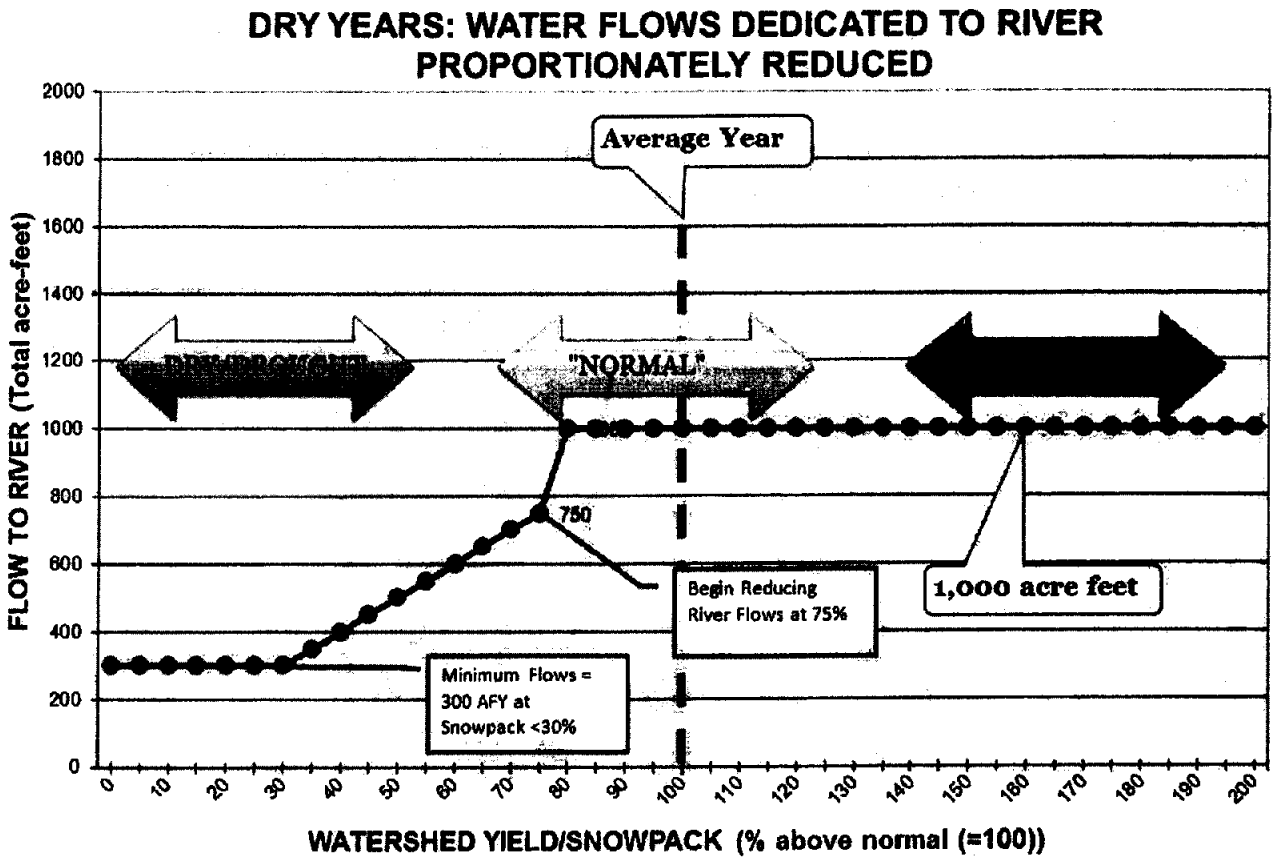
The legal constraint on the City's allocation of water to the River is limited by the rate of inflow to the reservoir. The rate at which the City bypasses water to the River (in CFS) cannot exceed that flowing into McClure Reservoir.



DRY YEAR FLOW REDUCTIONS

During Dry Years (defined as <75% of average snowpack on April 15th), the City will proportionately reduce flows to the River according to the graph and table below. If average snowpack levels are very low (<30% of average), dedicated flows will be reduced to approximately 300 AFY, which will be released in 2 pulses of 100 AFY each and an annual sustained trickle at 0.15 CFS.

75% of average snowpack = 750 AFY
65% of average snowpack = 650 AFY
55% of average snowpack = 550 AFY
45% of average snowpack = 450 AFY
30% or less of average snowpack = 300 AFY (2 pulses and a 0.15 CFS year-round trickle)

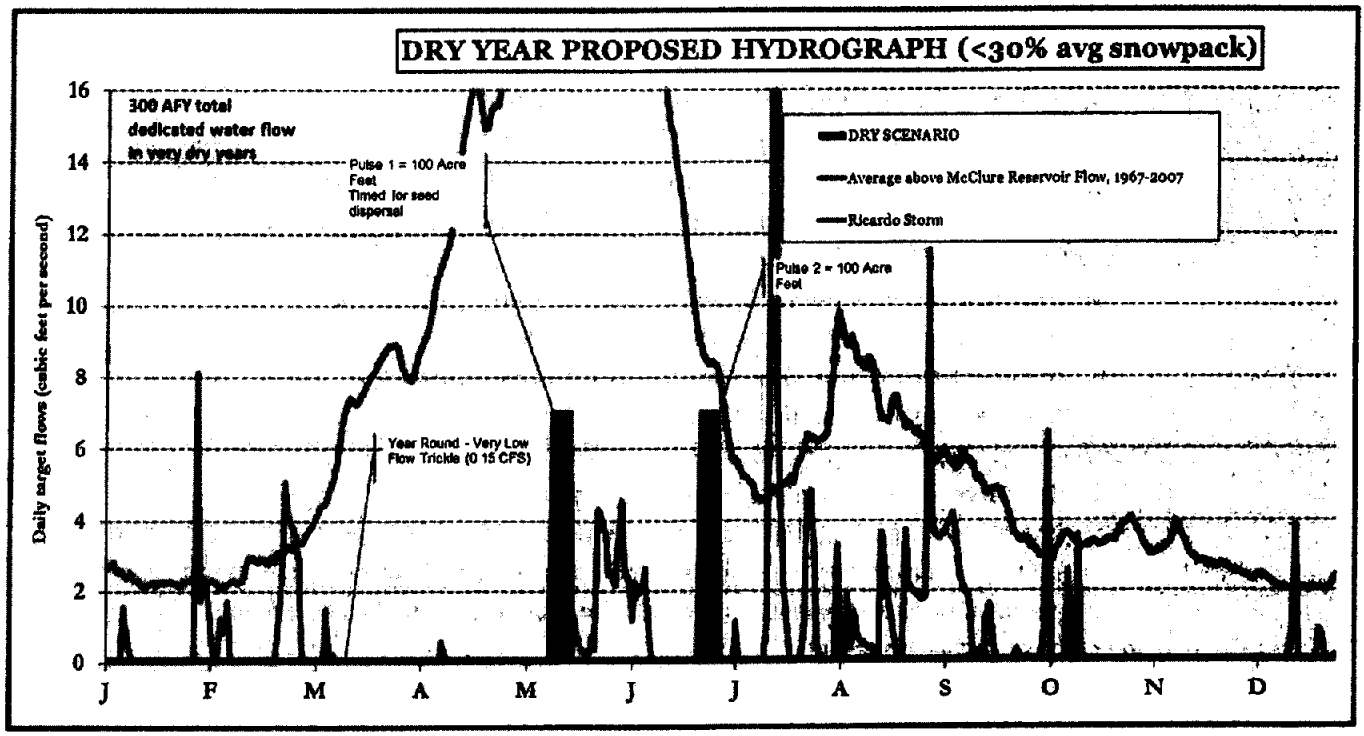


Changes to reduced flows will happen through:

1. Reduction in average summer flows
2. Scaling down of spring pulse
3. Reduction in shoulder season flows from 0.30 cfs to 0.15 cfs

CRITICAL DRY YEAR FLOW HYDROGRAPH

The following 'Critical Dry Year' hydrograph has been developed to guide flows of dedicated water in years where the watershed yield/snowpack is 30% or less than average. The Critical Dry Year hydrograph includes two 100 acre-foot pulses and a year-round trickle of 0.15 cfs. This Critical Dry Year hydrograph attempts to maintain a constantly wet corridor in the upper reach of the River below the dams to maintain ecological function while providing two downstream pulses for community enjoyment and support of riparian vegetation.



Introduction

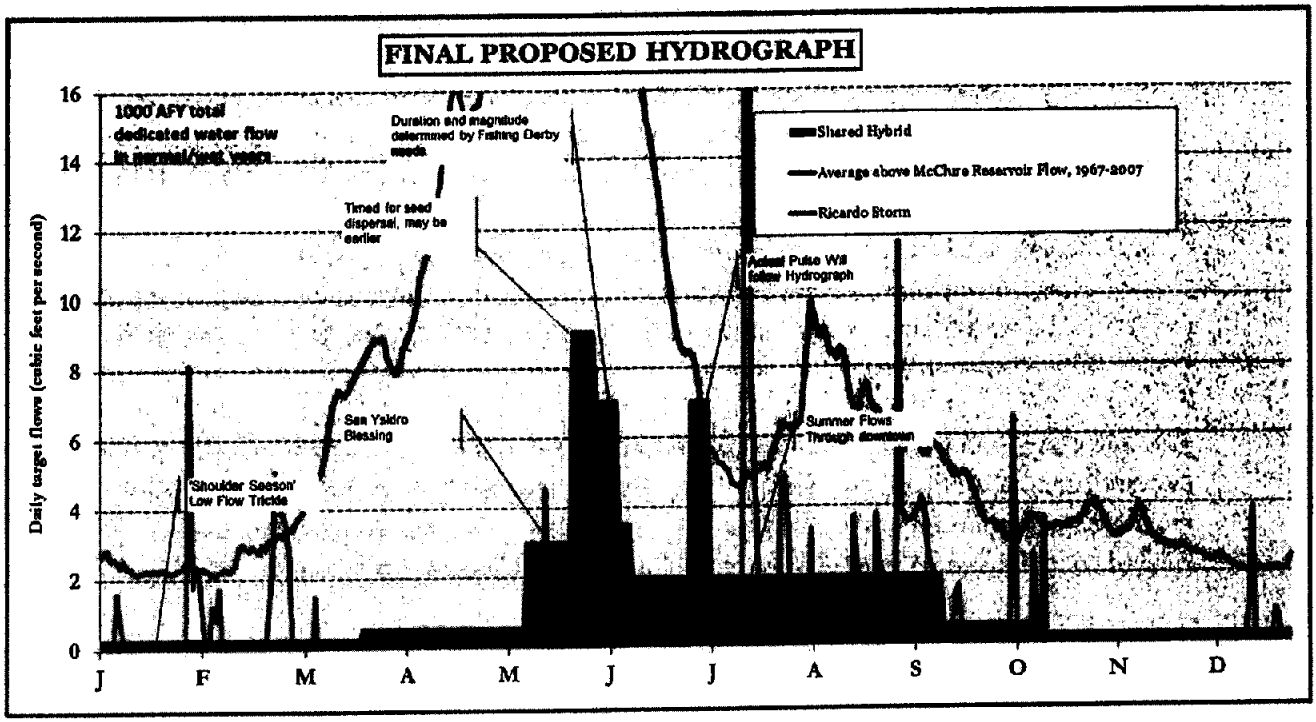
The City of Santa Fe is in the process of formalizing its commitment to dedicate 1000 acre-feet of water per year (AFY) to the Santa Fe River and is gathering public input to craft the ordinance and administrative procedures that will guide these 'dedicated flows'. The primary objectives for the City are to create a set of recommendations, which include a flow hydrograph and contingency plans in the event of wet or dry years, or an emergency. The City posed the following questions to the community; a summary of responses that evolved from the public outreach process are summarized below:

1. *Community Objectives for 1000 AFY Flows?*
    a. Create an Ecologically Healthy Vegetative Corridor
    b. Benefit the Entire Community with Flows
    c. Nurture a Beautiful, Natural Urban Greenspace w/ water in arid environment
    d. Provide an Educational Resource for Schools & Community Stewardship
2. *Target Flow Season? Start/End Dates?*
    a. Year-Round Trickle during 'Shoulder Seasons' (Jan-Mar & Oct-Dec)
    b. Spring Pulse to San Ysidro/Rt. 599 (Mid May-Mid June)
    c. Summer Flows through Downtown (Mid June-Mid Sept)
    d. Summer Pulse to San Ysidro/Rt. 599 (Early July)
3. *Preferred Flow Regime? Desired Flow Season Hydrograph?*
    a. See Target Flow Season/Start-End Dates above.
    b. The proposed hydrograph represents an average; operators need the flexibility to shift pulses, dates and minimum flows based upon seasonal triggers such as seed dispersion, community cultural events, snowpack levels and monsoonal storm activity.
4. *Adjustments during dry years?*
    a. The proposed general philosophy is to support flow in the River even during dry years/drought.
    b. 1,000 acre-feet annual dedication will be maintained in conditions equal or greater to 75% of average watershed yield.
    c. When watershed yield drops to levels 75% or lower of average snowpack on April 15th the 1000AFY will be proportionately reduced according the percentage of average watershed yield. For example, in a year with a 55%-below-average-yield, the water dedicated to the River will be: 1000 AFY x 55% = 550 acre feet.
    d. In extremely dry years, defined as watershed yield <30%, flows will be kept at a minimum amount needed for two 100 acre-foot pulses, plus year round flows of 0.15 CFS, for a total of approximately 300 AFY.
5. *What constitutes an 'emergency' to suspend that flow?*
    a. Flows may be adjusted or curtailed by the City Water Division in response to an emergency situation: to prevent an interruption in water service and to protect public health and safety.
6. *Adjustments during wet years?*
    a. Flows will not be increased above 1000 AFY, but 'spills' may provide additional flows in the River. Any water 'spilled' may count toward the dedicated flow for that day or

Proposed Hydrograph/Flow Pattern – Highlights

1. **Low Trickle Flows during "Shoulder" Seasons** (0.3 cfs from Jan 1-Mar. 20 & Oct. 15-Dec. 31) to support upper watershed section as an ecological refuge. Increase flows to 0.60 CFS from Mar. 21-May 9 & Sept. 15-Oct. 14.
2. **Spring Pulse** (3 cfs May 10-23, 9 cfs from May 24-31 and 7 cfs from June 1-7) to push flows downstream to San Ysidro Crossing/Rt. 599 and create substantial flows through downtown. Spring Pulse helps distribute tree/plant seeds, moisten the river channel, keeps downstream trees alive and also coincides with the Fishing Derby/River Festival and the San Ysidro River Blessing.
3. **Summertime Low Flows** (average of 2 cfs June 14-Sept. 14) through downtown to enhance the public's greenspace.
4. **Early Summer Pulse** (7cfs from July 1-7) to push flows once again downstream to San Ysidro Crossing/Rt. 599 during one of the hottest and driest periods in advance of monsoon season rains. The Early Summer Pulse is crucial to sustain vegetation and provide moisture for new/germinating seedlings and enhanced public greenspace.

The legal constraint on the City's allocation of water to the River is limited by the rate of inflow to the reservoir. The rate at which the City bypasses water to the River (in cfs) cannot exceed that flowing into McClure Reservoir. This legal constraint – referred to as the 'bypass concept' – means that the City is not permitted to bypass water to the River that it has 'stored'.



Community Objectives – Basis of Creation of Hydrograph/Flow Pattern

The following four objectives arose out of the question – "what is important to you about the River?" – posed to over 30+ stakeholders and the 90+ participants in the first community meeting. Responses were counted, tallied and used to define these top four priorities for managing water in the River.

1. Create an Ecologically Healthy Vegetative Corridor
    a. With the limited amount of water available, strive to support the maximum amount of riparian plantings and wildlife habitat along the river.
    b. Create a constantly-wet section of river in the upper watershed by providing a year-round trickle of flows. This section will serve as a river refuge to seed downstream reaches with river life.
2. Benefit the Entire Community with Flows
    a. Use the water equitably to benefit as much of the Santa Fe community as possible – not just downtown residents and visitors.
    b. Provide flow 'pulses' that run for 1 week or more and that reach at least to San Ysidro Crossing (Village of Agua Fria) and Rt. 599/Camino Real River Park.
    c. Provide flows for Community Events such as the Fishing Derby/River Festival and the Village of Agua Fria River Blessing, all important cultural events associated with the River.
3. Nurture a Beautiful, Natural Urban Greenspace w/ water in arid environment
    a. Create access to nature and open space within the urban environment.
    b. Support native riparian vegetation and plantings along the River from the upper watershed to at least Rt. 599/Camino Real River Park through flow pulses targeted to provide crucial moisture to new and established plantings.
    c. Time the 'spring pulse' to coincide with the release of tree seeds to aid in their dispersal and germination.
4. Provide an Educational Resource for Schools & Community Stewardship
    a. Provide spring pulse flows to facilitate school river-planting and celebration activities.
    b. Create flowing river opportunities for children and families to access during the summertime.

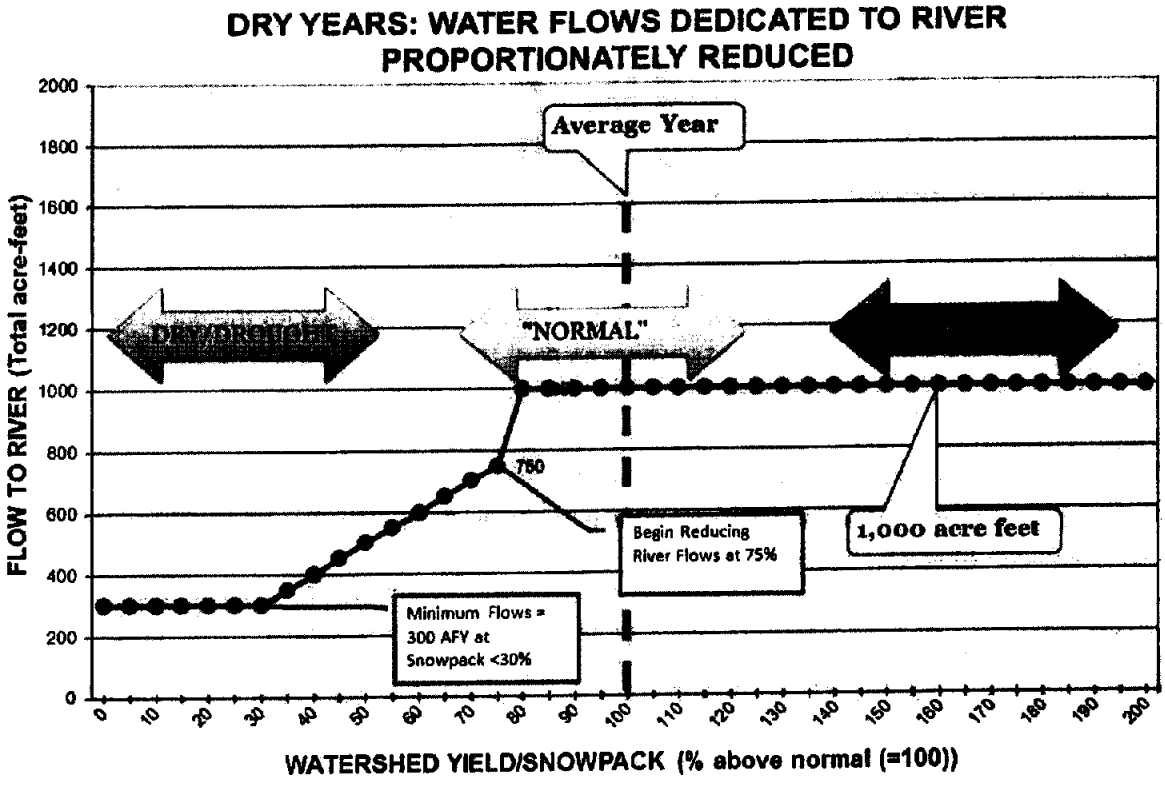
Although various other objectives – aquifer recharge, acequia use, tourism, erosion control – were discussed and valued by the community – they did not score as highly as the four above. Thus these four objectives represented the primary guiding principles as the Core Working Group and City Staff created the proposed hydrograph/flow pattern and dry/wet/emergency scenarios.

As noted before, the limit on the City's releases of water is the *rate of inflow into the reservoirs*. This limit prevents the City from storing water in one season and using it for River releases in a later season. However, matching releases with inflows reflects the amount of water flowing into the reservoirs at a given time and therefore follows the natural hydrograph.

Dry Years

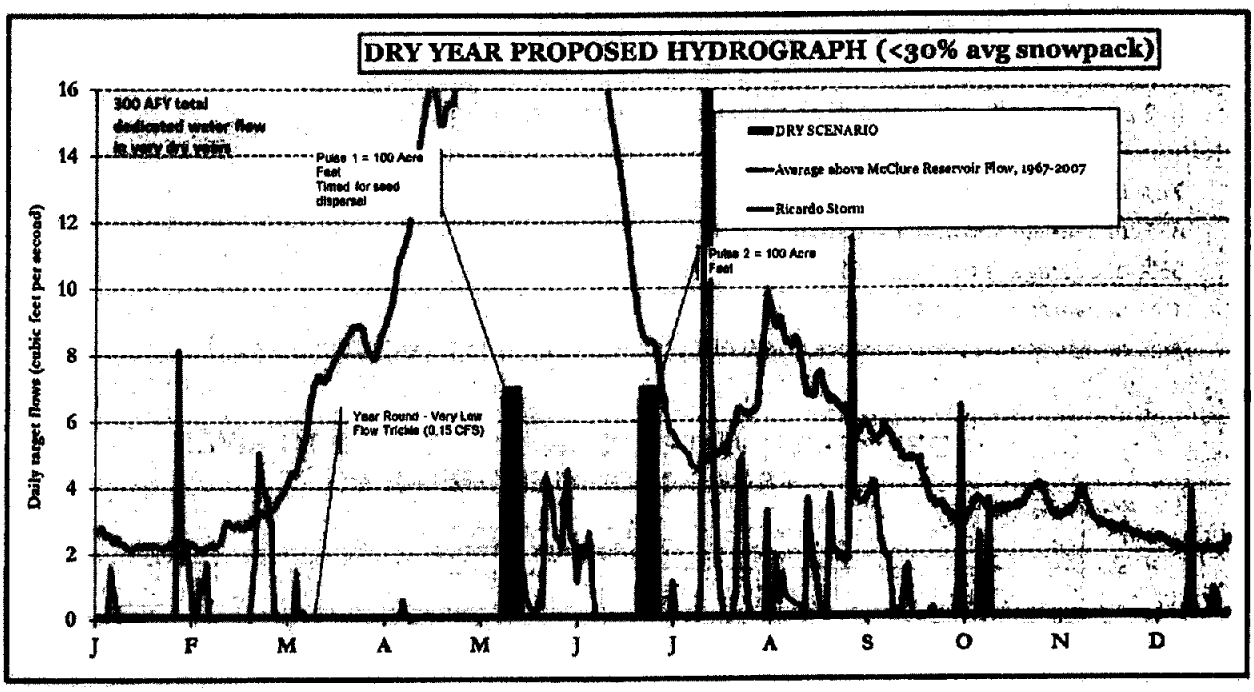
During Dry Years (defined as <75% of average snowpack on April 15th), the City will proportionately reduce flows to the River according to the graph and table below. If average snowpack levels are very low (<30% of average), dedicated flows will be reduced to approximately 300 AFY, which will be released in 2 pulses of 100 AFY each and an annual sustained trickle at 0.15 cfs.

75% of average snowpack = 750 AFY
65% of average snowpack = 650 AFY
55% of average snowpack = 550 AFY
45% of average snowpack = 450 AFY
30% or less of average snowpack = 300 AFY (2 pulses and a 0.15 cfs year-round trickle)



Changes to reduced flows will happen through (1) reduction in average summer flows, (2) scaling-down of the spring pulse and (3) reduction in shoulder season flows from 0.30 cfs to 0.15 cfs.

The following 'Critical Dry Year' hydrograph has been developed to guide flows of dedicated water in years where the watershed yield/snowpack is 30% or less than average. The Critical Dry Year hydrograph includes two 100 acre-foot pulses and a year-round trickle of 0.15 cfs. This Critical Dry Year hydrograph attempts to maintain a constantly wet corridor in the upper watershed to maintain ecological function while providing two downstream pulses for community enjoyment and support of riparian vegetation.



The 'flow year' is defined as April 15th through April 14th of the following year for the purposes of flow management based upon snowpack level readings on April 15th.

Emergencies

During an emergency, water dedicated to the River may be suspended until the situation is rectified. The Core Working Group and Community Meeting participants did not directly address the question of what constitutes an emergency. General discussion, however, indicated that it would be appropriate for the City/Water Division to adjust or curtail flows in response to an emergency situation in order to prevent an interruption in water service and to protect public health and safety.

Associated Recommendations/Challenges

- Acequia agreements: Can the City work with the Acequia groups to minimize the impact of their withdrawals on 'bypass water'? For example, measure and report diversions regularly, time diversions with abundant flows, use irrigation conservation measures (like watering at night), etc?
- Infrastructure upgrades at the gages and outlet structures to make the physical release and measurement of water more efficient, adaptable and accurate.

Recommendations that were not fully discussed and agreed-upon at the CWG retreat but that did receive some discussion:

Dedicated Flows to the Santa Fe River may be altered if the City experiences a water supply emergency. Although no definitive definition of 'emergency' was decided upon by the group, several scenarios were mentioned as possibilities. The overarching goal is to permit the Water Division to avoid interruptions in water service and to protect public health and safety.

Examples of emergencies could include:

- Events that could cause an interruption in service or threaten public health and safety.
- A fire in the watershed that threatens water quality and/or quantity flowing into the Reservoirs.
- A failure of the water infrastructure that permits control and monitoring of flows into the River, including valves, gauges, gates, piping, etc.
- A failure of the Buckman Direct Diversion project (BDD), the Canyon Road Water Treatment Plant, transmission lines or other water infrastructure.

Definitions

a. **Acre Feet (AF) or Acre Feet per Year (AFY):** term to describe the *quantity* of water. An acre-foot is the amount of water required to fill an area of 1 acre with 12" (i.e. 1 foot) of water. One acre-foot is equal to 325,851 gallons.
b. **Average Watershed Yield:** defined as yield of water expected from the upper watershed annually as of April 15th as compared to the historical record average. The anticipated watershed yield is measured as a % of average snowpack. The watershed's approximate average yield is ~5,000 AF.
c. **Buckman Direct Diversion Project (BDD):** Water supply project that will utilize surface waters from the Rio Grande. Expected to be fully operational in late Spring 2011.
d. **Cubic Feet per Second (cfs):** term to describe the flow *rate* of water.
e. **Dedicated Flows:** The amount of water the City has dedicated to the River – during Normal/Wet years it is equal to 1000 acre-feet per year (AFY); during Dry Years it is equal to 300 acre-feet per year (AFY).
f. **Emergency:** defined as a situation that would cause an interruption in the Water Division's ability to provide water service or that threatens public health and safety.
g. **Natural Hydrograph:** The natural hydrograph (in cfs) can be shown either for water naturally entering the upper-most reservoir (McClure) or for water passing through a gauge further downstream (Ricardo Gauge, for example). In either case, the hydrograph 'line' created represents water that enters either the reservoir or River naturally based upon snowfall, stormflows, etc.

Additional Considerations
BYPASS FLOWS IN THE SANTAFE RIVER

Additional Recommendations gathered during the Public Engagement and Community Outreach Process

The following recommendations emerged from the Community Outreach Process and are considered to be supplemental to the Administrative Procedures:

1. The City should explore establishing **flow reporting agreements with Acequias** to create records of the surface water withdrawals by the Acequia Associations that have rights to the water. The City may also want to consider working with the Associations to help improve the water efficiency of their operations (watering at night, install more flow monitoring, etc).

2. Based upon existing infrastructure challenges, **improvements in infrastructure should be implemented** to allow for more nimble adjustments so that flows can be more quickly and/or frequently adjusted. Upgrades may also include improved flow monitoring during winter periods when the stream may be frozen.

3. A more comprehensive **Monitoring Plan** is needed to adequately assess the impact of Dedicated Flows and to ensure that the City releases water in accordance with the Community Objectives. The Monitoring Plan can be used as a tool for Adaptive Management. Several related topics arose during Community Process:

    a. **The community – through coordinated efforts of community groups, schools and/or the Watershed Association – may be interested in assisting** with ongoing monitoring of water flow and ecological health indicators. The City should consider building a website (with possible social network integration) that updates the community on flow events and provides a vehicle for gathering feedback or river reports. The City may want to consider pursuing outside funding (or assisting the Watershed Association in doing so) for these initiatives.

    b. **Additional Monitoring** – Several ideas about additional monitoring capabilities that the City should consider emerged from the Core Working Group workshop. These included the use of soil moisture meters and potentially shallow groundwater monitoring wells that would help the City understand the needs of riparian vegetation and movement of subsurface water.

4. The City should **maintain flexibility in scheduling flows** and may need to fine-tune flow releases around the Fishing Derby dates. If the City finds a conflict with the hydrograph (in terms of meeting bypass flow constraints or other scenario), a shift in dates for the Fishing Derby should be considered.

5. The City should **remain sensitive to the equity issues** surrounding the use of Dedicated Flows and when possible, aim to provide as much water to points further downstream as possible (i.e. Village of Agua Fria and/or the intersection with Rt. 599).

Santa Fe River 1000afy Flows
Stakeholder Interviews Summary
January 4, 2011

The purpose of the Santa Fe River Flows pubic engagement process is to determine community values about the management of 1000afy of flows in the Santa Fe River, and to make a set of recommendations to the City about how to direct and administer such flows. During the initial stages of this initiative, the consultant interviewed 37 community stakeholders, including City and County officials, representatives of community groups, environmental restoration groups, businesses, tourism industry leaders, acequias, and neighbors living along all stretches of the river (please see appendix for a list of people interviewed). About a dozen of those people volunteered to serve on a Core Working Group (CWG) to synthesize community input from interviews and community meetings and develop concise recommendations for the City.

This paper summarizes the findings of the stakeholder interviews, particularly peoples' views about what is important to them about having water in the river, the objectives that this water should meet, and suggested strategies for how to manage the flows to serve these priorities. In addition, several key questions were raised for consideration in the process. The aim of this paper is to provide guidance to the CWG and other interested parties within the City as context for more detailed deliberations, and the lay a foundation for the design of two broader community meetings.

Values / Priorities – *What is important about a living river to you and your constituents and for what purposes would you want to see the river flow?*
Stakeholder comments included the following set of objectives for flows in the Santa Fe River. Asterisks indicate the number of respondents who specifically mentioned the corresponding objective:

Significant spring pulse (or snowmelt runoff), followed by much smaller flows into July (2 cfs?). Hopefully the monsoon rains will then kick in. The high runoff will create a sponge effect for riparian systems, which will then retain water in the river channel even as the flows become a trickle. Native vegetation can take root again in downtown and will slowly migrate through the system.	*****
Try to mimic flow patterns as much as possible	*****
Periodic summer pulses at higher flow rates (every three weeks?) to saturate downstream plantings, at least for a few years until willows and cottonwoods get established at San Ysidro. Plant requirements as bottom line.	*****
Release in mid-spring until mid-fall. Time summer pulses to correspond to when people can enjoy the water – weekends, holidays	*****
Larger, less frequent releases lead to more beneficial results – watering downstream trees, community engagement, higher flows for kayaking	
Create dams or small retaining ponds every quarter mile or so to keep water in the river longer	***
During wet years, start releases later in the season, or time for before and after spillovers	
Counting the spring spillover toward the 1000afy will create early season imbalances	
Spread the water through the full year, even though it won't go past St. Francis	
Experiment for the first three years with different regimes and monitor the results	**
Consider building in a review process into the ordinance, with annual reporting requirements. Include groundwater monitoring to check aquifer recharge.	**
Improve the regulation system so that flow rates can be adjusted more nimbly. Turn off during monsoon rains. (consider setting priorities now that can be implemented later when infrastructure improves)	**
Consider shutting off flows at night	***
Work with County to use some of their excess capacity from SJC diversion	
Release "1000afy in addition to the legal obligations to the acequias"	

People interviewed (as of Jan 4, 2011)

City Officials
Mayor, David Coss
Councilor Rebecca Wurtzburger
Councilor Patti Bushee
Councilor Carmichael Dominguez
Marcos Martinez - City Attorney

Santa Fe County Officials
County Commissioner Virginia Vigil

City Staff and Contractors
Brian Drypolcher – River Coordinator
Marcos Martinez – Assistant City Attorney
Claudia Borchert – Water Division
Amy Lewis - Hydrologist

Santa Fe River Commission
Jerri Jacobi-Chairman
Melinda Romero Pike
Richard Ellenberg
Jim Cutropia
Dale M. Doremus
Samuel Gerberding

Community Groups
Old Santa Fe Foundation-Tim Maxwell
RiverSource - Rich Schrader
Santa Fe Art Institute - Diane Karp
The Camino Real River Connection - Nichoe Lichen
Santa Fe Watershed Association - Felicity Broenner
BDD member at large - Concl Bokum
League of Women Voters - Neva Van Peski
Historic Design Review Board - Cecilia Rios
Saint Francis Cathedral – Jim Cutropia

Neighborhood Groups / Acequias
Canyon Road HOA, Richard Ellenberg
Acequia Muralla - BC Rimbeaux
Acequia Madre - Phil and Eleanor Bove
Riverside landowner – David Baca
Agua Fria Village – Melinda Romero Pike, William Mee

Environmental Groups
Wild Earth Guardians - Jim Madison
Nature Conservancy - Bob Findling
Earth's Birthday project - Cliff Ross
Audobon Center – Steve Cary
WaterCulture.org - David Groenfeldt

Water in the Santa Fe River – 1000 AFY

Community Meeting #1 REPORT

January 13, 2011

Meeting Participants

Public Attendees: Approximately 85 people participated in the meeting, with a wide range of ages and interest areas, including participation from all over town (a complete list of participants and neighborhood distribution will follow as an attachment)

Public Officials: Mayor David Coss and Councilor Carmichael A. Dominguez were present, as were City staff members Brian Drypolcher, Claudia Borchert, Marcos Martinez and City Attorney Geno Zamora.

Introduction by Mayor Coss

Mayor Coss provided the introduction to the public at the meeting and gave an overview to frame this meeting and the overall public process. The Living River Initiative is a unique and significant effort for Santa Fe and within the greater Southwest; it is history-making and precedent-setting to dedicate a significant portion of a municipality's potential water supply to the ecological health of the river and to the community benefits that come with it. The Mayor welcomed everyone to the meeting, thanking the Attorneys, City Staff and participants at the meeting.

Overview by Toby Herzlich

Toby introduced the crowd to the public process and the specifics of this first public meeting. She asked the crowd several questions and implored them to raise their hand or to stand up:

Toby asked participants to stand up or raise their hands for the following:

- If you were in this room 3 years ago for an earlier meeting about the River – 1/3 of the room.
- If you have been part of dreaming this into being in some way – most of the group.
- Lifelong member of the community – 20 people
- New to the community, less than a few years – 10 people
- Student or Teacher or educational involvement – 10 people
- Work in Business – 10 people
- Work in the Arts – 15 people
- Work in environmental field – 50-60
- Play involved in natural environment –50-65

The purpose of the process we are undertaking is to advise the City about how to manage the 1000 acre feet per year (AFY) of flows for the River. The reason why the City is undertaking this process is that although it's a very big deal to create a law governing flows of 1000 AFY, it's not enough water to create an entirely 'living river' for the whole stretch all year long.

"Creating an aesthetic urban green space" with water access in an arid landscape ranked highly as a priority objective, as did ***"Education / School engagement / Building ecological stewardship values.***

"WHAT IS MOST IMPORTANT TO YOU ABOUT FLOWS IN THE RIVER?" COMMUNITY OBJECTIVES FOR 1000 AFY FLOWS	TOTAL	PERCENT %	Stakeholder Interviews
Improve ecological conditions and resiliency	45	18.4	13
Thriving cottonwood and willow plantings (care for investment)	21	8.6	9
Habitat for birds, animals	20	8.2	4
Fish downtown	3	1.2	1
Aquatic insects in some part of the reach	1	.4	1
Connect us as a community across culture and geography	23	9.4	3
Equity of benefitting entire community (flow downstream)	25	10.2	3
River events (river festival, blessing on San Ysidro day)	3	1.2	7
Aesthetic urban greenspace (place to be in nature, near water, in arid lands)	26	10.7	7
Continuous flow downtown	5	2.0	2
Education / School engagement / Build ecological stewardship values	20	8.2	2
Recharge aquifer, private wells, and city well fields	16	6.6	4
Acequias and agricultural use	15	6.1	1
Recreation – general	3	1.2	2
Playing in water with kids and families	5	2	3
Fishing Derby	0	0	N/A
Prevent erosion damage from flood events	6	2.5	3
Including issues re. property values	1	.4	1
Tourism Draw	6	2.5	3
Retain water for Municipal uses only (i.e. 'not in the River')	0	0	N/A

Some potential revisions were suggested to enhance Scenario #3:

- Building in some flexibility into the operational plan to adapt the pulses based upon the levels of annual spring snowmelt runoff.
- Reducing the Sept-Oct pulses to more closely match the river's natural hydrograph
- Shifting flows somewhat to provide a small amount of year-round baseflow (i.e. 'trickle') along with the pulses, so that the river doesn't entirely dry out in between pulse periods – some of this baseflow water may possibly be obtained by reducing the late fall pulses to more closely match the hydrograph.
- More clearly describing and outlining the goals and objectives associated with this scenario.
- Don't call this "the irrigator" strategy

Final Summary Comments

At the conclusion of the meeting Toby asked for additional input, comments, or questions from the participants:

- Can there be flexibility built into the flow management so the pulse scenario (#3) can be adjusted seasonally based upon snow pack?
- A suggestion was made to develop small pools or impoundments within the river corridor to create wet zones that would retain water for a longer period of time after flow pulses or storm events
- Some of the youth attendees felt strongly that 'water is not for tourists' and should be used to benefit the entire community, particularly those living on the Southside who would also appreciate the experience of a flowing river.
- A drought scenario is needed to ensure that water still flows to the River even in dry times. The City has developed policies to ensure that public park landscaping does not dry out and die during drought years and this concept could/should be applied to the river, too.

-River/ Acequias as life blood of community
-Continue what's been working for years up near Casa Solana
-Any river is better than no river.
-It would be nice to see pockets of small green oases
-Community pride around the river is highly important. Also, parts of the river are the historic Camino Real
-Community pride around the river and the habitats are key points (high school students)
-Hearing the river outback of my house at The Commons is amazing and I don't want to lose that

Follow up thoughts:
- Community education about the river, its historic role and its environmental role are key
- Signs near bridges that cross the river that read "Do you miss the River" with accompanying before and after pictures could be beneficial
- Maybe have a fish Mascot a la Smokey the Bear to go to local schools to reintroduce the river to kids who have grown up without it
- Ecological justice is important
- Controlling erosion is important – stop the incising

Points regarding different options of 1000 AF use:
- Focus on ecology first. Once that returns and things green a bit, the community pride, education etc. will follow
- The overflow should NOT be counted as part of the 1000 AF. That's a bonus from mother nature
- Pulses should be fluctuated to account for stormwater
-Small ponds could be constructed or water could be retained close to downtown for short periods. Legally you can detain water for 72 hrs.?
- As the city grows, use decentralized wastewater treatment and let treated effluent flow into the river
-If the pulses are weekly, maybe there could be a community focus on it. "Take me to the River days"
-Look into conveying the water from the dam closer to downtown before allowing it to infiltrate. That way more people can benefit from it.

Comments from the wall

The long sheet of paper posted on the wall at the back of the room was used as a space for people to contribute comments during the meeting. Comments were linked to questions (identified in ***bold italics)***:

How can we provide optimal benefit to and from our river?

- Understand the importance of a living river
- Commit to having a living river
- Make the necessary sacrifices as humans to keep nature alive
- Don't throw trash and don't take the water from the river because it won't work

Agua para toda la comunidad!

Is there a realistic benefit in timing minimal releases of this 1000 AF to coincide or 'bookend' periods of higher relative humidity? In other words, restricting release during extremely dry periods / during the

Additional (Raw) Table Notes from Group Work

Project: Santa Fe River – 1000 AFY Initiative
Date: 1-13-11
Location: Chavez Community Center

Table Guests:

Rick Martinez, Deanna I., William M. (Agua Fria Village), Louis M. (Agua Fria Village), May Montoya (Agua Fria Village), Jennifer Hacket (San Isidro Crossing), Dwight Hacket (Agua Fria Village)

Initial Thoughts Upon Introductions:

-Ecological
-Fish
-Don't trust city
-Growth mgmt plan
-Natural area
-Birds (don't tease)
-Beauty
-Children
-Tradition of flowing
-Beauty
-Want to see County more involved
-Ecological reasons
-Well water
-Enough flow to reach through Agua Fria
-Riparian environment living
-River/ Acequias as life blood of community

Scenarios:

- We should benefit from what 'mother nature' gives us. Excess should not count towards 1000 A.F. "Don't take from us again"
-Spread pulsing out if high precipitation year
-Sustaining remnant pools along the river

Initial Thoughts Upon Introductions:

Thoughts:
-enjoy the river
-use 'old ways' of irrigating
-build 4 holding tanks below Canyon and Lopez for storage. Install pumps to recirculate water in dry times so that 1000 AF goes further and lasts longer.
-designate times for higher/lower flows so different groups can meet their needs
-In favor of constant flow to feed a 'living river' (1.5 CFS throughout the year)
-7000 AF flow into Nichols per year. Only 5000 goes to the city. Shouldn't that leave 2000 for the river?
-interested mainly in downtown, for tourism.
-ecological concerns
-flow at higher levels less frequently to feed more of the river and so more people down river can enjoy it.

Initial Thoughts Upon Introductions:
-more willows
-vegetation
-ecological justice
-acequias, diverting through smaller channels
-ecology
-water is life
-community draw unites
-return environment to natural state
-dragonflies, life

Initial Thoughts Upon Introductions:
-city language be careful SF Water
-Hybrid- trickle + 3 +follow hydrograph
-short term choice might be different than long term choice
-long term benefit should be as natural environment as possible
-focus upstream with managed storm flow in the short term
-river that stays consistently wet and moves downstream
-guidance on what I'm getting w/ different choices
-equity: whole community benefits
-tapered surges: high season/ low season
-impoundments, pulses with ponds/pools (way to sustain)
-adamant that 1000 AF guaranteed, but each year looks different depending on conditions

Table Guests:

Live on river (Upper Canyon), lived in SF most of life, Canyon Neighbors Association, South Side, have walked river for years, live on river on W. Alameda, Agua Fria Village,

Bill Armstrong, fire specialist USFS; Felicity, Watershed Association & Santa Fe native; Melinda Park; Betty Booth; Diane Karp, resident of 9yrs, Santa Fe Art Institute; Tricia Watts, moved here from California 2 weeks ago; Francesca Lemids, Agua Fria; Milee Griego Rotunno, Santa Fe native

Initial Thoughts Upon Introductions:

-interest in connecting people to natural environment
-disconnects between food, fuel, water, etc.
-improving ecological resiliency
-importance to kids and families
-need to know where water comes from
-cannot live without it
-morally & spiritually the river is supposed to be a river from headwaters to its end at the Pacific
-connectivity w/ animal life, children, flora, survival, food production
-ancestors experienced the severity of dry river from the dams
-if the plaza is the heart, the river has been the blood. watch people and animals play is like watching the blood flow. Connectivity is major
-use the arts to build stronger communities and explore issues through arts
-cultural freedom and environmental justice
-stunned that river is not at top of everyone's list
-river has not functioned as meeting & joining but has become a case of 'ownership' of land and water.
-returning health to community
-shocking to see river dry
-love running water
-lack of water takes away some of life
-recharging is important
-interested in getting water back
-art that addresses environmental issues
-'water is life'
-property values along river are of interest to owners
-flash floods take away property
-excited about river trail
-memories of river- taught to value and treasure it
-family history of love for water and who we are

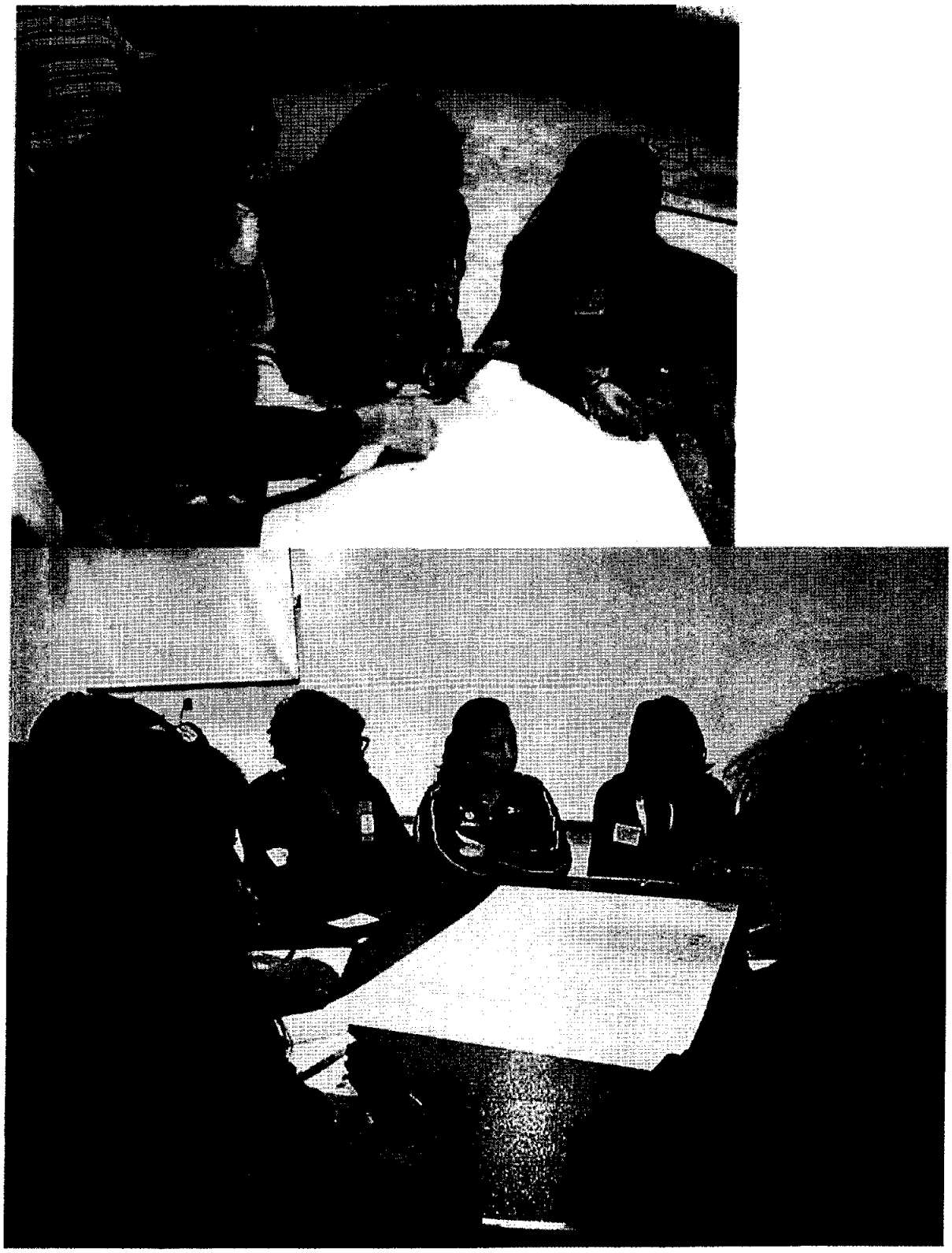
Scenarios:

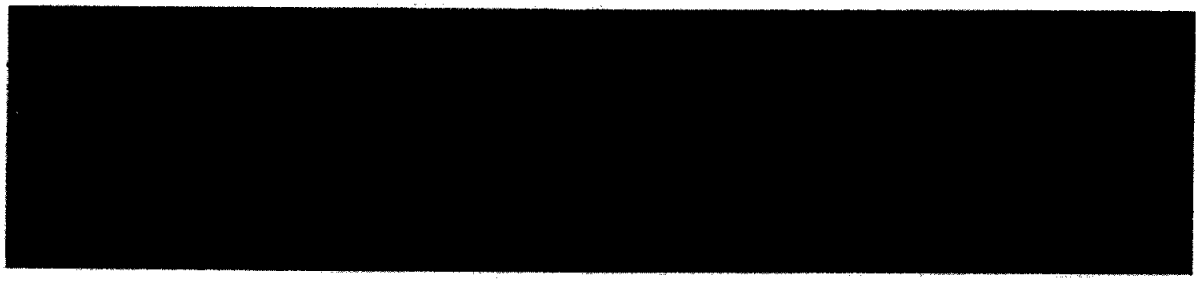
- We should benefit from what 'mother' nature gives us

Table Guests

Sergio:
Scenario#3 – The San Isidro area is a healty place for the river. Guadalupe area has many areas with concrete and erosion problems. Water from the river also must benefit southern communities of the city. We do not need water in the river just for tourists.
Rosa:
Scenarion #3 – water from the river close to the plaza won't help nature because the concrete on the edges of the channel. The river must be used for the ecosystem helping nature.
Alan:
Scenario #3 – The river must be a place of life where people and communities can get together in order to create a better place for all Santa Fe. Soil, plants and animals further down the stream along the city also will benefit from this scenario.

PHOTOGRAPHS





Community/Public Meeting #2 Notes
February 3, 2011
5:30-7:30 pm

Attendees:
Despite the cold weather, approximately 50 people attended the meeting (this includes 6-8 core working group members). Approximately 1/3 of the people in the room were not at the first community meeting.

Overview
Toby presented the agenda for the evening and outlined the work that the Core Working Group has been doing after the 1st Community Meeting.

She showed a slide show to go over several concepts

- Living River Initiative
- Definitions of Acre Feet and Cubic Feet per Second
- The 'Task' at hand
    - *Community Objectives for 1000 AFY Flows?*
    - *Target Flow Season? Start/End Dates?*
    - *Preferred Flow Regime? Desired Flow Season Hydrograph?*
    - *Adjustments during dry years?*
    - *What constitutes an 'emergency' to suspend that flow?*
    - *Adjustments during wet years?*
    - *Other Considerations*
    - Goal = creation of administrative procedures to support an ordinance that will go to City Council and the Mayor
- Where are we now?
    - Completed 30+ Stakeholder Interviews
    - Community members, including some already involved with the river
        - Watershed groups
        - Business Community
        - Acequia members
        - Community-oriented non-profits
        - Biologists, ecologists, restoration specialists
        - Mayor, City Council
    - Completed 1st Community Meeting
    - Completed 2-day Working Group Retreat
    - Drafted Preliminary Recommendations
    - Final community review -- reflection, comments, support
- Community Objectives from 1st Meeting
    - Create an Ecologically Healthy Vegetative Corridor
    - Benefit the Entire Community with Flows

Core Working Group Meeting #1 Notes
January 4, 2011
5-7 pm

Introduction and thanks by Mayor

Introductions of Core Working Group Members

Jerry Jacoby – River Commission Chair. Aquatic biologist by training with a passion for rivers. Wants to see a living river with life in it. Coming at from a biological sense. Legacy – giving the aquatic community a chance to create its own form of a system.

Jim Cutropia – Cathedral. They own 7.2 acres adjacent to the river on Alameda. Seems that the river bed is not healthy; its eroded, silted, etc. Interested in a plan to remedy this. Will also be partially in charge of development of the Church's property over the next several years. Legacy – a healthy river.

Felicity Broennan – Director of SF Watershed Association. She grew up in SF and spent much time in her youth along the river. Interested in a health river, trees, community access. Legacy – an overall healthy river.

Richard Ellenberg – Canyon Road HOA, Acequia de Llano, on the River Commission, Chair of Santa Fe County. healthy river system is important to him. Would like to see more trees and water and birds and animals through town.

William Mee – President of Agua Fria Village association, well and acequia association. Concerned with erosion at Rt 62, various sewer lines, etc. Interested in vegetation, water recharge of wells.

Nichoe Lichen – Camino Real River Connection group. To her a river is a commons, a source of cultural pride for the community, place for kids to play. Why? Water is Life.

Phyllis Bustamante – NMED Groundwater Quality Borough. Interested in returning the river to its natural state.

Neva – League of Women Voters. No particular goal or aim for the river; enjoys it when water in it.

Brian Drypolcher – City's River and Watershed Coordinator. Been working for the City for a few years, and before that TPL as project manager for Railyard Park & Plaza. He is interested in being involved in his community and helping to shape the experience of the built environment. Legacy – river to be a great place so that when people arrive, they think 'what a great place' to experience, making it more accessible, function better, etc.

Jim Matison – Restoration Director w Wild Earth Guardians. Has been involved for years with restoration projects along the river. Has a passion for riparian areas from growing up in Tuscon. Legacy – restore the ecological function of its river to its maximum potential so it can become self-sustaining ecologically.

The Mayor has requested an ordinance to strengthen the City's commitment to itself to put more water in the river. The Ordinance in simple terms says "the City will allow 1000 acre feet per year in the river". That's fine, but the how, when, in what and to accomplish what goals gets down to administrative procedures.

The work of this group is to help the City with the ordinance, but more importantly, to create the administrative procedures for how the ordinance is regulated. There will also be a new resolution to direct staff to comply with the ordinance and procedures.

This is very much a citizen led initiative and value for water in the river. The Mayor also sees himself as a champion of the River. Although the resolutions in the past have passed relatively easily, this ordinance may face more scrutiny. Examples include questions on cost, dedicate of highest-quality, least expensive water, etc.

There are a host of surrounding issues that should be considered as we draft these procedures.

Richard suggested language that frames this as a 'supplement' to what is happening naturally; part of the building block idea as the 1000 afy builds upon what is already there.

How does this relate to our water supply?

Claudia Borchet – The City feels that it can have a sustainable water supply and allow some of the water in the river in normal and wet years. In drier and dry year scenarios, there are still some challenges. The primary reason the 1000 acre feet is on the table is from conservation. The community has done an amazing job in conserving – the lack of need to supply a bunch of extra water has allowed the City to consider giving some to the river.

The 1000 acre feet makes up about 1/5 to 1/6 of the watershed's yield. There are some legal constraints; the way they have been operating currently is the 'Bypass Concept'. The Bypass Concept is defined by not allowing more water to flow out of the bottom of the reservoir than flows in.

Key Question – how do we balance the fact that we want to use our water resources for many things. We want low rates, clean water, water in our taps, etc. We are trying to figure out a way to find the triple bottom line or win-win.

The Administrative Procedure Questions

Toby frames this as ultimately a values question - what do we want this water to do?

Toby has been interviewing around 40 community stakeholder members and she will circulate the summary of these meetings to the group.

Community Meeting

There is a community meeting coming up Jan. 13th at the Chavez Center
We will be meeting the 21st and 22nd at the Audubon Center facilities.

Santa Fe River – 1000 afy flows
Core Working Group Workshop
Jan 21-22, 2001
AGENDA

Day 1 – Friday, Jan 21

9:00 **Welcome and overview**
Clarifying our assignment
Presentation from City Staff
Summary of Community Objectives – stakeholder interviews and community meeting

- Discussion – recommendation for key objectives for 1000 afy

12:00 *Lunch*

Tour of Nichols Reservoir release infrastructure – *Limitations to the system -- How responsive/flexible can our management practices be?*

1:30 **Flow Season and Practice under normal years**

- Need to determine and recommend:
  - Start dates
  - End dates
  - Timing of releases
  - Desired hydrograph

1000 afy in relation to spring spillover

- Claudia presents information about tradeoffs
- Come to decision and recommendation

Preview tomorrow's work

5:00 *close*

Day 2 – Saturday, Jan 22

9:00 **Reflection and overview**
Adjustments to target flows: what to do in wetter conditions?

- Come to decision and recommendation

Adjustments to target flows: what to do in drought conditions?

What would constitute an "emergency?"

12:00 *Working lunch*

What else needs to be considered?

- Review additional questions
- Go through draft ordinance

Summary and next steps

3:00 *Close*

Core Working Group Retreat
Meeting Notes
January 21-22, 2011
The Audubon Center, Santa Fe, NM

Day 1 – Friday, January 21, 2011

Attendees:

Rich Schrader:	RiverSource (& The Commons) – interests and passions of families in the area.
Phyllis Bustamante:	Citizen & background in water and water quality.
William Mee:	Agua Fria Village. Passion from traditional community that was tied to the River and acequias.
Felicity Broennan:	Santa Fe Watershed Association. Passionate constituents
Jerry Jacoby:	Chairman of the River Commission. Aquatic biologist. Member of American Fishers Society.
Fidel Guitierrez:	LANB, Chair of Chamber of Commerce & Children Museum.
Steve Cary:	Audubon staff & Citizen. Brings a sense of natural function of rivers.
Richard Ellenberg:	Lives nearby. Canyon Neighborhood Association & Chair of the Democratic Party. Bringing a non-expert passion and experience with the various viewpoints.
Niva Van Peski:	Has collected statistics on water and river for a number of years, also a member of League of Women's Voters
John Utton:	Board of Santa Fe Watershed Association, lives along River near Alto. Water lawyer, represents a few acequia groups and Santa Fe County.
Jim Matison:	Wild Earth Guardians. Has worked on re-vegetation over the past 10 years.
Nichoe Lichen:	Camino Real River Connection. Wants to help heal the River to honor historic and prehistoric ties along the River, and to restore dignity.
Jim Cutropia:	Works for the Cathedral whose property is adjacent to the River and are in the process of developing that property. Interested in a healthy River and its importance for tourism.

City Staff Present:

Claudia Borchert:	Water Division. Job is to assure sustainable and viable water supply for the City.
Brian Drypolcher:	City's River & Watershed Coordinator. Brings various perspectives & a keen desire for this process to be successful; a viable solution that feels good for all parties.
Marcos Martinez:	Attorney for the City. Can provide legal background but will also be listening

Clarify our Assignment

1. Community Objectives for 1000 AFY Flows
2. Target Flow Season? Start/End Dates?
3. Preferred Flow Regime? Desired Flow Season Hydrograph?
4. Adjustments during dry years? What constitutes 'emergency' to suspend that flow?
5. Adjustments during wet years?
6. What else?

Presentation from City Staff – Brian, Claudia, Marcos

Brian provided an overview:

- Living River Initiative
- A New Ordinance and Administrative Procedures
    - Ordinance is a law to enforce upon itself
    - Ordinance is supported by a set of administrative procedures
- Public Engagement Process
    - Stakeholder Interviews
    - Community Meetings (2)
    - Working Group that drafts recommendations for Council approval
    - City Council approval process (4 council meetings)
- Living River Initiative
    - Ecology- habitat, plant life, stormwater management
    - Aesthetics – flowing water, greenery, parklands
    - Social Life – places for people to gather, connectivity, recreation, walkable-bikeable city
    - Economics – water supply, property values, supporting local businesses & tourism
- Why The Living River Initiative
    - Because the community said so
        - River Corridor Master Plan 1995
        - Long Range Water Supply
    - Because the City leadership said so, Mayor and City Council
        - City funds river work on a consistent basis
- How?
    - Conservation
    - City's Long Range Water Supply Plan and Supporting research by the Water Division
    - Buckman Direct Diversion
    - Thoughtful approach to managing our water supply
- Building Blocks of the Living River
    - Stormwater, restoration, wastewater, conservation, spring runoff

- Analysis for the Long-Range Water Supply Plan was a little different
    - 1000 AFY to SF River in average and wet years
    - 5 cfs constant flow for 100 days
    - No water released in dry years (when emergency drought management would be triggered)
    - Assumed BDD is fully operational
    - Water MAPS (Management and Planning Simulation) modeled annual water supply = 4,481 afy vs 4,900 afy
    - RWater MAPS assumed City's ability to manage sources flexibly included SF River water from all hydrologic sources: flood flow, reservoir storage, late season flow
    - Identified that legal
    -
- Supply Probability of the Santa Fe River as a Source
    - Overviewed the probability graphs and projected modeling of impacts of allowing 1000 AFY in the River.
    - Serves as a tool to understand the risk and the results show that there is a risk – not huge – of releasing water into the River.
- Illustration of Spring Releases and Abundant Precipitation
    - Risks to water supply (in terms of cost and wet water) associated with how we release water during dry years, average years and wet years.
    - Do you take 1000 AFY in addition to the 'spill' that occurs only in wet years, what is the risk to the water supply?
    - The typical year would not create a 'spill' over the resov.
    - Starting in mid-June, we are using more water than is in-flowing – i.e. starting to rely on storage.
    - If we take all the 1000 AFY during the 'accumulation' time, this can impact the water supply.
    - What if we reserved some 'bank' from excessive years to help reserve water for the river in the event that a drought year occurred the next year.
    - Question – was there any effort to link a 'percentage' to the River based upon the Watershed yield as opposed to "1000 AFY". Would a scalable number make more sense than a 'fixed' number.
    - Can the 'calendar' year be shifted to June or some other month instead of January. The time we know the most is around April 1-15. Still have no information about thunderstorms at that time.
    - Discussion on rate – is there a public process about water rates.
    - Variability is a natural pattern and hydrologic function of rivers, particularly in the West and we should be careful to not totally disrupt this pattern.
- Summary – the decision is not yet clear – this is part of the Flow Regime question. We cannot decide the flow regime, until we've made a clear examination of the community recommendations.

Small Group Exercise – review the top objectives generated from the Community Meeting and Stakeholder Interviews. Does this fit with our objectives for the flow?

OBJECTIVES

1. Ecologically Healthy Vegetative Corridor (Resiliency)
2. Benefit Entire Community with Flows (Equity)
3. Beautiful Natural Urban Greenspace w/ water in arid environment
4. Educational Resource for Schools & Community Stewardship

Group 1

- Improve ecological conditions and resiliency – everything else is related to this and tied together. Green space, tourism, etc all tied to the ecological portion. Healthy environment reflects a healthy community. Everything flows from the ecological resiliency piece.

Group 2

- Thought the line was drawn in the right place – no need to rank them, but hold them all.
- Some community objectives may not have an impact on the release regimes?

Group 3

- Building block is #1 (Ecological health) and all other things come from it.
- Recharging groundwater & well fields can also fall under #1.

Discussion on developing consensus:

- Question on how much info is submitted about these top objectives...will we list sub-categories and also those that did not make the cut?
- Better summarize the totals from each main of the 4 categories.
- Can we feed the subsets into the main 4 categories and figure out where they belong above?

Basis of consensus:

1. Site these 4 as the primary objectives, with subcategories included beneath it
2. Show in weighted order
3. Plug in other values under these 4 categories

Result: Complete consensus

Field Visit to the base of Nichols Reservoir and to the gauge below Nichols.

Take-aways from visit:

- Systems more antiquated than the kind of management we want to do with it
- Can't measure winter flows the way we want to because of frozen water surfaces

supplement to Monsoon. Like the idea of the piezometers so that can be ready with pulse if Monsoons don't come. Didn't feel that the shoulder season (Jan-March) and (Nov-Dec) was as crucial and possibly not getting all the 'bang for the buck' during this season. Would rather see more water flowing mid-April through mid-Sept. Was hoping for continued leak to help support the upper river area. Did discuss whether there was some minimum (or maximum?) amount in drought times.

Group #2 –

Jim M., Richard, Jerry, Claudia, Phyllis

Wanted to maximize pulses to San Ysidro – 5 total pulses of approximately 1 week each with a small trickle year-round. (The first pulse is 2 weeks). Shoulder season trickle accounts for nearly ¼ of the annual flows.

Extended the 8 CFS initial event out a week so it was further along into June. This would help to facilitate seeding (which may roll into June). End of June/beginning of July is the warmest part of the season and it is when there is no monsoon – they wanted to add a pulse during this time to help with watering and minimize impact of a bad monsoon season on the plantings. Adding another pulse in August in hopes that they have a normal monsoon season; just in case there is not, there is another designated flow to adapt to it. They recognize the importance of natural patterns of water in the system for a year round period of time as is dictated in the natural hydrograph. They suggest 0.60 during the early part of the year and 0.80 CFS during the shoulder seasons. August and Sept. pulses could be variable – in a good Monsoon, these could be shifted downward to help bank some of this water for the next year. This scenario reaches most of the community with flowing water. Shoulder season water may help keep upper reaches alive.

Do semi-saturated conditions, when a storm comes does this condition help attenuate flashy runoff patterns?

Rough rule-of-thumb: Look at CFS flow – and double it – to estimate how far (in miles) that water will flow. i.e. a 6 CFS pulse will maybe make it 12 miles.

Group #3 -

Steve, Felicity, William, Rich, Jim C

Recognized a few things – early part of the hydrograph (snowmelt) is easiest for us to measure, predict and mirror. Winter is dormant time, there is already some leakage, snows and melts with little demand, and so eliminated the Nov-March water and re-allocate it. Water was added to bulk up spring pulse. Stair-Steps could be based upon % of water going into McClure. For the Summer, suggest fewer, higher peaks (to be more typical of a monsoon), but if this could be flexible, could allocate more in a dry year and in a wet year allocate less. Three main pulses outside of the spring pulse. Want piezometers to help measure wet/dryness in areas with plantings to get feedback.

Common Threads for all 3

- Strong Spring 'Flush' Pulses that gets through San Ysidro.
- All had 2-3 or 4-5 San Ysdiro Pulses

- There is additional property from Rt. 599 to Cottonwood Mobile Home Park – Camino Real River Park (1 mile long) that is a joint City/County project and will open sometime this year. Nichoe recommended that we try to get water to this park? Can we pump effluent to that park.
- Erosion control is important (William Mee) as the downstream reaches of the River are being impacted. There are threats (in 5 places) to the City's sanitary sewer line. Small portion of Agua Fria Villager's property in some cases has fallen into the River.
- Hybrid 5/Scenario 3 – Works well but may need to be paired down slightly to stay within 1000 AFY.
- Jerry – providing shoulder flow, some life can be maintained. Turning it off completely will let much of the river life to die, and when it is turned back on again, everything must start again. John's concern is that if we provide shoulder water that we may have to reduce the flows during the summer between the peaks.
- Jim pointed out that we have heard about 3 different places to get water to – need to decide how far we want to get those pulses before we finalize our pulse volumes.
- Steve thinks that adding shoulder flows would support some more robust life in the upper reaches and this may be worthy even though not everyone lives along this reach.
- Jim said that yesterday that we were looking for a spring pulse to distribute seeds to the WWTP, with a few more monthly to San Ysidro.
- Nichoe mentioned that there are thousands of kids near the Camino Real Park (which is about to become City property) that would benefit from flows to San Ysidro and beyond.
- Richard mentioned that getting shoulder flows through Santa Fe Canyon Preserve (property below this is all private to Patrick Smith Park). He also suggested a spring pulse to 599, a summer pulse and 2 CFS summer flows through DeVargas Park.
- Jerry said that maintaining 2 CFS gets flow through downtown with a slight spill over St. Francis.
- William suggested 180 days @ 2 CFS and XX days @ X CFS.
- Phyllis said that most of the community input was that they wanted to river to go down further into the community where more people access it.
- Rich recommended that we at least keep 1/3 CFS in the shoulder season – even if the leak is fixed – to maintain what we have in place right now.
- Jim C. recommended taking an average year's storm flow to augment the 1000 AFY and examine this impact. Redistribute the 1000 AFY based upon flow projections from rainfall.
- Steve said that the downstream reaches have different weather/river patterns than the reservoirs and can receive water from rainfall/runoff. The uppermost reaches are not going to benefit from this runoff and are thus very dependent upon releases from the dam/reservoirs.
- Phyllis added that stormwater runoff coming from downtown has quality issues and we should try to send good quality water downstream too.
- Claudia: 4 things we do:
    - SF Canyon Preserve – 200 AFY
        - Very low flow during non-growing season (0.15 CFS?)
        - Double during growing season
    - Spring Pulse – 450 AFY (to 599?)
        - Fishing Derby/River Festival

Table 2 - Results (Phyllis, Brian, Niva, Jim M)

- This river water is the cheaper water for the City to supply; if we are in a severe drought conditions, we still want to release 1000 AFY and use other supply sources, it becomes more expensive for the City to produce the water.
- Want to be sure to establish plantings that can adjust to dry periods.
- Have 'trigger' points:
    - Snowpack (scale back when snowpack drops)
    - Reservoir Level (%)
    - Cut-off entirely based upon reservoirs
    - OR use all watershed water for the river as an investment
- Allow the 1000 AFY until the reservoir hits 20% and then cut it off.

Table 3 – Results (Nichoe, Jim C, Erin, Steve)

- Concerned with public perception with trying to maintain 1000 AFY in a time of water restrictions or other such measures. We may have to cut back – perhaps follow 20% of the inflow hydrograph.
- Trigger points for 'decision-making' – April 15/Snowpack, Monsoon Pattern
- Use these decision points to shift the release hydrograph further down-season
    - Snowpack – adjust up or down the spring pulse or interstitial flows
    - Monsoon – adjust up or down the late summer flows, pulses or Oct. pulse

Overview

- Need to think about drought, but expand our thinking beyond just 'proportional' burden. In severe drought reduce flows somewhat, in a non-severe drought keep river running. Essentially 'bank' water in the wells.
- Rate impacts may be possible depending upon long term operations of this process.
- How to define stages of drought? Use % snowpack or some other terminology?

Goals for the Ordinance & Administrative Procedures

We need to provide a solid foundation on which the adaptive management can take place.
Ordinance needs to have a trigger of 'successful operation of BDD'.

Overview of Shared Hybrid Flow Regime

- Shift August/Monsoon Pulse from August to Late June/Early July, to supplement plantings in June. Although this depends/bets upon Monsoons to provide pulses in July/Aug, it is still better to water the plantings in June than it is in August.
- Trigger/Decision point at Late June/Early July period to examine forecasts for monsoon.
- What is the 'trigger point' for seed germination late May into June?

throughout the year as a minimum maintenance flow for keeping vegetation alive. We think its somewhere between 300 and 500 acre feet?

- Claudia modifies to two pulses and a low-low flow year-round (<0.30-0.50 CFS) at the top of the watershed.
- Could be either-or: Either 3 pulses OR 2 pulses and a low base flow of 0.30 CFS.

Finishing Up & Wrap Up

- Feb. 3rd meeting – feed back to the community their objectives, here are the ways we have come up with addressing these objectives, celebrations about work that has done. Key questions – did we miss anything or big gaps? We heard you and we feel really good about it even through all of the constraints.
- Synthesize, bring to community meeting, then after meeting work it into the form of an ordinance and administrative procedures.
- Jerry would be interested, William, Felicity, Nichoe, Richard, John, Fidel.
- Who is interested in keeping to weigh-in: John, Richard, Felicity, Jerry, Jim C.
- Next meeting? How about 3:30 Tuesday Feb. 1st
- Dry Hydrograph Scenario for 'spending' water
    - 60-70 AF for 5 days @ 7-8 CFS – provide 3 pulses to keep the River alive and vegetation alive.

Bike Rack

- Way water is taken out of the River – can we take it from the 'bottom' to help clean out sediments from the bottom, thus increasing the storage capacity.
- Acequia agreements – can they water at night? Can they add additional flow monitoring? Is this a separate process of discussion with them?
- Infrastructure upgrades at the gauges and outlet structures...need for design/engineering and upgrades.

Core Working Group Retreat
Flip Chart Notes
1-21/22-2011

Welcome + Overview

- Clarify Assignment
- Why? What? What's Possible?
- City Staff Presentation
- Summary of Community Objectives
- Recommendation: Key goals for 1000 afy flows
- Lunch-Tour of Nichols Release
- Flow Season + Management in "normal" years
- Recommendation: Target Flows
- Spring Spillover + 1000 afy -> relationship?
- Preview tomorrow

Our Purpose:

Advise the City about 1000 afy flows for the Santa Fe River.

Ideas:

Dams along the way to hold water.

Outcomes:

- Recommendations on five questions – then other issues.
- Consultative process – consensus?
- Material for Toby & Erin to use in drafting.

Objectives

- Ecologically healthy vegetative corridor (esp. trees, habitat for birds and animals)
- Benefit Entire Community with Flows (Equity downstream)
- Beautiful natural urban greenspace with water in air environment.
- Educational resource for schools + community stewardship.

Bike Rack

- Does City have a right to measure amount of water acequias are taking?
- Acequia agreements? – can they water at night?
- Resources/staff to engineer infrastructure improvements?
- Can we modify legal constraints?
- Need to study/monitor how far saturated soils go in flow CFS flows

- Subject to op. constraints; 500 afy min to river

GROUP 2 – Start with Scenario 2

- Base on natural hydrograph; maximize pulses to San Ysidro.

#1 8 cfs pulse at peak of natural hydrograph – 2weeks.
#2 Pulse at end of June-hottest time of summer-6 cfs in case monsoon is late.
#3 Pulse in August as "insurance"

CFS year round; won't release if no water coming in.

- Trigger Points –
  - If inflow below average, but no senese, retain 1000 afy
  - Scale back totally rlated to res. Levels – 20%
  - or consider retaining flows to protect vegetation

GROUP 3 – Start with Scenario 2

- Dormant in Winter; Startup with Scenario 2-Nov-March
- Flexible pulses – related to monsoon events?
- Piezometer feedback for later in the season?

Triggers connected to Phases:

1. Snowpack at certain date:

   ↙ ↘

   Dry Wet

   Dry: Match hydrograph river hit proportionately
   Wet: Begin spills earlier; duration or volume of spring

2. Monson Progress:
   Weak: Retain pulse
   Strong: Extend fall shoulder; bigger October Pulse

Emergencies: Five; well contamination; system failure

Banking?

- Release 1000 afy on average over several years.
- or release in early shoulder season

Consistent

- Strong spring flush pulse

Check-In

- People in community connecting with & embracing Santa Fe River
- Great Place, connection opportunity
- Stormwater as way to connect river to its watershed
- River belongs to us
- Butterflies on river
- Help river help itself

What is important to us?

- Aquatic community biologically
- Healthy river
- Trees further downstream

- Protect from erosion
- Cultural pride – access for everyone
- Return to more natural state
- Habitat
- River to be "Great Place": beauty, access ability, functional
- Restore ecological function

City of Santa Fe
Santa Fe River - 1000 afy

CORE WORKING GROUP			
Participant List			
Name	**Organization**	**Phone #**	**E-mail**
Felicity Broennan	Santa Fe Watershed Association Director	820-1696	felicity@santafewatershed.org
Phyllis Bustamante	State Environment Dept, groundwater quality	988-1443; 827-2434	phyllis.bustamante@state.nm.us
Steve Cary	Audobon Center, scientist, Water Qual Bureau	983-7587, 983-4609 x27	sjcary@earthlink.net; scary@audubon.org
Jim Cutropia	River Commission, St Francis Cathedral	955-8864	jim.cutropia@cbsfa.org
Richard Ellenberg	River Commission, Canyon Rd Homeowners Assoc	982-1396; 505 699 9158	rde@cybermesa.com
Fidel Guitierrez	LANB; Chamber of Commerce Chair	954-5400	fidel@lanb.com
Jerry Jacobi	River Commission Chair, biologist	988-2982	drsjacobi@cybermesa.com
Nichoe Lichen	CRRC	660-6523	nichoe@earthlink.net
Jim Matison	Wild Earth Guardians	988-9126 x1154	jmatison@wildearthguardians.org
Karen Menetry	RERI river restoration, neighbor	827-0194	karen.menetrey@state.nm.us
Rich Schrader	Riversource, Commons co-housing resident	660-7928	rich@riversource.net
John Utton	Water attorney	699-1445	utton@newmexico.com
Neva Van Peski	League of Women Voters, water statistician		Nvanpeski@aol.com
William Mee			williamhenrymee@aol.com
Facilitator:			
Toby Herzlich	**Toby Herzlich & Co.**	**690-7376**	**toby@nets.com**
Erin English	Natural Systems International	988-7453	erin@natsys-inc.com
Brian Drypolcher	River and Watershed Coordinator, City of Santa Fe	955-6840	bkdrypolcher@ci.santa-fe.nm.us
Claudia Borchert	Water Resources Coordinator, City of Santa Fe	955-4203	ciborchert@ci.santa-fe.nm.us
Marcos Martinez	Assistant City Attorney, City of Santa Fe	955-6514	mdmartinez@santafenm.gov

Meeting Sign-In Sheet

Project: Santa Fe River – 1000 AFY	**Meeting Date:** 1/13/2011
Facilitator: Toby Herzlich, Erin English	**Place/Room:** Genoveva Chavez Comm. Center

Name	Street	Preferred Notification Method	Email
Castagna	Kiva		
Bill Loeb	Camino Encantado	Paper	
Carolyn Stephensan	Community Farm		
Hannah Varani	Turquoise Trail	Friend	havarani@gmail.com
Dave Kays	S. Capital	Friend	dkays@sfal.org
Art Vollmet	Calle Delfino	Paper	fish4rgct@gmail.com
Matt Eogda	Eldorado	Online	matteogdacomoyoung@gmail.com
Jen Jacob	Sol y Lomas	wom	drsjacobl@cybermesa.com
Milee Rodinno	Cliff Palace	wom	mike.rodinnol@state.nm.us
Bob Martin	W. Alameda	paper	
Dale Doremus	W. Alameda	SFRC	dale.doremus@state.nm.us
Bette Booth	Agua Fria, Frenchy's Field	email	ebooth13@comcast.net
Melinda Like	Agua Fria Village	River Commission	
Tim & Linda Michael	Tierra Contenta	email	timmichael@comcast.net
Mae Montoya	Agua Fria		
Frank Moran	Hondo Hills	email	helenandfrank@aol.com
Virginie Pointeau	Lopez St. (Agua Fria)	Email	
Dora Williams	E. Alameda		

MEETING SIGN-IN SHEET

Project: Santa Fe River – 1000 AFY	**Meeting Date:** 1/13/2011
Facilitator: Toby Herzlich, Erin English	**Place/Room:** Genoveva Chavez Comm. Center

Mario Sipowicz	W. Alameda	FB	kalihome@earthlink.net
Phyllis Bustamante	Lovatoland	committee	
Rachel Ellis	Vista Bonita	Earth Care	servicelearning@earthcare.org
David Sussberg	Osage	Earth Care	intern@earthcare.org
Rosa Moreno	Calle Inez	Earth Care	Yav_3world@hotmail.com
Shawnelle Chavez	Paseo Feliz	Earth Care	shawnelle.chavez@gmail.com
Bria Ortiz	Siringo	Earth care	
Craig Roepke	S. Capital		
Alan G. Hook	Acequia Madre	work	aghook@santafenm.gov
Eden Radfurr	Acequia Madre	work	youthallies@earthcare.org
Karen Torres	SF County	email	ktorres@co.santafe.nm.us
John Utton	Alto	mtg	utton@newmexico.com
Maud Lyonnart	Commons		maudmadre@me.com
Nate Downey	Don Gaspar	email	
Carmichael Dominguez	CoSF		
Michelle Gutierrez	County	email	mpgutierrez@santafenm.gov
John Eddy	CNA	Email/newspaper	
Mark Doles	US Army Corp	email	mark.w.doles@usace.army.mil

MEETING SIGN-IN SHEET

Project: Santa Fe River – 1000 AFY	**Meeting Date:** 1/13/2011
Facilitator: Toby Herzlich, Erin English	**Place/Room:** Genoveva Chavez Comm. Center

Name	Neighborhood/ Street	Core work group/ Interested party	Email
Neckoq Lichen	Arroyo del Chamiso	Core work groups	nichoe@earthlink.net
Danny Katzman	Casa Solana	email	katzman@cybermesa.com
Darcy Pederson	Casa Solana	email	
Rich Schrader	Commons	Core group	
Mac Watson	Canyon Rd		macwatson@cybermesa.com
Lee Lysne	Delgado Canyon	paper	llysne@walltcorp.com
Mike Tompson	Casa Alegre	Newspaper/city website	tompson@comcast.net
Bill Armstrong	Sierra del Puerto		pecos246@yahoo.com
Andrew Erdrich	Casa Alegre		p.a.erdrich@gmail.com
Meghan Bayer	Casa Alegre		meghan.bayer@state.nm.us
Nina Wells			nina.wells@state.nm.us

MEETING SIGN-IN SHEET

Project: Santa Fe River – 1000 AFY

Facilitator: Toby Herzlich, Erin English

Meeting Date: 2/3/2011

Place/Room: Convention Center

Name	Neighborhood or Street	How did you hear about meeting?	E-Mail
Felicia Broennan			
Jenny Jaeabi			
Nichoe Lichen			
Tim Michael			
Robert M Findling			
Tom Catga Jeus			
Craig Roepke			Craig.roepke@state.nm.us
John Utton			
Tom Nobel			
Ted Williams			
Cullon Hallmark			ch@garbhall.com
William Schvolich		SFWA	highmesa@gmail.com
Zach Taylor	Agua Fria		
Jerry Richardson	Guadalupe		jerryrich@gmail.com
John Eddy	Canyon Road		
Michael Cantor			
William H. Mee	Agua Fria	CWG	williamhenrymee@aol.com
Deanna Einspak	La Joya	Email	
Rick Martinez	La Joya		

CITY OF SANTA FE, NEW MEXICO

ORDINANCE NO. 2012-10

AN ORDINANCE

CREATING A NEW ARTICLE 25-13 SFCC 1987 REGARDING THE SANTA FE RIVER TARGET FLOW FOR A LIVING RIVER INITIATIVE.

BE IT ORDAINED BY THE GOVERNING BODY OF THE CITY OF SANTA FE:

Section 1. A new Article 25-13 SFCC 1987 is ordained to read:

25-13 [NEW MATERIAL] SANTA FE RIVER TARGET FLOW

Section 2. A new Section 25-13.1 SFCC 1987 is ordained to read:

25-13.1 [NEW MATERIAL] Short Title. Article 25-13 may be cited as the "Santa Fe River Target Flow Ordinance".

Section 3. A new Section 25-13.2 SFCC 1987 is ordained to read:

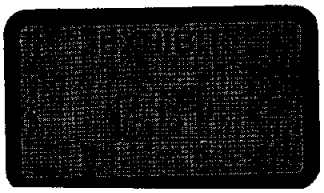
25-13.2 [NEW MATERIAL] Legislative Findings. The governing body finds that:

A. Through the adoption of Resolution No. 2009-47, Resolution No. 2010-15 and Resolution No. 2011-28 the governing body authorized the city to support a living Santa Fe River by allowing water to bypass McClure and Nichols reservoirs in 2009, 2010 and 2011.

B. The Santa Fe River is an important element of the city of Santa Fe and the city's origin was due to the existence of the river.

C. There is widespread community support for maintaining a living Santa Fe River for recreational and cultural purposes.

D. A healthy river provides riparian habitat for wildlife and minimizes erosion and flood damage, removes pollutants from storm water and helps recharge groundwater.



D. Provisions to adaptively manage the target flows based on ecological and social outcomes because of precipitation events, stream flows and effects;

E. Adjustments to the target flow due to emergencies;

F. Requirements for monitoring, accounting, and reporting target flow; and

G. Other operational and administrative procedures that may be required to fulfill the purpose of this Ordinance.

Anticipated watershed yield means the expected annual yield of water to the Santa Fe River and the municipal reservoirs within the Santa Fe River upper watershed, expressed as the percentage of the historical average; the anticipated watershed yield is estimated as of April 15th using the best available information including the amount of snow, both as depth (in inches) and snow-to water equivalent (in inches) at the weather stations in the upper watershed (Santa Fe and Elk Cabin); the Santa Fe Basin forecast predictions from Natural Resource Conservation Service (NRCS); weather forecast from the National Weather Service and NOAA; and any other pertinent appropriate weather-related information.

Below Nichols gage means the stream gaging station 08316505 located below Nichols Reservoir, or at a comparable location of measurement at or below the outlet from Nichols Dam; this is the measuring point for target flows administration pursuant to the administrative procedures.

Bypass flow means, generally, water that flows past a diversion or storage facility. In the administrative procedures, it refers to water that the city chooses not to store in the municipal reservoirs and thus allows to flow to the Santa Fe River below Nichols Reservoir provided that the rate at which the bypass flow is passed through the outlet works of Nichols Reservoir dam is always equal or less than the stream inflow at the 'above McClure' gage.

Hydrograph means a graphic representation of stream discharge, in cubic feet per second, plotted against time.

Section 7. A new Section 25-13.6 SFCC 1987 is ordained to read:

25-13.6 [NEW MATERIAL] Coordination with Santa Fe River Community Events. When possible, target flows and target hydrographs shall be patterned to support community events scheduled along the Santa Fe River.

Section 8. A new Section 25-13.7 is ordained to read:

25-13.7 [NEW MATERIAL] Water Emergency Target Flow Adjustment.

A. Pursuant to Section 25-5.6 SFCC 1987, upon declaration of a water emergency, the city manager is authorized to adjust target flows to the Santa Fe River.

(1) For the "Water Warning – Orange" implementation stage, target flows to the Santa Fe River may be suspended.

(2) For the "Water Emergency – Red" implementation stage, target flows to the Santa Fe River shall be suspended.

B. The administrative procedures provide the detailed process for adjusting target flows to the Santa Fe River during a declared water emergency.

Section 9. A new Section 25-13.8 is ordained to read:

25-13.8 [NEW MATERIAL] Reporting and Review. Annually city staff shall provide a report to the governing body summarizing the previous year's target flows and projection for the next year's target flows. The annual report shall provide the governing body the opportunity to review this Ordinance. Additional information regarding accounting and reporting is provided for in the administrative procedures.

Section 10. A new Section 25-13.9 is ordained to read:

25-13.9 [NEW MATERIAL] Effective Date. This ordinance shall become effective five days after publication of adoption.

Santa Fe WATERSHED ASSOCIATION

1413 Second St., Suite 3
Santa Fe, NM 87505
(505) 820-1696; FAX (505) 982-8557
info@santafewatershed.org
www.santafewatershed.org

River Ecosystem Restoration Initiative

Project Workplan

Habitat Restoration along the Upper Santa Fe River

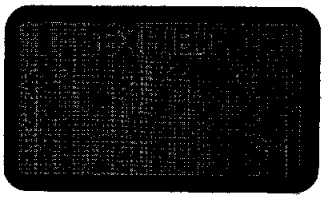
Implemented by:

Santa Fe Watershed Association (SFWA)
The Nature Conservancy (TNC)
Watershed West, LLC (WW)

The Santa Fe Watershed Association and its partner organizations have received funding from the State of New Mexico's River Ecosystem Restoration Initiative (RERI) to restore a 2,300 foot stretch of the Santa Fe River channel, immediately upstream from Two Mile Pond (see Map 1). The purpose of the project is to restore the river stretch to a healthy riparian status, and enhance the functions of the Pond as a biological refuge which can benefit the rest of the river downstream. In addition to improving the channel and restoring in-stream structures (e.g., a fish ladder where the channel will traverse the Old Stone Dam), the project also includes revegetation along the restored channel. The project land area is approximately 20 acres, as indicated on Map 2. The official project start date is January 1, 2009 and the official end date is Dec. 31, 2012. The intention of the project partners is to complete the project by June 30, 2010, a duration of 18 months.

Background

In 2007 the Santa Fe River was designated as the nation's number one Most Endangered River by American Rivers, a national advocacy group. As a dry river whose waters are impounded for municipal water supply, the Santa Fe River is truly endangered. From Nichols Dam, 3 miles upstream of the historic plaza and the Roundhouse, to the Wastewater treatment plant some 8 miles downstream, the river is normally dry. Yet even so, there substantial stretches where the riparian ecosystem is still functioning, particularly upstream of the Alameda Bridge to Two Mile Pond. Upstream of Two Mile Dam to the City-owned "concrete weir" (about half way from the Pond to Nichols Reservoir), the natural river channel has been obliterated. When water is released from Nichols it is usually redirected into a diversion channel taking off just below the concrete



weir, and reconnecting to the natural river channel below Two Mile Pond. The project will reconnect Two Mile Pond to the natural river channel upstream, by constructing a 1000' stretch of channel in the sediment fill behind the Old Stone Dam and upstream to the concrete diversion weir. The river channel above the concrete diversion weir is in a fairly natural condition and is not included in the present project. Removal of the concrete diversion weir (managed by the city but located on TNC lands) is not included in the current project, but will be considered as part of a Phase 2 follow-on project.

Historical Water Use and Hydrology. Beginning with Spanish settlement in the early 17th century, records indicate that the river was typically perennial from the headwaters through the vicinity of the plaza. From there, the river would often seep into the sandy channel, re-emerging at springs downstream. Management of the river was limited to diverting it into a system of acequias that served to supply household needs as well as irrigation. According to the hydrographic survey of 1914, there were at least 38 ditches watering 1267 acres between the upper Santa Fe Canyon and La Bajada.[1]

Between 1881 and 1943, four dams were built on the Santa Fe River: The first, Stone Dam, impounded 25 acre-feet, but was filled with sediment in a single storm in 1904. Two-Mile Dam (named for its distance from the plaza) was constructed in 1893 and stored 387 acre-feet. It was decommissioned and breached in 1994 due to safety concerns. A small remnant pond [termed *Two-Mile Pond*] is contained by the remnants of the dam. The pond is fed by water conveyed by pipe from the concrete diversion weir upstream, and also by water that seeps through the sediment-filled Stone Dam.

Hydrologically, the section of the river targeted for restoration is a gaining reach. The river channel below Nichols receives a small amount of seepage below the dam, typically under 0.5 cfs. This flow is variable and small, but has contributed to groundwater storage that has sustained vegetation and wildlife in the downstream reaches. The most important tributary is Aztec Springs, which enters the canyon from the north, just below the concrete weir, halfway between Nichols Dam and Two Mile Pond. The pond has never dried up since its construction in 1994, even in drought years.

Planning Context of the Project. Restoration of the river corridor above Two Mile Pond has been discussed since the property was transferred to The Nature Conservancy in 2002. The Nature Conservancy has actively managed the land as the Santa Fe Canyon Preserve accessible to the public, with an interpretive loop trail through the project area featuring information panels on the historic dams, the watershed, and natural life within the Preserve.

The current project to restore the natural river channel above Two Mile Pond originated from planning meetings in early 2007 between the Santa Fe Watershed Association and Trout Unlimited about the potential for restoring cutthroat trout to the Santa Fe River. The premise of these discussions was that the City would soon release a year-round

[1] Grant, Paige. Jan, 2002. Santa Fe River Watershed Restoration Action Strategy. Santa Fe Watershed Association.

instream flow, which might support a native trout species adapted to low flow environments. A reconnaissance of the riparian corridor focused attention on Two Mile Pond as a promising refuge to support trout populations particular during droughts; however, the pond would need to be reconnected with the natural flow of the river. A $10,000 seed grant was obtained from the Biophilia Foundation to conduct a feasibility study of re-connecting the pond with the river. This study was completed in May 2008 and serves as the primary basis for the present project.[2]

The feasibility study suggested that the pond would need to be deepened to ensure low enough temperatures for viable trout populations. At the same time, the water politics of the City retreated from the idea of continuous flows in the river. These two factors suggested the wisdom of a scaled-down restoration initiative (i.e., the present project) which does not depend on new instream flows, but instead can be supported from the existing water that seeps, and sometimes flows, into the pond. The scope of the present project comprises Phase 1 of an anticipated larger effort.

Project Goals and Objectives

The primary purpose of the present Phase 1 project is to restore a critical ½ mile stretch of the natural river course immediately above Two Mile Pond. Through creating new riparian habitat, the ecological health of the pond will also be enhanced. This section is of particular ecological importance as it enjoys permanent water and can serve as a refuge for aquatic life. A further objective of this Phase 1 project, is to prepare the engineering groundwork and political consensus-building for additional restoration work to be taken up as a follow-on Phase 2 project. The second-phase project would restore connectivity between Two Mile Pond and the river channel downstream to the Camino Cruz Blanca bridge (near Christo Rey Church), a distance of about one mile. This is the most biologically rich stretch of the entire river upstream of the Wastewater Treatment Plant. Providing connectivity with Two Mile Pond and the Phase-1 restored channel upstream of the Pond, would importantly enhance the river's ecological potential.

Implementation Plan and Schedule

The activities outlined here will be undertaken between January 1, 2009 and June 30, 2010. Final reports for Phase 1 would be submitted by September 31, 2010.

- Task: *Obtain permits from NMED/Army Corps (401/404 Permits); prepare application and coordinate with agencies*
  Responsible Person: Neil Williams (Watershed West)
  Completion Date: March 31, 2009

---

[2] *Fish Habitat Restoration for Santa Fe River Between Nichols Reservoir and Two-Mile Pond: A Feasibility Study and Cost Assessment.* Prepared for the Santa Fe Watershed Association by Watershed West, May 2008. Copies of this report are available on request to the Santa Fe Watershed Association: www.santafewatershed.org.

- Task: *Conduct Topographical Survey of project area.*
  Details: A survey company will be contracted to provide a reliable map for designing the new channel and associated structures.
  Responsible Party: Neil Williams (Watershed West)
  Completion Date: April 15, 2008

- Task: *Develop engineering designs: construction plans and specifications, contract documents, and stormwater pollution prevention plan*
  Responsible Person: Neil Williams (Watershed West) and Pamela Dupzyk (SFWA)
  Completion Date: May 15, 2009

- Task: *Channel Clearing above Concrete Diversion Dam*
  Details: Debris from the river channel immediately upstream of the Concrete Diversion Dam (on TNC property) will be cleared, and intake screens installed, to reduce clogging of the intake pipes (the source of water for the restored channel).
  Responsible Person: Robert Findling (TNC)
  Completion Date: June 15, 2009

- Task: *Remove portions of the twin 12" and 14" pipes that presently convey flow from the Concrete Diversion Dam to the Stone Dam.*
  Details: The pipes will be cut downstream of the point where Aztec Springs arroyo crosses the pipes (about 75m below the Concrete Diversion Dam). A ca. 30' section of the pipes will be removed and will be replaced by an open channel. This will be the beginning of the ½ mile restored river channel. Most of the remaining pipes will remain in place, unless they interfere with the course of the new river channel. It is anticipated that the pipes will need to be removed where they cut through Stone Dam (since this is also where the new river channel will cut through that dam).
  Responsible Person: Neil Williams (Watershed West), and Robert Findling (TNC)
  Completion Date: July 15, 2009

- Task: *Install flow measuring gauge below outlet of Two Mile Dam.*
  Details: An existing broken measuring device below Two Mile Dam will be rehabilitated and calibrated (contingent on City consent).
  Responsible Person: Neil Williams
  Completion Date: April 30, 2010

- Task: *Channel Restoration above Stone Dam:*
  Details: The core task of the restoration project will be the construction of a new river channel to replace the pipe conveyance from below the Concrete Diversion Dam to Stone Dam, a distance of ca. 1,000'. The excavated channel will be designed for a maximum capacity of 12 cusecs. The excavated material will be placed on-site, on Nature Conservancy lands. In addition to excavation of the channel, restoration features such as log and boulder obstacles to create riffles and pools, will also be constructed. Details will be defined in the engineering designs.
  Responsible Person: Neil Williams (Watershed West)
  Completion Date: November 15, 2009

- Task: *Revegetation along the new river channel:*
  Details: The construction of the new river channel will offer an opportunity for restoring native shrubs and trees (cottonwoods, willows), which will serve to stabilize the river banks, while providing habitat. A particular concern for aquatic restoration is vegetative shading to moderate the water temperature.
  Responsible Person: Robert Findling (TNC) and Pamela Dupzyk (SFWA)
  Completion Date: November 15, 2009

- Task: *Construct Stone Dam Drop Structure.*
  Details: The anticipated level of the restored channel where it cuts through Stone Dam will be about 10' above the downstream reach and will require a drop structure which can also function as a fish ladder. This structure will be built with materials on site (boulder debris below Stone Dam) and with some imported boulders. In addition to its dual function of drop structure and fish ladder, the structure will also help to stabilize the dam.
  Responsible Person: Neil Williams (Watershed West)
  Completion Date: November 15, 2009

- Task: *Preliminary Design of Phase 2 Restoration Elements*
  Details: As both an input to stakeholder consultations, and as an output of those discussions, Phase 2 restoration elements will be defined. Preliminary design drawings will incorporate inputs from major stakeholders, including Audubon Society, Canyon Neighborhood Association, the City of Santa Fe, and other groups, as well as inputs from expert reviewers.
  Responsible Persons: Neil Williams, Robert Findling, David Groenfeldt, and Pamela Dupzyk.
  Completion Date: April 30, 2010

- Task: *Monitoring and Evaluation*
  Details: (to be defined)
  Responsible Person: David Groenfeldt and Pamela Dupzyk (SFWA)
  Completion Date: June 30, 2010

City of Santa Fe, New Mexico

200 Lincoln Avenue, P.O. Box 909, Santa Fe, N.M. 87504-0909

David Coss, *Mayor*

Councilors:
Rebecca Wurzburger, Mayor Pro Tem, Dist. 2
Patti J. Bushee, Dist. 1
Chris Calvert, Dist. 1
Rosemary Romero, Dist. 2
Miguel M. Chavez, Dist. 3
Carmichael A. Dominguez, Dist. 3
Matthew E. Ortiz, Dist. 4
Ronald S. Trujillo, Dist. 4

May 13, 2010

Pamela Dupzyk
Santa Fe Watershed Association
1413 Second Street, Suite 3
Santa Fe, NM 87505

RE: Proposed Santa Fe River Rerouting Project in the Two-Mile Pond Area

Dear Ms. Dupzyk,

We at the Water Division remain committed to cooperating with the Santa Fe Watershed Association, as well as the numerous other entities, that are working toward a living Santa Fe River. Because there are so many moving parts to this system, one of staff's jobs, as directed by the mayor, is to see that the various efforts fit together by first focusing on an overall River Plan and by finding ways in which the many current and proposed projects can work synergistically.

As staff's email on 3/29/2010 stated, we are pleased that some of our water legal questions regarding your proposed Santa Fe River relocation/restoration project near Two-Mile Pond have been answered by the Office of the State Engineer (OSE). The answers in the OSE letter provide the Water Division more information and allow us to focus on getting policy guidance from the City's elected officials. However, we need more information from you before we are able to present a complete picture to the elected officials.

I believe overall policy question before the elected officials is whether the relocation of the Santa Fe River near Two-Mile pond is a resource priority at this time. The costs in terms of expenditures, staff time, and limited water need to be considered not only in light of the many needs of the river and the City's downstream obligations, but also against the other goals that Water Division's resources have been allocated towards.

Some of the specific issues that the elected officials will need to consider are:

Is the City willing and/or able to spend an estimated $10,000-$40,000 in order to mitigate some of the impacts to the existing facilities that the proposed project will likely incur? The cost estimates are derived from: a) the anticipated need to safeguard (relocate?) multiple transmission and distribution pressure-reducing and shut-off valves currently in the old filter plant that will likely be flooded by 10+ cfs flows, and b) restoring and maintaining a functioning Two-Mile pond drain pipe in order to restore the original flood-mitigation capacity of the

structure. In addition, we also anticipate increased staff time associated with both of these impacts. There may be other increased costs to the Water Division to resolve as yet undefined problems that may occur as a result of this project.

Would the City like to see water that is being bypassed for the living river consumed and infiltrated in the proposed project reach or instead targeted for downstream restoration areas, including initiatives funded by the City? As you know, in our region water is a scarce resource. If, for example, the proposed project decreases downstream flow by 0.1 cfs for six months every year (because of evapotranspiration and increased infiltration losses), about 35 acre-feet water less would make it downstream potentially having adverse impact to other restoration efforts.

Does the City want to invest some resources at this time while recognizing the magnitude of resources needed to bring the project to full completion? Staff understands that in order to complete the entire project, the City will need to construct a new bridge on Cerro Gordo Road across the Santa Fe River, demolish the old filter plant, relocate the transmission and distribution equipment in the filter plant, and likely re-engineer the breached Two-Mile dam. None of these large-ticket items are currently included in the Water Division's 10-yr Finance Plan and therefore would need governing body approval and could have implications on water rates.

Staff plans to bring this proposed project forward to the Public Utilities Committee (PUC) as soon as we receive the following information from you:

- the flow parameters of the most recent river relocation structure
- a summary of the an operational understanding you have reached with the Cerro Gordo Ditch Association that identifies the rate and timing of flow that would continue in the exiting river channel to meet the acequia's water right delivery needs.
- a copy of the Corps of Engineer 404 permit
- a plan on how you will comply with the OSE's requirement that no additional storage occur as a result of this project.
- confirmation of our working assumption that the pipes from the concrete weir will not be used for water movement to Two-Mile pond hence forth.

Once staff has the requested material, staff is available to work with you on the content of the PUC packet material so that it best represents the nuts and bolts of the project, the potential benefits, and impacts.

Recognizing that this project has evolved over time from SFWA's initial proposal to reroute the less than 2 cfs flows to Two-Mile pond from the existing underground pipes to an above ground channel to the current proposal to reroute the Santa Fe River, our staff has brainstormed a few other alternatives to your proposal that may include other ways to achieve the goal of increased habitat restoration in the Two-Mile pond area. These include: 1) building a rerouting structure that contains more flow flexibility coupled with a cooperatively-designed operational plan that shares the water between the two channels based, in part, on hydrologic conditions, 2) enhancing the geomorphology of the current Santa Fe River channel, 3) using the Two Mile Pond area to store high spring runoff flows allowing the water to be released downstream over the drier summer and fall, and 4) broadening the restoration goal from native trout habitat to other

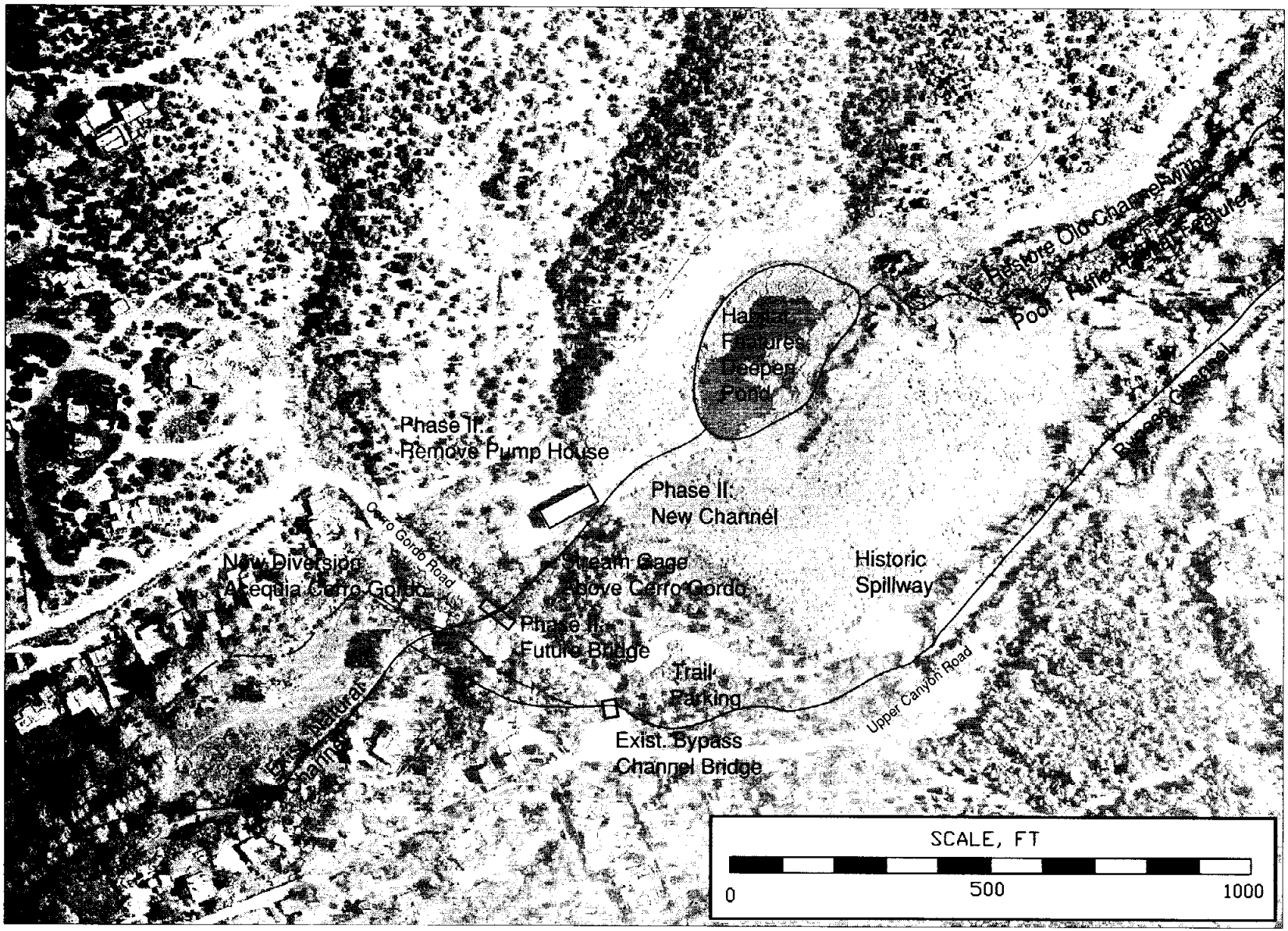
varieties of native fish that may be more achievable. Staff would be happy to discuss the alternatives identified above as well as any others with you at your convenience.

Staff remains committed to working through the various aspects of this proposed project.

Sincerely,

Brian K. Snyder, PE
Interim Public Utilities Department Director

Cc: Matt O'Rielly, Land Use Department Director
Chris Ortega, Public Works Department Director
Brian Drypolcher, Santa Fe River Coordinator
Wendy Blackwell, Technical Review Division Director
Jim Salazar, Manager, Storm Water Division Director



SANTA FE WATERSHED ASSOCIATION

FISH HABITAT RESTORATION STUDY

PRELIMINARY DRAFT 4/24/08

FIGURE 4- LOWER REACH

EXHIBIT B-7 tabbies

May 11, 2011

Mr. Robert Findling
Director of Conservation Projects
212 East Marcy
Suite 200
Santa Fe, N.M. 87501

Greetings,

This correspondence is in response to your letter dated April, 29, 2011, requesting assistance and clarification regarding my letter to the City of Santa Fe dated March 16, 2010. The letter was related to the NMOSE position on the Upper Santa Fe River Habitat Restoration Project, and now specifically regarding "man-made works". NMOSE position remains the same:

1. Water released into the Santa Fe River from upstream reservoirs ***shall not be diverted and placed to beneficial use*** via man-made works without benefit of a permit from the State Engineer.

2. Water may not be stored in Two-Mile Reservoir without the benefit of a permit from the State Engineer.

3. The OSE does not foresee any water right issues with the proposed project so long as sufficient water remains available for diversion by acequias to satisfy valid existing surface water rights.

4. The OSE does not have any statutory authority to dictate channel alignment.

Finally, the Water Rights Division (WRD) strongly recommends communication between the project sponsors and the Acequia commissions which may be impacted by the project. If further discussion would be helpful, please do not hesitate to contact WRD District 6 in Santa Fe at (505) 827-6120. Thanks in advance for your cooperation in this matter.

Sincerely,

Bruce W. Richardson
Water Resource Specialist
WRD District 6
Santa Fe, N.M.

March 16, 2010

Claudia Borchert
Water Resources Coordinator
City of Santa Fe
801 W. San Mateo Rd.
P.O. Box 909
Santa Fe, N.M. 87504-0909

RE: Proposed Upper Santa Fe River Restoration Project near Two-Mile Pond, Santa Fe County

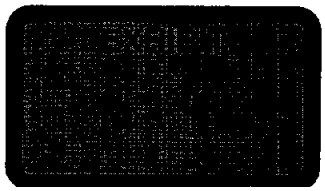
Dear Ms. Borchert,

In response to your e-mail request for input from OSE (Office of the State Engineer) regarding the subject proposal:

"The question we identified for the OSE is whether the moving or splitting of a river channel to its "original" location requires any OSE involvement. The Nature Conservancy doesn't have any water rights and are taking the position that they don't need any because the river is just being returned to where it historically has been." (*E-mail from Claudia Borchert, City of Santa Fe, 1/22/10*)

Historically, the 1919 Santa Fe River Hydrographic Survey shows the Santa Fe Creek routed thru Two Mile Reservoir. Nichols and McClure did not exist at the time of this survey and therefore are not shown on the maps. Two-Mile Reservoir was known as Santa Fe Water and Light Co. City Reservoir at the time. No valid permit is in effect to store water in the old Two-Mile Reservoir at this time. We understand some water remains in the old reservoir area below the breached dam elevation as a result of baseflow. The dam is not classified as a "jurisdictional dam", therefore no OSE Dam Safety permitting is required.

The Water Rights Division (WRD) has concluded no permit for a point of diversion is needed in this case because a diversion to appropriate the waters of the state is located on a stream channel. Water diverted from the by-pass channel would be more like a lateral ditch or wasteway/sluice which do not require permitting. The OSE does not have any statutory authority to dictate channel alignment.



It appears the project does not contemplate the diversion and distribution of water via man-made works and/or the application of water to a beneficial use. The OSE does not foresee any water right issues with the proposed project so long as sufficient water remains available for diversion by acequias to satisfy valid existing surface water rights. The acequias to consider include Acequia Cerro Gordo and Acequia del Llano, diversions 2 and 3 as shown on Mapsheets 15 and 16, of the Santa Fe River Hydrographic Survey, Vol. II (1977). In addition, as a result of this project, no water may be stored in Two Mile Reservoir unless a permit to do so is obtained, as the rights originally associated with the reservoir were transferred by permit to Nichols and McClure Reservoirs located upstream.

The WRD strongly recommends communication between the project sponsors and the Acequia commissions which may be impacted by the project. If further discussion would be helpful, please do not hesitate to contact WRD District 6 in Santa Fe at (505) 827-6120. Thanks in advance for your cooperation in this matter.

Sincerely,

Bruce W. Richardson
Water Resource Specialist
WRD District 6
Santa Fe, N.M.

CC: John Romero – WRAP Director
Elaine Pacheco – Dam Safety

MEMORANDUM

New Mexico Office of the State Engineer
Water Resource Allocation Program
District 6

To: Mary Young, Northern Rio Grande Manager, WRD

From: Bruce W. Richardson, Water Resource Specialist, WRD

Date: March 2, 2010

Re: Upper Santa Fe River Habitat Restoration Work Plan: Comments to City of Santa Fe

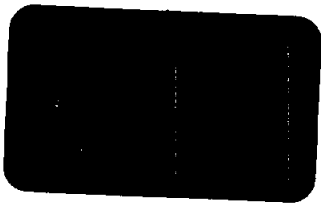
---

No applications or agency action is pending as relates to this proposal. The request for comments was received via e-mail and posed in the following manner:

"The question we identified for the OSE is whether the moving or splitting of a river channel to its "original" location requires any OSE involvement. The Nature Conservancy doesn't have any water rights and are taking the position that they don't need any because the river is just being returned to where it historically has been." (*E-mail from Claudia Borchert, City of Santa Fe, 1/22/10*)

Historically, the 1919 Santa Fe River Hydrographic Survey shows the Santa Fe Creek routed thru Two Mile Reservoir. Nichols and McClure did not exist at the time of this survey and therefore are not shown on the maps. Two Mile Reservoir was known as Santa Fe Water and Light Co. City Reservoir at the time.

The OSE does not have any statutory authority to dictate channel alignment. It appears the project does not contemplate the diversion and distribution of water via man-made works and/or the application of water to a beneficial use. The OSE does not foresee any water right issues with the proposed project so long as sufficient water remains available for diversion by acequias to satisfy valid existing surface water rights. The acequias to consider include Acequia Cerro Gordo and Acequia del Llano, diversions 2 and 3 as shown on Mapsheets 15 and 16, of the Santa Fe River Hydrographic Survey, Vol. II (1977). In addition, no water may be stored in Two Mile Reservoir unless a permit to do so is obtained, as the rights originally associated with the reservoir were transferred by permit to Nichols and McClure Reservoirs located upstream.

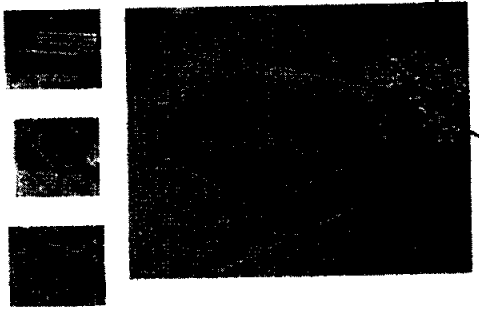


Print

Home > 6-Ft. Heritage Recycled Plastic Bench

6-Ft. Heritage Recycled Plastic Bench

Item #: 289-1128



$849.00 / EA ~~$1,239.84~~ (Save 32%) ParkExpress [redacted]

Choose your options:

* Required Fields

Color *

Choose an Option...

Frame Color *

Choose an Option...

Engraving Option *

Choose an Option...

Qty 1

Add to Cart

[redacted] Standard Freight

Buy More and Save!

Price	Qty
$849.00 / each	1 - 2
$832.02 / each	3 - 5
$815.04 / each	6 - 10
$798.06 / each	11+

Click here for Bulk Inquiry

- Low maintenance and long lasting
- A favorite among parks and commercial facilities
- Looks like real treated cedar but with the benefits of recycled plastic planks which will never splinter or rot

Description Specifications Product Reviews Product Documents

[redacted]

The park

Talk to an expert
1-800-695-3503

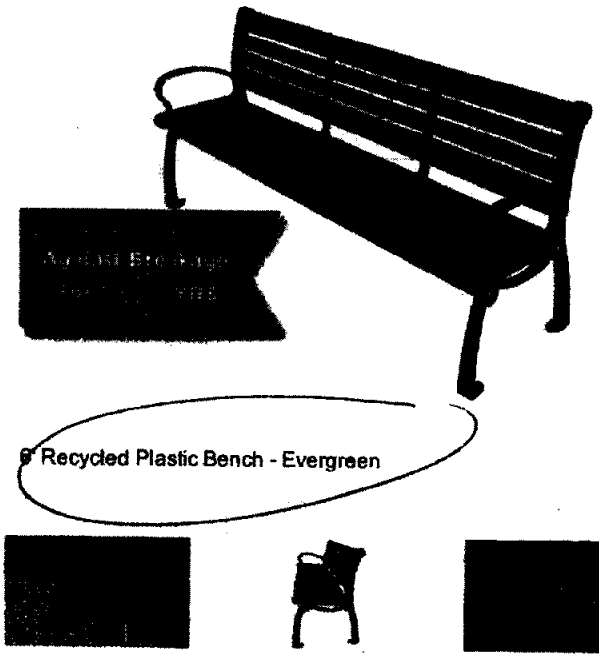
Call Hours
8am-5pm(EST) Mon-Fri

[redacted]

(1)

Madison Bench

3 Reviews



6' Recycled Plastic Bench - Evergreen

Parent SKU: TBN-01

~~$969.85~~

Special Price $774.85

See Quantity Pricing Below

Popular design enhances any outdoor area.

- Ideal seating solution for school campuses, community parks, malls and more
- Contoured seat and backrest offer comfort and style
- Top-grade recycled plastic slats are durable and low maintenance
- Cast aluminum frame, powder-coated Black

[Read More...]

4' 6' 8'

Buy 6 for $737.85 each and save 5%

Benefits Features Product Documentation

- UV and moisture resistant
- Portable with pre-drilled frames for surface mount option
- Stainless steel assembly hardware included; some assembly required
- Keep all screws loose during assembly until entire bench is assembled
- Four colors available
- 4 ft., 6 ft. and 8 ft. sizes available
- Custom engraved version available
- Custom engraved bronze plaque available
- 50 year guarantee against breakage

TheBench Factory

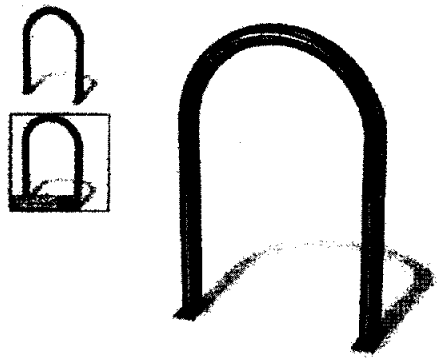
(2)

Home → U Bike Rack

Print

U Bike Rack

Item #: 526-1054



$75.00 / EA ~~$150.00~~ (Save 50%)

ParkExpress

Choose your options:

* Required Fields

Color *

Black

Qty 1

Add to Cart

Mounting Option *

Choose an Option...

Estimate Freight

Buy More and Save!

Price	Qty
$75.00 / each	1 - 2
$73.13 / each	3 - 9
$71.25 / each	10 - 19
$69.38 / each	20+

Click here for Bulk Inquiry

FREE SHIPPING ON PURCHASE OF $1,000 OR MORE (Call in only)

Description Specifications Product Reviews Product Documents

[redacted]

SCH ENTERPRISES LLC

79405 Hwy 111 Ste 9 PMB 466
La Quinta, CA 92253 US
(760)340-5555
accounting@schenterpriseslic.org
, manager@schenterpriseslic.org,
operations@schenterpriseslic.org

ESTIMATE 1743

DATE 03/14/2016

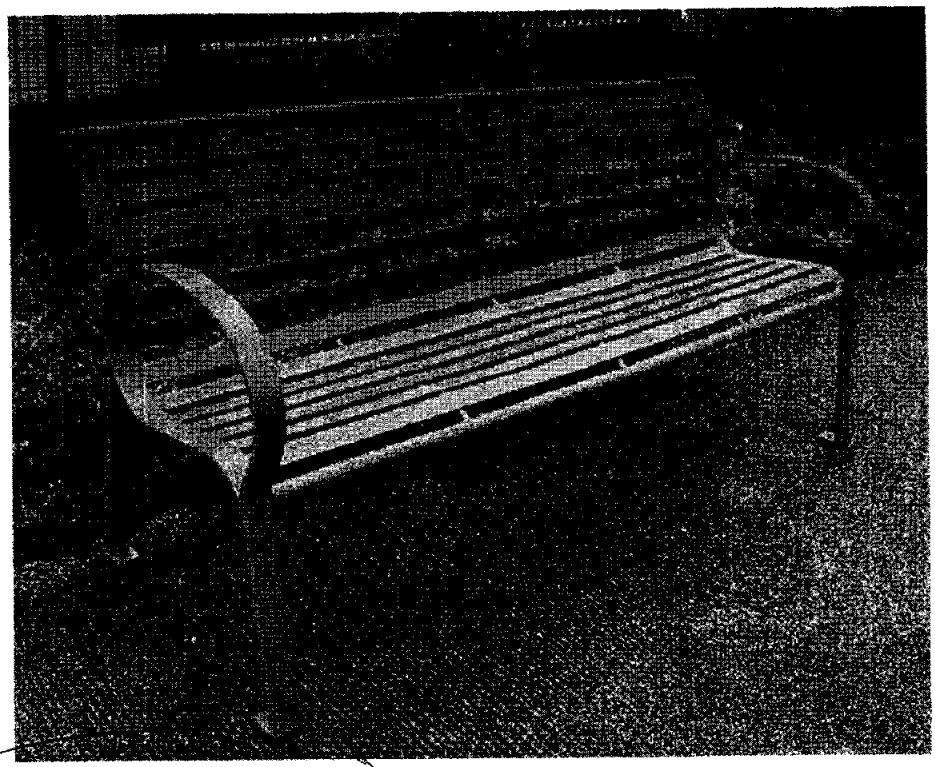
ADDRESS
Santa Fe, City of-MX

SHIP TO
Santa Fe, City of-MX

ACTIVITY	QTY	RATE	AMOUNT
BENCHES:BCBB-FB-6-SM-P Banico Series Backed Bench, Flat Bar Slats, 6' in length, Flanged Surface Mount, Powder Coat Finish	1	945.00	945.00
INVERTED U:SU 20-F-P Inverted "U" Series Bike Rack, 2 Bike Capacity, Flanged Surface Mounted, Powder Coated Finish	1	180.00	180.00
FLGMT This price is for a Flanged Surface Mount Product to be bolted to concrete.	1	0.00	0.00
PCFS The above price is for a standard color powder coated finish. Powder coated finish is a two coat process, consisting of a primer coat, followed by a T.G.I.C. Polyester Powder Coat topcoat.	1	0.00	0.00
PRICE LOCK SCH Enterprises, LLC will hold the above listed price for thirty (30) days from date of this estimate.	1	0.00	0.00
SHIPPING Shipping Charge to Santa Fe, NM for one (1) of each	1	788.00	788.00
BENCHES:BCBB-FB-6-SM-P Banico Series Backed Bench, Flat Bar Slats, 6' in length, Flanged Surface Mount, Powder Coat Finish	5	825.00	4,125.00

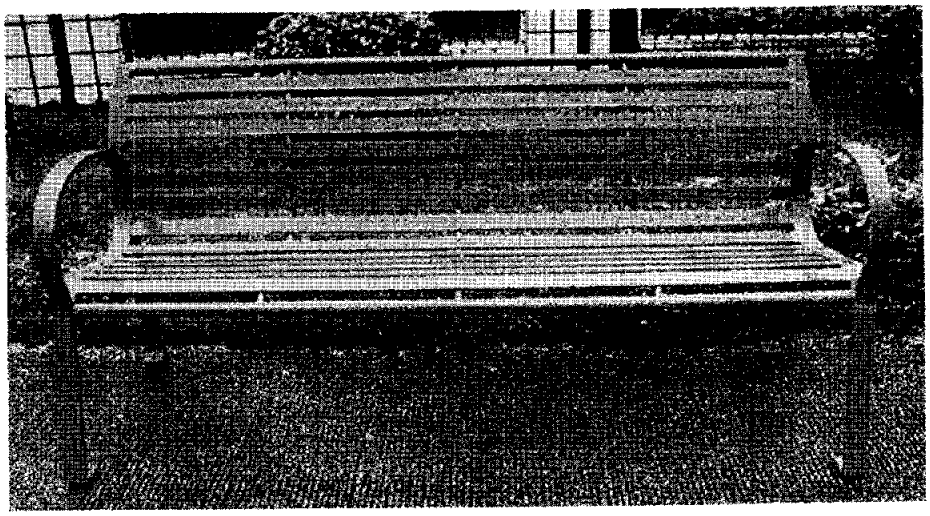
SCH

(4)



1 location

BCBB-FB-6-SM-P
Banico Backed Bench, Flat Bar Seat Pan, 6' Length, Surface Mounted, TGIC Polyester Powder Coated Finish.



1 @ 945
5 @ 825

BCBB-FB-6-SM-P
Banico Backed Bench, Flat Bar Seat Pan, 6' Length, Surface Mounted, TGIC Polyester Powder Coated Finish.

SCH

(5)

Products

Inverted "U" Bike Racks

Ask about this product

Category: Bike Racks (/products/4-bike-racks)

Inverted "U" Bike Racks

Inverted "U" Racks - Models SU and WU

$ 180 ea.

(/inverted_u_racks_models_su_and_wu.htm)

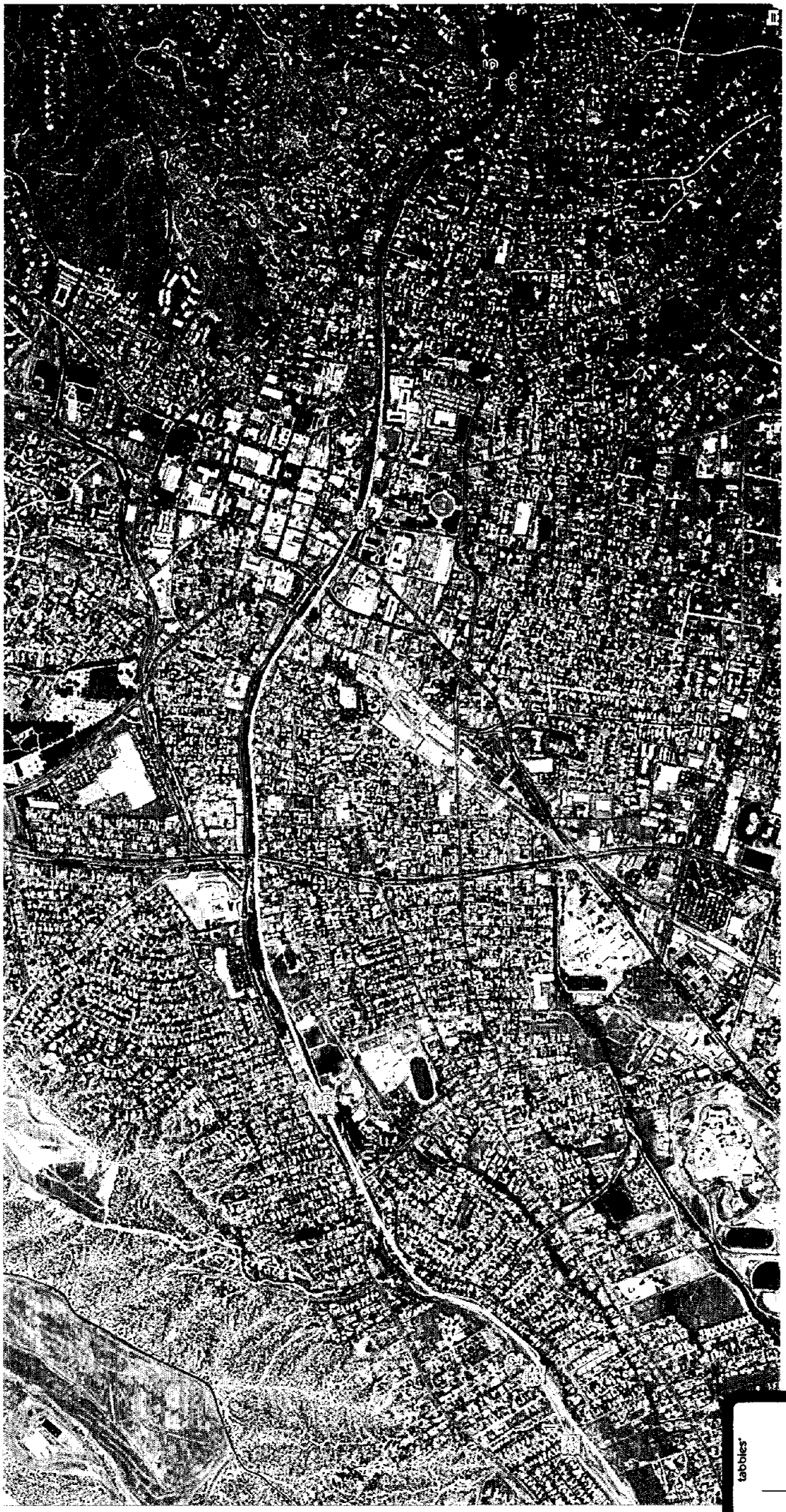
Inverted "U" Racks - Square Tubing

(/inverted_u_racks_square_tubing%20.htm)

503.364.1353 - operations@schenterprisesllc.org (mailto:operations@schenterprisesllc.org)

SCH

(6)



EXHIBIT

tabbies

C-2