Water 2120: Securing Our Water Future

Volume II: Community Outreach Events

Water 2120: Securing Our Water Future

Community Outreach Events

Customer Conversations, June 2016

Town Hall Event, July 2016

Technical Customer Advisory Committee Comments

Water 2120: Securing Our Water Future

Community Outreach Events
Customer Conversations
June 14, 16, 29, and 30
2016

Overview of the Customer Conversations Events and Record of Events and Activities

2016

Customer Conversations

Albuquerque Bernalillo County
Water Utility Authority

2016 Customer Conversations

Introduction

The Water Authority conducted four Customer Conversations in 2016 on June 14th, 16th, 29th, and 30th that focused on the update to the Water Resources Management Strategy. The two hour meetings were held throughout the community at the following locations:

- Manzano Mesa Multigenerational Center
- Don New/Taylor Ranch Community Center
- North Domingo Baca Multigenerational Center
- National Hispanic Cultural Center

Each meeting, comprised of approximately 60 customers, first provided background information on the Water Resources Management Strategy (Agenda: Attachment A). Then, small tables of 7 customers with the support of professional facilitators and recorders were asked to participate in the below activities.

- Activity 1: Creating Water Supply Portfolios
- Activity 2: Exploring Watershed Management's Impact on Fire Damage and Water Supply

ACTIVITY 1

The goal of Activity 1 was to prioritize water supply alternatives to fill in gaps in our water supply as they occur under a range of climate change scenarios. The discussion focused on the New Supply Project Alternatives Handout (Attachment B) and each group was given one of three conservation goals (Attachment C) that provided the context for how many additional new supply alternatives were needed.

The conservation goals were:

- Conservation Alternative 1 — Reduce GPCD to 120 over 10 years
- Conservation Alternative 2 — Reduce GPCD to 110 over 20 years
- Conservation Alternative 3 — Reduce GPCD to 125 over 30 years (outdoor use only)

The groups were then asked to prioritize new supply projects for low, medium and high climate change scenarios.

ACTIVITY 2

Activity 2 explored participants' willingness to pay for watershed restoration (thinning the forests so wildfires are not so devastating) in order to preserve the forests and their ability to store water supply when it falls as snow in the winter. Activity 2 asked the participants to consider the amount of watershed they would like to protect through watershed restoration to

manage the risk of fire and thus loss of surface water supply. The groups could choose to protect up to 6 sections of the watershed in the first three meetings, and were assigned the ability to protect 3 sections in meeting four. The facilitator rolled a die 6 times to illustrate the random possibility of fire that could impacting the six sections of the watershed (labeled 1–6). A section burned when the die roll matched a corresponding section number. The exercise allowed the groups to see the potential for fire damage over time to unprotected portions of the watershed.

NAME OUR STRATEGY

As participants exited the meeting they were asked to place a dot on the name they supported among those proposed on flip charts around the room.

June 14, 2016

Group 1

Sara Douglas, *Facilitator*
Ruby Gates, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#8 – Stormwater Capture and #1 – Aquifer Storage and Recovery

Medium Climate Change

#2 – Connect Southside to Northside

High Climate Change

#5 – Indirect Potable Reuse

#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: We already do this.
- Like: Not very expensive.
- Like: Will need it eventually

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Low environmental impact
- Like: Low cost.
- Like: Higher availability.

#3 – Lease Additional San Juan — Chama Water

#4 – Interbasin Transfer
- Concern: Too much money.

#5 – Indirect Potable Reuse
- Like: It has worked in other places. We already have the resources.
- Like: We already have the plant.

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater
- Concern: Too expensive.
- Concern: Not enough of it.

#8 – Stormwater Capture
- Like: Has research put into it.
- Like: Not very expensive
- Concern: Will it get us to where we need to be?
- Concern: Legal issues
- Concern: It is bad for the environment?
- Where do we put excess water?
- Is the surface water polluted?
- Concern: Money could be used for improvement on other things.

#9 – Additional Reuse — Westside/Eastside and ASR
- Concern: Didn't like turf aspect
- Like: There is lots of new building in West Mesa using lots of water.

- Like: Low environmental impact
- Like: Low cost.
- Like: Higher availability
- Drinking water = Higher priority.
- What is in more demand non-potable or potable water?

ACTIVITY 2

- The group decided to pay to protect 5 out of 6 sections of the Watershed.
- Protects the environment, and requires more resources after long period of time

Group 2

Heidi Howley, *Facilitator*
Megan Lavato, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle

Medium Climate Change

#1 – Aquifer Storage and Recovery
#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Protects environment, is available, low cost and don't have to drink wastewater

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Is secure/readily available
- Like: Is a viable option for availability, volume & low environmental impact

#3 – Lease Additional San Juan – Chama Water
- Like: Has low impact

#4 – Interbasin Transfer
- Concern: Gets water from reliable places, but it may take a while to develop infrastructure

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water
- Like: Low environmental impact

#7- Brackish Groundwater

#8 – Stormwater Capture
- Like: Protects the environment and is low cost
- Why is capturing stormwater environmentally friendlier than not to capture?

#9 – Additional Reuse/ Westside and Eastside and ASR
- Like: Is secure/readily available
- Like: Is reliable has low-medium cost and high volume

General:
- Limiting growth is important.
- There should be rewards/incentives for saving water

ACTIVITY 2

- The Group did not reach consensus.
- 1 person: 3 sections of the watershed; 2 people: 4 sections; 3 people: 6 sections; 2 people: undecided

Group 3

Karen Kline, *Facilitator*
Ross Hibbett, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Necessary

Medium Climate Change

#1 –Aquifer Storage and Recovery

#8 – Stormwater Capture

High Climate Change

#2- Connect Southside to Northside with Expansion in the Middle
#6 – Rio Grande Compact Relinquishment Credit Water

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Is environmentally friendly
- Like: Provides high yield and available at a low cost
- Like: Stores in a natural (non man-made) place

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Good for the environment, at a low cost
- Like: Involves reuse

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer
- Concern: Expensive
- Concern: Bad for environment

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water
- Like: Simple and practical

#7- Brackish Groundwater
- Concern: Small yield
- Concern: Wasteful
- Concern: Bad for the environment

#8 – Stormwater Capture
- Like: Low cost
- Like: Supports replenishment
- Like: Environmentally friendly
- Concern: Possible Evaporation

#9 – Additional Reuse –Westside/Eastside and ASR

ACTIVITY 2

- Someone wondered about other funding and if others were doing the same thing.
- After the dice was rolled the group voted on their willingness to pay for protection –5 people: 6 sections of the watershed

Group 4

Ed McCorkindale, *Facilitator*
Christina Hoberg, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#1 – Aquifer Storage and Recovery

Medium Climate Change

#2 – Connect Southside reuse to Northside with Expansion in the Middle
#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: High water availability
- Like: Lower cost
- Like: Good for environment

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Cheaper than #9, large volume, and consistently available
- One participant said cost was less important to her than environment.

#3 – Lease Additional San Juan – Chama Water

- Concern: Low availability
- Concern: Not supportive of the environment

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater
- Concern: Low availability
- Concern: Not supportive of the environment
- Concern: High cost

#8 – Stormwater Capture
- Concern: Less predictable and available
- Like: Low cost
- Like: Good for the environment
- Like: Has environmental benefit, not leaving the system and going down the drain
- Concern: Less available and not as much volume

#9 – Additional Reuse – Westside/Eastside and ASR
- Like: Available and at a low cost
- Like: Environmentally positive
- Like: Seems intuitive
- Like: Has high yield and availability and is good environmentally
- Concerns: More expensive than above choices

General:
- There was disagreement about the 2nd and 3rd choice with some members in the group wanting these two the other way around.

ACTIVITY 2

- The group did not reach consensus.
- As a whole the group was willing to protect 4 to 5 sections of the watershed.
- The environment is more important than money.
- Watershed management is an investment for tomorrow provides essential protection.
- You get what you pay for. Why are we so concerned over a small savings?
- What are the other finance alternatives other than the Water Authority customers?
- Might increase water, less fire allows more snowpack and helps climate change

Group 5

Elizabeth Phillips, *Facilitator*
Kelsey Bicknell, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#1 – Aquifer Storage and Recovery

Medium Climate Change

#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: We will always have wastewater to treat.
- Like: It is readily available.
- Concern: Is there a permit process?
- Concern: What happens when we don't have excess water?

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Will have less customer resistance
- Like: High return on water
- Not bad for the environment
- Concern: Who pays?
- Concern: What is our bill impact going to be?

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

- #5 – Indirect Potable Reuse
- Like: Frequency/reliability
- Like: Good compromise for its yield

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater

#8 – Stormwater Capture

- Like: "We like it."
- Like: "Why don't we capture?"
- Concern: Lack of reliability (frequency of storms unpredictable)

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Readily available
- Like: Not bad for the environment
- Like: Water quality is not an issue for outdoor use
- Concern: A little too expensive

General:

- Influence on decisions
- —Availability
- —Cost

ACTIVITY 2

Everyone was willing to protect 6 section of the watershed for the sake of the forests, the environment, and because their earlier water supply decisions did not pay attention to the environment.

Group 6

Myra Segal, *Facilitator*
Celina Hill, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#8 – Stormwater Capture

Medium Climate Change

#1 – Aquifer Storage and Recovery
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

High Climate Change

#5 – Indirect Potable Reuse
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery

- It was mentioned that in order to accomplish supply alternative 2, aquifer storage and recovery would already need to be in place.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

- Concern: Vetoed as it was seen to have too many political ties
- Concern: "We shouldn't have to rely on someone else to get what we need."

#7 – Brackish Groundwater

- Perhaps this alternative is meant for further in the future for when we have more brackish groundwater built up, as well as more advanced technology for cheaper and more effective treatment.

#8 – Stormwater Capture

- Like: Cheaper though less reliable than aquifer storage and recovery

#9 – Additional Reuse/ Westside and Eastside and ASR

General:

- The group's priorities when considering the supply alternatives were cost first, environment second, and reliability third.
- Which alternatives supplied potable versus non-potable water?
- Involving surface water seemed highly unpredictable under high climate change.

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.

- One woman suggested that this question has a biased answer, as all the people answering it are at a water conservation meeting, and so therefore all care about the subject much more than the average Joe.
- One strong positive consequence of investing fully included security for future generations. The group stated "we don't want to gamble with our watershed."
- One of the only concerns voiced was that there should be transparency with the customers as to where the money comes from, where it is going, and why. Educating customers should be made a priority especially when it comes to money.
- A group member brought up the environmental impact that thinning out forests would have.

June 16, 2016

Group 1

Sara Douglas, *Facilitator*
Ruby Gates, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#8 – Stormwater Capture

Medium Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

High Climate Change

#1 – Aquifer Storage and Recovery

#5 – Indirect Potable Reuse

COMMENTS

#1- Aquifer Storage and Recovery
- Like: Planning for the future, a way to save
- Like: We will eventually need it.
- Concern: Does not add anything new

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Efficient use of non-potable water
- Like: Good thing to do no matter what
- Concern: Expensive

#3 – Lease Additional San Juan – Chama Water
- Concern: Other states won't be happy.
- Concern: Doesn't directly benefit NM

#4 – Interbasin Transfer
- Like: Creates jobs
- Concern: Expensive

#5 – Indirect Potable Reuse
- Like: This is generally good. We will do it eventually. There's already a treatment plant.
- Concern: Expensive

#6 – Rio Grande Compact Relinquishment Credit Water
- Concern: Legal issues with Texas
- Concern: Will it do much?

#7- Brackish Groundwater
- Concern: What do we do with a by-product of salt?

#8 – Stormwater Capture
- Like: Free to an extent.

#9 – Additional Reuse – Westside/Eastside and ASR
- Like: Efficient!
- Concern: Aquifer will run low.
- We need to reuse.

General
- What is potable water?

- Are rain barrels good or bad?

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Puts the money in to save water for future generations
- Not very much money
- Even if we spend the money, it will still burn…
- Water = Biggest global issue
- Helps tourism
- Forest is good

Group 2

Karen Kline, *Facilitator*
Christina Hoberg, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Necessary

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

High Climate Change

#1 – Aquifer Storage and Recovery
#8 – Stormwater Capture
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: Supports the environment, lower cost compared to other options
- Like: Good volume and availability, "looks like the best choice"
-

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Low cost, good for the environment, efficient
- This table prioritized by voting for their top 3 choices and then ordered them by the alternatives with the most votes.

#3 – Lease Additional San Juan – Chama Water
- Like: Inexpensive

#4 – Interbasin Transfer
- Concern: Has environmental costs

#5 – Indirect Potable Reuse
- Like: Use on plants makes sense, even though it is expensive maybe people would use less water, less waste in reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater

#8 – Stormwater Capture
- Like: Need to capture the stormwater, not expensive, less processing, good environmentally,
- Like: Use simpler, natural systems more flexible than built
- Concern: Not currently legal
- Concern: Is unreliable
- Concern: Should encourage less home use with rebates
- Concern: Rain is questionable.

#9 – Additional Reuse/ Westside and Eastside and ASR
- Like: Cheapest, most energy-efficient, good for climate change, cost effective, good use for golf-course water

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Why? Insurance in future, other benefits, if it's gone it's gone
- No Change after rolls of dice.

Group 3

Scott McKitrick, *Facilitator*
Kelsey Bicknell, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Necessary

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

High Climate Change

#1 – Aquifer Storage and Recovery
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1- Aquifer Storage and Recovery

- Like: Readily available
- Like: Good for environment

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Better economically
- Like: Provides more water yield
- Like: Good for environment
- Like: Available
- Like: Offers flexibility needed for supply

#3 – Lease Additional San Juan – Chama Water

- Like: Low cost
- Concern: Not frequent enough

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Supports reuse
- Like: Always available

General:

- Concern: Cost

ACTIVITY 2

- The Group was willing to protect 4 sections of the watershed.
- How much is lost to a fire and what is the likelihood of a fire occurring?
- What is the need?
- If we can protect it then we might as well protect as much as we can.

Group 4

Elizabeth Phillips, *Facilitator*
Megan Lavato, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

Medium Climate Change

#1 – Aquifer Storage and Recovery
#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: Simple infrastructure project and provides good volume/availability, okay for environment, low cost

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Simple infrastructure project and provides good volume/availability, okay for environment, low cost

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

- Like: Reliability is most important and 1 star for availability is not an option so this is the only option.

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

- Concern: Bad all around, should not be an option

#8 – Stormwater Capture

- Like: Low cost, controllable, high volume, good for environment, and frequency of availability (balancing these is important)

#9 – Additional Reuse/ Westside and Eastside and ASR

- Like: Volume, availability, medium cost, ok on the environment

General:

- Where is the money coming from?
- Population growth is at stake, high costs mean people won't move to ABQ or have the money to move out.
- This is consumer dollars, not just developers.
- Economic situation doesn't help.
- We can't rely on just the aquifer. We must pay for water in the desert!
- Most import criteria are cost, reliability, and conservation efforts.
- Protect the Rio Grande Valley and all watersheds

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Protect all watersheds when possible
- It must be guaranteed that all of the money goes towards watershed restoration and not to administration
- This is like purchasing insurance for our watersheds.

Group 5

Ed McCorkindale, *Facilitator*
Spenser Jordan, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

#1 – Aquifer Storage and Recovery
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

Medium Climate Change

#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: High water volume, frequency of availability, and low impact on the environment.
- The group could not decide between the #1 and #2, so both of these options became our first priority.
- Concern: Is the environmental impact worth the higher cost between Option #1 and Option #2?

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Has high water volume, frequency of availability, and low impact on the environment.
- The group could not decide between the #1 and #2, so both of these options became our first priority.
- Concern: Is the environmental impact worth the higher cost between Option#1 and Option#2.

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

- Concern: Climate change is already a problem. It would be bad to use an option that has such a negative effect on the environment.

#5 – Indirect Potable Reuse

- Like: Has high availability and yield, and as climate change gets more severe availability is more important than low cost.

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

- Concern: High cost, low availability, and high environmental impact with low water volume gained

#8 – Stormwater Capture

- Like: Relatively high yield, low environmental impact, and low cost
- Concerns: The availability of stormwater as climate change becomes more severe — some members brought up that in the High Climate Change scenario, the amount of rainfall in Albuquerque will be lower than anticipated.

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: High yield and lower impact on the environment

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Having that insurance was a "no brainer"
- After the die was rolled the group was able to see that the watershed was covered and that it was a good investment to protect it.

Group 6

Myra Segal, *Facilitator*
Ross Hibbett, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#1 – Aquifer Storage and Recovery
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

Medium Climate Change

#5 – Indirect Potable Reuse

High Climate Change

#8 – Stormwater Capture
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Seems doable

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: You are making something you've got more efficient.
- Concern: Environmental benefits not quite as high as #1.
- Like: Always available
- Like: Supports reuse

#3 – Lease Additional San Juan – Chama Water
- Like: Cost effective
- Concern: Low availability

#4 – Interbasin Transfer
- Concern: Not feasible
- Concern: Water is already over extracted from the Colorado River.
- Could maybe be feasible with San Augustine Basin to put water in Rio Grande
- Concern: Too much risk
- Concern: If we buy water from another basin will it actually be able to be delivered when we need it?

#5 – Indirect Potable Reuse
- Like: Supports reuse
- Concern: Not great for environment but — one man said people over plants
- Like: Provides more energy for treatment of drinking water

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater
- Concerns: Desalination is expensive.

#8 – Stormwater Capture
- Like: Could be done on a small, individual level
- Concern: Could take a while to change laws for this to happen

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Availability
- Like: Supports the environment

General:

- Reliability is most important.
- Feasibility was also important.
- Environment is important as well.

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Does money add up or is it incremental?
- Risk is too important.
- Paying now will save more later

Group 7

Grace Solis, *Facilitator*
Celina Hill, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

Medium Climate Change

#1 – Aquifer Storage and Recovery
#9 – Stormwater Capture

High Climate Change

#5 – Indirect Potable Reuse
#3 – Lease additional San Juan-Chama Water

COMMENTS

#1 – Aquifer Storage and Recovery

- Low cost, low risk, and high yield.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: It improves on existing systems rather than creates a new one, as well as the yield was the same as option #1, but the project was cheaper overall.

#3 – Lease Additional San Juan – Chama Water

- Like: Yielded more water than option # 8
- Concern: It relies on other people.

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

- Concern: High cost
- Like: High yield and lack of dependence on other communities were favored.

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture

- Concern: An impractical choice for Albuquerque's climate.
- Concern: Unreliability

#9 – Additional Reuse/ Westside and Eastside and ASR

- Like: Low cost, low risk, and high yield

General:

- Overall the group tended towards higher risk alternatives at the beginning and was more conservative near the end of the activity.

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- "We rely so much on surface water, it doesn't make sense not to protect it."
- The cost is worth the protection, and that it did not make sense to not protect all of them.

June 29, 2016

Group 1

Sara Douglas, *Facilitator*
Megan Lovato, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Necessary

Medium Climate Change

#1 – Aquifer Storage and Recovery
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

High Climate Change

#1 – (again) Aquifer Storage and Recovery
#2 – (again) Connect Southside Reuse to Northside with Expansion in the Middle
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1 – Aquifer Storage and Recovery

- How much do we save from evaporation?
- Concern: Can't choose #1 without #2 or #3
- Concern: May require building additional storage space.
- Concern: Would cost more than the chart says
- Add this a second time and combine with #2 and #9.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

- Concern: Too expensive.
- Can the city get a grant?

#5 – Indirect Potable Reuse

- Concern: Uses too many chemicals, don't want to drink waste water

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Like: Important to capture stormwater and low cost

#9 – Additional Reuse – Westside/Eastside and ASR

ACTIVITY 2

- The group did not reach consensus.
- One person was willing to protect 6 sections.
- Concern that watersheds out of NM or ABQ are being restored with our money.
- This is the US Forest Service's responsibility.
- People don't understand where these watersheds are.
- Senators and Representatives should get involved.

Group 2

Jillian Gonzales, *Facilitator*
Spenser Jordan, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#8 – Stormwater Capture

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#9 – Additional Reuse – Westside/Eastside and ASR

High Climate Change

#6 – Rio Grande Compact Relinquishment Credit Water

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: High yield of water gained
- Concern: Is it viable?

- Are you saving water if you are moving the water from one place to another?

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Low cost, high availability, low impact on the environment and relatively high yields
- Like: Well roundedness, low environmental impact, high availability, low cost and high yield

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

- High yield of water

#7 – Brackish Groundwater

#8 – Stormwater Capture

- Like: Low cost, high availability, low impact on the environment and relatively high yields
- Concern: The amount of rainfall Albuquerque would get in higher climate change situations could impact the effectiveness of this option.

#9 – Additional Reuse/ Westside and Eastside and ASR

- Like: Low cost, high availability, low impact on the environment and relatively high yields
- Like: Well roundedness, low environmental impact, high availability, low cost and high yield

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- If the Water Authority has the resources to protect the watershed from fires than they should be doing all they can.

Group 3

Heidi Howley, *Facilitator*
Christina Hoberg, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#1 – Aquifer Storage and Recovery

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#9 – Additional Reuse – Westside/Eastside and ASR

High Climate Change

#8 – Stormwater Capture
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: High volume
- Like: Reliability
- Like: Medium-low cost
- Like: Good for the environment

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Low cost, good for the environment
- Like: Use of non-potable water more acceptable for outdoors

#3 – Lease Additional San Juan – Chama Water

- Like: Not too expensive but availability unclear
- Concern: Environmentally less friendly and concerns about frequency and reliability

#4 – Interbasin Transfer

- Concern: Considered next to last resort because of the cost and impact on the environment

#5 – Indirect Potable Reuse
- Like: High frequency and reliable
- Concern: A little more expensive

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater
- Worst choice, extremely expensive, not reliable, bad for the environment

#8 – Stormwater Capture
- Like: Good qualities are availability/volume, and environmental quality
- Concern: How reliable are storms?

#9 – Additional Reuse – Westside/Eastside and ASR
- Like: Similar qualities to aquifer storage and recovery
- Like: Medium environmental impact
- Like: Good volume/availability

ACTIVITY 2

- The group was willing to protect 3 sections of the watershed.
- The group could see that watershed management was very important.
- If they had to pick another water option: #3 is the 6th choice

Group 4

Scott McKindrick, *Facilitator*
Lily Gates, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#1 – Aquifer Storage and Recovery

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#8 – Stormwater Capture

High Climate Change

#5 – Indirect Potable Reuse
#9 – Additional Reuse – Westside/Eastside and ASR

COMMENTS

#1- Aquifer Storage and Recovery
- Like: We already do this and it's not very expensive

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Helps the environment and isn't too costly
- Like: Low environmental impact, low cost

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater

#8 – Stormwater Capture
- Like: Already has research put into it, not very expensive, "might as well be using it even if it doesn't rain regularly"
- Concern: Doesn't rain all the time.

#9 – Additional Reuse/ Westside and Eastside and ASR
- Like: Similar to #2 but more costly.
- Like: Non-potable-ness.
- Concern: Didn't like turf aspect
- Like: There are lots of new buildings in West Mesa using lots of water.
- Like: Because lots of Development taking place
- Like: Drinking water = Higher priority
- Is there more demand for potable or non-potable water?

ACTIVITY 2

- The group was willing to protect 6 sections of the watershed.
- Protects environment provides more resources after long period of time.

Group 5

Ildi Oravecz, *Facilitator*
Ruby Gates, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle
#1 – Aquifer Storage and Recovery

Medium Climate Change

#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Environmentally friendly

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Least expensive, good for the environment, already a resource coming in

#3 – Lease Additional San Juan – Chama Water
- Like: Less expensive
- Concern: Are we going to have to fight?
- Concern: Small value, does not fill 10,000 in volume

#4 – Interbasin Transfer
- Concern: Very expensive

#5 – Indirect Potable Reuse
- Like: Safe
- Like: Expensive

#6 – Rio Grande Compact Relinquishment Credit Water
- Would use to overfill the gap, but not rely on
- Concern: Not guaranteed
- Trying to create balance
- Concern: Small quantity

- El Paso will take the water.
- Chance to lease water is not high.

#7 – Brackish Groundwater
- Concern: It's bad for the environment.
- We should only use in the worst case scenario.

#8 – Stormwater Capture
- Like: We can use it for "emergencies".
- Like: Not expensive
- Concern: Not quite enough of it

#9 – Additional Reuse/ Westside and Eastside and ASR
- Like: Important putting it to use
- Like: Available!!

General:
- Why let any water go to waste?

ACTIVITY 2

- The group was willing to protect 3 sections of the watershed now.
- They said they will have to pay it eventually.
- The whole forest won't be covered even if we put in 60 cents.
- We would use #3 to fill the gap if lost to a fire.

Group 6

Sara Sanasac, *Facilitator*
Celina Hill, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

Gap was filled but group decided to plan ahead
#8 – Stormwater Capture
#2 – Connect Southside Reuse to Northside with Expansion in the Middle

Medium Climate Change

No alternatives chosen because gap was filled

High Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR
#1 – Aquifer Storage and Recovery
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery
- Concern: Medium cost

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Provides large yield and low cost because it expands upon current systems rather than starting from scratch

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Like: Water is available but not used, and by keeping water out of the streets, extra costs from pot holes and other issues would be avoided.

#9 – Additional Reuse – Westside/Eastside and ASR
- Concern: Higher cost

General:
- There was some discussion about residential greywater reuse, which was not on the sheet. Overall the group was very aware of cost in relation to the actual value of the projects.

ACTIVITY 2

- Group 6 had many thoughts on the watershed management activity.
- They started off by protecting all 6 sections of the watershed.
- They decided that if they were to lose a portion of the watershed, despite protecting it, that they would build another aquifer.
- The group firmly expressed that if money were to go into protecting the watersheds, educating the public on the issue would be imperative.
- They also recommended pursuing federal funding for this particular project.

Group 7

Myra Segal, *Facilitator*
Kelsey Bicknell, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No alternative required

Medium Climate Change

#1 –Aquifer Storage and Recovery

High Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: Captures whole picture
- Like: Could lead to more potable water
- Like: Allows for flexibility
- Like: Readily available

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Provides water for outdoor use
- Drinking water is still a possible outcome
- Like: Equal opportunity for north and south for greenspace
- Low cost
- High frequency
- ☺ environment

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

- Like: Drinking water is a priority.
- Concern: Expensive
- We will always have wastewater.

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture

- Concern: Intermittent
- Concern: It is the right thing to do
- Like: Low cost
- Concern: Need rights to water

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Good for environment
- Like: Water volume is high.
- Available→always have wastewater
- Concern: Have to build a pipeline

General:

- Like conservation alternative 2. Cost and environmental concerns were a major criteria.

ACTIVITY 2

- If it costs more to cleanup a fire, we might as well invest now to avoid that cost.
- Saves the forest
- In case of fire, supply option #1 is the best option.

Group 8

Grace Solis, *Facilitator*
Nicki Villasenor, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#9 – Additional Reuse – Westside/Eastside and ASR

Medium Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#8 – Stormwater Capture

High Climate Change

#1 –Aquifer Storage and Recovery
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: High yield, good availability, low cost.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Lower cost and high availability

#3 – Lease Additional San Juan – Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse
- Like: Good availability
- Concern: Costly

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Like: Catches unused water, good for the environment , rain barrels show us the possibilities
- Concern: It is dependent on nature.

#9 – Additional Reuse –Westside/Eastside and ASR
- Like: Supports reuse- tribes and reservations are doing this and it works — costly but has benefits — ABQ has the know-how

ACTIVITY 2

- No comments

June 30, 2016

Group 1

Sara Douglas, *Facilitator*
Kelsey Bicknell, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
#8 – Stormwater Capture

Medium Climate Change

#1 –Aquifer Storage and Recovery

High Climate Change

#5 – Indirect Potable Reuse
#9 – Additional Reuse – Westside/Eastside with ASR

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Not too expensive, but other economically conservative options also available
- Like: Provides good benefits
- Concern: What is the source of the water?

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Reuse is a must
- Like: Cheap
- Like: High yield
- Like: Available

#3 – Lease Additional San Juan – Chama Water
- Concern: Not reliable
- Concern: Feels like stealing, not viable
- Concern: Will cause fights for water
- Concern: Too much uncertainty

#4 – Interbasin Transfer
- Concern: Expensive

- Concern: Yet to be determined source
- Concern: Energy intensive

#5 – Indirect Potable Reuse

- There are better options.
- Would consider as a fallback
- Like: Supports Reuse
- Like: Possible low impact on environment

#6 – Rio Grande Compact Relinquishment Credit Water

- Concern: Not realistic
- Concern: Other people have first rights
- Concern: Low availability/likelihood

#7 – Brackish Groundwater

- Concern: Absolute last resort
- Concern: Most expensive
- Concern: Low frequency

#8 – Stormwater Capture

- Like: Love it
- Like: Cost is good for volume
- Like: It is basically free water
- Like: Slightly unreliable
- Like: Use for watering homes
- Like: Storage (rain barrels) eliminates evaporation loss

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Additional reuse is good
- Like: Cost

General

- Everyone (federal, state, city, industry) needs to follow water restrictions and promote xeriscaping.
- Encourage reduction of turf
- Continue educating public about where water comes from (especially adults)
- Encourage Adopt-a-Forest Program

ACTIVITY 2

- Would rather invest money now in watershed protection than find a new supply later
- In case of fire, would rather increase #1, than pick supply alternatives #3 or #4.

Group 2

Heidi Hoberg, *Facilitator*
Lily and Ruby Gates, *Recorders*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Required

Medium Climate Change

#1 –Aquifer Storage and Recovery

High Climate Change

#8 – Stormwater Capture
#9 – Additional Reuse – Westside/Eastside with ASR
#2 – Connect Southside to Northside with Expansion in the Middle

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Is a balanced alternative
- Like: We need water volume.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Readily available and low cost
- Like: Low cost, does not impact environment, availability, covers area

#3 – Lease Additional San Juan – Chama Water
- Like: Does not impact the basin water
- One thought it was ok to take from others, the rest did not.

#4 – Interbasin Transfer
- Concern: Do not support the environment
- Like: When it's in Northern storage there's less evaporation.

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater
- Like: Put some in, get even more out

- Concern: What do we do with the salt?

#8 – Stormwater Capture

- Like: Low environmental impact, cost, and it's easy to collect
- Like: Easy add on to any plan at a low cost.

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Covers turf areas with non-potable water
- Like: Low cost, consistent, does not impact the environment, it's already there- thinking of NM as a whole, focusing on where we need work

General:

- The group considered protecting the environment and cost as most important.
- Want a little bit of everything
- Aquifer storage is important so water doesn't evaporate.
- All of them have their pros and cons.

ACTIVITY 2

- If all burned, the group would chose Option #5 to cover loss of surface water.

Group 3

Karen Kline, *Facilitator*
Molly McCarthy, *Recorder*

ACTIVITY 1 • Conservation Alternative #2

Low Climate Change

No Alternative Required

Medium Climate Change

#1 – Aquifer Storage and Recovery
#8 – Stormwater Capture

High Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle
#9 – Additional Reuse – Westside/Eastside with ASR

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Covers overall criteria
- Do we have to buy water rights?

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Best covers overall criteria

#3 – Lease Additional San Juan – Chama Water
- Concern: If everyone leases water, the price will go up.

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water
- Why wait for Texas?
- Concern: Not frequent enough

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Concern: Unreliable, bad in case of drought (likely with global warming)
- Like: Helps riparian ecosystem and is free

#9 – Additional Reuse – Westside/Eastside and ASR
- Most reliable source of water

General:
- The overlying theme for this group was finding BALANCE between all factors - return on investment, finding balance of all factors (environment, water yield, availability, cost)
- The group was glad they had a high conservation goal – it made their job a lot easier.
- If you conserve too much the rates increase to pay for infrastructure.
- "Damned if you do, damned if you don't."
- Why wasn't customer conservation an option?
- Personal and city lawns waste water!
- Everyone needs to agree not to waste (mentioned troublesome neighbors).
- Be evaporation conscious!
- Nobody uses parks anymore so why do we use so much water on them?

ACTIVITY 2

- Struggled to choose between Indirect Potable Reuse (one group member thought this was gross) and Rio Grande Compact Relinquishment credit water to replace burned watershed

- Indirect Potable Reuse: Most reliable
- Rio Grande Compact Relinquishment Credit Water: Could we save up the water from #6 in between fires?
- Dilemma: Heat = less water available AND more fires
- The group thought Indirect Potable Reuse and Rio Grande Compact Relinquishment Credit Water were equally good choices.

Group 4

Elizabeth Philips, *Facilitator*
Christine Hoberg, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#1 – Aquifer Storage and Recovery No Alternative Required

Medium Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle
#8 – Stormwater Capture

High Climate Change

#9 – Additional Reuse – Westside/Eastside with ASR
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery

- Like: Availability/reliability
- Like: Can bank reserves
- Like: Reduced evaporation of water
- Like: Average cost
- Like: Lower environmental impact

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Concern: Some infrastructure needed
- Like: Moderate impact on environment
- Like: Reusing water - not relying on nature during dry periods
- Group believed technology would need to be created in order to achieve this level of conservation though.

#3 – Lease Additional San Juan – Chama Water

- Concern: Has to be negotiated

- Concern: Unreliable

#4 – Interbasin Transfer
- Concern: Very expensive
- Concern: Bad for environment

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater
- Concern: Expensive
- Concern: Bad option all around

#8 – Stormwater Capture
- Concern: Less reliable if we don't get rain
- Like: Good for environment
- Like: Storage in aquifer
- Like: Stormwater preferred over reused waste water - should explore rain barrels

#9 – Additional Reuse – Westside/Eastside and ASR
- Like: Already in use
- Like: Good water volume
- Golf courses use a lot of water.

General:
- You need it to be there in order to have water so availability is most important.
- City projects provide the most reward for the dollars spent.
- Destruction of the environment cannot necessarily be reversed.
- More automatic and voluntary rebates
- Incentives to start and then make conservation requirements

ACTIVITY 2

- Feel that it is really important to protect and manage what we can even though we cannot do it all
- The group would be willing to pay to manage the full watershed
- It's affordable and environmentally friendly.
- Long term planning is important.
- Current forests are very unhealthy because of putting out fires.

Group 5

Ildi Oravecz, *Facilitator*
Leslie Kryder, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle

Medium Climate Change

#9 – Additional Reuse – Westside/Eastside with ASR

High Climate Change

#1 – Aquifer Storage and Recovery
#6 – Rio Grande Compact

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Provides high volume and frequency
- Concerns: Possible contamination of the aquifer

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Low cost, high volume, and environmental benefits

#3 – Lease Additional San Juan – Chama Water
- Like: Provides lots of water relative to the cost

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water
- If additional storage has to be built, would this still be a low cost option?

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Like: Captures rainwater, which is currently left to run off or evaporate, and is low cost

- One member thinks that it should be possible to change rules so the water can be stored beyond 96 hours although the technical expert felt it would be very expensive to get rules changed.

#9 – Additional Reuse – Westside/Eastside and ASR

- Like: Environmental benefits

General:

- Why is #3 an option when we are not even using the entire amount of San Juan Chama water that we already have available?
- Do any of the proposed options include the use of graywater?
- Concerns about leftover pharmaceuticals being injected into aquifer
- A group member expressed concern that the descriptions of the options don't provide enough information for attendees to get an accurate understanding of the implications.

ACTIVITY 2

- The group selected option #5 as its next choice in case of loss of watershed to fire for the environmental benefit, lower cost, and felt that water would likely be available more often than with #3.

Group 6

Sara Sanasac, *Facilitator*
Nicki Villasenor, *Recorder*

ACTIVITY 1 • Conservation Alternative #1

Low Climate Change

Gap was filled but group decided to plan ahead.

#1 – Aquifer Storage and Recovery
#8 – Stormwater Capture

Medium Climate Change

#2 – Connect Southside to Northside with Expansion in the Middle

High Climate Change

#9 – Additional Reuse – Westside/Eastside with ASR
#5 – Indirect Potable Reuse

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Good for the environment, high volume, not too expensive.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Good for the environment, low cost, high production

#3 – Lease Additional San Juan – Chama Water
- Concern: Low availability

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse
- Like: Supports reuse
- Concern: Cost is high

#6 – Rio Grande Compact Relinquishment Credit Water
- Concern: Availability

#7 – Brackish Groundwater
- Concern: Technology not there

#8 – Stormwater Capture
- Like: Cheap infrastructure

#9 – Additional Reuse/ Westside and Eastside and ASR
- Like: Availability, low cost, and good for the environment
- Concern: Too expensive

ACTIVITY 2

- No comments

Group 7

Myra Segal, *Facilitator*
Megan Levato, *Recorder*

ACTIVITY 1 • Conservation Alternative #3

Low Climate Change

#1 – Aquifer Storage and Recovery

Medium Climate Change

#5 – Indirect Reuse – Westside/Eastside and ASR
#2 – Connect Southside to Northside with Expansion in the Middle

High Climate Change

#9 – Additional Reuse – Westside/Eastside with ASR
#8 – Stormwater Capture

COMMENTS

#1 – Aquifer Storage and Recovery
- Like: Recharging the aquifer works
- A farmer commented that growing trees, fruits/vegetables requires that good soil is. replenished
- Concern: Will the aquifer always be available?
- Concern: We need more storage.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle
- Like: Seems to be good all around
- Like: Use this in high climate change scenarios and start building infrastructure since it is currently nonexistent

#3 – Lease Additional San Juan – Chama Water
- Like: The Challenge of it

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse
- Like: Good idea but have to think about energy use if it rains

#6 – Rio Grande Compact Relinquishment Credit Water

#7 – Brackish Groundwater

#8 – Stormwater Capture
- Like: Capture is important because the water already exists and is inexpensive.
- Land use policy change needs to happen, no more paving because we need land for the aquifer.
- Open land is best for recharging the aquifer.
- Concern: Too unreliable

#9 – Additional Reuse – Westside/Eastside and ASR
- Like: Water, reliability, medium cost (seems to be all around good)

General:

- More greywater systems need to be in residential buildings

ACTIVITY 2

- A lot of concern that this would replace the activity 1 supply alternatives in the budget, but it was explained that they are separate
- Alternatives #1 & #2 would be added if forest fires occurred and we needed more water

Name our Strategy

July 14, 2016

Water 2120,
Our Path Our Future
0 votes

Water 100,
Our Path Our Future
4 votes
Comment: Use "Life instead of path…el aqua es vida — water is life

Water 100,
Securing our Water Future
3 votes
Comment: No "future" it feels less motivating

Water 2120,
Securing Our Water Future
28 votes
Comment: Securing the Future of our Water

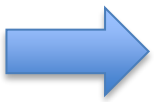
Water 100,
Plan for the Future
0 votes

Water 2120,
Plan for the Future
4 votes

July 16, 2016

Water 2120,
Securing our Water Future
16 votes
Comment: Just Say "Water 2120"

Water 2120,
Providing for the Future
8 votes

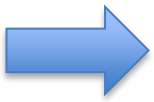


Water 2120,
Our Path to a Secure Future
18 votes
Comments:

- *"Water Tomorrow*
- *Agua 2120, Water for Tomorrow*
- *Zippy Sippy 2120*

July 29, 2016

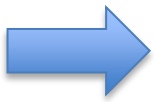
Water 2120,
The Path to a Secure Water Future
8 votes



Water 2120,
Securing our Water Future
28 votes

Water 2120,
A Century of Secure Water
11 votes

July 30, 2016



Water 2120,
Securing Our Water Future
17 votes
Comments:

- *Together Securing Our Water Future*
- *Save Today for a Better Tomorrow*

Water 2120,
A Century of Secure Water
8 votes

Water 2120,
Our Path to a Secure Water Future
16

Water 2120: Securing Our Water Future

Community Outreach Events
Customer Conversations
June 14, 16, 29, and 30
2016

Customer Conversations Agenda

Customer Conversations Agenda

June 14, 2016
6:00 PM – 8:00 PM

6:00	**Welcome/Introductions** **Agenda Review**: Mary Davis Hamlin, Facilitator
6:05	**Video: Comeback Story - An Aquifer on the Rebound**
6:15	**Water Resources Management Strategy Presentation**
6:45	**Activity 1 – Create Water Supply Portfolios**
7:10	**Report Out**
7:25	**Watershed Management Activity Introduction**
7:30	**Activity 2 – Watershed Management**
7:45	**Activity 3 - Name Our Strategy**
7:55	**Participant Evaluations**
8:00	**Adjourn**

Water 2120: Securing Our Water Future

Community Outreach Events
Customer Conversations
June 14, 16, 29, and 30
2016

Customer Conversations Alternatives Table

Albuquerque Bernalillo County
Water Utility Authority

NEW SUPPLY PROJECT ALTERNATIVES FOR ACTIVITIES 2 & 3

	ALTERNATIVE NAME	YIELD (ACRE-FEET)	DESCRIPTION OF ALTERNATIVE	WATER VOLUME	ENVIRONMENT	FREQUENCY OF AVAILABILITY	COST
1	**Aquifer Storage and Recovery**	**5000**	This is an additional storage option. Each aquifer storage and recovery well can store up to 5,000 acre-feet/year of water in the aquifer where it will not be subject to evaporation and will be available for use without depleting the river.	3	3	3	2
2	**Connect southside reuse to northside with expansion in the middle**	**5000**	This alternative expands the ability to reuse wastewater by connecting the existing southside reuse projects to the northside non-potable system. By using treated wastewater on the northside, it would free up water from the northside non-potable project that is currently being used to water turf, allowing it to be used for other purposes such as aquifer storage and recovery.	3	2	3	1
3	**Lease additional San Juan-Chama water**	**5000**	Some entities who have contracts for San Juan-Chama water have provided for short-term leases of their water. For example, the Jicarilla Apache have leased some of their San Juan- Chama water to the City of Santa Fe. This option may require building or acquiring additional storage space to take full advantage of this water when it is available.	3	1	1	1
4	**Interbasin Transfer**	**5000**	This alternative would bring an additional 5,000 acre-feet/year from an as yet unidentified source outside the Middle Rio Grande Basin. Several potential options for this transfer do exist though. A benefit of this alternative is that it could be fully consumed. Meaning, that if the Water Authority got 5,000 acre-feet in year one, then about 3,000 acre-feet of that water would be returned back at the wastewater treatment plant for reuse. Then after using that 3,000 acre-feet about 1,800 acre-feet would be returned to the wastewater treatment plant and so on.	3		3	4
5	**Indirect Potable Reuse**	**5000**	Indirect potable reuse is taking water from the reclamation plant that is highly treated and storing it either underground or above ground in a reservoir for a period of years and then taking that water and processing it through the water treatment plant along with the surface water supply and using it as a potable drinking water source.	3	1	3	3
6	**Rio Grande Compact Relinquishment credit water**	**5000**	When there is excess water (credit water) stored in Elephant Butte Reservoir under the Rio Grande Compact, this water can be released to Texas and an equal quantity can then be captured upstream. This option may require building or acquiring additional storage space so we can take this water when it is available. We are receiving 5,000 acre-feet of relinquishment credit water this year.	3	1	1	1
7	**Brackish groundwater**	**2000**	This alternative involves pumping highly saline (brackish) groundwater from very deep wells (5,000 to 10,000 feet). Water from this depth can contain contaminants such as metals and radionuclices depending on the formation it comes from. The benefit of this water is that is not currently allocated to any use by the Office of the State Engineer. Also it can be fully consumed just like water from an interbasin transfer (see alternative #4). Drawbacks to this alternative: brackish groundwater is generally not being recharged so it is a finite resource that may only last about 20 years; brine solution, a waste product of the treatment process, is very difficult to dispose of; and desalination is a very energy intensive process and, therefore, very expensive.	1		1	4
8	**Stormwater capture**	**3000**	This alternative could be done two ways: 1) modify existing facilities to allow for increased infiltration of stormwater or 2) store the stormwater in reservoirs for direct use later. Intense rainfall events create the need to store large volumes of water for short periods of time in the Albuquerque area. State regulations require that this water be released within 96 hours. These large runoff events often result in high flows that cannot be fully diverted by downstream water rights holders, so reducing these flows would not be likely to impact downstream water users. Regulations would have to be changed at the state level, so implementation of this option could take some time.	2	3	2	1
9	**Additional Reuse - Westside/ Eastside and ASR**	**5000**	This alternative would expand the use of non-potable water on large turf areas on both the east and west sides of town. This non-potable supply could come from treated wastewater or from the northside non-potable system that collects shallow groundwater from beneath the Rio Grande near Alameda through horizontal wells.	3	2	3	2
For Activity #3	**Watershed Restoration**	**0**	This alternative is not likely to significantly increase the water supply, but it would protect upstream watersheds from catastrophic wildfires which impact both water quality and water yield. So, this alternative is really about increasing the reliability of the water supply coming from our watersheds especially as climate change occurs. Watershed treatment will include cutting and removing overgrown trees and controlled burning when and where it is safe to do so.		3	3	1

Water 2120: Securing Our Water Future

Community Outreach Events
Customer Conversations
June 14, 16, 29, and 30
2016

Slideshow from Customer Conversations

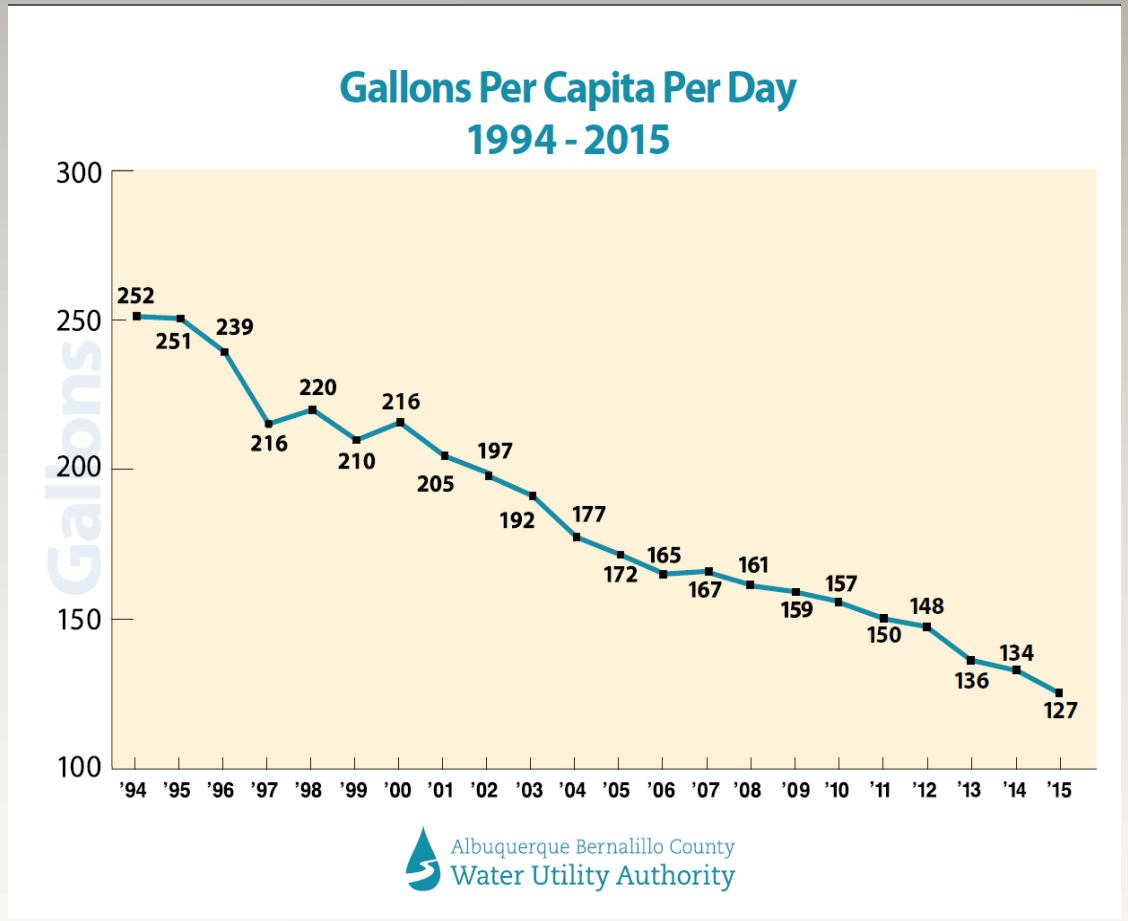
Attachment C

Albuquerque Bernalillo County
Water Utility Authority

Conservation Options: 2017 WRMS Update

CUSTOMER CONVERSATIONS
JUNE 14, 16, 29 AND 30

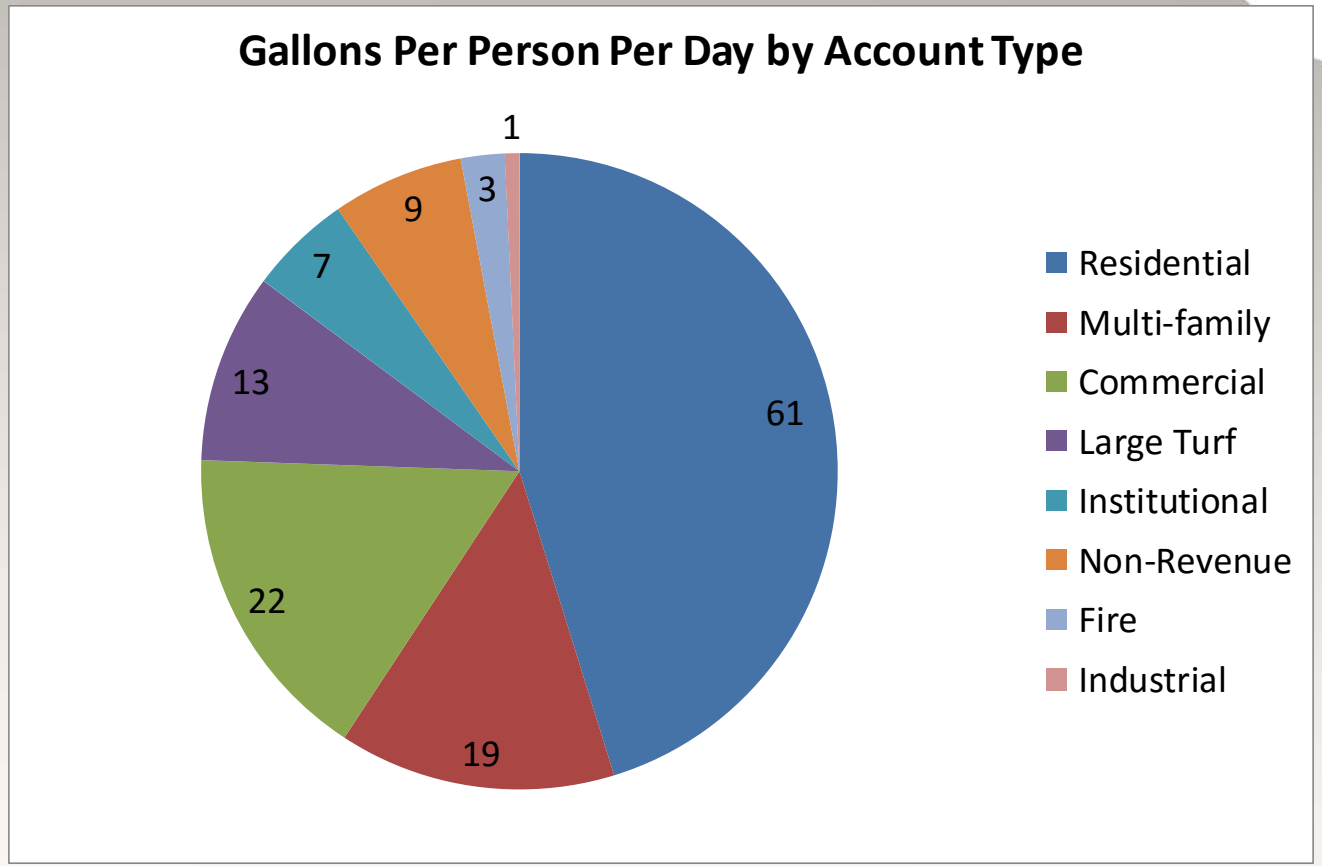
Albuquerque Bernalillo County
Water Utility Authority



GPCD = Total Water Produced ÷ Service Area Population ÷ 365 days

It includes all uses: residential, commercial, multi-family, industrial, institutional, parks, golf courses and all water lost from the system

Albuquerque Bernalillo County
Water Utility Authority

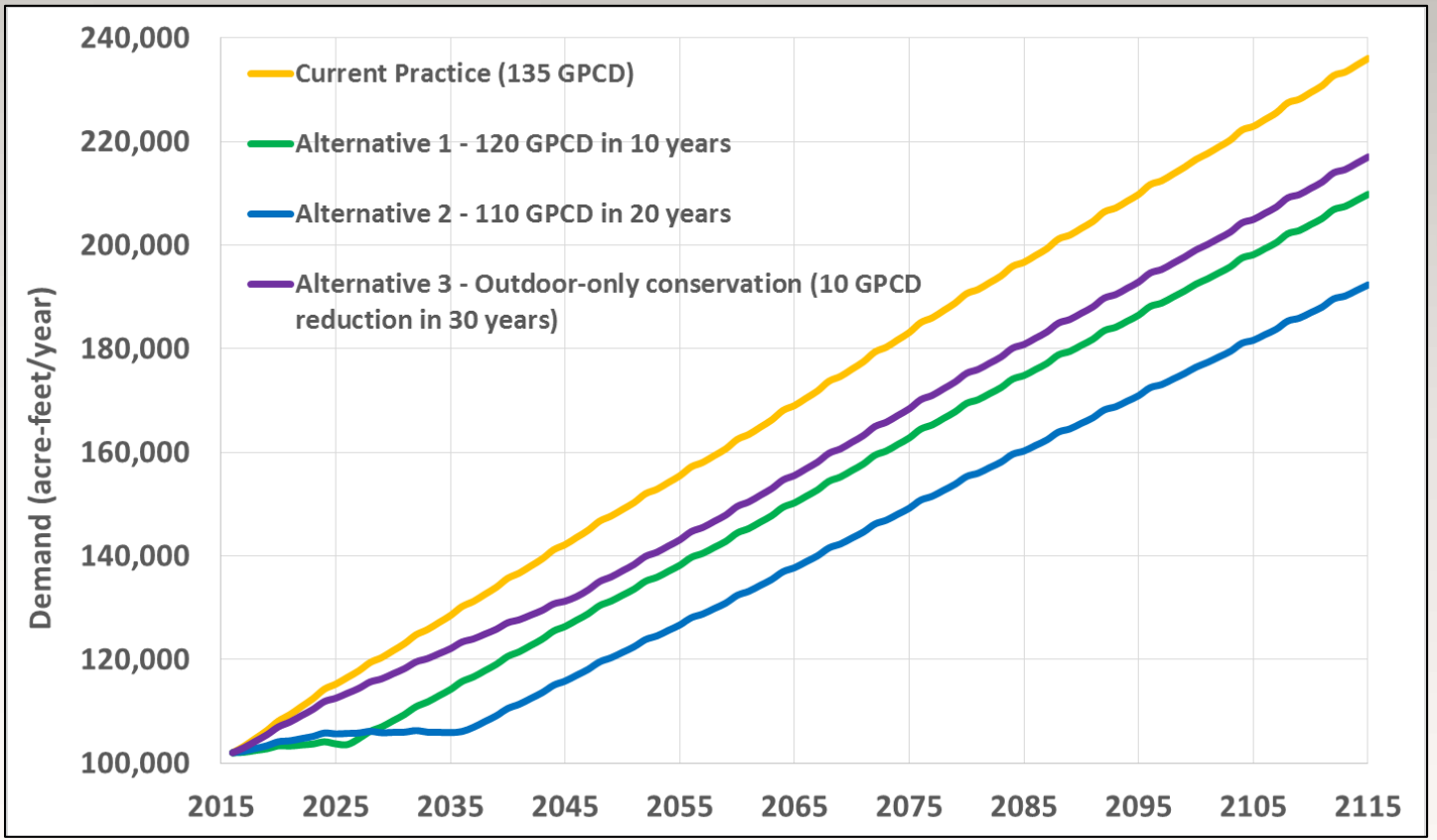


Currently about 45% of our water use is outdoor and 55% is indoor. This is a significant decrease from 1995 when 60% was outdoor and 40% was indoor.

	Conservation Alternative 1 Reduce GPCD to 120 over 10 years	Conservation Alternative 2 Reduce GPCD to 110 over 20 years	Conservation Alternative 3 Reduce GPCD to 125 over 30 years Outdoor use only
PROS	• Generates savings the most quickly • About 2 GPCD can come from new growth • Continues our current water conservation strategy	• Generates the largest savings, so the largest reduction in the need for new projects leading to this being the least expensive option • About 5 GPCD can come from new growth • Allows for targeted conservation savings	• Smallest water usage reduction required • All water saved will be from consumptive use • Reduces the need for new supplies, nearly as much as Option 1
CONS	• Generates only half the savings of Option 2 over the 100 year planning period • Twice as many new supplies needed as Option 2 so more costly	• Water use has already been reduced by about 50% since the start of the conservation program, so additional savings may be difficult	• Savings take the longest time to be achieved • Very little savings from new growth • Climate change may increase outdoor demand making this option challenging

Demand Under Different Conservation Alternatives

Albuquerque Bernalillo County Water Utility Authority



Water 2120: Securing Our Water Future

Community Outreach Events
Customer Conversations
June 14, 16, 29, and 30
2016

Evaluations from Customer Conversations

EVALUATIONS
Customer Conversations 2016

Combined Scores

1. My time was well spent. – **4.3**
2. I felt the Water Authority truly wanted my input. – **4.4**
3. I would participate in this type of session again. – **4.4**
4. The meeting structure allowed participants to provide feedback. – **4.5**
5. I learned something about our long-term water supply needs and how we will address them in the future. – **4.6**

July 14, 2016

1. My time was well spent. – **4.2**
2. I felt the Water Authority truly wanted my input. – **4.4**
3. I would participate in this type of session again. – **4.2**
4. The meeting structure allowed participants to provide feedback. – **4.4**
5. I learned something about our long-term water supply needs and how we will address them in the future. – **4.4**

July 16, 2016

1. My time was well spent. – **4.3**
2. I felt the Water Authority truly wanted my input. – **4.5**
3. I would participate in this type of session again. – **4.4**
4. The meeting structure allowed participants to provide feedback. – **4.5**
5. I learned something about our long-term water supply needs and how we will address them in the future. – **4.6**

July 29, 2016

1. My time was well spent. – **4.6**
2. I felt the Water Authority truly wanted my input. – **4.7**
3. I would participate in this type of session again. – **4.7**
4. The meeting structure allowed participants to provide feedback. – **4.9**
5. I learned something about our long-term water supply needs and how we will address them in the future. – **4.9**

July 30, 2016

1. My time was well spent. – **4.2**
2. I felt the Water Authority truly wanted my input. – **4.1**
3. I would participate in this type of session again. – **4.3**
4. The meeting structure allowed participants to provide feedback. – **4.2**
5. I learned something about our long-term water supply needs and how we will address them in the future. – **4.3**

Comments

June 14, 2016

- I know it takes a lot of work to coordinate these sessions. Thank you. You covered a lot of territory in a short amount of time — Kudos for getting right to the point. The dinner was great — but you could still save money — people would still attend for the $20 credit on their water bills.
- "Water our precious resource to protect."
- This very valuable to us and to your process. Thank you. It would be nice to see more people of color, but perhaps it's the location.
- Excellent, fun informative
- More clarity with what interventions will affect water bill and which use existing funds
- Children should not be allowed to attend because every time it's a distraction and disrespectful to the speakers.

- Would like to be able to read info more thoroughly (before attending maybe), more time for questions, great session absolutely enjoyed
- Protect the forests please. Elizabeth Phillips was a great facilitator. I am pleased to know the Water Authority is doing such a great job.
- Tonight's exercise makes the Water Authority's task and responsibility and success much more transparent. Please continue this effort to make all customers feel like participants. This type of "democracy" might make the Water Authority come off as less authoritarian and bureaucratic.
- The people of New Mexico need a lot more education (in my opinion) about all the ways we waste water. It would be especially important to teach children (the younger the better) that water isn't unlimited and ways not to waste it!
- When naming the strategy I would avoid the work "future" — it is not present, it has a very abstract impact on our lives today. Allows us to look mentally down the road. We are not savers. The initial presentation seemed to imply zero trees is the least impact — revise. While the meeting was helpful, most of our discussion was reduced to understanding the trees. Who made the choices of how many trees and how did influence the discussion. Can we influence demand with zoning?
- Keep it simple stupid. The statistics went over everybody's heads — must find ways to keep it simple for non-water professionals.
- Need slides to be more simplistic for people to understand. Lots of charts and statistics did not keep my interest as much as the hands-on activities did.
- Did not like format (group games) — prefer old sessions — games ridiculous — no discussion of need to limit growth here. We cannot have unlimited development – no concern for water savings incentives for those who use less water.
- The discussion was very stimulating! The fact that we could participate in small groups was very beneficial! Thanks for being so nice and welcoming!
- Activity 2 needs to change to increase understanding.
- I really appreciate the Water Authority's efforts at encouraging conservation by users.
- Please do not allow people to bring small children.
- Providing drinks and snacks would have been appropriate — dinner however seems a bit over the top and unnecessary. Our facilitator Sara was very good.
- Enjoyed the process — well facilitated — lots of information simplified — not certain it helped me understand the big picture.
- Are there any other alternatives that could be considered?
- Emphasize that dog poop does need to be picked up so it doesn't get into our drinking water. It is a big problem!
- Information about rebates and individual conservation information would be appreciated.
- I wonder how all input will be compiled and considered.
- Continue the conversations
- Thank you!

June 16, 2016

- Very good info provided
- Ed was awesome! What a wonderful/productive/learning evening! Thank you!
- Good session. I found it beneficial.
- Activity 2 was a little confusing. I would have like more time to ask questions about water issues of concern.
- A great job of depicting very complicated relational data. I am sure it was oversimplified, but you made it understandable and kept us focused on the big picture. This process and result is worthy of a Gene Grant interview. Regarding the watershed game: how about getting a "techie" to make an app game (candy crush) to get a lot of people thinking. Great meeting — very informative.
- Activity 2 is incomplete — that is why everyone selected 6. We need statistical data on the need, year wise.
- I would like water rates to be more obviously connected to use (i.e. I use less and less but pay the same).
- Show video of actual aquifer. "Water 2012 — Securing our life blood to a secure future."
- I am impressed with the information and glad our water future looks good.
- Too easy for anyone with an operations research background. Were our responses pre-determined by the way the data was presented? I am cynical.
- Ideas about controlling demand, such as restricting housing.
- Activity 2 was not instructive — it confused too many at the table.
- Was familiar with WRMS — Thanks
- Seems to be a lack of correlation between what the Water Authority wants the public to think it is doing in its interests and what information is given to governing bodies.
- I am curious as to why direct potable reuse isn't on the list of options.
- I am glad there were facilitators — good session.
- Activity 2 — I would be more interested if each of the options was associated with a reduction in probability of fire. Without knowing that benefit, the decision is somewhat arbitrary.
- Enjoyed the people I sat with — very interesting people. These sessions are so informative which makes us realize more about why we are using and preserving water. More people need to be aware of how our system operates. Young people should also know and realize how the water system operates — provide a session for younger folks to learn.

June 29, 2016

- I know conservation efforts have been successful, but I was surprised that it was not even mentioned as a part of this process. We could do so much more to reduce water use if some of the rules were followed better either through education or enforcement.
- I understand options, not necessarily how they will be addressed.
- "2120: Water for Future Generations"
- Thank you for input opportunity, would have appreciated gluten free option for boxed supper made available.
- Very good, glad to be invited
- A very worthwhile exercise. I learned a lot about conservation, management and created high awareness in my own use of water from here on.
- Thank you for having so many knowledgeable facilitators and other employees to answer all of our questions
- Myra, great job!
- This was truly educational, thanks!
- Very interesting and informative! Really enjoyed it!
- Heidi was excellent! Very informed and likable.
- Great Job!
- Fluoride — We need it in our water supply. It was removed without any public discussion.
- As a bilingual educator who works with many of Latino communities in Albuquerque, I would like to point out that these presentations are very valuable. It is critical they be presented in Spanish as well in order to reach this ever growing population that consumes water as well. I am also hoping a Spanish school curriculum already exists.
- I will continue to be the example for future generations and continue to learn from the Water Authority.
- I was glad to hear that the aquifer was being replenished

June 30, 2016

- Let us save more water and the environment for future generations.
- Our facilitator Elizabeth was great! The activities were useful in illustrating the importance of water conservation.
- The feedback didn't allow for open-ended issues.
- By asking for input on the water situation in 100 year removes the impact of such decisions from the participants. Would be better if for instance we were asked what actions we might take today so that there is no gap in 2120.

- More public education on sources of our water and more education on conservation — not letting water run while shaving and brushing teeth etc. "If it is yellow, let it mellow, if it is brown flush it down."
- Our facilitator was great!
- Review your policies for water use. Use more rain water. Educated — more events like this.
- Would like a strong focus on water conservation — rain barrels, green roofs, xeriscape. Xeriscape should be enhances.
- Thank you for the presentation, outdoor signs, food, drinks, and handouts. Really appreciate everything. Molly did an excellent job! Karen did an excellent job too.
- Reuse water
- Put reporting numbers on screen so people can see what others decided. Excellent organization, planning and workshop design: use of professional facilitators, use of university students, staff available for explanations, good positive work ethic and moral amongst staff.
- Well run, provocative
- Keep up customer — us — education about using less
- Build blue houses, help recycle all water at home
- I would like to read a sheet listing all of the water supply alternative that the WA considered.
- Options were too simplified. It didn't let people think outside of the box.
- Excellent session very informative. Venue is too noisy and not conducive to table conservation. It was very challenging for some at the table to hear each other. 2 hours is ok, but the 2nd exercise seemed a little rushed — maybe 2.5 hours. Thanks for the dinner and credit. Glad to participate.
- I am deaf and even with my hearing aids I was unable to hear the discussion not was I able to participate to the degree that I desired.
- Use of gray water. Myra was a great facilitator.
- We need to find out if total growth is not too fast.
- I didn't feel comfortable having to make snap decisions about new supply project alternatives. I felt I needed more background information.
- This was way better than last years. I was a little shocked, though as how cavalier some of the answers were in their dismissive natures

Water 2120: Securing Our Water Future

Community Outreach Event
Town Hall
July 22, 2016

Overview of Town Hall Event and

Record of Events and Activities

2016
Town Hall

Albuquerque Bernalillo County
Water Utility Authority

Town Hall
July 22, 2016

Introduction

The Water Authority conducted a four hour Town Hall on July 22, 2016 that focused on the update to the Water Resources Management Strategy (now called Water 2120: Securing our Water Future) and the Policies to implement the strategy. The meeting was held at the Uptown Marriot in Albuquerque and hosted over 200 customers.

The Town Hall (Agenda – Attachment D) opened with two presentations in plenary to provide background information on:

- Future Supply Alternatives
- Water Resource Policies

The Town Hall participants were then divided into ten groups and with the support of professional facilitators and recorders were asked to participate in the below activities.

- Activity 1: Prioritizing Future Supply Alternatives
- Activity 2: Focused Input on Four Water Resource Policies.

ACTIVITY 1

The small groups first reviewed the supply alternatives commenting on those alternatives they most liked and why. They were then given six marbles to place in plastic cups labeled with the name of each alternative. They were asked to place 3 marbles in their first choice, two in second, and one in third.

ACTIVITY 2

The goal of Activity 2 was to review four key policies for discussion and input (Attachment E). The four policies were:

- Policy B: Fully Utilize and Protect Existing Water Rights and Water Resources
- Policy D: Update and Maintain the Water Conservation Strategy
- Policy J: Protect Valued Environmental and Cultural Resources
- Policy M: Encourage and Facilitate Public Involvement

Small Group Work

Group A

Ed McCorkindale, *Facilitator*
Lily Gates, *Recorder*

ACTIVITY 1

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: It's low cost and is relatively well balanced.

#3 – Lease Additional San Juan — Chama Water

#4 – Interbasin Transfer

- Concern: It's expensive.

#5 – Indirect Potable Reuse

- Like: It has worked in other places. We already have the resources.
- Like: We already have the plant.

#6 – Rio Grande Compact Relinquishment Credit Water

- Concern: Issues with Texas and the amount of water we gave to them

#7- Brackish Groundwater

- Concern: It's the most expensive and it's just "a last resort".

#8 – Stormwater Capture

- Like: It's environmentally friendly and we might as well take advantage of it.

#9 – Additional Reuse — Westside/Eastside and ASR

#10 – Watershed Restoration
- It's good for insurance.

General
- We should promote xeriscaping.
- Continue educating public about where water comes from (especially adults)

What is the relative priority of alternatives after the vote?
- Aquifer Storage and Recovery
- Connect Southside to Northside with Expansion in the Middle
- Stormwater Capture

ACTIVITY 2

POLICY B:

CONCERN:
- Will our water rights conflict with other city's water rights?

POLICY D:

LIKE:
- Should encourage xeriscaping

POLICY J:

LIKE:
- Key sub policies: J–4 and J–6

POLICY M:

LIKE:
- Key sub policies: M–3

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?
- The group didn't choose one in particular.

What types of outreach are most effective?
- Didn't choose just one, need to combine all of them

Group B

Scott McKitrick, *Facilitator*
Raye Myers, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Meets all of the criteria and good for the environment
- Like: Meets for all of the reasons and a blend of all factors
- Like: Provides the highest volume of water
- Like: It has less (negative) impact on the environment.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Provides a high yield for water
- Like: Is low cost and efficient
- Question: Why is the environmental impact less? Is it due to new infrastructure?

#3 – Lease Additional San Juan — Chama Water

- No comment.

#4 – Interbasin Transfer

- No comment.

#5 – Indirect Potable Reuse

- No comment.

#6 – Rio Grande Compact Relinquishment Credit Water

- No comment.

#7- Brackish Groundwater

- No comment.

#8 – Stormwater Capture

- Like: Has impressive yield
- Like: The cost is negligible.
- Like: It is an easy resource to capitalize on.
- Comment: Nature gives us the water, so let's make use of it.

#9 – Additional Reuse — Westside/Eastside and ASR

- No comment.

#10 – Watershed Restoration

- Like: Provides long-term environmental benefits
- Like: Protects water quality and is available
- Comment: We should protect what we have and be proactive.

General

- Do these alternatives only apply to the source of the water and not the uses?
- Why is it the law that we can only have water for 96 hours after a power outage?
- We should use what we have by capturing stormwater.
- We should protect what we have, which is why it is proactive to go with the Watershed Restoration alternative.
- Why can't we do all of these alternatives?
- How does the Water Authority interact with PNM?
- What percent of the water goes where/for what purpose?

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Connect Southside Reuse to Northside with Expansion in the Middle
- Stormwater Capture
- Watershed Restoration

ACTIVITY 2

POLICY B:

COMMENTS:

- Every resource has different people and purposes associated with it.
- There needs to be an introduction that says it is a plan and more education so that people are aware of it and see that it's written down somewhere (in regard to all of the policies and goal of 110 GPCD).

QUESTIONS:

- Are there things we need to do now that are more forward-thinking?

- Are these policies permanent?
- What are the water rights related to the Juan-Chama River?
- Why would we need alternative legal strategies (in reference to sub-policy 4)?

SUB-POLICIES MISSING:
- None

POLICY D:

QUESTIONS:
- Is it always the case that conservation is the cheapest thing to do?
- How do the conservation efforts of the Water Authority compare to other desert communities and conservation goals?
- What can you attribute the success of Albuquerque water conservation to?
- How are agriculture, reduction (of resources), and growth (population) bringing the volume numbers down?

SUB-POLICIES MISSING:
- None

POLICY J:

QUESTIONS:
- Would this policy include restoration in the Bosque?
- J–6: Are there environmental benefits of tree canopy coverage other than quality of life?

LIKE:
- Provides watershed planning and funding
- Gives tree canopy importance
- Includes watershed protection and restoration in case of fires

SUB-POLICIES MISSING:
- None

POLICY M:

LIKE:
- Like current education programs and how the Water Authority is keeping 4th graders and children in general informed—education 10 years from now, will really be able to see the impact
- The website is awesome, well designed, and is a good way to inform the public.
- Like the newsletter, very informational

COMMENTS:
- Need to tell people that they have water when the power goes out

- Social media depends on the age and is good way to communicate with millennials.
- The app can be used more, and not many people know about it.
- Some people like paying bills electronically, so advertise that more.

QUESTIONS:

- Do you have programs on channel 16?
- Is it the state that sets service areas where the water reaches?
- Is billing based on meter size and are there separate meter sizes based on house size?

SUB-POLICIES MISSING:

- Try to get people focused on water usage/conservation

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- D–2: It is important that the public understands that this is the goal so that we can try and meet it and also that we have met a previous goal.
- J–4: Agree that watershed restoration is important and not many people know about it, put information in Bosque walks
- Support water reuse but need to get a better understanding of issues and health concerns
-

What types of outreach are most effective?

- Provide information in with the bill because people have to open the bill anyway
- Use app/website notifications and updates on the Water Authority

GENERAL:

- Town hall was a very well organized event.
- Like how the Water Authority is getting high school students involved
- Think the Water Authority seems very committed and interested in public involvement
- Want the Water Authority to tell the public more about the successes
- Interested in a comparison with other cities

Group C

Sara Douglas, *Facilitator*
Bernadette Mitchell, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: A recovery process that will eventually replenish the aquifer.
- Like: It may one day put us back to the water levels we once had.
- Like: Storage is not subject to evaporation, so no water will be lost.
- Like: It has already been proven effective.
- Like: This option does not disrupt the environment.
- Like: Creates the most options for water use
- Concern: Testing standards
-

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Connecting the two will give the benefit of using waste water.

#3 – Lease Additional San Juan — Chama Water

- Concern: It took time to get these contracts in place so we should consider this option thoroughly before dismissing it.

#4 – Interbasin Transfer

- Water can be fully consumed with a portion being returned for reuse.

#5 – Indirect Potable Reuse

- Reclaimed highly treated water can be reused after a storage period.

#6 – Rio Grande Compact Relinquishment Credit Water

- No comment.

#7- Brackish Groundwater

- No comment.

#8 – Stormwater Capture

- Like: Collects and uses another source of water
- Like: Doesn't take any water from storage

#9 – Additional Reuse — Westside/Eastside and ASR

- Allows for more uses of waste water

#10 – Watershed Restoration

- Like: Will help advert wildfires and protect water gains
- Like: We need to take care of the water we have.

General

- The environment should be the most important consideration when choosing an option.

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Additional Reuse – Westside/ Eastside and ASR
- Connect Southside reuse to Northside with Expansion in the Middle
- Watershed Restoration
- Stormwater capture
- Lease additional San Juan – Chama water
- Interbasin Transfer
- Indirect Potable Reuse

ACTIVITY 2

POLICY B:

LIKE:

- Protecting water rights that we already have
- Actively working so water rights are not limited or lost by seeking legal strategies

SUB-POLICIES MISSING:

- None

POLICY D:

LIKE:

- 110 GPCD is a great goal in water conservation.

SUB-POLICIES MISSING:

- None

POLICY J:

LIKE:

- Instream flows will be seen as a beneficial use.
- Restoring and protecting the watersheds help insure that water will not be wasted.

- Very important to enhance public green areas as long it is fully accessible to the public and doesn't just benefit a small percentage (i.e. golf courses).
- Trees are very important for our environment. Will increasing the tree canopy keep us in line with the 110 GPCD goal?

SUB-POLICIES MISSING:

- Incentives should apply to residential areas to increase canopy and to upkeep older trees in established neighborhoods.

POLICY M:

LIKE:

- Supports youth educational programs
- Support commercials

SUB-POLICIES MISSING:

- None

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- M–3: Work with neighborhood associations by having someone from the Water Authority come to HOA meetings and teach about conservation and show ways water is being wasted (i.e. over watering, washing vehicles).
- M–5: Commercials are a great reminder, but would like them to be more detailed, including how long to water.

What types of outreach are most effective?

- Technology and Social Media (apps, twitter, Facebook)
- Public Meetings

Group D

Ildi Oravecz, *Facilitator*
Ruby Gates, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: It will protect the water from evaporating.
- Like: It will be good for times of drought.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: We can reuse water, and get more out of it.

#3 – Lease Additional San Juan — Chama Water

- Like: Accessing more for water conservation

#4 – Interbasin Transfer

- No input.

#5 – Indirect Potable Reuse

- Like: Reuse is an essential long term necessity.
- Like: It is the only one with no apparent issues.
- "Gross"

#6 – Rio Grande Compact Relinquishment Credit Water

- Like: Is all around good economically and at a low price

#7- Brackish Groundwater

- Concern: Alternative is not cheap

#8 – Stormwater Capture

- Like: If it is not used it will be polluted. This is a solution.
- Like: With the technology today we could do a lot.
- Like: The water is already there, now we just need to use it.
- Concern: Legal issues

#9 – Additional Reuse — Westside/Eastside and ASR

- Like: This option is all around good.
- Like: Volume
- Like: It is easy to continue.

#10 – Watershed Restoration

- Like: Wildfires do a lot of damage. They are less likely with this option or better controlled.
- Concern: It takes away from our drinking water projects.
- Like: It keeps some heat/sunlight off the ground that cause evaporation.
- Concern: There is not a lot of gain.
- Is this already done?

General

- Everyone is interested in reuse.
- Price and availability are important to everyone.

What is the relative priority of alternatives after the vote?

- Stormwater capture

ACTIVITY 2

POLICY B:

LIKE:

- Like everything about sub-policy 3.
- Taking advantage of everything

CONCERN:

- Legal issues

SUB-POLICIES MISSING:

- Direct potable reuse
- Water quality control, not just water policy

POLICY D:

LIKE:

- The fact of giving and showing small things makes people think more about water use.

CONCERN:

- Population will grow.
- We need to look into this more often (every other year).
- Will we be adjusting rates?
- How will we actually get there? We know the end result, just not everything in the middle.
- We need to break down the global GPCD into smaller more specialized categories (Turf, household…).

SUB-POLICIES MISSING:

- Requiring updated utilities

POLICY J:

Concerns:

- Dead trees and dirt are disturbing.
- Is this really what we want to spend money on?
-

Like:

- Sub-policy 5

Sub-Policies Missing:

- Protecting the urban environment
- We need to work on Bosque restoration and management.

POLICY M:

LIKE:

- The younger you learn, the better.

SUB-POLICIES MISSING:

- Social media (Instagram)
- Go back to what does work and then make it better
- Get the information to everyone
- Provide more reminders on bills, websites, and everything
- Add more nonprofits on sub-policy 4.

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- B–5: Get the information to everyone, especially the people who want to do something.

What types of outreach are most effective?

- Social Media

Group G

Elizabeth Phillip, *Facilitator*
Celina Hill, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Protects aquifer
- Like: Stores excess water
- Like: Has no evaporation, high yield, available and low cost

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- No comments

#3 – Lease Additional San Juan — Chama Water

- No comments

#4 – Interbasin Transfer

- No comments

#5 – Indirect Potable Reuse

- Like: Low environmental impact

#6 – Rio Grande Compact Relinquishment Credit Water

- No comments

#7- Brackish Groundwater

- No comments

#8 – Stormwater Capture

- Concern: Stormwater is being wasted.

- Like: Has no evaporation, high yield, available and low cost

#9 – Additional Reuse — Westside/Eastside and ASR

- No comments

#10 – Watershed Restoration

- Like: Has more than one benefit

General

- Cost was a low priority for the group.

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Stormwater Capture
- Indirect Potable Reuse
- Watershed Restoration

ACTIVITY 2

POLICY B:

LIKE:

- Uses something that we already have
- It is cost effective to continue work rather than to create new infrastructure.

SUB-POLICIES MISSING:

POLICY D:

LIKE:

- Supports continuous review

SUB-POLICIES MISSING:

- Involve the state more
- Provide services or financial aid for homes that want to do xeriscaping or remove sprinklers but do not have the means to do it.

POLICY J:

Like:

- Continues environmental efforts

Sub-Policies Missing:

- In addition to taking out non-native plant species, add new plants that will be helpful.

POLICY M:

LIKE:

- Makes information available

SUB-POLICIES MISSING:

- Gives more attention to climate change

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- Without attention on climate change, all of our conservation efforts will be ineffective.

What types of outreach are most effective?

- Pamphlet in their bill
- Involving neighborhood associations in the conservation and educational process
- Face to face meetings

Group H

Karen Klein, *Facilitator*
Anna Horner, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Useful to store water and use it later, makes sense
- Like: Provides long term solution, is easy on the environment, highly available with net to low cost
- Like: Aquifer has been depleted and we've seen success restoring it so far, stick with this practice to keep water in the ground for grandkids.
- Like: We've seen success and allows water for a long time.
- Like: Is fiscally responsible
- Like: Dilutes any bad things in the water
- Like: Provides better quality water for the future

- Like: Provides water for future generations and is good for the environment
- Like: Allow more water for environment and cost is low
- If you have the first alternative, then the 8th alternative (storm water catchment) makes sense.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Like the description, frees up water on Northside for other purposes
- Like: Provides for reuse
- Like: New communities are being built and old communities are being rebuilt.
- Like: It improve neighborhoods, improve communities, uses routes that are already established and saves money.

#3 – Lease Additional San Juan — Chama Water

- Like: Is low cost and a clean source

#4 – Interbasin Transfer

- Concern: Viability of this option

#8 – Stormwater Capture

- Like: It is good for the environment and a reasonable price.
- Cost of the alternative should be the bottom line.
- Like: keeps water out of the gutter
- Like: The practice is cost effective.
- Like: Don't like to see all that water wasted.

ACTIVITY 2

POLICY B:

LIKE:

- Continues to improve what is in place
- B–3: It is recycling and reusing
- We are fortunate to have this alternative because when there is drought we have options.

SUB-POLICIES MISSING:

- Capture and use stormwater as a part of using the water resources we have
- Provide understanding how we can legally capture and use rainwater and still fulfill our obligations to Texas
- Provide clear articulation of current utilization of existing water rights
- Are we fully using the rights we have?

- Policy should state if any of the current water rights haven't been adjudicated, then they need to be validated and incorporated into Water Authority.

POLICY D:

LIKE:

- We can adapt and change as needed.
- The Water Authority can and will stay on top of changes.

SUB-POLICIES MISSING:

- D-3: We need equity of conservation requirements, no discounts for big business, and an even playing field where we all conserve.
- Be aware of potential high cost to consumer
- Use language that requires a buffer between sidewalks and streets to catch water run-off from watering public parks
- Improve regulations for Parks and Engineers in regards to efficient water use, such that consumers are not stuck with inefficient water use systems in their homes
- Improve options for conversation – such as xeriscaping at schools with healthy options, not artificial turf that has carcinogens
- This policy talks a lot about external changes and conservation efforts. What is the Water Authority doing internally to conserve?

POLICY J:

LIKE:

- More trees mean less pollution.
- Tree canopy is very important to the health of the city and protects the future for grandkids and the city.

SUB-POLICIES MISSING:

- Involvement of boy scouts and prisoners in watershed management
- This is the desert — why do we need to have water in the river?
- Need to include the history of water and rivers in the desert
- Consider recreational use of water in Albuquerque
- Reconcile cultural use and importance of acequias with environmental impact

POLICY M:

LIKE:

- Rebates and lunch bring people in

SUB-POLICIES MISSING:

- We need community representation on the board.

- Location of the meeting is very important.
- There should be more meetings downtown and throughout the city.
- Concerns about cost of this meeting – have meetings in schools, rather than in hotels
- Business representation is not present at the town hall. There needs to be more outreach to businesses to get them to attend.
- Increase age range present at the meeting
- Encourage attendees to spread the word by word of mouth, tell everyone to tell at least one person about this opportunity
- Continue to use age appropriate methods to educate young folks to help hit 2120 goals

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- We did not get to this

What types of outreach are most effective?

- This seemed to be addressed in response to Policy M

PARKING LOT:

- Need to understand how implementing stormwater capture requires change of state law
- Need to increase public understanding of water law — especially in regards to farms' water rights — don't use them they lose them
- This requires farmers to water fallow fields!
- How do we get out more information about the rebate for planting trees?
- Concern about water unnecessarily going down the drain
-

Group I

Susan Chaudoir, *Facilitator*
Nicki Villansenor, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: This offers good environmental protection.
- Like: This reserves water for the future. By reducing evaporation the groundwater levels increase.
- Like: This alternative is not as expensive over the long run.
- Like: Here is high volume and frequency of availability.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: This connection creates opportunity for other alternatives and expansion in the future.
- Like: Green spaces are important for the public to enjoy, this alternative sustains the existing parks.
- Like: This is a known strategy, with known yield and evidence that it works.

#3 – Lease Additional San Juan — Chama Water

#4 – Interbasin Transfer

#5 – Indirect Potable Reuse

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater

#8 – Stormwater Capture

- Like: This alternative supports conservation, and if reused it can support he landscape.
- Like: Water is usable without treatment, which saves money.
- Like: It is a local supply, so it is not coming from elsewhere.
- Like: This is self-sustaining and recharges naturally.

#9 – Additional Reuse — Westside/Eastside and ASR

#10 – Watershed Restoration

- Green infrastructure requires us to focus on areas that require attention.
- The Bosque has many nonnative species.

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Connect Southside reuse to Northside with expansion in the middle.
- Stormwater capture.

ACTIVITY 2

POLICY B:

POLICY D:

LIKE:

- This is helpful if they encourage education on how to use gray water safely.
- This can be reused with no treatment and can help meet conservation goals.
- I'm very concerned about the trees. They are dying. If rates go up more trees will die.
- The trees are the personal responsibility of the individual.

SUB-POLICIES MISSING:

POLICY J:

Like:

- No comments

POLICY M:

LIKE:

- This is currently being implemented. We are involved and participating. We are making decisions.
- We have the third largest canopy die off because education was not on trees but on lawns.
- Trees encourage mental health and provide shade.
- Technology will become available and we need aggressive education on what is out there.
- Rebates for smart controllers should be part of the strategy.
- We need education on how trees work.

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- Education on how to water trees correctly can help keep trees alive without wasting water.

- Knowing the meter alternatives can help customers track their use and conserve more water.
- Understanding gray water, the available systems, and how it can be used at home would be great information.

What types of outreach are most effective?

- Bill inserts are not great.
- For online billing an email attachment would work great.
- Facebook and other social media work well because not many read the newspaper anymore.
- Weekly stories on the evening news can update the community on usage and other projects.
- Target all ages through a variety of avenues

Group J

Lucy Moore, *Facilitator*
Ross Hibbett, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Relatively cheap, high yield, good for the environment, always available, efficient, long term conservation, but can use in the meantime

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: High yield, available, low cost, reuse, ability to move water allows for greater flexibility, logical

#3 – Lease Additional San Juan — Chama Water

#4 – Interbasin Transfer

- This alterative is high yield but also high cost.

#5 – Indirect Potable Reuse

- Like: We will have to reuse water sometime in the future, so the sooner we start the better.
- Like: With increase in technology it can be done and is good for the long term.
- Concern: It is costly, but we should start investing.
- Concern: Doesn't like the thought of "toilet to tap."

#6 – Rio Grande Compact Relinquishment Credit Water

#7- Brackish Groundwater

- Concern: Is low yield, bad for environment, not available often, very high cost
- Concern: On a list it should be at the bottom.

#8 – Stormwater Capture

- Like: Is good for environment, low cost
- Concern: Regulations would have to be changed and water is not always available.

#9 – Additional Reuse — Westside/Eastside and ASR

#10 – Watershed Restoration

- Like: This is most important
- When fire damage is severe, river can run black.
- Like: This is good for environment, good availability, low cost

General

- Provide gray water at the personal scale
- "Reuse" water for recreation such as rafting on releases
- Need criteria of "time
- Has there been an increase in radio-nucleoids?
- Personal large scale conservation can have a large impact.

What is the relative priority of alternatives after the vote?

- Watershed Restoration
- Indirect Potable Reuse
- Connect Southside reuse to Northside with expansion in the middle
- Aquifer Storage and Recovery
- Stormwater capture
- Brackish groundwater

ACTIVITY 2

POLICY B:

LIKE:

- It is important to keep our right to use San Juan-Chama water
- Let's collaborate, expand it — we have neighbors

SUB-POLICIES MISSING:

- B-4: Clarification — could be intergovernmental

POLICY D:

LIKE:

- Willing to pay more for future generations

CONCERN:

- 110 gpcd is more than twice the world average.

QUESTION:

- How will Albuquerque change because of the 110 gpcd goal?
- Provide running paths, buffer around parks, and use less turf where it isn't used

POLICY J:

Like:

- Supports watersheds, but should be connected to H–1.

Concerns:

- How would this impact work on the Bosque?
- Mayor's development proposition doesn't support J.

Sub-Policies Missing:

- J-6: Dead trees are a fire hazard and need a beautiful tree canopy not a dead one.
- Elms have a short life.

POLICY M:

LIKE:

SUB-POLICIES MISSING:

- Place emphasis on kindergarten and elementary school, get them young
- Teach kids about planting, watering, and the water cycle (how it all works).

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- Not much said, refer to M.

What types of outreach are most effective?

- Advertising- water bill inserts, messages of the mayor, social media for younger people, news apps, new feeds, TV promotional stories

Las Cruces Group

Leslie Kryder, *Facilitator*
Cristina Hoberg, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Should not have #1 without #10
- Agreement: #1 and #10 need to be a pair
- With new technologies there is a possibility of capturing humidity from the air.
- Like: Prefer to save, sensible to use less
- Like: Banking for the future, not taking natural resources for granted
- Like: Volume-wise we should go with this option vs. #10.
- Like: Believe in saving, reusing, recycling
- Like: Water is not subject to evaporation and keeps aquifer from draining.

#2 – Connect Southside Reuse to Northside with Expansion in the Middle

- Like: Increase the yield now
- Like: Low cost, long term strategy, less environmental

#3 – Lease Additional San Juan — Chama Water

- No comments

#4 – Interbasin Transfer

- No comments

#5 – Indirect Potable Reuse

- No comments

#6 – Rio Grande Compact Relinquishment Credit Water

- Question: What is the status of the State of Texas law suit about the compact? What is the amount of water they receive and potential that we will have to give them more?

#7- Brackish Groundwater

- No comments

#8 – Stormwater Capture

- Like: Has potential but has limitations
- Concern: The option requires dams designed for short-term storage; we cannot do this with our current design (or regulations); it will require more naturalistic treatment of arroyos because need impervious elements.

#9 – Additional Reuse — Westside/Eastside and ASR

- Like: An economical option to build on current system

#10 – Watershed Restoration

- Concern: Not well defined, should also promote grassland - deep root prairie grass not just trees in forests
- Like: We should do this from the beginning to protect water quality.
- Like: We could easily hire 5,000 people to clear excess deadwood/logs for watershed and forest management. This would provide both employment and economic resources.

General

- Everyone is interested in reuse.
- Price and availability are important to everyone.

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Watershed Restoration
- Connect Southside to Northside with Expansion in the Middle

ACTIVITY 2

POLICY B:

LIKE:

- B–3: We need to get all use out of water instead of letting it disappear.

CONCERN:

- The challenge with reuse is that we don't get return flow credit when we discharge back to Rio Grande. It is a delicate balance and creates internal deficit in regards to the compact.
- B–1 is too general.

QUESTION:

- How are amounts of water quantified?

COMMENT:

- Needs main diversion channel
- Needs EPA quality water treatment facility so storm water discharged is returned through Alameda drain

POLICY D:

LIKE:

- D–2: We should be able to do this before 2037. The Water Authority has done a phenomenal job.
- D–3: Comprehensive and incorporates D–2
- D–1: Good job with consumer education/rebates and water audits.
- D–3: Support updating every 10 years, especially with climate change it good to review as innovation and new ways to conserve always come up
- D–1: Educator should focus on public outreach and education because it is affordable. People need to know about water use and conservation.

CONCERN:

- D-4: Flesh it out better, too passive of a statement, needs to be more of a practice statement
- Work with companies like Intel to put water back into river as a more proactive strategy
- "Development and infrastructure" needs to be more active to encourage and promote better city-wide developments and plans (medians with grass).
- Reach out to other groups, public sessions, churches

POLICY J:

QUESTION:

- How does food production and agriculture impact our dependence on water? Isn't it part of the issue? We need to maintain and develop additional food supply.

LIKE:

- J-2 seems practical but not sure but beneficial in-stream activities on Bosque.
- Need more canoeing/fishing
- You build awareness of resources when people use them.
- Engineer flows to provide recreational opportunities and big value of water in desert

CONCERNS:

- Need to recognize beneficial use to include economic impact of tourism in state.

POLICY M:

LIKE:

- M–4: Glad because takes care of commercial buildings, informs managers/owners on environment in building
- M–4 and M–5: Supports partnering with builders and designers
- Passage of time is fast for children to grow to the future, children's education has great returns.

QUESTION:

- Can we have an educational focus on how to retrofit homes for graywater use?
- What distinguishes "shall versus "should"? Is should is more adaptive?

On which sub-policies should we focus our educational efforts with the public to build understanding and support? Why?

- Broadcast successes and tie into policy M2/5 such as national award for children's education. It should be a headline.

What types of outreach are most effective?

- Conservation should be the focus of public announcements and be a long-term strategy.
- Place emphasis on what community has accomplished, 50% reduction in 10 years
- Albuquerque Museum exhibit shows how water is being used and how much we have reduced. Really like the exhibit.

QUESTION:

- Policy G–5, pre-1907 water rights: It is a bad decision to stop buying because Intel is actively pursuing/buying those water rights (as are other corporations) and so they won't stay in agricultural use just because the city does not buy them. It is contrary to good management to keep them in agriculture and to buy them and preserve them for that use.

Cimarron Group

Heidi Howley, *Facilitator*
Megan Lovato, *Recorder*

ACTIVITY 1

#1 – Aquifer Storage and Recovery

- Like: Provides frequency of availability once it's in the aquifer
- Like: " I see it working physically out of an Arroyo"
- Comment: I am willing to pay for this because I live in a desert.
- Comment: Has best returns across the board except for the cost
- Like: It has been proven to work.
- Like: It is available and that it's already been tested.
- Like: Allow water volume and has a positive effect on the environment
- Comment: This is good in all 4 categories and there are a lot of advantages to living in a desert so I am willing to pay for water.
- Environment is most important.
- Comment: The cost is okay since we live in a desert.
- Like: Protects the environment at a low cost

#5 – Indirect Potable Reuse

- Like: Provides huge volumes of water and is reliable
- Like: We always will have waste water available.

#6 – Rio Grande Compact Relinquishment Credit Water

- Like: Less costly and we can receive a credit for our water
- Like: Our storage space is good so we can hold more water.
- Comment: Cost is most important.

#8 – Stormwater Capture

- Like: Infrastructure is in place already and free rain!

#9 – Additional Reuse — Westside/Eastside and ASR

- Like: Includes alternative #1 and reuse
- Like: Provides reasonable water volume, good cost and availability

#10 – Watershed Restoration

- Comment: There are a lot of impacts from fires so preservation of our watersheds is important for the environment and this is low cost.
- Soil is important and we need to consider the environmental consequences in all aspects and for everyone.

General

- Being proactive is helpful, but who is paying for these alternatives? Who is shouldering these costs? We would like to see what is best for the community as a whole –cost wise.
- Alternatives 1 & 10 work well together.
- Comment: Should be used in conjunction with each other

What is the relative priority of alternatives after the vote?

- Aquifer Storage and Recovery
- Stormwater Capture
- Additional Reuse/Westside and Eastside and ASR
- Watershed Restoration

ACTIVITY 2

POLICY B:

CONCERN:

- Is there a potential threat that our water rights will be taken away?

SUB-POLICIES MISSING:

- We have to demonstrate that we are using our rights so "use it or lose it" needs to be made clearer.
- In Sub-policy 1, the "necessary steps" needs to be defined. What are the "steps"?

POLICY D:

CONCERN:

- "I am all about conserving water, but I don't want to preserve too much since I need to preserve trees as well.

SUB-POLICIES MISSING:

- Equitable use of water needs to be added to "efficiency" because water justice is important and needs to happen.

POLICY J:

CONCERNS:

- Use arroyos draining north so that a north detention pond can be incorporated with the Bosque.
- Does the city have a regulation that it is required to maintain landscape?

SUB-POLICIES MISSING:

- "In stream flow" needs a definition.
- Sub-policy 6 needs the word sustain added to it: "sustain and increase"

POLICY M:

CONCERN:

- Concern with $80,000 spent on TV commercial

SUB-POLICIES MISSING:

- There should be public education added in all areas.
- We need to educate on use of rainwater harvesting,

What types of outreach are most effective?

- Newspapers
- Email list updates
- Workplace training programs
- Collaborations with organizations such as appliance businesses and nurseries to educate about rebates available to their customers and the importance of water conservation

Large Group Report Out of Prioritization Results

#1– Aquifer Storage and Recovery – **264 votes**

#2 – Connect Southside Reuse to Northside with Expansion in the Middle – **122 votes**

#3 – Lease Additional San Juan – Chama Water – **28 votes**

#4 – Interbasin Transfer – **5 votes**

#5 – Indirect Potable Reuse – **38 votes**

#6 – Rio Grande Compact Relinquishment Credit Water – **22 votes**

#7 – Brackish Groundwater – **9 votes**

#8 – Stormwater Capture – **125 votes**

#9 – Additional Reuse/ Westside and Eastside and ASR – **22 votes**

#10 – Watershed Management – **97 votes**

Large Group Q and A

Questions/Comments after Presentation on Supply Alternatives:

- Need to swamp coolers with refrigerated air/using evaporative cooling as a means of conserving water
- Are some of the supply alternatives mutually exclusive?
- Did the mine spill complicate the San Juan Chama drinking water project?
- Does the Water Authority work with other agencies?
- What is the quality of the water that is stored in the aquifer?
- Why choose 135 GPCD as a goal if we are currently below that?
- Please provide information on swamp cooler thermostat rebates
- Why not plan further into the future (100 years versus every 10 for example)?
- How many actual sources of water do we have?
- How are the sources of water categorized?
- What is the security of our water supply like?
- How is the Water Authority handling heavy metals in the water supply? (testing)

Questions/Comments after Presentation on Water Policies:

- How much are TV commercials costing the Water Authority?
- How many water agencies are in NM and how often do you collaborate?
- Will these presentation power points be available?
- What is the extent of the Aquifer in ABQ?
- Is water going back into the aquifer when watering the lawn during good times of the day?
- Does this data include the city of Albuquerque only?
- Does the city of Rio Rancho and Intel effect our plan and aquifer?
- In collaborations with the MRGCD do you consider flood irrigation and how it recharges the aquifer?
- What is the delta between the current demands and how much do we need for high use water supply with and without conservation?
- How much money would a 1% increase in rate generate?
- What is the Cost per acre foot in respect to drops and alternatives?
- What can we do as citizens to educate on water conservation especially among young people and social media?
- There are new products of swamp coolers at the moment that can save water. The Water Authority claims six sources of water when there are only two, ground and surface, the rest is just maintenance.
- Thank you for having this, it's great to see such a great turn out.

Water 2120: Securing Our Water Future

Community Outreach Event
Town Hall
July 22, 2016

Town Hall Event Agenda

Albuquerque Bernalillo County
Water Utility Authority

Town Hall Agenda 2016

July 22, 2016 • 10am–2pm

10:00 – 10:10	Welcome from ABCWUA Board Chair - Trudy Jones
10:10 – 10:20	Overview of Town Hall, Head Facilitator – Mary Davis Hamlin
10:20 – 10:30	Video
10:30 – 11:00	Presentation on Water 2120: Securing Our Water Future, Intera Vice President – David Jordan, P.E.
11:00 – 11:15	Panel Q & A
11:15 – 11:35	Presentation on Water 2120: Policies, ABCWUA COO -John M. Stomp III, P.E.
11:35 – 11:50	Panel Q & A
11:50 – 12:10	Get lunches and go to break-out groups
12:10 – 1:30	Break-out group activities A. Future Supply Alternatives B. Water Resource Policies
1:30 – 1:40	Return to Main Room
1:40 – 2:00	Report Out and Raffle

Water 2120: Securing Our Water Future

Community Outreach Event
Town Hall
July 22, 2016

Town Hall Event Policies Overview

Albuquerque Bernalillo County
Water Utility Authority

Town Hall Policies

A. WATER BUDGET PLANNING AND REPORTING

POLICY A. The Authority shall utilize an adaptive management approach to water resources planning and reporting. The water budget established shall be reported annually to the Authority Board and updated no less than every five years.

RATIONALE: The Adaptive Management Strategy (AMS) adopted as part of the 2017 WRMS is intended to provide an iterative process by which supply and demand can be re-evaluated as needed in the future. The intent of AMS is to provide an iterative process for robust decision-making in the face of uncertainty, with the aim or reducing uncertainty over time via monitoring. Since both supply and demand projections are uncertain and may be revised in the future, AMS allows for re-evaluation of currently-identified predicted supply gaps, and subsequent revision of these gaps, if necessary. Future revisions to the supply and demand analyses may be made based on new technical understanding, availability of new technical tools, and/or revisions to current predictions of supply and/or demand. A key aspect of the Authority's AMS will be monitoring groundwater levels in the Groundwater Reserve.

SUB-POLICIES:

1. The Authority should update the Water Resources Management Strategy using the best available science following the Adaptive Management Strategy (AMS) every ten years or more frequently as requested by the Authority Board.

2. The Authority shall report on an annual basis to the Authority Board to provide a water budget for the upcoming year which includes estimated groundwater and surface water use along with estimated non-potable water reuse.

3. The Authority shall report to the Authority Board every five years regarding the aquifer level and the projected level for the next five years as compared to the groundwater management level established in Policy C.

B. FULLY UTILIZE AND PROTECT EXISTING WATER RIGHTS AND WATER RESOURCES

POLICY B. The Authority shall protect its right to fully use its San Juan-Chama and Rio Grande surface water as a direct water supply and transition to other renewable supplies when available and appropriate. The Authority shall limit the use of ground water except when exercising wells, providing supply during peak demand periods or when surface water supplies are not available (e.g., droughts).

RATIONALE: The Water Authority holds the rights to about 26,396 acre-feet of vested and acquired Rio Grande water rights and 48,200 acre-feet of San Juan-Chama water. Meeting future water demands will require full utilization of these water rights and resources, including the increasing volume of excess wastewater which will be available for reuse. A safe and sustainable water supply for the Authority is based on using the existing water rights and resources which will reduce the long-term acquisition of additional water supplies. This involves using groundwater and limiting the long-term use of the aquifer to preserve a portion for future generations while preserving the right to fully utilize our groundwater permits during droughts and when surface water supplies are unavailable.

SUB-POLICIES:

1. The Authority shall take all the necessary steps to protect its existing water rights and water resources.

2. The Authority should utilize a combination of renewable supplies including the groundwater reserve, direct diversion of San Juan-Chama and native surface water, industrial and municipal effluent, impaired groundwater and recycled water.

3. The Authority should utilize all available excess return flows as part of a reuse and recycling plan that consists of aquifer storage and recovery, indirect potable and non-potable reuse.

4. The Authority should prepare for a basin adjudication or seek alternative legal strategies (negotiated settlements) in addition to the traditional adjudication process.

C. ESTABLISH AND MAINTAIN A GROUNDWATER RESERVE

POLICY C: The Authority shall establish a groundwater reserve that maintains sufficient water in aquifer storage to provide water supply during catastrophic drought or other unforeseen, largely unquantifiable events. The groundwater reserve shall be partitioned into a safety reserve and a working reserve. The safety reserve is that portion of the groundwater reserve prudently maintained for emergency use only, while the working reserve is the balance of the groundwater reserve above the safety reserve. A management level goal of aquifer drawdown set within the working reserve shall be maintained so that the groundwater reserve shall be accessible without causing adverse, irreversible impacts to the aquifer. The management level provides explicit operational guidance to the implementation of Policy B in that it balances full utilization of the Authority's existing water rights with no long-term change in groundwater storage.

RATIONALE: The aquifer is generally rising throughout the Middle Rio Grande. This began in 2008 with the implementation of the Drinking Water Project. The water levels are expected to rise for more than a decade longer and it is important to develop and implement an explicit policy for managing the aquifer in the future to prevent a return to pre–1997 practice under which continuing drawdown was unsustainable. This augmented Policy C makes minimal nomenclature changes to the 2007 Policy C and adds specific language to guide management of the aquifer itself.

SUB-POLICIES:

1. The reserve terminology should be implemented by reference to average level of drawdown in Authority wells from pre-development conditions. Accordingly, the initial 2017 reserve settings should be:

    a. Groundwater Reserve. This reserve extends from fifty feet of drawdown to three hundred feet of drawdown, the latter constituting the threshold of irreversible subsidence.
    b. Safety Reserve. That portion of the Groundwater Reserve extending from two hundred and fifty feet of drawdown to three hundred feet of drawdown.
    c. Working Reserve. The residual portion of the Groundwater Reserve extending from fifty feet of drawdown to two hundred and fifty feet of drawdown.
    d. Management Level. This is set at one hundred and ten feet of drawdown which would maintain seventy percent of the Working Reserve.

2. If drawdown in the Working Reserve should fall below the Management Level, then projects should be implemented to add supply to the Authority portfolio to restore it to the Management Level.

D. UPDATE AND MAINTAIN THE WATER CONSERVATION STRATEGY

POLICY D. Implementation of the Water Conservation Plan has been a key aspect of the success of the 2007 Water Resources Management Strategy. Continued progress in conservation to achieve a gallons per capita per day (GPCD) water usage of 110 will further extend our water supplies even in the face of climate change. The Authority shall utilize the conservation program to reduce GPCD to 110 by 2037.

RATIONALE: Water conservation has proven to be a powerful tool for managing water resources over the past twenty years. GPCD has been reduced from 250 in 1995 to 127 in 2015. This has led to an overall reduction in production from approximately 125,000 acre-feet in 1995 to approximately 98,000 acre-feet in 2015. Further water conservation efforts over the 100-year planning period are a key element to secure a resilient, affordable water supply for the Water Authority's service area. In addition to representing wise stewardship and management of our water resources, successful implementation of an effective conservation plan is required by the State for obtaining future permits and funding water projects.

SUB-POLICIES:

1. Conservation is the primary way in which customers participate in extending the need for additional water resources. The Authority shall continue its public outreach efforts to involve all customer classes in water conservation efforts.

2. The Authority shall update the Water Conservation Plan consistent with the 110 GPCD goal.

3. The Water Conservation Plan shall be updated at least every ten years and shall be reviewed annually so that updates to incentive, education and deterrent programs can be kept current with program needs.

4. The Authority shall work with the City and County to foster the efficient management and use of water in development and infrastructure.

E. SUPPORT REGIONAL WATER RESOURCES PLANNING AND MANAGEMENT

POLICY E. The Authority shall pursue efforts to enhance regional water resources planning and management activities within the Middle Rio Grande Valley. The Authority shall work cooperatively with its neighbors—the Pueblos, the Middle Rio Grande Conservancy District, Middle Rio Grande Valley cities and counties, and involved state and federal agencies. The Authority shall continue to be involved in and monitor the progress of regional and interstate water management initiatives that may affect the Authority and the region.

RATIONALE: The Authority recognizes the need to work in cooperation with other entities that share use of the Middle Rio Grande Valley's water resources. Regional water resources planning needs to address uses for public and domestic water supply, irrigated agriculture, livestock, commerce, industry, fish, wildlife and recreation. The Authority, neighboring jurisdictions, and other water users need to work with State, regional, and federal agencies with water management responsibilities.

SUB-POLICIES:

1. The Authority shall continue its proactive role to ensure that the necessary technical investigations with U.S. Geologic Survey and others are completed efficiently and expeditiously and that they result an improved understanding of surface and ground water.
2. The Authority is committed to seek common solutions within a regional context. The Authority shall work with others in the Middle Rio Grande Valley on updates and implementation of the Regional Water Plan.
3. When appropriate, the Authority should share their experience in groundwater management to assist other planning efforts in transitioning to renewable supplies and to limit long-term groundwater usage.
4. The Authority shall work with federal and state agencies including the Bureau of Reclamation, Corps of Engineers and Bureau of Land Management, the State Engineer and the Interstate Stream Commission to continue to find common solutions for water management on the Rio Chama and the Rio Grande.
5. The Authority shall collaborate with the Middle Rio Grande Conservancy District (MRGCD) to develop and implement a plan to support and promote agriculture in the Middle Rio Grande.
6. The Authority shall promote and develop green infrastructure including storm water infrastructure to promote efficient water resources management and aquifer storage.

F. UTILIZE CONJUNCTIVE MANAGEMENT AND DIVERSIFY WATER RESOURCES PORTFOLIO

POLICY F. The Authority shall enhance the resiliency and sustainability of the water supply by effectively combining the use of surface water, recycled and reclaimed water, the shallow and deep aquifer, and other supplies as needed to meet current and future demand.

RATIONALE: Enhancing the efficiency of the Authority's water use, requires conjunctive management and use of all available resources: surface water for municipal and industrial supply and for irrigation, groundwater for exercising wells, peaking, and when surface water supplies are not available (e.g. , drought), ASR for municipal and industrial supply, and other supplies as available.

Reclamation and reuse of existing water supplies, where economically feasible and protective of human health and the environment, represents a method of maximizing and increasing the usefulness of a limited water supply. Consideration must also be given to satisfying the return flow needs of the Rio Grande from water-rights-permitting, Rio Grande Compact Compliance and environmental standpoints.

The use of groundwater will always be a key component of the Authority's supply portfolio. Following a conservative Groundwater Management Plan that limits long-term groundwater production and establishes a Safety Reserve positions the Authority for indefinite use of the aquifer while maintaining a significant volume of water for unforeseen events. Using the Authority's surface water and other sources for municipal and industrial supply will protect the aquifer so that it is available to meet seasonal peak demands and when surface water is not available (e.g. , drought). Without a groundwater component of supply, the Authority would need to abandon use of significant investment in groundwater assets and transition to expensive additional surface water storage facilities and larger and more costly treatment facilities to meet seasonal peak demands.

Aquifer storage and recovery is a key component of balancing groundwater use during times when surface water is not available (e.g., droughts). Using stored surface water during these times will reduce overall long-term use of groundwater during the planning period. In Albuquerque, this requires artificial recharge of the aquifer with deep recharge wells. It is essential that this capability be expanded. Stored surface water will not increase overall groundwater use because there will always be a need to utilize groundwater to exercise wells or to meet seasonal peak demands which will provide the native water component needed to facilitate use of imported San Juan-Chama water.

In addition, the Authority should be opportunistic in utilizing other sources to extend supply that may not always be available. These sources could include relinquishment credit water, contaminated groundwater, excess San Juan-Chama water and native flood flows in addition to

leased San Juan-Chama water. Each of these sources has been available for use in the Middle Rio Grande in the past and may be available for limited use in the future. Utilizing these sources extends supply by saving other resources for future use.

SUB-POLICIES:

1. The Authority shall use various sources of supply (potable and contaminated groundwater, surface water, reuse water, etc.) to meet demand over the planning period. The quality of the water supplied will be matched to its use to reduce treatment costs and to optimize available excess supplies when available.

2. The Authority shall prepare and implement plans to utilize water sources that are typically only available sporadically (excess San Juan-Chama water, relinquishment credit water, etc.).

3. The Authority should investigate and enter into agreements for short-term leases in times when wet water is available to be stored and used during times of drought and for aquifer recharge.

4. The Authority shall develop a reuse and recycling master plan to address current and future reuse demand, excess available wastewater supplies and the associated infrastructure needs over the planning period.

5. The Authority shall use pumping from the aquifer to meet seasonal demands, well exercising and when surface water is not available (e.g., droughts).

6. The Authority shall continue to develop and implement methods to store available surface water and other reuse supplies in the aquifer and to recover it from storage as needed to meet current and future demands.

7. The Authority should develop and implement the use of storm water and native water flood flows when supplies are available considering permitting and environmental criteria along with Rio Grande Compact Compliance.

G. DEVELOP AND IMPLEMENT LONG-TERM WATER RESOURCES ACQUISITION PLAN

POLICY G. The Authority shall pursue a portfolio of potential additional sources of supply.

RATIONALE: Establishing and maintaining a groundwater reserve (Policy C) will require the Water Authority to rely less on the local aquifer and to secure additional sources of supply to meet future demands. A more diversified water supply portfolio that includes more renewable sources is essential to provide a resilient and sustainable water supply that can meet customer demands in perpetuity.

While this Water Resources Management Strategy does not contemplate the need for acquisition of additional supplies, the Authority should continue to pursue these additional supply sources over the long-term which will allow the Authority to be ready when those supplies become available. Full consideration will be given to the financial implications in addition to the regional context including agricultural and environmental issues.

SUB-POLICIES:

1. The Authority should seek legislation to allow for water leasing and banking on a local, regional and interstate basis.

2. The Authority should continue to develop the potential for use of brackish ground water as a future supply considering financial, environmental and carbon footprint criteria.

3. The Authority should stay active in evaluating other water rights transfers in the Middle Rio Grande and should take proactive stances when necessary.

4. The Authority should investigate the opportunity to import water supplies outside of the Middle Rio Grande when available considering financial, environmental and other criteria.

5. The Authority shall discontinue acquisition of native pre-1907 water rights.

H. IMPLEMENT THE WATER QUALITY PROTECTION POLICY AND ACTION PLAN

POLICY H. The Authority shall take steps to fully implement the Water Quality Protection Policy and Action Plan.

RATIONALE: The Albuquerque/Bernalillo County Water Quality Protection Policy and Action Plan (County Resolution No. AR 121-93 and City Enactment No. 81-1994) is another cornerstone of this Water Resources Management Strategy. The Authority revised the Groundwater Protection Policy and Action Plan in 2009 to add surface water protection measures, recognizing the use of San Juan-Chama water as a primary drinking water source. Protection of both groundwater and surface resources from known or potential sources of contamination is essential for maintaining a safe drinking water supply and aquifer storage and recovery program. Their protection from contamination is of paramount importance.

SUB-POLICIES:

1. The Authority should continue to be proactive in identifying potential water quality threats to surface and ground water resources and should implement programs to the extent possible to protect the water resources in the MRG.

2. The Water Protection Advisory Board (WPAB) shall provide annual updates on the implementation of the Water Quality Protection Policy and Action Plan (WQPPAP) to the Authority Board through submission of the Annual WPAB Reports and presentations at regular WPAB meetings.

3. The Authority shall provide pertinent information regarding updates to the water resource management strategy activities to the WPAB during its triennial review of the WQPPAP implementation activities.

4. The Authority should consider the occurrence, fate and potential treatment of emerging contaminants in current and future water supplies and should actively participate in research which will become more important as the availability of water resources becomes more constrained.

5. The Authority should coordinate with the City, County and State to maintain the quality of groundwater and surface waters.

I. PROTECT AND ENHANCE STORAGE OF NATIVE, SAN JUAN-CHAMA WATER AND OTHER WATER RESOURCES.

POLICY I. The Authority shall protect the rights to store native, San Juan-Chama and other water resources including reuse and recycled water in a variety of storage facilities including Heron, Abiquiu and Elephant Butte Reservoirs. The Authority should seek additional off-channel storage capacity locally or within the Middle Rio Grande as needed to maximize the use of excess wastewater or other water resources in the future.

SUB-POLICIES:

1. The Authority should protect and enhance its storage rights in Abiquiu Reservoir for native and San Juan-Chama water which will provide opportunities to continue to cooperate with environmental, local, state and federal entities to maximize the benefit for the MRG.

2. The Authority should examine the need for additional short and long-term off-channel storage locally and within the MRG to be prepared when excess San Juan-Chama water, native flood flows, or other water resources are available.

3. The Authority should consider the aquifer as a reservoir to be used conjunctively with above ground storage to optimize the use of current and future water supplies.

4. The Authority should develop and implement a Rio Grande Compact pool within the Authority storage space working with the Interstate Stream Commission (ISC) and the Office of the State Engineer (OSE).

5. The Authority should continue providing space in Abiquiu Reservoir for environmental purposes.

6. The Authority should seek long-term storage of San Juan-Chama water in Elephant Butte Reservoir.

J. PROTECT VALUED ENVIRONMENTAL AND CULTURAL RESOURCES

POLICY J. The Authority shall identify and provide resources to preserve and protect valued environmental resources of the region. The Authority shall work independently and in partnerships to ensure that its activities do not irreparably harm the aquifer, river, Bosque, source watersheds and the cultural resources.

RATIONALE: The regional aquifer, Bosque and Rio Grande are exceptional resources of great economic, ecological, aesthetic and cultural value. The Authority should cooperate to develop and implement environmentally conscious water resource development activities that protect the environmental and cultural values of our community.

SUB-POLICIES:

1. The Authority should continue to participate in the Endangered Species Collaborative Program and Recovery Implementation Efforts for multiple species in the MRG.

2. The Authority should encourage the State to recognize instream flows as a beneficial use.

3. The Authority should consider the impacts on environmental and cultural resources when implementing new water resources projects and take appropriate steps to mitigate unavoidable effects.

4. The Authority should work collaboratively and provide funding to protect and restore watersheds of the San Juan-Chama and Rio Grande.

5. The Authority should work with the City, Middle Rio Grande Conservancy District and others to protect and enhance the Rio Grande State Park and the Bosque.

6. The Authority should work with the City and County to provide incentives to increase beneficial tree canopy coverage within Bernalillo County and the MRG.

K. PRESERVE AND ENHANCE THE QUALITY OF LIFE IN THE REGION

POLICY K. The Authority seeks a Water Resources Management Strategy that will preserve and enhance the quality of life within the region. The implementation of the Authority's water resources strategy will take advantage of opportunities to enhance the quality of life in the region whenever possible.

RATIONALE: As the largest water utility in New Mexico, the Water Authority recognizes its obligation to protect and enhance the quality of life within the region. Factors influencing quality of life include continued socioeconomic growth and development, support of public amenities and green spaces, and minimizing environmental impacts. The Water Authority will provide sustainable water services to meet indoor demands, optimize efficiency of outdoor demands by utilizing recycled, reused and non-potable supplies , and return quality water to the Rio Grande for downstream users in the region.

SUB-POLICIES:

1. The Authority shall work with the City of Albuquerque, Albuquerque Public Schools, Bernalillo County and others to ensure that green spaces (parks, golf courses, athletic fields, etc.) are water efficient and provide incentives where appropriate.

2. The Authority should continue to reduce its carbon footprint by taking advantage of opportunities to reduce the energy usage of current infrastructure and by building new infrastructure with energy efficiency in mind.

3. The Authority shall expand its current green energy projects (solar and biogas) and implement additional green energy projects to reduce its water and energy footprints.

L. LINK LAND USE PLANNING WITH WATER MANAGEMENT

POLICY L. The Authority shall coordinate and cooperate with the City, County and all other entities with planning authority to integrate water management policies with land use decisions. The Authority recognizes that managing the use of groundwater while conserving and using existing water resources including maximizing the use of excess resources when available should significantly reduce acquisition of new supplies to serve future customers.

RATIONALE: With the membership of the Water Authority consisting of elected officials from the City of Albuquerque, Bernalillo County and Village of Los Ranchos, future growth and development in the region requires coordination to integrate land use, transportation, infrastructure, economic improvement, urban infill and planning efforts with water resources management.

SUB-POLICIES:

1. The Authority should work with the City and County to update the Albuquerque/Bernalillo County Comprehensive Plan and/or other plans to ensure that system expansion is concurrent with infrastructure service levels and that the extension of facilities and services be phased in an efficient and orderly manner.

2. The Water Authority should ensure that its capital planning process is based on the City and County growth and development master plans so that land use and infrastructure policies are consistent.

3. The Water Authority should support the increase of urban building densities and infill development consistent with adopted land use plans as higher density development uses less water.

4. The Water Authority should encourage the City, County and State to adopt low-water-use Building Codes and low-water-use landscaping standards for all new construction.

5. The Water Authority should continue its review process so that each new residential, commercial, industrial and institutional development will have a resilient, sustainable water supply.

M. ENCOURAGE AND FACILITATE PUBLIC INVOLVEMENT

POLICY M. The Authority shall continue its education programs for both children and adults to keep the public informed about the choices and tradeoffs involved in making water management decisions and invite public comment and participation in implementation of these policies.

RATIONALE: When the Water Authority partners with the public, the educated public can help shape the policies that are the foundation of the Water Resources Management Strategy. The public then contributes to the successful implementation of water resource management solutions, because they have been part of their design. Children who attend Water Authority field trips will know the value of water and be wise stewards of our resources for many years to come.

SUB-POLICIES:

1. The Authority shall continue its water resource education programs and field trips to teach children the importance, value and appropriate use of water in the region.

2. The Authority shall continue its interactive public meeting process to give customers information and get their input on upcoming programs, policies and projects.

3. The Authority shall continue its adult education programs so that all customers can participate in a resilient and sustainable water supply.

4. The Authority shall continue to partner with real estate, design, building and construction groups, building managers, etc. to educate their membership concerning water resources.

5. The Authority shall continue its current marketing and public relations campaigns to keep everyone in the service area informed about effective water resource management.

6. The Authority shall continue its process of involving the public in updates to the Water Resources Management Strategy in all future updates to the strategy.

Water 2120: Securing Our Water Future

Community Outreach Event
Town Hall
July 22, 2016

Evaluations from Town Hall Event

EVALUATIONS
Town Hall 2016

July 22, 2016

1. My time was well spent. – 4.4
2. I felt the Water Authority truly wanted my input. – 4.6
3. I would participate in this type of session again. – 4.2
4. The meeting structure allowed participants to provide feedback. – 4.6
5. I learned something about our long-term water supply needs and how we will address them in the future. – 4.6

COMMENTS

July 22, 2016

- John was great.
- I would like to receive any mailing through the mail; we do not own a computer.
- Great job organizing this! Reach the current future generations by promoting the phone app. Once downloaded it can be used to promote events, education, and conservation via push notifications.
- Large water users should pay more for the water they use — use more than the average of 110gpcd should pay more, those that use less pay less.
- Over the next 100 years ABQ's population will quadruple, but the water supply will remain relatively static. Why isn't the Water Authority doing anything to slow growth?
- Bottom line: How much is this going to cost the customers?
- Due to a large number of people, everybody did not get a chance to ask questions.
- More reuse plans.
- Good job, tough audience, nice morning presentations.
- Clarify #5 — I have been to community conversations plus years of following the utility — great work — 100 year plan is great.
- Very Informative — great proactiveness
- Inform the uneducated general public regarding agricultural versus municipal uses – irresponsible flooding of farms is 100 times more than our municipal use - $$ impact
- Inform regarding challenges of stormwater usage — next to impossible

- Toot your own horn because we are in great shape and have access to groundwater and surface sources because of visionaries from the 60's. Cities grow or die, we need solid growth to remain viable in the SW, or we will continue to lose population.
- The facilitators were great! This was a really good way to voice our ideas, concerns and hopes for the future in a controlled environment. I learned a great deal.
- I appreciate the enthusiasm of the presenters.
- Explain the difference between groundwater and surface water – remind people about the cost of water — public service messages re: water, trees, rebates, and conservation, desert living, rain barrels
- Well Done. The design was balanced, low tech with high involvement.
- Watersheds need to be the key focus of long-term planning for protection of water sources.
- Direct potable use could be another alternative.
- There was not enough time for feedback and not all feedback was captured despite the fact that it was stressed that all feedback would be captured. The voting of top 3 seems silly considering the fact it was said many of these were synergistic and not mutually exclusive. The panel was not that old. The Water Authority needs to start a social media campaign, set up a FB and LN page, hold these meetings at a time when younger people can attend, add technology as a component — such as sensors and smart controllers etc. We need an alternative for direct potable water reuse. Place PSA's on TV and local news and add info on conservation to the quarterly water quality mailings. Town Hall not perfect but worth the time.
- Good combination of large meeting and small work group yielded positive results
- I left thinking the Water Authority is proactive, environmentally aware and open minded. Keep it up — thank you and good work.
- In the future, giving us more info that would be covered would be very helpful. We could be better prepared to ask intelligence questions.
- Well planned and executed! Good use of student helpers-breakout sessions good size and limiting some proposals is good — all would be too much — well prepared speakers.
- Well organized and informative. WA successes and improvement to long-term prospects should be more publicized.
- Great job, I really enjoyed this.
- Great presentations – I am much more aware and educated. I appreciate the City Board and how you are organized for our water conservation and our future.
- Good job of making the community feel like their input matters, many thanks
- Excellent question and format – excellent job of educating public and all the planning and detail that goes into running a water program
- Thank you very much.
- I was impressed with the organized way this conference proved to be. It was reassuring to know that in the past 6 years of drought, our water supply was increasing instead of decreasing.
- Thank you, very well done.
- Thank you for this opportunity.
- This time was well spent.
- This was a well thought out seminar — very interesting — I really liked it.
- Great program — highly informative and well run

- Information in Spanish and sessions in Spanish as Spanish is a predominate language
- The people running these sessions were really very good — and very patient. The crises of climate change should be increasingly addressed by the Water Authority and other utilities in their public outreach and education for both adults and children; it is critical.
- I really appreciate the town hall type of agenda.
- Some was a repeat of the Customer Conversations
- Excellently run, on time, well organized, structures well to optimize what people needed to know and giving them the chance to provide both open ended feedback/complaint and targeted feedback based on the Water Authority's needs and questions to the group.
- Coordinate resources to prevent extra waste: recycling of plastic cans
- How were cooperators contacted? From and agency perspective having an invitation would be nice rather than knowing from receiving at residence.
- The elephant metaphor insults my intelligence — create a clever message to inform public about intelligent water use
- With regards to new water meters, be able to go on-line to see the exact water usage — not just in units but by gallons
- I can never digest/process John Stomps discourse because it is way too fast.
- Elder neighbors are not getting message and wasting enormous amount of water on driveways and tiny strips of dirt that can't hold it. Neighborhood Associations could educate.
- Very well thought out and organized event — great job — and thanks for the lunch and the $20 credit.
- Thank you for the opportunity to learn more. The program was well organized and there were many opportunities for people to share their thinking. Thank you for keeping of time and keeping people on track! Would be nice to have recycling for plastic cups and cans.
- Kudos for the whole process — well done!
- Why can't golf courses be covered with plastic grass? The golf course between the McKinley Light to Wyoming on Alameda for example. The amount of water distributed there is enormous! This is only one golf course! How many golf courses exist in Albuquerque using the same style and amount of water? We as resident here try our very best to be sparing in our use and we have ground scape in place and use a minimum amount — we did have a roof leak recently due to the swamp cooler. Spoke with Frank today, he is very good listener.
- Very informative, well done!
- Graywater use for residential, commercial, schools, motels etc.
- Please break the down on an individual basis — one of the most important things that I felt was imputed was how and when to water efficiently how to save our trees and not go bankrupt – also for giving us an understanding of the problems faced by our water authority.
- Agree you must use social media more to educate and persuade younger people — promote greywater use — save the dying trees all over the city will kept the city cooler — provide education on how to water tree

Water 2120: Securing Our Water Future

Community Outreach

Technical Customer Advisory Committee

Comments for Drafts of Water 2120

December 2015 through May 2016

Water 2120: Securing our Water Future

Responses to Comments

The document *Water 2120: Securing Our Water Future* represents the efforts of many individuals. During the process of authoring and editing, feedback and comments from the public were solicited and collected in many forums.

The comments tabulated in the following document are primarily those received from the Technical Customer Advisory Committee of the Albuquerque Bernalillo County Water Authority. The Technical Customer Advisory Committee (TCAC) was established to solicit advice and recommendations from customers regarding Water Authority policies, plans and programs.

The comments regarding each chapter are listed here with the action taken and a response explaining the action where needed. TCAC members provided comments and guidance for draft chapters from December of 2015 through May of 2016.

After the TCAC chapter comments, there are also listed here the public comments received in response to the drafts of chapters 2 through 6. These drafts were posted online by the Water Authority July of 2016 for the purpose of soliciting public comment.

Chapter 2

Water Demand

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
1	Cover				We only talk about population	No Change	Not sure what this statement means, perhaps as a variable affecting demand? The variations in population were developed to represent a range of future water demands.
2	Cover				Back end (p 15, 16, 17) is under-developed.	Revised	Additional text was added to the Alternative Water Demand Projection Conditions Section and Appendix C was added.
3	Cover				Consider relative prices	Noted	Additional analysis of price sensitivity could be addressed in future studies.
4	Cover				We need to think about what affects demand more. Demand is a function of price, quantity, income, preferences, etc.	Noted	Additional analysis of demand could be completed. This document is looking at historical demand and demand projections for planning purposes.
5	Cover				Two goods - potable and nonpotable. Can we drive development to nonpotable use?	No Change	This is an alternative that will be included in the alternatives chapter (Chapter 5).
6	Cover				Conservation changes demand preferences	Noted	This is true and will be updated in the next WRMS update.
7	Cover				Where are the knobs?	Noted	Demand is one of the knobs of the WRMS update.
8	Cover				Consistency with Table 1 and 2	No Change	The first table are historical data, next table is the current study.
9	Cover				Put some of the historical stuff in an appendix	No Change	
10	Cover				Use same color scheme across graphs	Revised	
11	Cover				Discussion on terms for the public	Noted	
12	Cover				Does the percentage of multi-family housing increase?	No Change	No. As noted in the text all stay the same. This can be modified when considering alternatives.
13	Cover				Supply Chapter Required. Demand is partially governed by supply, both in quantity and by source. Consider Figure 2. Historical WRMS Demands for 1997 and 2007. Knowing that the aquifer drawdown would create land subsidence if it were not reduced, the policy was changed to divert SJC water. While the ABCWUA may own the surface water depicted in Figure 2, according to URGIA, it will diminish in future years. Moreover, the utility has yet to be able to divert as much as it owns, supplying roughly 60% of demand. Even though “consumptive use" has reduced substantially, the source of such water makes a difference. Returning pumped groundwater to the river still results in the lowering of the water table.	Noted	The supply chapter (Chapter 3) is almost complete and will be delivered to you next.
14	Cover				Given the extraordinary need for capital replacement for aging systems and the rapidly escalating costs of new water supplies, demand management is of direct relevance to operating costs, capital expenditures, supply sufficiency and regulatory compliance costs. • Utilities should disclose historical per capita and/or customer class demand on a decadal basis. • Utilities should disclose their approach to assessing the price sensitivity of their customers by class, and the price effect incorporated into demand projections. • Drinking water utilities should disclose their progress against long-term demand management goals. (Percent Of Supply From Conservation/Efficiency	Noted	Historical per capita and customer demand data are disclosed. Historical demand and demand management goals are disclosed. Additional analysis of price sensitivity could be addressed in future studies.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
					and Progress Against Demand Management Goals) Comparing supply with demands allows for an assessment of risk exposure.		
15	Cover				The water risk scores were designed to give a sense of the relative risk of undersupply of water over a 20-year period based on the utility's present supply mix as described in bond official statements. The water risk score is not an indicator of the likelihood of default.	No Change	Effectively 0 risk in 20 years.
16	Cover				Before completing comments and suggestions to Chapter 2, the Supply Chapter also needs to be reviewed. In that way, suggestions toward policy changes, if any, can be sensibly made.	Noted	
17	Cover				While the Chapter references that cooling and irrigation demands might rise due to temperature increasing, there is no data provided as to how much those demands might be. For instance, an increase in temperature might result in an increase in refrigerated air conditioning, which would not necessarily mean an increase in water demand, at least in the MRG.	Revised	Good point. We can provide the data. Also note that these increases are automatically included in the climate change scenarios.
18	Cover				Before completing the WRMS update, why not propose that the Board set a new gpcd goal?	No Change	
19	Cover				Why not change the gpcd calculation from the current single number? The AWWA recommends that sectoral demands be disaggregated to include subsets of purposes of water use and seasonal and nonseasonal use rather than using an average annual usage rate. Rather than use the metric calculated by dividing annual water production by population served, disaggregate demands into specific end uses to develop metrics, benchmark the current level of performances, and establish water efficiency targets for indoor and outdoor use of water in the different sectors. Chapter 2 indicates that the ABCWUA can already establish the current level of performance for various sectors and time periods ("Data on water usage by sector was available from 2010 to 2014 and is presented in Table 3 and Figure 7."). Ms. Yuhas has said that the Utility has developed a detailed map based upon SFR usage by household derived from data. Such would then form the basis of the next Water Conservation Plan as well as be useful in establishing WRMS policies	No Change	For the purpose of long-term bulk demand projection and variability, a single number is appropriate. The Authority already disaggregates, and in our process we track demands by category and by indoor/outdoor use. This type of analysis can take place when looking at conservation alternatives rather than for demand projection.
20	Cover				Climate Variability is nearly ignored	No Change	Climate variability is addressed in Chapter 2; however it is primarily covered in the Chapter 3, the Supply chapter.
21	Cover				The major driver in future water supply and demand will be climate variability. Why not flesh this out substantially? Rather than state that climate change might offset conservation measures, why not set out those demands - again to enable policy suggestions?	No Change	Climate is primarily covered in the Supply chapter.
22	Cover				"Well-designed connection charges that incentivize water-efficient development show enormous potential to help utilities reduce overall water demand and avoid costly new infrastructure projects (http://www.ceres.org/press/press-releases/most-water-utilities-missing-	No Change	This is not the policy section.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
					opportunity-to-stretch-water-supplies)." If this is the case with the ABCWUA, what about suggesting a policy dealing with connection charges?		
23	Cover				A number of commitments have already been made by the ABCWUA to provide water. What are the cumulative amounts of those promises? What are the cumulative impacts? These should be included in the report.	Revised	Note that any commitments are not in addition to the projected demand.
24	Cover				Storm water represents a potential supply source and should be included so as to develop policies.	No Change	Correct. It is included as a supply alternative. This report characterizes demand.
25	Cover				How does this Chapter integrate with the goals and objectives?	No Change	This is a framing chapter. Overall, when complete, the combination of chapters will address the goals and objectives and provide policy recommendations.
26	Cover				Should it be 2 chapters? Historical and current demand?	No Change	Style choice
27	Cover				Disaggregate the data for management purposes.	No Change	Style choice
28	Cover				Why is gpcd held at 135?	No Change	135 gpcd is the stated target gpcd and keeping it means our projections are even more conservative.
29	Cover				Don't say "it might do this, it might do that."	No Change	Style choice
30	Cover				Split out miscellaneous category.	No Change	Style choice
31	Cover				What does cumulative demands mean?	Revised	The text has been revised to provide clarification.
32	Cover				How did we get from service connections to population? Is it tied to a geography?	Revised	It is not tied to geography.
33	1	2.1	1	1	Clarification = perhaps note how often the WRMS is updated?	Revised	
34	1	2.1	1		Add "water" in front of demand throughout document.	Revised	
35	1	2.1	2	2	Add commas: "…uncertainty in population projection and, ultimately, future demand and, subsequently, the need…"	Revised	
36	1	2.1	3	1	Change to: "..the addition of-new industrial or commercial customers, population density or other potential changes in customer class or water use pattern."	Revised	
37	1	2.1	3	1	Add "s" after commercial customer in following sentence: "…they should be considered to be a range of future demands that could result from uncertainty in forecasting population, the addition of-new industrial or commercial customer, or any other potential changes…"	Revised	
38	1	2.1	4	1	Add comma: "For example, a 'high' demand in 2040 could result…"	Revised	
39	1	2.1	5	1	"This document summarizes both historical…"	Revised	
40	1	2.1	5	1	"…considerations related to figure water demand projection through 2020."	Revised	
41	1	2.1			What's the methodology for selecting use of italics for "*demand(s)"* in lieu and others not italicized?	Revised	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
42	1	2.2	1	2	Add paragraph break between sentence 2 and 3.	Revised	Additional paragraph breaks added.
43	1	2.2	2	2	Change to "…with changes in demand between the 1997 WRMS and 2007 WRMS which reflect different…"	Revised	
44	1	2.2	3	1	Show the calculation for: Water Usage Rate (GPCD) = Total Water Produced From All Sources / Population	Revised	
45	1	2.2			Maybe a little bit more on what has been done already. Effect of conservation can go there too.	No Change	This section is an overview of historical demand projections. More information on historical conservation is presented later in the report.
46	2	2.2	4	3	Replace "…(of about 20,000 ac-ft)" with (approximately 20,000 ac-ft)	Revised	
47	2	2.2	Footnote 2		Which was also reached in 2014.	Revised	
48	2	2.2	Table 1		Does that mean that the population presented in Table 1 is based on the anticipated number of customers, or is it the City population? If the population is the number of customers, I assume that means the water service area boundaries are not expected to change. Can you clarify?	Revised	
49	2	2.2	Table 1		"…204,000 acre-feet (ac-ft/yr)."	No Change	This is the demand in a single year.
50	2	2.2	Table 1		Circled the 2060 Population projections from the 1997 WRMS and 2007 WRMS and asked: Exactly the same, really? Differs in Table 2.	No Change	Table 2 covers new projections.
51	2	2.2	Table 1		Somehow Table 1 should be before Figure 2	Revised	
52	2	2.2	Table 1		Change title: "…Demand Projections through 2060"	No Change	
53	4	2.2	Figure 2A		Think you should discuss terms in Figure 2 (a) and (b) for a casual reader.	Revised	Added reference and link to the 2007 WRMS where additional discussion of the Figures can be found.
54	4	2.2	Figure 2A		I think the reader is not aware that there is a need for action. A paragraph that says/summarizes the problem would be helpful.	No Change	
55	4	2.2	Figure 2A		Could these be labeled as (a). 1997 and (b). 2007 with their own Figure labels?	Revised	
56	4	2.2	Figure 2A		Top graph: Is this 1997?	Revised	
57	4	2.2	Figure 2A		Add: "(a) 1997 WRMS estimate" under the top figure	Revised	
58	4	2.2	Figure 2B		Identify Water Demand Projection, Boundary between renewable and non-renewable.	No Change	These are historical figures for reference.
59	4	2.2	Figure 2B		Is it misleading to point with arrows to define Renewable portion? Can color coding be used? I am not clear where is the boundary between renewable and non-renewable?	No Change	These are historical figures for reference.
60	4	2.2	Figure 2B		Can you match color shading to color of word Reuse? Why is Reuse written in red?	No Change	These are historical figures for reference.
61	4	2.2	Figure 2B		Including colored lines here (between the sources) may help.	No Change	These are historical figures for reference.
62	4	2.2	Figure 2B		~50KAFY? Renewable/Non-renewable? Groundwater	No Change	These are historical figures for reference.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
63	4	2.2	Figure 2B		I think some bullets with main idea would be very helpful. This is a hard chart.	No Change	
64	4	2.2	Figure 2B		Bottom graph: Is this 2007 projection?	Revised	
65	4	2.2	Figure 2B		Add: "(b) 2007 WRMS estimate" under the bottom figure	Revised	
66	5	2.3	Title		"2017 Water Demand Projections"	Revised	
67	5	2.3	General		First of all, there are issues with the population estimates.	No Change	These comments are unclear. Is this solely the difference in CFAR and OSE methods?
68	5	2.3	General		Presumably, Chapter 2 used the GPCD Calculator figures in the projections, but the difference with the CAFR and the County populations underscore the problems in using population estimates for projecting demand. Removing the use of the per capita variable and replacing it with a per hook-up one would eliminate some of the problems. Or, one could use the more site specific household information found in MRCOG's Data Analysis Subzones (DASZ), themselves subdivisions of Census Tracts (data readily available at http://www.mrcog-nm.gov/images/stories/pdf/region_and_people/census_2010/co5_tract10_PLdata.xls).	No Change	Historical population was based on reported data from the Authority to the OSE. Population data are estimated based on the method required by the OSE. These data also tie directly to the gpcd calculations. Ultimately, if the population were different, then the gpcd would also be different and the demand estimated would be the same.
69	5	2.3	General		In turn, while it may be that population growth may be as projected, given the recent history of the region, why not use the “low” as the “medium” projection?	No Change	Comment unclear. If low is medium then presumably the overall range would be expanded with a new low. The range captures sufficient variability and uncertainty.
70	5	2.3	1	3	Why is it expected if not likely?	No Change	It is expected based on historical growth, however the future does not always follow historical trends.
71	5	2.3	1	4	Change to "water usage rates"	Revised	
72	5	2.3	2	1	Show calculation: Projected Water Demand = Projected Population x Currently Planned Water Usage Rate (Per Capita Demand)	No Change	
73	5	2.3	2	2	Change to: "…industrial, and institutional, as well as indoor and outdoor water…"	Revised	
74	5	2.3	2	2	"…demand is broken out into the following water use sectors: residential (single family and multi-family), commercial, industrial, and institutional as well as indoor versus outdoor water demand for each sector." Edit to match sector lists on p. 2-9 and 2-11?	Revised	
75	5	2.3	2	2	Perhaps put this information into bullets?	No Change	
76	5	2.3	2	2	This sentence repeated on page 2-9 for emphasis?	No Change	3.0 is an overview summary. Page 2-9 is more detailed.
77	5	2.3.1.1	1	1,2	Repetitive	No Change	
78	5	2.3.1.1	1	1	If also an assumption, then move here as bullet.	No Change	Note 4th bullet.
79	5	2.3.1.1	1	3	Change the dash to a period at the end of the first bullet point.	Revised	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
80	5	2.3.1.1	1	1,2,3	Also correlates to population density, with higher density having lower water demand.	No Change	Agree. Modifications were made in the water usage rate portion.
81	5	2.3.1.2	1	1	Add: "…part of the 1997 WRMS and 2007 WRMS."	Revised	
82	6	2.3.1.2	4	1	Table 1 or 2?	Revised	
83	6	2.3.1.2	4	2	"664,600 in 2015" Why is this not shown in Table 2 (especially since Table 2 is noted in sentence immediately prior as intro)?	Revised	The table and text have been updated with 2015 data.
84	6	2.3.1.2	4	3	Remove the "(2012)" in the text and put the date behind the BBER and MRCOG references.	Revised	
85	6	2.3.1.2	4	3	"ISC" and "NMISC" Why not consistent?	Revised	
86	6	2.3.1.2	5	2	Change "reflected" to "reflects"?	Revised	
87	6	2.3.1.2	5	2	Change "one percent" to numerical digits.	Revised	
88	6	2.3.1.2	5	3	BBER 2008 estimate really high? Puzzling. A footnote needed from BBER about why? Was it something to do with data from before the 2007-2008 mortgage crisis?	No Change	Comment unclear. I think it was a different estimating technique.
89	6	2.3.1.2	6	1	Remove the "s" from "projections"	Revised	
90	6	2.3.1.2	6	1	Remove the "s" from "projections" in the first sentence.	Revised	
91							
92	6	2.3.1.2	6	2	Replace "…through about 1995." with "…through approximately 1995."	No Change	
93	6	2.3.1.2	7	1	It would be nice to also include in these summary bullets that low, medium, high correspond to 0.8, 1.0, and 1.2% annual average growth rates.	Revised	
94	6	2.3.1.2	8	1	1st bullet point: "Low - based on…." Upper case for consistency with other bullets.	Revised	
95	6	2.3.1.2	9	4	Change: "…other factors such as mix of future industry; population density and associated water usage rates."	Revised	
96	6	2.3.1.2	9		Is this meant as a closer to emphasize that noted in Section 1.0, paragraph 2, page 2? Might they be combined?	No Change	Somewhat. But one is an overview statement saying what is to come. The other is more of a disclaimer for uncertainty.
97	6	2.3.1.2	General		Discussion of Low-Medium-High population scenario left me wondering where the proposed Santolina buildout proposal would fit in? If I recall, the Planning Commission wanted the ABCWUA to address the water needs in its planning, and this seems like the place. Does the High population growth estimate include the growth that would result from Santolina? If yes, why not mention that in the narrative as a "for example," with the appropriate caveats that ABCWUA does not make any decisions related to planning and permitting? The statement could be something like, "for example, the High population growth estimate of XXX,XXX people increase would be consistent with a scenario where the proposed Santolina or other developments	Noted	In general, the plan is intended to address long-term water supply over the next 100-years. While Santolina is an important consideration, the approach of this plan is to consider population/demand broadly and not focus on specific geographies/developments.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
					proposed in the future were built out." The point is NOT to put the ABCWUA in the position of commenting on growth scenarios, but rather for the plan to make it easy for the public to see how different growth scenarios affect water availability. It could be a sidebar if that makes more sense. My feeling is that the public meetings will be difficult unless the topic is addressed. Better to lay it out in a way that the public's key question is answered from the start: does the High population growth include a project like Santolina, and would that be it for new growth or could there be more or less?		
98	7	2.3.1.2	Table 2	Title	Add "Through 2120" at the end of the title	Revised	
99	7	2.3.1.2	Table 2		Replace Table 1 with Table 2	No Change	These are completely different data sets. One is historical projections and one is current projections.
100	7	2.3.1.2	Table 2		Acronym "NMUI" in the Notes does not match "NMU" acronym used on p 2-10.	Revised	
101	7	2.3.1.2	Table 2		Where is 2015? (see note p. 2-5)	Revised	
102	7	2.3.1.2	Table 2		Still a little confused about what population was used. I am guessing it was number of water customers times an average household size?	Revised	
103	8	2.3.1.2	Figure 3		Note year like for other 7 legend items. On "ABCWUA Actual" and "Low 85% of Medium"	Revised	
104	8	2.3.1.2	Figure 3		Put on page 5	Revised	Modified with final editing.
105	8	2.3.1.2	Figure 3		10 curves in legend, 9 curves on the plot	Revised	
106	8	2.3.1.2	Figure 3		Add line from present, with arrow and "Projected"	Revised	
107	8	2.3.1.2	Figure 3		Might be helpful to include in the legend a note to identify those that will be used in this study.	No Change	
108	8	2.3.1.2	Figure 3		I am confused why this doesn't start at (intersect) actual line (solid) line in 1995, why doesn't start at 1995, and also why it is not corresponding to the medium growth line. I thought that's what it stated in the 1st paragraph of 3.1.2.	No Change	The new projections all intersect in 2015 - projections from this point. Other projection dates are from the date of projection.
109	8	2.3.1.2	Figure 3		Use a better legend, clarify, and tie to Table 1	Revised	
110	9	2.3.1.2	Figure 4		Note year for consistency. On "High", "Medium", and "Low"	Revised	
111	9	2.3.1.2	Figure 4		Put on page 6	Revised	Modified with final editing.
112	9	2.3.1.2	Figure 4		Call out in text	Revised	
113	9	2.3.1.2	Figure 4		Can you match this legend descriptions to those of Figure 3?	Revised	Revised as much as appropriate, not all of the legend items are the same.
114	9	2.3.1.2	Figure 4		What is MTP?	No Change	Metropolitan Transporation Plan
115	10	2.3.2	1	1	Change: "…Water Authority's conservation goal of reaching…"	Revised	
116	10	2.3.2	1	1	Insert: "…Water Authority's 2011 goal of reaching 135…."	Revised	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
117	10	2.3.2	1	3	Change: "…constant at 135 gpcd through 2060 (Figure 5)."	Revised	
118	10	2.3.2	1	3	Is there an ETA for next new goal?	No Change	No, though one may be developed through this process.
119	10	2.3.2	2	1	1st sentence: Not a complete sentence.	Revised	
120	10	2.3.2	2	1	Remove "Because" from the first sentence.	Revised	
121	10	2.3.2	2	1	Remove "Because" from the beginning of the sentence	Revised	
122	10	2.3.2	3	3	Add: "…climate change anticipated with increase in population that spurs development of previously undeveloped and, therefore non-irrigated areas, potentially affecting water…"	No Change	Not sure that this is necessarily true.
123	10	2.3.2	3	3	Could remove "rate" from the end of both sentences - or okay as is.	No Change	
124	10	2.3.2	Figure 5		What about future density changes? Need to show some estimates to see if the bracket estimates. What would the historical water usage rate be with increased density?	Revised	Additional discussion added on effects of density. Note density changes should be covered in our range of demands as well as in our ability to create alternatives.
125	10	2.3.2	Figure 5		Will the medium projection be accepted as Baseline Population? It should be stated so.	No Change	There is no baseline per se, but a range of equally likely resulting demand series.
126	10	2.3.2	Figure 5		Is this the purple line in Figure 3? (referring to the Medium Population Growth line)	Revised	
127	10	2.3.2	Figure 5		Second x-axis: Should this be called "Water Usage Rate"?	No Change	
128	11	2.3.3	1	1	Add calculation: Total Annual Water Demand (estimate) = Projected Population x Conservation Goal	No Change	
129	11	2.3.3	2	1	Sector list is different on p. 2-4 (and matches the list on p. 2-11).	Revised	
130	11	2.3.3	2	1	Same info p. 2-4. Maybe bullets?	No Change	
131	11	2.3.3	2	1	Seven sectors: Not sure how this was used. The total demand projections given in Figure 6 used the constant rate of 135 gpcd, is that right? So dividing up the sectors gives extra information, but does not necessarily affect the calculations? If so, maybe this discussion of sectors can be deleted from here, as it is discussed again in Section 3.3.2.	No Change	The sectors can be used later in the process when examining alternatives.
132	11	2.3.3	2	3	I think wastewater as "generated" rather than "produced".	Noted	
133	11	2.3.3	2	4	Replace "cam" with "can"	Revised	
134	11	2.3.3	2	4	Change "cam" to "can"	Revised	
135	11	2.3.3	2	4	Replace "cam" with "can"	Revised	
136	11	2.3.3.1	1	1	Change: "…as shown in Figure 6."	Revised	
137	11	2.3.3.1	1	1	Change to: "...respectively, for 2120, as shown on Figure 6."	No Change	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
138	11	2.3.3.1	1	1	Move the footnote notation to behind (ac-ft/yr) from behind 100,000. Otherwise there is confusion if the 100,000 is cubed. (might be confusing this location).	Revised	
139	11	2.3.3.1	Figure 6	Title	Why is it called "Baseline"?	Revised	Removed Baseline
140	11	2.3.3.1	Figure 6		Remove "Demand" from top of graph.	Revised	
141	11	2.3.3.1	Figure 6		Figure 6. Actual and Projected Annual Baseline Total Water Demand, shows the exponential increase in demand without indicating that the ABCWUA cannot meet that usage without additional supplies. While the Utility has 155,000 af in permits to pump, it owns less than 27,000 af, much of which may be subject to curtailment if there was a shortage. In 2014, the OSE found that the ABCWUA had to use an additional 15,202 af of water stored in Abiquiu to offset the depletions from past pumping – after applying all of its water rights and return flow credits.	No Change	This chapter is solely characterizing demand. Supply is characterized next and a gap analysis will follow with a look at the need for new supplies.
142	11	2.3.3.1	Figure 6		The relative seniority of water rights and the sensitivity of those rights to flow reductions should be included.	No Change	There is some discussion of this [water right seniority], but no adjudication at the moment - the Authority's water rights have never been curtailed.
143	11	2.3.3.1	Figure 6		Furthermore, there is no recognition in the graph that surface water supplies, according to URGIA, will diminish in future years.	No Change	Surface water supplies will be addressed in the Supply chapter.
144	11	2.3.3.1	Footnote 3		What does non-system mean?	Revised	
145	12	2.3.3.2	General		Will the gap between continued reduction in demand and the potential increase in demand really equal 135 gpcd? Might it be substantially lower? Chapter 2 includes detail on why residential gpcd will likely continue to decline – all new construction (44% relative to 2010) is geared toward 180 gpcd per residence, or 72 gpcd per person, with retrofits and relandscaping continuing in older parts of the City.	No Change	Comment unclear
146	12	2.3.3.2	General		Not mentioned is the effect that the 4 planned rate increases over the next 8 years will have on per capita usage. "Water use decreases with increases in water price. The decreases are predictable and statistically valid." As noted in the Ceres report cited above, "Utilities should disclose their approach to assessing the price sensitivity of their customers by class, and the price effect incorporated into demand projections." (Ceres, October 2010, The Ripple Effect: Water Risk in the Municipal Debt Market)	Revised	Price elasticity or the effect thereof will be captured in any gpcd reduction. Note that while usage can drop with increasing prices, elasticity levels are not clear. Likewise, as usage decreases, the ability to reduce demand through increasing prices diminishes. Discussion of price elasticity will be included.
147	12	2.3.3.2	General		I like this example inclusion! (referring to the New Mexico Utilities Story)	Noted	
148	12	2.3.3.2	General		***The New Mexico Utilities Story*** - What does this add? Besides which, others have said that because NMUI was serving new development on the west side, per capita use was less than the ABCWUA's to begin with. A footnote explaining why the customer base expanded in 2009 due to the acquisition of NMUI should be sufficient.	No Change	Others liked the inclusion and thought it did add something. Based on consensus it was left in the document.
149	12	2.3.3.2	2	3	Do not agree (with the last sentence)	No Change	Perhaps clarify - there is effectively no change in the data over time.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
150	12	2.3.3.2	2	3	"…weighted for more recent data,…" Not sure what this means.	No Change	The average is over the last 5 years. Data could be examined further back in time.
151	12	2.3.3.2	2	3	Replace "appropriate" with "applicable"?	No Change	
152	12	2.3.3.2	Table 3	Note 5	Note misspelling of "include" and "is are"	Revised	
153	12	2.3.3.2	Table 3	Title	"Water Demand"	Revised	
154	12	2.3.3.2	1	1	Bullets for the list of water use sectors.	Revised	
155	12	2.3.3.2	1st	1	Sector list is different on p. 2-4 (and matches list on p. 2-9).	Revised	
156	12	2.3.3.2	Table 3	Note 4	Can you explain reuse? I am assuming this reuse portion is actually coming from the wastewater treatment plant, and hence not contributing to the total that should be pumped? Or, is it included in the 135 gpcd?	No Change	Both are true. Reuse comes from the WWTP and reduces the amount of other supply needed. But, it is also part of the 135 gpcd in that it is still supplies a component of demand
157	12	2.3.3.2	Table 3	Title	Change to: "Actual Water Demand Percentage by Sector…"	Revised	
158	12	2.3.3.2	Table 3		Possibly widen gap for more buffer between Table 3 and Figure 7?	Revised	
159	12	2.3.3.2	Table 3		What about high density?	No Change	High density sectors are not captured separately in the Water Authority's utility billing. Multi-family is the closest to this distinction.
160	12	2.3.3.2	Table 3		According to Table 3. Water Demand Percentage by Sector, 2010 to 2014, demand water use sectors has remained essentially the same.	No Change	Correct. Seems likely that water use by sector wouldn't have changed over 4 years.
161	12	2.3.3.2	Table 3		A footnote listing examples of Institutional, Industrial, and Commercial might be useful. Are restaurants and Walmart etc. a part of commercial?	Revised	
162	12	2.3.3.2	Table 3		Typically the word miscellaneous implies something small. 14% seems high for such a category, especially when you are listing 1% (industrial). Can you explain this sector a little bit more? What are the non-potable uses? Based on Figure 9, a majority of this group is consumptive, so maybe irrigation only accounts can be separated?		Text was added that clarified the components that make up this category.
163	12	2.3.3.2	Table 3		While clearly residential and multi-family uses are the majority users, 20% is for commercial, industrial and institutional uses. Another 9% is for non-revenue for water and 12% for miscellaneous. However, projected demand is determined only by residential growth.	No Change	Projected demand is not "determined," a range of estimates are made that utilize a range of population growth projections. The CII use is embedded in the gpcd. In general, the mix of use making up total has remained relatively stable. As noted in the report, it is anticipated that this trend will continue.
164	12	2.3.3.2	Table 3		According to Table 3 and Figure 8, Commercial, Industrial and Institutional (ICI) demands are 20% of the total, accounting for some 26 gpcd of the total 135. The assumption is that demands will continue to grow equivalently with the population and not be reduced with additional conservation. While Chapter 2 surmises that a new industry might come which would need lots of water, it could be just as likely that additional ICI conservation will reduce demand.	No Change	Correct. Both are possibilities. The demand range allows for consideration of population growth or new industries. The reduction in gpcd is evaluated as an alternative.
165	12	2.3.3.2	Table 3		Suggestion: To enable better policy development and management strategies, demands should be disaggregated. Rather than lump projected uses, separate them into the various water use categories currently used.	No Change	With, say, 5 demand classes, 3 population scenarios and 3 supply scenarios, if demands are varied by class even simply as a low medium and high, you could easily end up with 135 different scenarios – all of which should be represented by the current 9.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
166	13	2.3.3.2	Figure 7	Note	Change to: "Non-Revenue water is divided into three components: Real Loss, Apparent Loss, and Unbilled Authorized. Real Loss is physical water lost from…." "Unbilled Authorized includes uses such as firefighting and well wash operations."	Revised	
167	13	2.3.3.2	Figure 7		Use a lighter shade for "Real Loss", the text is hard to read.	Revised	
168	13	2.3.3.2	Figure 7		The Miscellaneous Category represents 12% of demands, but given that they are quite different one from the other, they should be broken up into specific categories so that policies and strategies can be devised to address the demands. This is so particularly if reuse is to be a major source of supply. (Why limit it to nonpotable uses?)	No Change	Current and future reuse are tracked explicitly.
169	13	2.3.3.2	Figure 7		Of note, the North I-25 system's water is the same as used for the Bear Canyon ASR project, so if stored, it won't be available for use. And when non-potable SJC water is used for either the North I-25 or the Bear Canyon ASR projects, it is not available to divert for use at the Drinking Water Plant. This should be clarified.	No Change	This chapter is solely characterizing demand. Supply is characterized next and a gap analysis will follow that looks at the need for new supplies. N I-25 supply and/or Bear canyon ASR are not mentioned in this report. While the DWP and N I-25 project share a source, they are both feeding the same ultimate demands, and stored SJC water can be used to ensure that supply for both projects is maintained. ASR utilizes SJC water in the winter when there are no irrigation demands and this water can then be utilized later.
170	13	2.3.3.2	Figure 7		While the average used for non-revenue is 9%, according to Chapter 2, in 2014 it was reduced to 7%, attaining the goal set on May 26, 2004 (reference). Before projecting this category to be 9%, why not (a) at least use the 7% achieved, and (b) establish a new goal?	No Change	While 7% has been achieved historically, 9% is the current quantity. As with historical data, we anticipate these numbers will go up and down from an average.
171	13	2.3.3.2	Figure 8	Title	Is it only 2014, or average 2010 through 2014?	No Change	Only 2014.
172	13	2.3.3.2	Figure 8		I think this chart is interesting…and also maybe misleading… because for instance 18 gpcd for multi-family is actually their consumption divided by the entire population, right (instead of the actual multi-family users population). So, I think it is interesting but not sure how it is useful and what information it is really providing.	No Change	It's really a normalizing of the portion of gpcd by use. One could argue that CII, non-revenue, and misc. have no associated population. So, their gpcd would be 0 and then residential would be just the total gpcd associated with population would be multi-family and residential use divided by population.
173	13	2.3.3.2	Figure 8		How is Figure 8 used? Explain how we can use this in the future, do some foreshadowing.	No Change	More informative that directly used.
174	14	2.3.3.3	1	2	Remove the apostrophes in the dates.	Revised	
175	14	2.3.3.3	1	3	Change commas to: "….through new construction which, based on current building codes, will use less outdoor water relative…"	Revised	
176	14	2.3.3.3	1	4	"…last several years…" Date range?	Revised	
177	14	2.3.3.3	1	6	"…(non-consumptive and consumptive, respectively).."	Revised	
178	14	2.3.3.3	1		Question this approach. Maybe force increased density to force numbers a different way.	No Change	The change in demand that would be apparent due to density is considered in the scenarios. The Water Authority has little control over housing density.
179	14	2.3.3.3	General		Projected Per Capita Demand Never Declines	No Change	Reductions in per capita are included as alternatives. This is consistent with CRBS etc.

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
180	14	2.3.3.3	General		ABCWUA staff has stated that gpcd was 134 in 2014 and is likely to be about 130 in 2015. So why should the gpcd in 2017 through 2060 or 2120 be higher and stay the same?	No Change	Reductions in gpcd can be examined as alternatives.
181	14	2.3.3.3	Table 4		Notes: change "Flow" and "River" to lower case.	Revised	
182	14	2.3.3.3	Table 4		Could increase (Return Flow Percentage) significantly with higher density.	Revised	Agree. A sentence was added to capture this. Changes to return flow are also captured in the model analysis.
183	14	2.3.3.3	Table 4		The difference in impacts when using surface water versus groundwater cannot be overstated. Contrary to the implication in footnote in Table 4 ("Return Flow to River reflects the quantity of water discharged to the Rio Grande that the Water Authority receives credit for"), native river water diverted along with SJC water cannot be used to offset depletions on river flows. When projecting demands, the source of water should be distinguished, particularly as surface water flows decrease.	No Change	The source of water is tracked and accounted for explicitly in analysis.
184	14	2.3.3.3	Table 4		Add to Notes: "2. Return Flow Percentage was calculated as the return flow to river in ac-ft divided by total water produced."	Revised	
185	14	2.3.3.4	2	1	Change to: "Estimates developed as part of the 1997 WRMS indicated summer-month…"	Revised	
186	14	2.3.3.4	2	1	Change: "Estimates developed as part of the 1997 WRMS…"	Revised	
187	14	2.3.3.4	2	3	Change: "…is also demonstrated by the reduction in peak day water production…"	Revised	
188	14	2.3.3.4	General		Satisfying peak demand requires additional infrastructure, so the 2% savings mentioned in the above paragraph is substantial. Rather than simply projecting that this will continue, why not suggest a policy aimed at continuing to reduce that peak demand?	No Change	This is not the policy section. It is believed that conservation is the primary driver in reducing peak demands. Note that it is anticipated that conservation will be suggested as part of the alternatives. Also note that reduced peak loading has consequences on infrastructure that was sized for large loadings as well.
189	15	2.3.3.3	Figure 9		Add: "Nonconsumptive (indoor/return flows)" and "Consumptive (outdoor)" to the legend.	Revised	
190	15	2.3.3.4	Figure 10		Add months to the x axis.	Revised	
191	15	2.3.3.4	Margin		Best section in the demand chapter - very clearly written. If you don't like the above suggestion for page 2-5, this could be a good page to have a sidebar about Santolina framed as and example of new development that could have lower per capita water use.	No Change	In general, the plan is intended to address long-term water supply over the next 100-years. While Santolina is an important consideration, the approach of this plan is to consider population/demand broadly and not focus on specific geographies/developments.
192	16	2.4	1	1	Remove "the" and "projections" from the end of the last sentence.	Revised	
193	16	2.4.1	Title		The use of the phrase "conservation goal" can be confusing. Because the water usage rate is actually referred to as the goal. So if you are increasing the goal, it may sound like you are trying to increase the water usage rate, when actually it is increasing the bar to set a lower goal. I think that phrase should be searched throughout the document and used consistently. Is it "conservation goal" or "water usage rate"? Also, is it goal or goals?	Revised	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
194	16	2.4.1	1	1	Remove "above" from "As noted above"	Revised	
195	16	2.4.1	1	1	I thought the number was going to be decreased. The statement appears strong.	No Change	Additional conservation options will be developed as alternatives. A baseline amount is needed for comparison purposes and 135 is the current goal.
196	16	2.4.1	1	2	Replace "constant" with "in place"	Revised	
197	16	2.4.1	1	4	Change to: "Likewise, existing users are also expected to have a trend toward water conservation as …outdoor use declines per conversion to lower…."	No Change	
198	16	2.4.1	1	4	Add comma after "efficient fixtures"	Revised	
199	16	2.4.2	1	1	Change to: "…by sector that may occur; if, for example, a high…"	Revised	
200	16	2.4.3	Title		Similarly to Conservation Goal, may be indoor/outdoor versus consumptive/non-consumptive can be searched to use the same term throughout, except where it is first defined.	No Change	Agree generally. But, while they are equivalent, they are not wholly interchangeable. For example using consumptive use to describe why new growth will have a lower gpcd is not as clear as saying reduced outdoor use due to yard size limits. Also saying outdoor use doesn't capture consumptive use when speaking more broadly.
201	16	2.4.3	1	1	Change "about 60 percent" to "approximately 60 percent"	No Change	
202	16	2.4.3	1	1	Capitalize "section"	Revised	
203	16	2.4.3	1	2	Historical patterns or data?	No Change	Both.
204	16	2.4.3	1	4	What about density changes that reduce water demand?	Revised	
205	16	2.4.3	2	1	Do these numbers have a reference? Actual or literature or otherwise?	No Change	Judgement based on AWWA efficient water home standards and current usage rates.
206	16	2.4.3	2	2	Change "of" to "between" and "demand to the" to "and"	Revised	
207	16	2.4.3	2	4	Is the percentage increasing only, or is it that they use less gpcd on the overall?	No Change	Both.
208	17	2.4.4	2	1	Change: "Data available from the …" -lower case	No change	
209	17	2.4.4	2	1	Change "From" to "from"	No Change	These are data that we received from the WWRA process, not published in the report.
210	17	2.4.4	2	2	Confused about the term "can be used." Is this what was used in this study? Or, will someone else need to do another study and use this data?	Revised	Text modified to clarify.
211	17	2.4.5	2	2	Does this report/data predict evapotranspiration rates to be changing?	Revised	Yes. Under CC scenarios, as per the WWCA, evaporation and therefore outdoor water usage rates increase.
212	17	2.4.5	General		Why isn't your slide/quadrants summarized here? -hot/dry, -warm/dry, etc.	Revised	These are data related to supply. However, we are revising with a new appendix on methods.
213	17	2.4.6	General		Mention is made of R-04-12 in terms of a new conservation goal being adopted in 2004. There are other important aspects of R-04-12, specifically regarding water budgets, which should be mentioned. At the end of this memo is Section 5.	Noted	

Comments Regarding Chapter 2: Water Demand

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
214	18	2.5	References	7	1st Reference: Replace "BBER" with "UNM Bureau of Business and Economic Research."	Revised	
215	18	2.5	References		Check if "City of Albuquerque and County of Bernalillo. 2009. West Side Strategic Plan…" and "CH2M Hill. 2003. City of Albuquerque Drought…" are cited in the text.	Revised	Reference removed.
216	18	2.5	References		4th Reference: Add "s" to "Public Work"	Revised	Reference removed.
217	18	2.5	References	4	5th Reference: Remove underline from "Accessed on February 8"	Revised	
218	18	2.5	References	6	7th Reference: Replace "Reclamation" with "U.S. Bureau of Reclamation (Reclamation)" and add period at end	No Change	This is common usage and conforms to Reclamation's standards.
219	18	2.5	References	9	9th Reference: Add period at end	Revised	
220	18	2.5	References	9	Check if either of the Personal Communication with Katherine Yuhas are cited. If so, replace "Communication" with "communication".	Revised	
221	18	2.5	References		References cited but not on reference list: "CH2M Hill, 2007" p 2-5 and "NMISC, 2014" p. 2-5	Revised	
222	18	2.5	References		Consistency in spacing throughout the references.	Revised	
223	19	Appendix A	Cover		Why include the city's building code requirements, since they are going to be updated? Why not simply refer to them. Or, if desired to include them, why not create a massive appendix and include all material for which references were made?	No Change	Water conservation regulations were included as they impact demand.

Notes:

Comments were received from the Technical Customer Advisory Committee regarding the draft version of Chapter 2 from January 2016.

*Action column items are defined as follows:

Revised = A change to the text was made in response to the comment or during internal review

No Change = The comment did not result in a change to the text, with reasoning provided in the 'Response' column in many cases

Noted = Comment did not require a specific action

Chapter 3

Supply

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
1	Cover				1.Seems storage should be included in the Chapter since it impacts supply. 2.a) The discussion of water rights need to be presented in a tab w/a form such that the actual supply values under normal dry, wet years and better understood and the ground likelihood of each. b) Offsets need to be subtracted from supply in a separate table or part of the supply table. c) G.W. and S.W. rights do not seem to be equal and the differences need to be highlighted in a table some hour. d) I think the public will want to be able to see how supply & storage - demand = sustainable supply. The ability to show that will provide a better road map for how much storage & additional supply is needed and when, & where the safety reserve needs to be.	Revised	Modified water rights table to make presentation more clear and added text to address other comments.
2	Cover				I have reviewed the Water Supply report and find it to be overall excellent. The manner you set up high to low etc. bookends is, of course, one of my desires in this type of analysis. The historical information and the segue to the present situation is well documented, and most importantly, readable for one who might not live “water.” The graphics are good.	Noted	
3	Cover				My only concern is that the main report, well -just ends. It seems a bit that brings it all together as a summary would be helpful to the public. All of this is in the Appendices but maybe some probabilistic graph (a cone?) that sets what I think is the story---- that we are in pretty good shape into the near future. In other words, tout your horn a bit for all of the planning, expansion of supplies etc.	Noted	This should all come together in the executive summary as well as in subsequent chapters.
4	Cover				Charts - these really help, BUT they are so small it is really difficult to read the information on them. Enlarged charts should be included right in the text of the document. Bigger text and better color on the charts.	Noted	
5	Cover				Blue box - the charts and table are really difficult to read and understand. (Rio Grande compact section)	Noted	
6	Cover				Somewhere along the way, the decision that this plan would be about the variability of surface water supplies. Why the narrow focus? Especially if the planning period is for 100 years, why not be discussing and projecting all water supply sources?	Noted	
7	Cover				If this document is to provide sufficient background as to why choices were made, why are groundwater supplies minimized? Since groundwater and surface water supplies are intertwined, focusing on one will skew options.	Noted	
8	Cover				The draft states that "future groundwater production will be used to make up for demand not met by surface water or other sources." Makes it sound like it's limitless -- like there's no problem using as much as we want. Why, then, is the public paying for the $500 million plant to reduce demand on the resource?	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
9	Cover				As was Noted in the ISC's Framework For Public Input to a State Water Plan (2002), "when pumping levels off, which it must, return flows will no longer be sufficient to offset the depletion of the Rio Grande caused by historic pumping." Omitting such information from the Supply Chapter hinders readers from understanding the concerns and pressures planners are facing now, as well as future readers looking back, wondering why certain choices were made. Omitting such information hinders opportunities to plan for the future.	Noted	
10	Cover				The omission decision must be predicated upon the proposed Groundwater Management Policy (GMP) being adopted. That policy allows for pumping at about 50-75 kaf per year, and to "seek new supplies whenever future drawdown is anticipated to fall below a set management level." Such a policy is not a plan. It's more like a punt.	Noted	This chapter addresses supply. Policy is Noted in subsequent chapters. The GWMP is Noted in chapter 4. Note that the currently proposed GWRMP is more conservative with respect to use of groundwater than previous policies
11	Cover				Finally, Policy C further defined the drought reserve to mean that sufficient water had to be maintained in the aquifer to allow for its use during future drought conditions, an additional limitation to what could be withdrawn under Policy B. Policy C was not meant to be read as a stand-alone policy, nor was it meant to define "drought reserve" to mean "working reserve."	Noted	This chapter addresses supply. Policy is noted in subsequent chapters. The GWMP is noted in chapter 4. Note that the currently proposed GWRMP is more conservative with respect to use of groundwater than previous policies
12	Cover				Interestingly, while only proposed at this time, the GMP is already to be found in the Chapter 12 of the draft *ABC Comprehensive Plan Update* of January 2016, http://abc-zone.com/document/abc-comp-plan-public-draft-january-2016.	Noted	
13	Cover				The above discussion about the proposed GMP is relevant to the Supply Chapter in that groundwater is shortchanged in the discussion, particularly the constraints and limitations its use pose. Does the modeling really show that Policies B and C should be so radically changed?	Noted	This chapter addresses supply. Policy is noted in subsequent chapters. The GWMP is noted in chapter 4
14	Cover				What if the GMP were simply to continue to adhere to Policies B and C? What would that mean to projected supplies? What is the cost to do so versus change to the GMP?	Noted	This chapter addresses supply. Policy is Noted in subsequent chapters. The GWMP is Noted in chapter 4
15	Cover				Groundwater is euphemistically referred to as "in storage." The technical team has mentioned on several occasions that if ABCWUA doesn't pump the water, some other entity will -- the water is there for the taking.	Noted	
16	Cover				Rather than being considered a given, pumping amounts and permits should be variables to plan with, such as in terms of regional coordination. That's what gives rise to actions such as working with Rio Rancho to reduce the drawdown of groundwater	Noted	Comment unclear
17	Cover				If the emphasis was to maximize use of the DWP, reduce use of groundwater to the 10 kaf needed to exercise the wells, and to fill in the demand gap with recycled water, the result will be a healthy aquifer for future generations to use, when surface water supplies decline. What would be the short- and long-term costs and benefits of such a management plan compared to the GMP?	Noted	Costs and impacts are addressed in subsequent chapters

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
18	Cover				Clearly, it is not enough that "each of these projections is represented as a variation in future surface water supply, both Rio Grande and SJC." Ground water will also be impacted so a matrix indicating these impacts under various projections is needed to help select options.	Noted	
19	Cover				Role of Water Budget: The planning process is being controlled rather than guided by the output from the water budget model. As is well known, what goes into the model affects the output. What assumptions, for instance, have been made about the amount of supply of groundwater? When I asked before, the answer GMP levels? The assumptions must be included, perhaps in a chapter about the Water Budget.	Noted	
20	Cover				Vision: So what is the vision? To continue on the path we've been on for the past 20 years, which is to limit pumping to only during drought and to meet peak demands? To achieve resiliency? To ensure water for future generations, what 93% of the customers want? To leverage the “new normal” for long-term benefit? Since staff is suggesting that the plan be looking ahead for 100 years, the public, through the Board, should be the determinant of what the goal of the WRMS is to be.	Noted	
21	Cover				Input: What is the process for including comments to the draft report? To the final report? Will they be responded to? Will there be a place where concerns such as I have raised will be included?	Noted	
22	Cover				Who is the audience? I raised this at the February 4 TCAC meeting, and ideas mentioned included that it should be for the interested informed reader as well as future employees of the ABCWUA. The chapter needs to be edited using this guidance. There are places which are quite technical or even unneeded, at least in the main text -- see for instance the discussion about the Rio Grande Compact-- and other places where information is lacking (see comments in Chapter).	Noted	
23	Cover				The overarching goal of this project is to update the WRMS so as to help the region plan for its future. This Chapter does not provide sufficient information to do so. Sufficient and balanced information is needed to make recommendations.	Noted	
24	Cover				Unless the current percentages of supply are included, one would not know how much reuse is compared to ASR, or what both are compared to surface water. The sources(s) of water are also necessary to understand some of the trade-offs. Table 1. Source Summary, should include such information.	Noted	
25	Cover				Extending the planning horizon for 100 years is another example. What does that mean? Those reasons should be discussed with the TCAC and included in an appendix as opposed to simply agreeing with staff that the planning horizon should be extended to 100 years.	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
26	Cover				Here's an example along with a potential solution: since the OSE has allotted more permits for the MRG than there are lands with water rights available to cover them, non-use of them after 40 years might allow them to "expire." While the ABCWUA was up against its pumping permits in the late 1990s, after spending $500 million, pumping has been reduced. Perhaps the additional 23 kaf sought and awarded aren't needed now and could be permanently retired. After all, the ABCWUA isn't anywhere close to needing them and has not purchased any water rights to cover them. By stepping up to the plate, the ABCWUA would show itself as a good regional player and reduce pressure on the aquifer	Noted	The Water Authority anticipated and anticipates the need to fully utilize it's groundwater permit due to acute drought in the future. It also plans to fully offset any associated impacts as required
27	Cover				The various limits on groundwater supply are not included. What is "renewable," for instance? According to staff, the upward cycle of the aquifer levels rising will turn around in 2020 or in 10 years. Whichever is right, it will be because pumping is more than "renewable." What about land subsidence? Or what the regional impacts will be should additional water rights be needed to cover additional pumping. Without such, the basis for any recommended changes to existing policies will be missing a huge source of information.	Noted	Groundwater balance and limitations are discussed in the GWRMP chapter
28	Cover				Regional perspective. Among other findings, the ABCWUA Board found in R-10fs.pdf, adopted on 6/22/2005, that "recent water studies project that current average annual consumptive use of water by all users in this region exceeds the renewable supply;" and that "water management must improve in the region in order to meet future water demand by the year 2050 as projected for the Region. It resolved to use the "MRG Regional Water Plan as a guidance document for developing and implementing coordinated local and regional water management programs." It further resolved to "consider other studies and plans developed for the Basin for regional water planning." Finally, it resolved that "the Region should seek to balance growth with renewable supply."	Noted	
29	Cover				Moreover, there is not an emphasis on supply from a regional perspective. How is it affected by MRGCD management? By flow deviations for ESA purposes at Cochiti? What are the conditions of the watersheds which supply water? And so on. Such would help with understanding the constraints that the supplies, particularly surface supplies, face, so as to be able to recommend policies and actions to address such issues.	Noted	
30	Cover				Water Budget - While a chapter would be helpful, a table of the Authority's Water Budget, bringing the information all together, is the minimum needed.	No Change	
31	Cover				Include amounts of reuse, recycle and ASR in current supply so as to allow consideration of changes. ("The portfolio now includes groundwater, surface water through both the San Juan-Chama (SJC) Drinking Water Project (DWP) and the North I-25 Non-potable project, reuse, and aquifer storage and recovery.") Included stormwater capture and grey water reuse too.	Noted	Stormwater capture and grey water are not currently supplies

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
32	Cover				In both the Supply and Demand chapters, discuss the interconnectedness of water supplies, and include energy, land use and transportation to the extent possible	Noted	Energy is included, through power costs
33	Cover				Reduce amount of future surface water supply available depicted in the graphics (it always stays the same)	Noted	Comment unclear. The graphs clearly show changing availability across scenarios and over time.
34	Cover				Availability of surface water to divert is not just limited to wet water, as ash, trash, silt, costs, labor issues and other variables have also affected the amount available to divert as well as its timing. How do the needs of the silvery minnow impact supply? Timing of diversions is also an important consideration for the utility, for other users and for the river. Whether they are considered at an hourly, daily, or monthly scale changes management options. Given the numerous times these variables affect diversions, they should be discussed and modeled in order to provide context for decisions. Given the importance of these issues, a separate section should be created.	Noted	These clearly add to the relative uncertainty. However, they are generally short-term (even if increasing in frequency) and are addressed primarily through operational rather than long-term planning means.
35	Cover				Given that its impacts are already being observed, and will be an ever larger driver in the future, climate change should have its own chapter.	No Change	There is a climate change appendix
36	Cover				Include an explanation of why, for instance, the historical data doesn't provide much guidance because of the increasing variability projected. (Stationarity is dead.)	Noted	This is noted in the first paragraph "recognition of uncertainty"
37	Cover				Redo the metrics in the triple bottom line analysis, currently not adequate to capture these and other changes.	Noted	Unclear. This chapter does not address metrics.
38	Cover				Clearly, it is not enough that "each of these projections is represented as a variation in future surface water supply, both Rio Grande and SJC." Ground water will also be impacted so a matrix indicating these impacts under various projections would help when selecting scenarios.	Noted	
39	Cover				Need to show impact of using what source of water.	Noted	Comment unclear.
40	Cover				Include water use limitations and projections	Noted	Included
41	Cover				What current and foreseeable water quality issues impacting supply are facing the region?	Noted	
42	Cover				How does considering ground water usage mesh with managing the jet fuel spill and other water quality impacted areas?	Noted	
43	Cover				Investors, rating agencies, and public utilities all need to do a better job of managing their exposure to water scarcity risks. Improved information and disclosure of issuers' exposure and sensitivity to water stress is critical on all fronts. Such disclosure will protect investors from such risks and drive improved management of ever-scarcer water resources. (*Disclosure Framework for Water & Sewer Enterprises,* Ceres, April 2013)	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
44	Cover				Add Scarcity of Water Supply Chapter that includes: the condition of the watershed(s) feeding their water supply, for example by percentage of watershed developed or percentage of watershed actively managed for wildfire prevention, and the relative seniority of water rights, the volume of water apportioned them and the sensitivity of those rights to flow reductions.	Noted	
45	Cover				Resiliency includes the extent to which our community minimizes the inputs of energy and water and the waste output of heat, greenhouse gases, and air and water pollution. By considering these concepts together, the Plan should strategize ways to adapt and mitigate. What we need to be planning for is how to be resilient in the face of climate disruptions.	Noted	
46	Cover				Resiliency: Why not work with the City and the County on a Climate Adaptation Plan?	Noted	
47	Cover				Resiliency: Why not make that a regional goal with MRCOG?	Noted	
48	Cover				We need to: Developing strategies to address current and future climate change impacts on our neighborhoods, including persistent drought, extreme weather events, and increasing extreme heat days; Preparing our region to be more resilient, doing all we can to protect our residents and our economic lifeblood; and delivering results that improve the quality of life for all by breaking through barriers, creating new tools, and connecting the dots.	Noted	
49	Cover				By using a concept of resilience that considers interconnected systems, changing circumstances, and community-specific vulnerabilities, municipalities may be impelled to take farther-reaching steps than they might otherwise. These actions could include anticipating ongoing or permanent volatility and stresses so that the community's response might consider how to leverage the "new normal" for long-term benefit. In addition to adopting mutually agreed-upon terminology and vernacular, conducting technical education and outreach will be critical for ensuring best practices and technical information are widely shared and implemented. Recognizing "resilience" as a specialized imperative can help justify the human and capital investment in resources needed for resilience-building initiatives.	Noted	
50	Cover				In keeping with the importance of living within our regional water budget and ensuring water for future generations -- the number one priority of 93% of ABCWUA's customers, the emphasis of the WRMS update should continue to be on reducing groundwater usage. Despite the rebounding levels, water levels east of I-25 are still between 60' and 120' lower than predevelopment levels and result in pulling substantial amounts of water from the river.	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
51	Cover				Scenarios must include evaluations in terms of costs, impacts, climate changes, and so on. Each particular source of water carries a cost --to purchase, to clean, to offset, to account for potential subsidence, etc.-- that must be included in the evaluation of each alternative and scenario. Additionally, the evaluations should include the full cost of service, connection fees, distribution systems, power, maintenance and repair, and financial policies.	Noted	These come in subsequent chapters
52	Cover				Does the economic evaluation adequately consider our actions in terms of future generations, who won't have as many choices as we do now? For instance, has the cost to future generations having to seek supplies --which had we but foregone that use, they would not have to-- been included? Perhaps it shouldn't be discounted?	Noted	
53	Cover				We face a huge challenge in planning for an uncertain future. Facing these challenges with needed information and assessments will allow for robust choices to be made. Omitting them will short-change us all.	Noted	
54	Cover				Approach or process - the vision needs to be aimed at the public	Noted	
55	Cover				It is not clear how the TCAC feedback is being incorporated.	Noted	
56	Cover				It would be helpful if we included the percentage of each supply source. For example, it would be helpful to state that reuse is 2% or whatever percent it is.	No Change	The percentage varies over time. The relative portions are clear on Figure 3.
57	Cover				Why are we moving from 40 to 100 years for the planning horizon? We should look at what the pros and cons of each planning horizon are.	Noted	The Water Authority's previous strategies have been longer than a 40-year horizon.
58	Cover				Lingering effects of groundwater impacts at the start of surface water.	Noted	
59	Cover				Who is the audience? Some pieces are extremely technical and should be moved to the appendices.	Noted	
60	Cover				Add the regional perspective. The regional water plan, recommendation 10 from 2005. What are the various impacts on the region? What does MRGCD have to say about the groundwater plan?	Noted	
61	Cover				Add a water balance chapter.	Noted	
62	Cover				Add stormwater capture (section?) and grayuse, it is already a supply at residential level, should be included.	No Change	These could be alternatives but are not currently significant supply
63	Cover				When we decide to use groundwater what does it mean to surface water, and vice versa? (How do each impact each?)	Noted	Already discussed
64	Cover				Include a separate climate change chapter.	No Change	Already an appendix
65	Cover				Need to include a separate constraints and drivers chapter - ex. A lot of information about the Rio Grande constraints (ex. ESA, ash, trash, etc.) could be included and these are important in how they impact surface water flow.	No Change	Style choice

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
66	Cover				Water quality impacts on supply was discussed in.... What does that mean?	Noted	
67	Cover				The scarcity of water isn't valued. Water rights and their vulnerabilities needs to be addressed.	Noted	
68	Cover				What does proportional mean in the last section - pumping offset?	Revised	
69	Cover				If this is the building block, what information does this document need to include what choices were made and what choices need to be made to plan in the future?	Noted	
70	Cover				Can we separate or step through (have more charts that explain them more or add specific text explaining) some of the charts (include in the appendix)? It is not really worth using the space up with charts that can not be visualized.	No Change	Comment unclear. The charts in the appendix are large scale version of those discussed in the report
71	Cover				Liked the explanation of the diff kinds of supply water	Noted	
72	Cover				Who is the audience? The reader? - There are parts that she did not understand.	Noted	
73	Cover				Include a definition of terms (glossary).	Revised	A global glossary is being added
74	Cover				Is the conclusion that we need more resources and that we need to be careful with the resources we have?	Noted	This is a building block rather than a conclusion. Supply and demand are building blocks on the work that has been completed.
75	Cover				Maybe the report should be really, really short with the more technical information in referenced documents?	Noted	A simplified executive summary is being produced.
76	Cover				Difficult when the figures are referenced on different pages - makes it difficult to follow along. The location of figures did not always seem to make sense with the text.	Noted	Agree. Will general try to have figures follow closely.
77	Cover				Likes the information provided and doesn't want it taken out, we just need to think about how to provide something that non-technical public can understand.	Noted	
78	Cover				Did not understand the Rio Grande compact chart and table.	Noted	
79	1	3.1	2	1	Insert comma.	Revised	
80	1	3.1	2	3	Add the acronym (ASR).	Revised	
81	1	3.1	2	3	Note Rio Grande for clarification.	No Change	All of the other references are project based.
82	1	3.1	2	3	Add the acronym (ASR).	Revised	
83	1	3.1	2	3	Add: DWP supply to ASR	No Change	While there is an interconnectedness, there is not direct feedback as with other examples.
84	1	3.1	2	4	Remove "rate."	No Change	This specifically calls for "rate."
85	1	3.1	2	4	Change "thorough" to "through."	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
86	1	3.1	2	4	Remove 2nd parenthetical symbol.	Revised	
87	1	3.1	2	4	Insert comma.	Revised	
88	1	3.1	2	4	Insert "per."	Revised	
89	1	3.1	2	4	Change "thorough" to "through."	Revised	
90	1	3.1	4	1	Change "recognized" to "recognizes"	No Change	Talking about past events
91	1	3.1	4	2	These projections must also include groundwater. (Referring to the surface water supply projections).	No Change	Future variability is essentially only related to surface water. Future groundwater projections are included in the analysis, but availability doesn't change substantively.
92	1	3.1	5	1	Change "supply" to "supplies"	Revised	
93	1	3.1	5	1	Change to: "This **section/chapter** summarizes historical and recent...."	Revised	
94	1	3.1	6	1	Change sentence to: "While each of these existing supply sources and potential supply sources are…"	Revised	
95	1	3.1	6	2	Question mark after 2nd sentence.	Noted	
96	1	3.1	6	2	Insert comma	Revised	
97	1	3.1	6	2	Change "overall demand." to "future demand"	Revised	
98	1	3.1	General		Overall, a great document with clear sequence of info!	Noted	
99	1	3.1	General		Maybe consider a Glossary of Terms? I was highlighting some terms that could be included in a glossary possibly?	Noted	
100	1	3.2	1	1	Please clarify (as marked-up several times in this document). Is this "USGS gauged data or "gauge" per Appendix D?	Revised	
101	1	3.2	3	2	Insert comma	Revised	
102	1	3.2	3	2	How did that work out? (Referring to last sentence of the paragraph).	Noted	
103	1	3.2	Footnote		Add new #1 Note at bottom: "Identify 'SP-4830' [& 'SP-4819' Noted later in the document] as many may not be familiar with OSE permits. Perhaps add to Appendix info as Appendix H includes SP-4830?)	Revised	
104	2	3.2	5	1	Change sentence to: "…historical Rio Grande flow at the Otowi flow gauge that…"	Revised	
105	2	3.2	5	1	Is Otowi location identified in an earlier chapter?	Revised	Added descriptor
106	2	3.2	5	2	Why the use of quotation marks on one, but not other? Not needed per Noted earlier on document.	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
107	2	3.2	General		Can figures Insert here? With several figure and table references, and the blue Insert, felt like I got too many figures but not enough explanation (at first, then comes the text)	Noted	The report will be reformatted and figures will be as close as practicable to the call out text
108	2	3.2	Footnote		Change #2 to #3	Noted	Incorrect
109	2	3.2	Footnote		Repeated in text	Revised	
110	3	3.2	Figure 1		Insert "cfs" to 1,512 Native	Revised	
111	3	3.2	Figure 1		What do these two lines represent?	Noted	Stated in text
112	3	3.2	Figure 1		Make these lines bolder to read better.	Revised	
113	3	3.2	Figure 1		What does this line represent?	Revised	Stated in text
114	3	3.2	Figure 1		What are the arrows pointing at? Delete arrow head?	Noted	
115	3	3.2	Figure 1		If the red line is the Mean, it is not 1492 cfs (1150 cfs)…same thing here, the blue line is not 1585 cfs (1200 cfs)	Revised	Modified
116	3	3.2	Figure 2		For Jan-24 and Jan-26: artificial drought	Revised	
117	3	3.2	Figure 2		Suggest plotting as Year only, like Figure 1	No Change	The analysis was revised on a monthly basis
118	3	3.2	Figure 2		Why show this figure. If it is not used in the analysis do not show it. Besides its looking like it is a poor estimate of the future.	Noted	This is just a discussion of the historical methods
119	3	3.2	Figure 2		Why does Figure 2 show much higher cfs -- does it include SJC water? Given the recent drought years, should that change the length or amount of drought for the next round?	Noted	Figure 1 is an annual average. Figure 2 is a monthly average. Figure 1 denotes SJC water explicitly. SJC water was removed from Figure 2. The recent work updated the historical sequence to include recent drought.
120	3	3.2	Figure 2		One question of Figure 2? I wonder if the title might need to be edited a bit. It does not quite seem to represent the graphic.	Noted	
121	4	3.3	1	1	Remove comma after "SJC water,"	Noted	Incorrect for AP style
122	4	3.3	1		Add to end of paragraph: In the early 1990s, when the water utility was part of the City of Albuquerque, it was determined that use of groundwater had to be substantially reduced. Groundwater levels had declined, in places more than 180', with land subsidence and insufficient water rights to offset impacts being major concerns. (Drought Management Strategy)	Noted	This could be considered for the historical section, but is not appropriate here.

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
123	4	3.3	2	1	Add new 2nd paragraph: After surface water is added to the drinking water supply (scheduled to occur by the end of 2005), the City will rely on nature to replenish some of the water that has been mined from the aquifer. To date, ground-water levels have dropped as much as 180 feet. Only time will tell for certain what portions of the natural ground-water flows can be restored and to what levels.[2] As a result, the DWP was constructed at a cost of $500 million, with the 1997 and 2007 WRMS stressing the need to reduce the use of groundwater to times of drought and peak demand.	Noted	This paragraph is describing current sources of supply. The supply was added in 2008 and gw level rise has been observed. The purpose of these statements in this discussion is not clear.
124	4	3.3	General		Add: Supplies from stormwater capture and grey water reuse are currently limited to the residential level.	Noted	This is an introductory paragraph. Detail on residential level of sources not yet discussed.
125	4	3.3	Figure 3		I think this figure needs to be revised. But it is a good example of how demand and supply are being and have been met. (Conservation-not really correct it is change in demand due to unsure high costs efficiency etc. - 60,000 Acre ft. surface H2o - 40,000 acre ft. G.W.	Noted	
126	4	3.3	Figure 3		Add new figure (see "Supply Projections Chapter emh comments.docx"). Add: Figure xx shows the sources of water for the years 2009 to 2015. *Add percentage of each source of supply. Need to also include impact of using what source of water.*	Noted	Figure 3 already does this from 1980 through 2015. % are not included, but the relative portion of each source is clear
127	4	3.3	Figure 3		Insert "used for"	No Change	
128	4	3.3	Figure 3		Will this read clearly in B&W? The purple (reuse/non-potable) seems like it might get lost in B&W as already a bit challenging to read clearly in color.	Noted	
129	4	3.3	Figure 3		It appears from the above graphic (Figure3) that water use peaked in 1990, before the conservation program kicked in. Since the ABCWUA doesn't have 160+ kaf of rights anyway, claiming such huge amounts of savings is nonsense. Give credit where credit is due -- reducing use from 120+ kaf to 92 kaf in 20 years while population grew by 200K (?) is quite a story in and of itself.	Noted	
130	4	3.3	Figure 3		I think this representation is much better than the previous version (see stapled chart I was studying)	Noted	
131	4	3.3	Figure 3		(Maybe a legend instead of arrow leaders?)	No Change	
132	4	3.3	Figure 3		I suggest to eliminate leader lines for labels, to minimize confusion, and instead create legend. [Provides example of a legend]	No Change	Leader lines were used to highlight and separate important components
133	4	3.3	Figure 3		Reuse: (a color different than blue?)	Revised	Reuse is purple
134	4	3.3	Figure 3		[Drawing of legend symbolizing solid vs dashed line; solid= projected water demand, dashed = Decrease in projected water demand as a result of conservation	No Change	Comment unclear

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
135	4	3.3	Figure 3		What is the significance of purple to pink color change? Non renewable/renewable is not clear--where is the boundary? Aquifer drawdown?	No Change	This is appears to be a comment on an historical figure from a previous chapter
	4	3.3.1	1	2	Underlined "wastewater is currently used to offset effects of groundwater pumping on Rio Grande flow"	Noted	
	4	3.3.1	General		Why is this indented? (Inconsistent with other headings)	Noted	This is not the final format
136	5	3.3	Table 1	General	Table 1 - the text and table did not seem to all match up which is very confusing.	Noted	
137	5	3.3	Table 1	General	Suggest matching the text titles to titles on this table	Revised	This table has been revised to make it more clear
138	5	3.3	Table 1	General	I do not like this table. You have mixed water rights with offsets & diversion rights. Water rights have dates so that later dates might not be available. So we need to know what is guaranteed, what is likely in good years and what is likely in bad years. That will drive the expectation of what demands can be met & when new options might be needed.	Revised	Will revise
139	5	3.3	Table 1	General	Add "Source" as column header	Revised	
140	5	3.3	Table 1	General	What would be the column title here	No Change	Comment unclear
141	5	3.3	Table 1a		Differs in Section 3.1.1	Noted	The numbers are consistent, but presented in two categories
142	5	3.3	Table 1a		Insert "the"	Revised	
143	5	3.3	Table 1a		Replace "SP-4819 for ASR" with "ASR"; (stored water goes into a separate recovery account and now SP-4819)	Revised	
144	5	3.3	Table 1a		Define acronyms?	Noted	Acronyms are defined elsewhere
145	5	3.3	Table 1a		Column description?	Revised	
146	5	3.3	Table 1a		Change Native Rio Grande comments to: "**These RG-960 et al. permits are** used to offset…."	Revised	Modified text
147	5	3.3	Table 1a		Add "(SJC)" behind San Juan-Chama	Revised	
148	5	3.3	Table 1a		Change San Juan-Chama comments to: "**D**irectly diverted as part of the DWP (SP-4830), and the Non-potable Project (SP-4819)**, some of which has been stored for ASR**. SJC water **stored in Abiquiu** is also used for groundwater pumping offsets."	Revised	Modified text
149	5	3.3	Table 1a		All of Table 1 is "currently." The Update is to consider how to use these sources differently. Shouldn't all sources of water supply currently available be included - i.e., rainwater capture, etc.? Important to understand how much supply comes from what source now. Add another column. Table makes it look like the permits and water rights are not connected.	Noted	
150	5	3.3	Table 1b		Add period at end of sentence	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
151	5	3.3	Table 1b		Insert "is a"	Revised	
152	5	3.3	Table 1b		Remove parenthesis	Revised	
153	5	3.3	Table 1b		Insert comma	Revised	
154	5	3.3	Table 1b		Add "SJC"	Revised	
155	5	3.3	Table 1b		Can't find this [diversion right, water right, or resource] number explained in text	Revised	
156	5	3.3	Table 1b		Move "The native portion of the DWP is up to about 41,200 afy." from Wastewater (discharge) row to DWP row.	Revised	
157	5	3.3	Table 1b		Change sentence to: "3000 afy are permitted for non-potable surface water reclamation project, which is used for irrigation and the Bear Canyon Recharge project	Revised	
158	5	3.3	Table 1b		Add "North I-25"	Revised	
159	5	3.3	Table 1b		Add: "evaporation and conveyance losses" to 96,400 (DWP)	Revised	Evaporative and conveyance losses are applied to SJC water. The diversion permit is for up to 96,400 afy. This was added to the water rights portion
160	5	3.3	Table 1b		Add: "When used, amount is deducted from supply available to SP-4830." to Non-potable project comments	Revised	Modified text
161	5	3.3	Table 1b		Change Albuquerque Basin comments to: "Total permits granted to pump groundwater. When used, surface water effects must be offset with wastewater return, vested and acquired rights, and/or SJC water. Amount does not equate with ownership of wet water. "	Noted	As with other rights, this is a diversion right with no guarantee of water availability.
162	5	3.3	Table 1b		Replace " uses a portion of the available wastewater" with " Currently used"	Revised	
163	5	3.3	Table 1b		Add "as part of south side [can't read word] project.	No Change	Comment unclear
164	6	3.3	Table 1c		Move "The native portion of the DWP is up to about 41,200 afy." from Wastewater (discharge) row to DWP row.	Revised	
165	6	3.3	Table 1c		Add period at end of sentence	Revised	
166	6	3.3	Table 1c		Insert "the"	Revised	
167	6	3.3	Table 1c		Add period at end of sentence	Revised	
168	6	3.3	Table 1c		Referring to Wastewater Municipal reuse: Is this adding in SJC water from SP-4819? Because reported reuse is substantially less in Table 6.2 Reuse Annual Diversions from the GPCD Calculator: 2013=153,700,000 gal. (472 af); 2014=204,800,000 gal. (629 af) Reuse was not reported in the GPCD Calculator prior to 2013. Equals 0.5-0.7% of water supply.	Noted	These were years when the system was just starting operation; the expected capacity, based on current users, is close to 1,500 afy

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
169	6	3.3	Table 1c		Add: "Approximately" to 60,000 (Wastewater)	Revised	Added "varies" and included description
170	6	3.3	Table 1c		Change Wastewater comments to: "Currently used to offset effects from groundwater pumping on Rio Grande flows and to return the native portion of the DWP diversion. The native portion of the DWP can amount to 47,200 afy but cannot be used to offset impacts on river flows."	Noted	
171	6	3.3	Table 1c		Add Storm water and rain water capture; grey water reuse to the table	No Change	These are not current sources of supply for the Water Authority
172	6	3.3	Table 1c		Add to ASR - Recovery Water comments: "To date, have stored xx af and extracted xx af."	No Change	This would be inconsistent with all other categories
173	6	3.3	Table 1c		Add: "Reuse/Recycle" to table; "Municipal discharge"; "700"; "Uses a portion of the available wastewater for non-potable irrigation demand." to comments for "Reuse/Recycle"	No Change	
174	6	3.3	Table 1c		Use of the word "stored" in same box with two different meanings, hence the suggested change.	Revised	
175	6	3.3.1.1	Title		Not in Table 1?	No Change	Comment unclear
176	6	3.3.1.1	1	2	Insert "past and current"	Revised	
177	6	3.3.1.1	2	1	See Fig. 9	Noted	
178	6	3.3.1.1	2	1	Change to: Water Authority in **1963 after** the state Engineer	Revised	
179	6	3.3.1.1	2	2	Add: ….declaration of the basin "**in 1956".**	Revised	
180	6	3.3.1.1	2	2	(add at the end of paragraph) These rights have never been adjudicated; they may be junior to senior water right holders. What is the impact if they are?	No Change	
181	6	3.3.1.1	3	1	Change superscript '3' to '2'	Revised	
182	6	3.3.1.1	3	1	Change "over time" to "since 1956"	Revised	
183	6	3.3.1.1	3	1	Underlined "recently"	Noted	
184	6	3.3.1.1	3	1	Insert superscript '4'	Revised	Footnote numbers changed between drafts
185	6	3.3.1.1	3	1	Remove "recently"	Revised	
186	6	3.3.1.1	3	2	Differs in Table 1	Noted	The numbers are consistent, but presented in two categories
187	6	3.3.1.1	3	2	Need to discuss the vulnerability of these rights, as it makes a difference in options chosen. (*Disclosure Framework for Water & Sewer Enterprises*, Ceres, April 2013)	Noted	
188	7	The Rio Grande Compact	Title		Change title to "Brief Overview of The Rio Grande and Water Rights"	No Change	This is specifically an overview of the compact

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
189	7	The Rio Grande Compact	1	1	Insert "between the three states"	No Change	Redundant
190	7	The Rio Grande Compact	2	4	Insert "gage"	Revised	
191	7	The Rio Grande Compact	2	7	Replace "plus" with "in addition to"	Revised	
192	7	The Rio Grande Compact	2	7	Insert "gage"	Revised	
193	7	The Rio Grande Compact	5	1	Change "releases" to "released"	Revised	
194	7	The Rio Grande Compact	5	1	Change "releases" to "released"	Revised	
195	7	The Rio Grande Compact	5	2	capitalize "project storage"	Revised	
196	7	The Rio Grande Compact	5	6	Change "US" to "U.S."	Revised	
197	7	The Rio Grande Compact	5	6	Add comma	Revised	
198	7	The Rio Grande Compact	1st Figure		Add "in NM" to "Available for Depletion" legend item	Noted	
199	7	The Rio Grande Compact	General		I think this section is important. Maybe should be Section 1.1 and should not be printed on 2-pgs, but spread charts/tables for easier viewing (and bigger figures with regular Figure names etc.) Or maybe a separate Appendix	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
200	7	The Rio Grande Compact	General		The RGC is not the only limiting factor --what about the MRGAA Guidelines? ESA? Ash? North Diversion Channel junk? Labor issues? Costs? Why not make a constraints section? After all, the constraints affect supplies and thus projections and ultimately choices.	Noted	
201	7	The Rio Grande Compact	General		Don't use dark blue background, hard to read.	Noted	
202	7	The Rio Grande Compact	General		More text between the // marks to an Appendix. It's too detailed in comparison with the other text. Why not use the description in the Regional Water Plan draft, written by DBS&A and ISC. (2/5 update - This section is being rewritten by ISC.)	Noted	This section was written by ISC
203	8	The Rio Grande Compact	Table		Are these footnotes "a" and "b"? If so, where are they?	Noted	Removed
204	8	The Rio Grande Compact	Table		Add "(afy)"	Revised	
205	8	The Rio Grande Compact	Table		"a" and "b" superscripts?	Revised	Removed
206	8	The Rio Grande Compact	Table		"Total Used/ Stored" and "Available for Storage" are only for these years 2003, 2008, 2010…right? I can't really grasp this table. For 2008, 64000 + 61000 = 125000, which was relinquished. Why is that not correct too 2010, 2011, 2012 and 2015?	Noted	In 2008, the water was relinquished to the entities noted. In 2010, the water was relinquished but not assigned yet.
207	8	The Rio Grande Compact	Table		Total unallocated = so was this amount released?	Noted	Unallocated is water that was released from EB, but not assigned to an upstream user.
208	8	The Rio Grande Compact	2	2	Add point to figure/chart indicating "once the inflow exceeds about 1 million acre feet, New Mexico's must deliver all flow in excess of 400,000 acre feet."	Noted	
209	8	The Rio Grande Compact	3	1	Change "required -- surplus" to "required, or a surplus"	Revised	
210	8	The Rio Grande Compact	3	2	Replace "we are" with "The Water Authority is"	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
211	8	The Rio Grande Compact	3	4	Change "Authority" to "Water Authority"	Revised	
212	8	The Rio Grande Compact	3	4	Future - not descriptive of now; supply; ok for sidebar?	Noted	Comment unclear
213	8	The Rio Grande Compact	3		Add to the end: The ABCWUA uses those water rights, together with return flows, to offset more than 60,000 ac-ft of river flow depletions, caused by past and current pumping. If needed, stored SJC water is available to make up any gap.	Noted	
214	8	The Rio Grande Compact	5	6	Table #?	Noted	This is intended to be a self-contained aside w/o new figure or table numbers
215	8	The Rio Grande Compact	9	2	Change to: "…we are fully using all of our water rights and return flows in addition to supplemental releases of SJC water **stored in Abiquiu**, thereby…"	Revised	
216	8	The Rio Grande Compact	2nd Figure		Confused…is it compliance at -200af or is it compliance anywhere between -600 to 400af?	Noted	Anywhere as long as in balance. Note the "Net Effect" line.
217	8	The Rio Grande Compact	2nd Figure		Move legend below axis title. Chart is crowded.	Noted	It is below? Not sure of request
218	8	The Rio Grande Compact	2nd Figure		What is this line showing? (Add to legend) What is the difference between Departure bar and the blue line?	Noted	Departure is the annual departure. The blue line is the cumulative credit or debit status
219	8	The Rio Grande Compact	2nd Figure		This is confusing as not all elements are identified and unclear for those that are justified	Noted	
220	8	The Rio Grande Compact	2nd Figure		This is not clear & how this should be used. I suggest reworking		
221	8	The Rio Grande Compact	3rd Figure		[GW Effects legend item]: What does this really mean? How much GW was used?	Noted	This is the effect on streamflow of using GW.

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
222	8	The Rio Grande Compact	3rd Figure		This figure will not read well in B&W	Noted	
223	8	The Rio Grande Compact	3rd Figure		Switch location of 'Return Flow' and 'SJC Release' legend items	Noted	
224	8	The Rio Grande Compact	3rd Figure		Can barely see 'Nonpotable Diversion' legend item	Noted	
225	8	The Rio Grande Compact	3rd Figure		Switch locations of 'Net Effect (Right Axis)' and 'Native Water Rights' legend items	Noted	
226	8	The Rio Grande Compact	3rd Figure		(Switch locations are to keep in order of how shown on chart as should help with clarity)	Noted	
227	8	The Rio Grande Compact	3rd Figure		Darker x- and y-axis lines and grids would help	Noted	
228	8	The Rio Grande Compact	3rd Figure		The (hard to read) graphic below stops at 2015 but the text above makes it sound like it's a projection. Too many things portrayed in graphic -- hard to understand. Black line is not identified.	Noted	
229	8	The Rio Grande Compact	General		Refer to Figure from ISC, May 2015: As the figure below shows, the State has no excess amount in storage.	Noted	
230	8	The Rio Grande Compact	General		Lingering? Surplus the Rio Grande? How much? How does this mesh with the proposed GW Management Plan, which aims to manage to a level 110' below predevelopment levels? Please set out the assumptions and projections for this statement. Or delete it.	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
231	8	The Rio Grande Compact	General		The OSE renders an annual accounting of the ABCWUA's permits. Appendix F replicates the calculation for 2014. That year, it was determined that ABCWUA was responsible for 62,380 acre feet of river flow depletions due to past and current pumping, and owed a total of 15,202 acre feet after applying the return flows together with the vested and acquired rights. Required by its permit, the ABCWUA has SJC water stored in Abiquiu to cover such shortfalls. As the utility continues to divert SJC water, the amount stored in Abiquiu may be reduced. As Noted below, the SJC supply is subject to climate changes and river laws in the San Juan River Basin. The amount pumped versus diverted will impact the cycle of depletions, and the availability of groundwater and return flows in the future.	Noted	
232	8	The Rio Grande Compact	General		Since this section is describing water supply sources, I would still suggest separate chapter for Constraints, not to mention moving the technical detail to an appendix.	Noted	
233	9	3.3.1.1	4	3	Add to end of the paragraph: "At the end of 2015, the ABCWUA has about ___ acre feet in storage as shown in the table below." See Page 14 for table which includes Heron, Abiquiu, and Elephant Butte available storage space and stored (acre-feet)	No Change	
234	9	3.3.1.2	1	3	Heron (Lake) as Noted in Fig. 4	Revised	
235	9	3.3.1.2	1	3	Who are the SJC contractors?	Revised	
236	9	3.3.1.2	1	3	Change superscript '3' to '5'	No Change	
237	9	3.3.1.2	2	1	Insert comma	Revised	
238	9	3.3.1.2	2	1	Add to the beginning of the paragraph: "Reservoir operations: Carry-over storage in Heron is not allowed and as such contractors must take delivery of their annual allotment. In some years, Federal waivers allow storage in Heron until April 30th and as late as September 30th. Evaporative losses are not accrued in Heron for SJC contractors."	No Change	
239	9	3.3.1.2	2	2	Insert comma	Revised	
240	9	3.3.1.2	3	1	Add "Reservoir"	Revised	
241	9	3.3.1.2	3	1	Insert comma	Revised	
242	9	3.3.1.2	3	1	Add the word 'Reservoir'	Revised	
243	9	3.3.1.2	3	1	Add "Reservoir"	Revised	
244	9	3.3.1.2	3	1	Add the word 'Reservoir' (consistently with other references to Heron)	Revised	
245	9	3.3.1.2	3	1	Add "Reservoir"	Revised	
246	9	3.3.1.2	3	1	Move sentences to constraint appendix, to include a section on reservoir operations.	No Change	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
247	9	3.3.1.2	3	Add 4th bullet	Add: • SJC availability is subject to climate changes in the San Juan River Basin.	No Change	This is a section on current sources of supply. CC effects are Noted in subsequent sections
248	9	3.3.1.2	3	1st Bullet	Change superscript '4' to '6'	No Change	
249	9	3.3.1.2	3	2nd Bullet	Add superscript '7' to Azotea tunnel	No Change	
250	9	3.3.1.2	3	2nd Bullet	Insert "There are"	Revised	
251	9	3.3.1.2	3	3rd Bullet	Insert "to"	Revised	
252	9	3.3.1.2	3	3rd Bullet	Add the word 'to'	Revised	
253	9	3.3.1.2	3	3rd Bullet	Add: "...subject to sharing..."	Revised	
254	9	3.3.1.2	4	1	Figure 3 shows use of 60,000 acre ft. (The Water Authority has Consumptive rights to 48,200 afy....)	Noted	Figure 3 represents diversion amounts. The WA can divert up to about 94 KAF in order to consumptively use 48.2 KAF.
255	9	3.3.1.2	4	1	Change "AND" to "and"	Revised	
256	9	3.3.1.2	6	1	Add to the beginning of the sentence: "Flow Diversion:"	No Change	
257	9	3.3.1.2	6	2	122 cfs??	No change	Comment unclear
258	9	3.3.1.2	7	1	Change to: "Above 122 cfs but below 195 cfs, diversions are curtailed by 1 cfs for every 1 cfs drop in flow (USFWS, 2004)." Diversions are also limited.??	Revised	
259	9	3.3.1.2	8	1	Clarify	Revised	
260	9	3.3.1.2	8	1	Change to: "Figure 6 presents the monthly Rio Grande as flow data at Central Blvd in Albuquerque."	Revised	
261	9	3.3.1.2	9	1	While the cap is 94 kaf, the way this is written, makes it took like 94 kaf is only for the SJC DWP.	Revised	
262	9	3.3.1.2	9	1	Clarify	No change	Comment unclear
263	9	3.3.1.2	9	2	130 cfs ??	No change	Comment unclear
264	9	3.3.1.2	9	2	What have they been more recently, say in the past 10-15 years?	No Change	It doesn't really make sense to calculate sub-sets of low flow statistics.
265	9	3.3.1.2	10	1	Are other permits also to be added? For instance, doesn't the F&WS permit also restrict flow amounts?	Noted	The OSE permit reflects the flow restrictions from the BO.
266	9	3.3.1.2	10	1	Change to: "A portion of SJC water, up to 3,000 afy, is permitted for diversion as part of the North I-25 Non-potable Project (SP-4819)."	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
267	9	3.3.1.2	10		Timing of diversions is also an important consideration for the utility, for other users and for the river. Whether they are considered at an hourly, daily, or monthly scale will change management options. (add more here) Disruptions to diversions: In addition to permit conditions set out in Appendix A, there are numerous challenges to diverting and using SCJ water. Silt, ash, trash, … (add more here)	No Change	
268	9	3.3.1.2	10		Any diverted amount is deducted from the supply available to divert under SP-4830 for the Drinking Water Project.	Revised	
269	9	3.3.1.2	General		Add in info on transit losses in appendix.	Revised	
270	9	3.3.1.2	Footnote		Basically repeats part of what is in paragraph.	Noted	
271	9	3.3.1.2	Footnote		Add #4: (Clarify the NM utilities purchase, both what it entailed and when)	Revised	
272	9	3.3.1.2	Footnote		Change footnote '3' to '5'	No Change	
273	9	3.3.1.2	Footnote		Change footnote '4' to '6'	No Change	
274	9	3.3.1.2	Footnote		7 (Identify "Azotea tunnel")	No Change	
275	9	3.3.1.2	Footnote		(Allowed?)	Revised	
276	10	3.3.1.2	Figure 4		Add the word "Reservoir" to Heron Lake	Revised	
277	10	3.3.1.2	Figure 4		Cut off "Reservoir"	Revised	
278	10	3.3.1.2	Figure 4		Perhaps expand map to illustrate San Juan River, Colorado River, and Rio Grande	Noted	The scale becomes challenging when expanded to this size. The intent is to show the SJC project components
279	10	3.3.1.2	Figure 4		This is important, expand this size so easier to see	Revised	
280	10	3.3.1.2	Figure 4		What is the importance of grey vs light or dark blue for the rivers?	Noted	Rivers are blue. Gray are watershed boundaries
281	11	3.3.1.3	1	1	Less than half (about 40 Percent)-Figure 8 shows about 50-55% is used consumptively!	Revised	
282	11	3.3.1.3	1	2	Add figure (see page 16 of "Supply Projections Chapter emh comments.docx"). Wastewater sources need to be separated and the meaning of using various sources to enable discussion of management options, such as: Increasing availability of return flows for use as offsets by increasing pumping may result in continued or increased river flow depletions later.	No Change	Wastewater sources change annually based on available water supply. The important point is in examining the overall water rights balance
283	11	3.3.1.3	1	3	Change to: "**Part of t**his effluent**, referred to as "return flow,"** is used, along with native surface water rights, to offset effects on Rio Grande flows due to groundwater pumping.	Revised	
284	11	3.3.1.3	1	3	I think people will ask questions--whose wastewater, how is it treated	Revised	Added footnote
285	11	3.3.1.3	1	3	For what uses?	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
286	11	3.3.1.3	1		The amount of native river water diverted along with SJC water cannot be so used..[add note, next comment below] Figure xx shows the amount returned to the river and the amount available to be used for offsets.	Revised	Already addressed
287	11	3.3.1.3	1		Add to Notes: "SP-4830 Permit Order 9. An amount of water equivalent to the amount of native surface water diverted under this permit shall be simultaneously returned directly to the Rio Grande at the City's SWRP wastewater outfall as verified by accounting methodology acceptable to the State Engineer. The amount of water considered to be return flows of 'native' surface water under this Permit shall not be available for offset purposes, or to increase diversions of ground water, under the City's other permits. In other words, not all of the return flow is available for other uses."	Revised	Already addressed earlier
288	11	3.3.1.3	2	1	Move this paragraph below Groundwater Section. Or repeat it there and show, beginning in 2009, the gw and sw separated, and the amount of return flow not eligible to be used	Revised	Already addressed earlier
289	11	3.3.1.3	2		Paragraph 1, sentences 4-5 and Paragraphs 2 and 3 - This needs a separate section.	Revised	Didn't make a new section but modified to group the reuse components
290	11	3.3.1.3	3	1	Southside Reuse Project - Table showing this below is needed to illustrate. Show with data from Figure 3.	No Change	
291	11	3.3.1.3	3	1	Perhaps a sidebar regarding what the large turf areas are used for (context for reuse)	Revised	
292	11	3.3.1.3	3	1	Change to: "**A**pproximately 2,000 afy of return **flow is used** as part of the Southside Reuse Project to irrigate large turf areas in southeastern portion of Albuquerque. This project began operation in 2012." Is this amount limited to 2 kafy? Why?	Revised	
293	11	3.3.1.3	3	1	Maybe a new title for this project could be helpful	No Change	
294	11	3.3.1.3	3	2	Referring to Non-potable Project: How much?	Revised	See footnote
295	11				Add section 3.1.4. to discuss stormwater & rain water capture (add more here)	No Change	This section is current sources. New sources are described in the Alternatives Chapter
296	11				Add section 3.1.5 to discuss grey water reuse (add more here)	No Change	This section is current sources. New sources are described in the Alternatives Chapter
297	11				Add: 3.3.3 ASR (add material) "The ASR potential will provide little relief in the short-term and none by 2030, according to an earlier report of the technical team." Table (see page 20) "Average Water Demands in Task 3: Water Demand Scenarios (prepared for: Intera; prepared by: CH2M Hill (February 24, 2011))"	No Change	Purpose of text unclear. ASR Noted in the surface water section.
298	11				Add: 3.3.4 Reuse/Recycle (add material) Note: the above section needs reorganizing.	No Change	Reuse and recycling is covered in section 3.1.3 wastewater

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
299	12	3.3.1.2	Table 2		The data in this chart was re-organized to plot frequency of flows	Revised	Modified text
300	12	3.3.1.2	Table 2		Flow cfs/acre ft. You should plot this up in acre ft. since cfs to acre ft.is tough to do for lay person. (see comment)	No Change	While true, the chart is specifically repressing permit conditions that are in cfs
301	12	3.3.1.2	Table 2		Should these also be given as AFY since all other discussion is AFY?	No Change	These are instantaneous flow limits that are specified by law in cfs.
302	13	3.3.1.2	Figure 5		Add "Reservoir" to title	Revised	
303	13	3.3.1.2	Figure 5		Firm Yield - do not agree with this estimate based on this data. (See page 3-10 for full notes)	Noted	The firm yield analysis includes historical flow data prior to diversion
304	13	3.3.1.2	Figure 6		Draw 130cfs? Would it show with different colors?	No Change	These are monthly average flows. 130 cfs will be very small at this scale.
305	13	3.3.1.2	Figure 6		Minimize tick marks	Revised	
306	13	3.3.1.2	Figure 6		Why not just include full page in document? Actually, several other graphics are far more In need of full page versions for clarity than this selection.	Noted	
307	14	3.3.1.3	Figure 8		Move this graphic below Groundwater Section. Or repeat it there and show, beginning in 2009, the gw and sw separated, and the amount of return flow not eligible to be used	No Change	
308	14	3.3.1.3	Figure 8		Show by % of use, total flow, or both	Noted	The figure is in total flow
309	14	3.3.1.3	Figure 8		y-axis: Change "Water Demand" to "Waste Water Return Flow"	Revised	
310	14	3.3.1.3	Figure 8		Add "for the Water Authority" to figure title	Revised	
311	14	3.3.1.3	Figure 8		Legend items too small, not clear	Revised	
312	15	3.3.2	1	1	Replace "Albuquerque" with "Middle Rio Grande"	Revised	
313	15	3.3.2	2	1	Change to: "**In 2015, t**he Water Authority**'s** total demand **was 92,000** afy."	Revised	
314	15	3.3.2	2	2	Remove "of"	Revised	
315	15	3.3.2	2	2	Delete: "most of this"	Revised	
316	15	3.3.2	2	3	Replace "phasing in utilization of its SJC" with "surface water"	Revised	
317	15	3.3.2	2	3	Change to: "**Then**, the Water Authority began phasing in utilization of its SJC surface water."	Revised	
318	15	3.3.2	2	4	Remove "of"	Revised	
319	15	3.3.2	2	4	Change to: "Since December of 2008, groundwater production has steadily declined from near 100,000 acre-feet to about **42,000** acre-feet in **2015** (see Figure 3)."	Revised	
320	15	3.3.2	3	2	Insert "allowed"	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
321	15	3.3.2	4	1	Insert comma	Revised	
322	15	3.3.2	4	1	Replace "so" with "as"	Revised	
323	15	3.3.2	4	2	Remove "Noted previously"	Revised	
324	15	3.3.2	4	2	Move (sentence 2) to a footnote or delete.	Revised	
325	15	3.3.2	5	1	Add to beginning of paragraph: "Historical groundwater production is shown in Figure 10." And remove from the end of the paragraph.	Revised	
326	15	3.3.2	5	2	Change to: "The required surface water offset **for such pumping** varies over time depending…"	Revised	
327	15	3.3.2	5	2	Referring to 2nd sentence: What does this mean??	Revised	
328	15	3.3.2	5	3	Insert "by"	Revised	
329	15	3.3.2	6	1	(Under that permit?)	Revised	
330	15	3.3.2	6	1	Identify acronym	Revised	
331	15	3.3.2	6	1	RG_4462 allows pumping of up to ….. groundwater …. (explain similarly to RG-960)	No Change	
332	15	3.3.2	6	2	"Offsets associated with exercise of these rights are computed using the Glover-Balmer method." **Meaning what? Definition needed.**	Revised	Added footnote
333	15	3.3.2	6	3	"Offsets are met through a combination of treated wastewater effluent discharged to the Rio Grande and native surface water rights." **Mean to replicate preceding paragraph?**	Noted	Yes. Administered differently
334	15	3.3.2	6	5	Remove "currently"	Revised	
335	15	3.3.2	6		"As Appendix F demonstrates, water rights and return flows alone are not sufficient to offset current demands. To offset the full amount of permits will require a mix of options, including the purchase of additional water rights from current owners."	No Change	Water rights are available in excess of 75,000 afy of consumptive use. Current consumptive use is about 40,000 afy. There are clearly more than enough to offset current demands
336	15	3.3.2	6		See page 17, add discussion of the Middle Rio Grande Administrative Area guidelines	No Change	Not clear the relevance to this section.
337	15	3.3.2	6		Add: "Exercising the full amount of the permits will have consequences, which must be taken into account when planning. The water rights for RG-960 et al. currently owned by the ABCWUA amount to 26,390 af, some of which are pre-1907, some post-1907 and some vested (see 3.1.1). If more permits are to be put to use, more water rights will likely need to be acquired. Ultimately, all effects must be offset. As was Noted in the Framework, cited above, "When pumping levels off, which it must, return flows will no longer be sufficient to offset the depletion of the Rio Grande caused by historic pumping."	No Change	The need to offset effects has already been Noted

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
338	15	3.3.2	7	1	More to next section on supply projection:	Revised	
339	15	3.3.2	7	general	Don't introduce yet?	Revised	
340	15	3.3.2	General		Why indent?	Noted	Formatting will be modified for final
341	15	3.3.2	General		Add new graphic (see page 18) and add text: "The following graphic shows past groundwater pumping as well as what was projected after the DWP began. The data comes from the application for the DWP and the report, Hydrologic Effects of the Proposed City of Albuquerque Drinking Water Project (CH2M Hill, 2003)."	No Change	This section is current sources. New projections are noted elsewhere, historical projections are discussed in section 2
342	15	3.3.2	General		Add new graphic (see page 18) and add text: "Comparing Table E2-Summary Of Hydrologic Effects With DWP with ABCWUA Water Production for the years 2009 to 2015"	No Change	This section is current sources. New projections are noted elsewhere, historical projections are discussed in section 2
343	17	3.4	1	1	Projections of groundwater pumping are not included in 4.2	Noted	Projections are discussed qualitatively. They are a response to surface supply availability
344	17	3.4	1	1st Bullet	Insert "the"	Revised	
345	17	3.4	1	2nd Bullet	Change "US" to "U.S."	Revised	
346	17	3.4	1	2	Add to end of paragraph: "Nor does it reflect recently observed declines in river flows. Less water in the river will mean less surface water to meet demands."	No Change	The update historical sequence includes recent hydrology
347	17	3.4	Title		Change title to "Available Water Supply Projections"?	No Change	
348	18	3.4	3	2	Remove dash between "groundwater" and "demand"	Revised	
349	18	3.4	4	1	Replace "the chosen" with "selected"	Revised	
350	18	3.4.1	1	1	Insert "U.S. Bureau of"	No Change	Reclamation uses Reclamation
351	18	3.4.1	1	1	? ["Reclamation"]	Noted	
352	18	3.4.1	1	1	Interesting to note all except w arm-wet average projects supply less than historical	Noted	
353	18	3.4.1	1	1	Change to: "Average and median flow over the planning period were compared **with** the historical record…"	Revised	
354	18	3.4.1	1	3	Insert "U.S. Bureau of"	Revised	
355	18	3.4.1	1	3	Change "high" to "wet"?	Revised	
356	18	3.4.1	1	3	Need to define "Reclamation"	Revised	
357	18	3.4.1	2	1	Abbreviate "San Juan-Chama" as "SJC"	Revised	
358	18	3.4.1	2	1	It does? Seems to me that the table shows that The Warm-Wet sequence from Reclamation is similar to the average flow	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
359	18	3.4.1	Add		Add: "Availability of surface water to divert is not just limited to wet water, as ash, trash, silt, costs, labor issues and other variables have also affected the amount available to divert as well as its timing." (Given the numerous times these variables affect diversions, should be discussed and modeled, hopefully in a section with other constraints and limitations.)	No Change	
360	18	3.4.1	General		No need to indent	Revised	
361	18	3.4.1	Table 4		Add "Climate Sequence" as column header	Revised	
362	18	3.4.1	Table 4		Add "flow" to Average and Median column headers	Revised	
363	18	3.4.1	Table 4		Should this be 71-98 to be consistent?	No Change	The longest historical record was through 2014. 71-98 is discussed later as a comparison point to historical work
364	18	3.4.1	Table 4		Add "1585" to Average column?	No Change	Unclear
365	18	3.4.1	Table 4		What's the average for the last five years? Stationarity …Makes it look like this will hold true for entire 105 years, as opposed to declining.	No Change	The last five years are included in the historical record that is represented. Any noted declines would be included. Also note that the climate sequences clearly show declines.
366	18	3.4.1.1	1	1	Insert comma	Revised	
367	18	3.4.1.1	1	1	Add comma	Revised	
368	18	3.4.1.1	1	1	Insert comma (x2)	Revised	
369	18	3.4.1.1	1	1	Change to: "As part of previous planning efforts**,** the 1971…"	Revised	
370	18	3.4.1.1	2	3	Hmmm…keep going back and forth in my mind. What is the significance of 1998? Why can't we just take this to be 1971-2014?	Noted	1998 is only for comparison to the historical modeling work. It was developed in 1999.
371	18	3.4.1.1	2	Bullet 1	Change "98" to "1998"	Revised	
372	18	3.4.1.1	2	Bullet 1	Clarify	Revised	
373	18	3.4.1.1	2	Bullet 2	Change "98" to "1998"	Revised	
374	18	3.4.1.1	2	Bullet 2	As explained in section 2.0 -- similar to previous WRMS	Noted	Correct
375	19	3.4.1.1	4	1	Insert "from"	Revised	
376	19	3.4.1.1	4	4	Abbreviate "San Juan-Chama" as "SJC"	Revised	
377	19	3.4.1.1	4	4	How does that correlate with the high RG projections? Always usable?	Noted	Comment unclear
378	19	3.4.1.2	1	1	Insert "U.S. Bureau of"	Revised	
379	19	3.4.1.2	1	2	Change to: "Five Climate Change sequences have been developed for use in water supply planning **in our region** by Reclamation.	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
380	19	3.4.1.2	1	4	"The Low (Hot-Dry) sequence reflects the top 25 percent of climate traces…" **???**	Revised	
381	19	3.4.1.2	3	3	Change 'palo' to 'paleo'	Revised	
382	19	3.4.1.2	3	3	Add: "**Unless Rio Grande water is available to accompany SJC water, using it will mean huge losses to evaporation.**" (Was this modeled?) .	Noted	Not the focus of this section
383	19	3.4.1.2	3	3	Add: "**However, even if available, it might not be usable due to other variables, such as ash in the river, etc**."	Noted	Correct.
384	19	3.4.1.2	General		I think this needs a table. See attached example		Unable to locate attached example
385	19	3.4.1.2	Table 5		How does this compare with recent flows in the past 5 years?	Noted	
386	19	3.4.1.2	Table 5		Change title to "Historical and updated Annual Rio Grande Flow Projections"	Revised	
387	19	3.4.1.1	Figure 11		Flow (cfs) [y-axis]	Revised	
388	19	3.4.1.1	Figure 11		Change title to "High Supply Sequence, 2015-2120"	Revised	
389	19	3.4.1.1	Figure 11		Too weak in color; change to year only; remove legend item	Revised	
390	20	3.4.1.2	Table 6		Was 100% received in 2015? Does this take into account that, in order to use SJC water, may not have native Rio Grande supply? URGIA suggests that the Rio Grande will be impacted more than the San Juan river.	Noted	Yes. the modeling includes consideration of Rio Grande flows.
391	20	3.4.1.2	Table 6		Add "(%)" to column header, remove "%" from after values	Revised	
392	20	3.4.1.2	Table 6		Title should read "Average SJC Supply Projection 2015-2120	Revised	
393	20	3.4.1.2	Table 6		Why is this percentage and Rio Grande average and median flow?	Noted	The average and median flow were present in Table 5 for each scenario. Table 6 is intended to show the change in available supply as compared to historical
394	20	3.4.1.2	Figure 12		First graphic is clear, but enlarge by splitting from second, which is unusable -- loo much happening and too small. Split it, with the 10 yr data in one.	Noted	
395	20	3.4.1.2	Figure 12		Unusable graphic -- too much happening and too small, even when blown up in the appendix. Make simpler --break up into low, medium and high as separate graphics?-- and point to appendix if interested in more detail.	Revised	As noted, it is intended to show general trends for comparison. The graphic was revised
396	20	3.4.1.2	Figure 12		Reverse order for consistency with graphics	Revised	If you reverse the order, the "low" flow will not be visible as it will be behind the high flow
397	20	3.4.1.2	Figure 12		These are very difficult to read as very small scale (and doubtful of any legibility in B&W)	Noted	
398	20	3.4.1.2	Figure 12		Reverse order of legend to be consistent with other two graphics in this figure 12	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
399	20	3.4.1.2	Figure 12		[In reference to appendix E]: Why not just include full page here in document?	Noted	Full page figures in the document would break up the flow of the document
400	20	3.4.1.2	Figure 12		I see that reader can go to Appendix for details but at least one good graph should be Inserted here, large enough to read. The figure with months on x-axis is not really saying much. If only one chart, I vote for the one with the * [indicates bottom graph of fig. 12]	Noted	
401	21	3.4.2	3	2	Change to: "Note that other supply sources, while generally immune from variability, are often impacted by surface water availability (groundwater demand increases directly with reduction in surface water and reuse/wastewater sources are available if not needed to offset depletions). The hydrologic effects of higher pumping impact both supply and demand."	No Change	The text already says this.
402	21	3.4.2	1	2	What does the latter mean? Is that how depletions to river flows are measured? Modeled? How much were the groundwater extractions modeled to be?	Revised	
403	21	3.4.2	2	1	Change "grater" to "greater"	Revised	
404	21	3.4.2	2	1	Change "grater" to "greater"	Revised	
405	21	3.4.2	2	1	Change to: "For the "Low" and "Medium" projections, groundwater production will increase, fluctuating based on available surface water with drought years requiring greater production."	Revised	
406	21	3.4.2	2	2	Also fire and debris flow	Noted	
407	21	3.4.2	2	2	Such as?	Revised	
408	21	3.4.2	2		Add: "At the same time, indoor and outdoor water demands may increase along with the temperature."	Noted	Already added in the demand chapter
409	21	3.4.2	3	1	Change to: "The "Low" and "Medium" projections will generally mean less water flowing…"	Revised	
410	21	3.4.2	3	2	Delete: "in the short term."	Revised	
411	21	3.4.2	3	3	Change to: "Additional pumping will result in additional drawdown and ultimately expand river recharge over a larger area, making up for the reduction in flow."	Revised	
412	21	3.4.2	3		What does that latter phrase mean (referring to "making up for the reduction in flow)? While more pumping will increase the drawdown area, how will that make up for a reduction in flow? It would reduce flow. Less water in the river will mean less water to meet demands. Why would reliance on gw be increased only in the short term? How is that working out in the Pecos? For how long can that go on? This plan is for 100 years.	Revised	The amount of river recharge is essentially the same in that with the greater pumping, the drawdown cone will increase the abstraction area
413	21	3.4.2	4	1	Replace "resource" with "supply"	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
414	21	3.4.2	4	1	Change to: "It is anticipated that the primary impact of climate change to the groundwater resource will be greater reliance on this resource, which is likely to be substantial if no alternative actions are chosen."	Revised	
415	21	3.4.2	4	2	Replace "will not be considered at this time" with "is considered insignificant (or negligible)	No Change	We're not considering at this time.
416	21	3.4.2	4		Basically, you are saying "climate changes are not anticipated to impact the amount of available groundwater supply"	Revised	In the short term
417	21	3.4.2	4		NO! Why plan then? This statement stops the consideration of options to deal with reality. This statement flies in the face of the current WRMS, the current higher than planned for groundwater use, and the likelihood that it will increase. The buffering capacity of the aquifer won't be there unless we work to maintain it. At the same time, indoor and outdoor water demands may increase along with the temperature. Need to include projections of pumping that match up with groundwater withdrawals.	Noted	Aquifer performance is discussed in the GWMP chapter. Note that the proposed plan is considerably more conservative than the current strategy. All groundwater pumping is considered explicitly and future actions are proposed based on maintaining this resource. The intent of this section was to note that groundwater supply variability is small when compared to surface supply.
418	21	3.4.2	4		Add: "**The purpose for the 2017 WRMS is to avoid this increased reliance.**"	No Change	Aquifer management is discussed in chapter 4
419	21	3.4.2	4		One can't help but wonder why the $500 million was spent if the last statement is true. This statement stops the consideration of options to deal with reality. The buffering capacity of the aquifer won't be there unless we work to maintain it. The purpose for the 2017 WRMS should be to avoid increased reliance.	Noted	The intent of this section was to note that groundwater supply variability is small when compared to surface supply.
420	21	3.4.2	Title		Match 4.1; "Groundwater Projections"	Revised	
421	21	3.4.2			No modeling? No projections?	Noted	Groundwater pumping projections are the result of 1) demand, 2) available surface supply. As such, they are developed as part of the individual scenarios presented in Chapter 6
422	22	3.5	References	3	Or "gauged" as identified in Appendix D?	Revised	All are "gage" as per USGS
423	22	3.5	References	4	Add "U.S. Bureau of"; complete references/cite	No Change	
424	22	3.5	References	5	Add "U.S. Bureau of"; complete references/cite	No Change	
425	22	3.5	References	6	Add "U.S. Bureau of"; complete references/cite	No Change	
426	22	3.5	References		Assume will be filled in. Suggest that these references be included on line	Noted	
427	22	3.5	References		Add to CH@M HILL. 2003: **http://www.usbr.gov/uc/albuq/library/eis/adwp/pdfs/FinalAppendixL.pdf**	Revised	
428	22	3.5	References		USFWS, 2004: Isn't there a new one?	Noted	There is. But, this one is specific to the DWP.
429	22	3.5	References		USGS gaged data Central **Ave. Bridge**	Revised	
430	23	Appendix A			None to next page?	Noted	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
431	23	Appendix A	General		Very good idea to include this as Appendix. It lends transparency to the issues/plan/chapter	Noted	
432	53	Appendix B	1	4	Colon instead of comma	Revised	
433	56	Appendix B	Figure B3		Flow (cfs) [y-axis]	Revised	
434	56	Appendix B	Figure B3		This figure is very difficult to read	Noted	
435	57	Appendix B	Figure B4		Flow (cfs) [y-axis]	Revised	
436	57	Appendix B	Figure B4		Very difficult to read figure	Noted	
437	61	Appendix C	1	1	Insert comma	Revised	
438	61	Appendix C	2	1	Insert comma	Revised	
439	61	Appendix C	2	3	Underlined "Central Avenue gage"	Noted	
440	61	Appendix C	5	3	Insert "gage"?	Revised	All are "gage" as per USGS
441	61	Appendix C	1st Bullet		Clarify (USGS gage?)	Revised	All are "gage" as per USGS
442	63	Appendix C	Figure C1		[y-axis label]: Shift so not on top of numbers	Revised	
443	63	Appendix C	Figure C1		Change "71-2014" to "1971-2014". Include full year identification for clarity	Revised	
444	63	Appendix C	Figure C1		Somewhat easier to read than other figures, but still bit of a challenge	Noted	
445	64	Appendix C	Figure C2		Use full year to identify 1/1971 - 7/2014	Revised	
446	67	Appendix D	1	3	Add colon	Revised	
447	67	Appendix D	2	1	Underlined "gauge"	Noted	
448	67	Appendix D	2	1	Note evapotranspiration for clarity	Revised	
449	67	Appendix D	1	4	Or "gage" as identified all other locations in doc prior?	Revised	
450	68	Appendix D	1	1	Change position of parentheses -- place before "by"	Revised	
451	68	Appendix D	1	4	Insert "CE"	Revised	
452	69	Appendix D	Figure D1		[Legend items]: narrow (rework to be consistent with graphic illustration)	No Change	This is a reference figure taken from another report. We do not have the original figure/data. CE was added to the figure caption
453	69	Appendix D	Figure D1		Insert CE after values	No Change	This is a reference figure taken from another report. We do not have the original figure/data. CE was added to the figure caption
454	70	Appendix D	Figure D2		Insert "CE"	No Change	This is a reference figure taken from another report. We do not have the original figure/data. CE was added to the figure caption
455	71	Appendix D	1	6	Insert "CE"	Revised	

Comments Regarding Chapter 3: Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
456	71	Appendix D	1	6	Insert CE	Revised	
457	71	Appendix D	1	6	Insert "CE"	Revised	
458	71	Appendix D	2	2	Insert CE	Revised	
459	71	Appendix D	2	6	"reinstructed" to "reconstructed"?	Revised	
460	71	Appendix D	3	1	Change "The Figure below" to "Figure 3"	Revised	
461	71	Appendix D	5	2	Change "50s" to "1950s"	Revised	
462	71	Appendix D	5	2	Change "50s" to "1950s"	Revised	
463	71	Appendix D	5	2	Change "50s" to "1950s"	Revised	
464	72	Appendix D			Change "Figure 3" to "Figure 4"	Revised	
465	72	Appendix D	Figure D3		Yes! Larger graphic makes it so much more legible overall! :)	Noted	
466	72	Appendix D	Figure D3		Change "Figure 4" to "Figure 3"	Revised	
467	72	Appendix D	Figure D3		[2080 Warm Wet, 10 yr legend item]: this color gets lost	Revised	
468	72	Appendix D			Too small for legibility as "pink" is more "salmon" in appearance so can't read "red" easily.	Revised	
469	73	Appendix D	1	3	Insert "CE"	Revised	
470	73	Appendix D	1	4	Change "The figure below" to "Figure 4"	Revised	
471	78	Appendix E			Why are these two graphics in different order than on p. 3-18?	Revised	
472	78	Appendix E			Reverse order of legend to be consistent with other two graphics	Revised	
473	78	Appendix E			Title --Low, Median, and High Flow (or reverse order for consistency)	Revised	
474		Appendix F	Add		Add new appendix: "Appendix F - 2014 ABCWUA Comprehensive Permit Accounting" (see page 25-26)	No Change	Comment unclear

Notes:
Comments were received from the Technical Customer Advisory Committee regarding the draft version of Chapter 3 from February 2016.
*Action column items are defined as follows:
Revised = A change to the text was made in response to the comment or during internal review
No Change = The comment did not result in a change to the text, with reasoning provided in the 'Response' column in many cases
Noted = Comment did not require a specific action

Chapter 4

Groundwater Management

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
1	Cover				1. Some of this should be in Section 3.Through page 7 2. More to parametric analysis as attached to provide a little more information on selecting values such as safety reserve depth etc.	Noted	The supply chapter is focusing on the variability in future supplies. We could project groundwater supplies in Chapter 3. But, as this chapter demonstrates, there is very little variability in groundwater availability in the planning period, even under extreme hypothetical circumstances.
2	Cover				Overall- Need to be consistent throughout text: (Authority / Water Authority) and (ground water/ground-water/ groundwater). Sections 4.2.1 suggest a little more information on geology, define "pre-development conditions", explain about groundwater. Section 4.2.2 is very technical - lay readers will need a better set-up.	Revised	The document has been revised to improve consistency throughout and the clarity for sections 4.2.1 and 4.2.2.
3	1				Overall comment- An excellent, interesting draft!	Noted	
4	1	4.1	4	2	Comment on units - identify "afy" unless noted already in an earlier section	Revised	Made consistent throughout the document and chapters.
5	1	4.1	Figure 1		Space needed between "50K" and "AFY" but might want to expand to "50,000" as some may not understand K=1000	No Change	This is an historical figure from previous strategies and was not edited.
6	2	4.1	5	1	Add "from"	Revised	
7	2	4.1	7	2	Maybe add the name of the 1996 report? (The Value of Water)	Revised	
8	2	4.1	7	2	Add name of "1996 report" (The Value of Water)	Revised	
9	2	4.1	7	4	"new conservation goal" Not clear on Figure 1 (new vs. previous goal?)	Revised	Revised figure caption: "Figure 1. 2007 WRMS Strategy Graphic and a new conservation goal " to make it clear that the graph includes a conservation update to the 2007 document.
10	2	4.1	9	1	Add comma after (GRMP) and rights and replace "forgo" with "limit"	Revised	
11	2	4.1	8	1	What protections? Is this the extent of protections?	No Change	The protections are defined in the previous WRMS policies.
12	2	4.1	10	1	Add "can" and remove the "s" in serves	Revised	
13	2	4.1	10	1st bullet	Are policies listed in this document? Policy C on Page 2 of this section 4, but what about section B? Particularly in Section 4.4.3.2?	Revised	Added reference to the policies.
14	2	4.1	10	1st bullet	Include text of the policies?	Revised	Added reference to the policies. Policy text was not added to this document.
15	2	4.1	10	2nd bullet	Not sure what this bullet means	Noted	This is discussed later in the chapter.
16	2	4.1	10	6th & 7th bullet	What is the established management level? See Section 4.4.3?	Noted	Yes, the management level is discussed in Section 4.4.3.
17	2	4.1	10	7th bullet	Do you want this?	No Change	Yes, we want to avoid long-term impact on the aquifer.
18	2	4.1	11	1	Add "of this section"	Revised	Added reference to the chapter.
19	3	4.2.1	Figure 2		Figure quality comment - A bit pixelated, especially for the river names, but otherwise an excellent graphic!	Revised	The figure was updated.
20	4	4.2.1	2	1	USGS- Is this acronym defined?	Revised	The acronym has been defined in the text.

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
21	4	4.2.1	4		Suggest that later in chapter, identify who else is using this GW basin, or frame as regional issue beyond scope of ABCWUA but make clear ABCWUA participates in MRGRWP process.	Revised	Additional text added to the paragraphs preceding this one to address the comment.
22	4	4.2.1	4		Maybe add one more paragraph providing a brief overview of the geology? Explain groundwater occurrence/use/more background.	Revised	Partially addressed by addition of new language at beginning of 4.2.1, in response to another comment. Also note that the intent is to keep the discussion focused on hydrology.
23	4	4.2.1	5	1	Define pre-development conditions	Revised	Additional text added to define pre-development.
24	4	4.2.1	5	1	Perhaps provide when is considered pre-development (late 19th century when pumping began or another?)	Revised	Additional text added to define pre-development.
25	4	4.2.2	2		These terms would help if in Section 3	No Change	
26	4	4.2.2	2	2	This sentence does not describe the two bullets; one is a description of GW use effects. Need to restructure the section.	Revised	To clarify, river effects has been changed to "Water from the Rio Grande".
27	5	4.2.2	4	2	Insert comma after "suggest that"	Revised	
28	5	4.2.2	5	1	Format to bullets.	No Change	Style choice
29	5	4.2.2	5	1	100,000 afy - What if this changes?	No Change	This number is expected to change over time. It is provided in the text to serve as an order-of-magnitude reference point.
30	5	4.2.2	5	3	Volumes?	Revised	More specific volume information added to section
31	5	4.2.2	5		Added question marks after the last sentence in the paragraph	Revised	Added text to clarify.
32	5	4.2.2	Figure 3		Aquifer Storage? Surface water reservoirs?	Revised	Storage clarified in figure; added text to clarify within section
33	5	4.2.2	Figure 3		Add pumping, river effect, and drawdown in right margin at end of lines	Revised	
34	6	4.2.2	6	4	Circled "catch up" - Expand / clarity this concept please	Revised	The text of the second concept for Figure 3 has been edited to clarify the concept of river effects.
35	6	4.4.2	6		I like these summary notes/ highlights of the Figure	Noted	
36	6	4.2.2	8		Might need two examples.	No Change	Comment unclear
37	6	4.3	1	1	Reword: "To better manage the Water Authority's groundwater supply, three aquifer zones have been defined."	Revised	
38	6	4.3	1	1	Odd word choice, replace "convenient" with useful or helpful	Revised	
39	6	4.3	1	2	Reword: "This section defines these zones, which include …"	Revised	
40	6	4.3.1	1	2	Insert "also" after "Figure 4," and before "see Appendix B).	Revised	
41	6	4.3.1	1	2	How did you obtain/decide pre-development conditions, from the model or another source/assumptions?	No Change	NM OSE provided in model.
42	6	4.3.1	2		Define "catastrophic drought"	Revised	Sentence removed in response to another comment. Definition is included in Section 4.3.2
43	6	4.3.1	2		Move text into the following subsections / delete.	Revised	Sentence removed. Definition is included in Section 4.3.2

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
44	7	4.3.2	2	1	Add "below pre-development conditions"	Revised	
45	7	4.3.3	2	1	Underlined "reasonable" and added a question mark	Revised	Added definition that this is 50 feet, relative to the 300-ft level.
46	7	4.3.3	3	1	Replace "is" with "has been defined"	No Change	
47	7	4.3.3	3	1	Insert a comma and "with a" after 2120 (e.g. 2120**, with a** population…)	Revised	
48	7	4.3	Figure 4		Add 50 feet, 230 feet, 300 feet marks to Figure 4 - Repetition here is good	No Change	Because this is conceptual, numbers would make it look more accurate than it is
49	7	4.3	Figure 4		Label the ground surface as "pre-development conditions" and add the approximate depth of the GW reserve to the schematic	No Change	Ground surface is the blue dotted line, whereas the pre-development condition is in reference to a groundwater table below the ground surface.
50	7	4.3	Figure 4		Are the yellow/red colors supposed to follow the Irreversible Subsidence Limit, or is that Safety Reserve set as a fixed elevation regardless of groundwater depths?	No Change	This is just a conceptual representation with the color change distinguishing the working reserve from the safety reserve.
51	8	4.4	1	3	Circled "Policy B"	Revised	
52	8	4.4	2	1	Add author (Brown) after reference to the 1996 Value of Water Study	Revised	Reference added
53	8	4.4.1	1	1	Can "Management Level" be defined here….	No Change	Not quantitatively - the concept is introduced here in the form of an objective; quantification comes later.
54	8	4.4.1	Figure 5		Show demand peak in 1995	No Change	Not necessary given that it is pointed out in the text and is observable on the graph. Adding it may add too much detail to plot.
55	8	4.4.1	Figure 5		Spell out gallons per capita/day instead of GPCD	Revised	Revised text above figure to define GPCD.
56	8	4.4.1	Figure 5		Circled "GPCD"	Revised	Revised text above figure to define GPCD.
57	8	4.4.1	Figure 5		Change right y-axis from "Accounts (hundreds of thousands)" to "Number of Accounts (hundreds of thousands)"	Revised	
58	9	4.4.1	3	2	Question regarding 95,000 afy - Not including reuse per Figure 5?	Revised	Figure updated to include 2015.
59	9	4.4.1	3	2	Comment on "95,000 afy in 2015"- figure 5 shows 1000,000 afy in 2014	Revised	Figure updated to include 2015.
60	9	4.4.1	4	2	Add "**s**" to objective - The management of objective**s** can be...	Revised	
61	9	4.4.1	4	2	Add "or in excess of recharge" after aquifer pumping	Revised	Revised to "drawdown due to aquifer pumping in excess of recharge, up to the full permitted amount"
62	9	4.4.1	4	3	(or deposits > withdrawals resulting in some savings!)	No Change	While true for the near term (until 2060 or so), this may be misleading for the 100 yr planning period, when we see no net change in aquifer storage from present.
63	9	4.4.2.1	1		General comment about the Authority's effects on the aquifer - Good! This is great to clarify for the unknowing reader	Noted	
64	9	4.4.2.1	1	1	Reword to: "The volume of groundwater in storage decreases when…"	Revised	

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
65	9	4.4.2.1	1	2	Comment regarding "the gw balance of others is out of the control of the Water Authority" - This will be a point of contention in the plan if not addressed carefully. 1) What about referring to the OSE MRG Regional Water Plan as the vehicle for setting policy/programs/projects for all users of this GW basin? 2) While the ABCWUA cannot control the GW balance in the basin, is it true that ABCWUA strategy of working reserve could be affected by the reckless drawdown of others in the basin? Would there be legal recourse in such a situation? Would there be a time lag before ABCWUA was aware?	Revised	Added a footnote to clarify and removed sentence from the text.
66	10	4.4.2.2	1	2	Confused... Is this permitted right? Table 1 of Chapter 3 states 94,000AFY	Revised	Added text to clarify.
67	10	4.4.2.2	1	2	74,590 afy...I think this is TOTAL native rights? It would be helpful to have a table or figure that shows all numbers that can always be referenced to see permit numbers, AFY of rights, etc.	No Change	A table and explanation is included in Chapter 3.
68	10	4.4.2.2	2	2	This number really confuses me. In Chapter 3, there was reference to 96,400 and also 96,200. It would be nice to be able to track these numbers exactly.	Revised	
69	10	4.4.2.2	1		Circled both instances of "assumed" within paragraph	Revised	Revised text to clarify.
70	10	4.4.2.2	2	1	Comment concerning "43%" - I got 40%	No Change	71000/165000 = 0.4303
71	10	4.4.2.2	2	2	Identify acronym - DWP = Drinking Water Project	Revised	Definition added.
72	10	4.4.2.2	2	2	Circled "DWP"	Revised	Definition added.
73	10	4.4.2.2	2		Table would be good to show this.	Revised	A table and explanation is included in Chapter 3.
74	11	4.4.2.3	2	1	Add "The Volume of" and “has been estimated"	Revised	
75	11	4.4.2.3	4	1	Not clearly explained	Revised	The sentence was revised to explain more clearly why it is important to distinguish between long-term average pumping and short-term pumping.
76	11	4.4.2.3	4	3	Format a, b and c into bullets	Revised	
77	11	4.4.2.3	4	3	Will SJC H2O be available in dry years?	No Change	Some amount of SJC water is expected in all years, however the amount varies due to season and climate. The comment in the text refers to the fact that SJC water may not be diverted by the DWP in low-flow years, and if it remains in the river it can be used to offset the river effect (loss of water to groundwater storage).
78	12	4.4.2.3	Figure 7	Notes	Capitalize the first letter in each row of the Notes column in the table that accompanies Figure 7.	Revised	
79	12	4.4.2.3	Figure 7		Add title - Hypothetical Demand Scenarios	Revised	
80	12	4.4.2.3	Figure 7		Add labels - Scenario 1, 2 and 3	Revised	
81	12	4.4.2.3	Figure 7		Reuse very challenging to see, possibly exaggerate graph vertically?	Revised	
82	12	4.4.2.3	Figure 7		Spell out "evaporative" under DWP notes	Revised	
83	12	4.4.2.3	Figure 7		What is condition 8 under DWP offsets?	Revised	Removed reference

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
84	12	4.4.2.3	Figure 7		Pick rounder #'s for demand scenarios and explain in narrative that these values were selected to look at a range of demand possibilities	Revised	Numbers maintained because although demand numbers are not round, groundwater pumping numbers are. Added text to explain.
85	12	4.4.2.3	Figure 7		Change "AFY" column headers to " Scenario 1", "Scenario 2", "Scenario 3"	Revised	
86	12	4.4.2.3	Figure 7		DWP: 90,000 Reuse: 1300 ….These numbers don't match what was given in Table 1 of Chapter 3. That table shows 96,400 for DWP and 2000 for reuse	Revised	Notes updated.
87	12	4.4.2.3	Figure 7		Change "Wastewater Produced" to "Wastewater Generated"	Revised	
88	12	4.4.2.3	Figure 7		Add a note at the bottom of figure: " * All values given in AFY"	Revised	
89	13	4.4.2.4	1	1	Capitalize the "S" in section 4.2, delete "that" (there are two in a row) and add "that" between pumping and could	Revised	
90	13	4.4.2.4	2	2	Remove "allowed" and add "below pre-development conditions"	Revised	
91	13	4.4.2.4	2	2	Remove "allowed to be" and add "below pre-development conditions"	Revised	
92	13	4.4.2.4	Figure 8		Question on blue data points - Do these dots/ smudges mean anything?	Revised	They are the NMOSE simulation results, with which the regression (dotted blue line) was calculated.
93	13	4.4.2.4	Figure 8		General comment - This is helpful	Noted	
94	14	4.4.3.1	1	1	I think you might need 3 to 4 water balances (hot dry, hot humid, cool dry, cool humid)	Revised	The water balance is based on current conditions, and can be updated with each new WRMS. The goal here is to set a level that is relevant (given the information available), so that the Water Authority can have a sense of the hydrologic water balance to use in decision making. Projecting into 4 different scenarios, which are inherently estimates, may not prove practical in terms of setting a Management Level. In the following section, Alternative management levels, the study explores ranges of possible levels, and these levels may be used as proxies for taking into account changes in climate, etc., that would affect surface water availability and aquifer recharge.
95	14	4.4.3.1	1	Bullet 2	Remove the ' in 2020's (2020s)	Revised	
96	14	4.4.3.2			Shouldn't this section be first as 4.4.3.1, then you select 110-ft? Seems backwards in flow. As I read, I wondered why even bother to go to 200-ft, then realized you explained it later on page 20. Seems like part of Section 4.4.5 can be moved into these earlier sections. Maybe switch 4.4.3.1 and 4.4.3.2?	No Change	This is an editorial judgement call and group decision was made on how to organize these sections.
97	14	4.4.3.2	1	1	Remove "and is intended" from the first sentence	Revised	
98	14	4.4.3.2	2	1	Change feet to afy?	Revised	
99	14	4.4.3.2	4	2	Change "exceeded" to "exceeds"	Revised	
100	14	4.4.3.2	4	3	Change "achieve" to "obtain"	Revised	
101	14	4.4.3.2	5	2	Change the uppercase letter in "Aquifer Storage and Recovery" to lowercase	Revised	
102	14	4.4.3.2	4		Interesting but not convincing. I think numbers calculated with H/D, H/W, C/D, C/W	Noted	

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
103	15	4.4.3.2	Figure 9		Reuse purple very difficult to see next to blue, exaggerate vertically to clarify?	Revised	Agree that adjacent colors are hard to distinguish. The figure is already vertically exaggerated to a half page, and further increasing size may not help. Colors are set up so that bottom-most is GW and next is DWP, and new supplies needed are on top (as in all other plots in WRMS report). Reuse is always purple.
104	15	4.4.3.2	Figure 9		General comment - Nice graphic	Noted	
105	15	4.4.3.2	6	2	Unclear; point of this paragraph?	Revised	The main message is the need for new supplies in the distant future is the same once a Management Level is reached, regardless of what that level is. The text has been revised to emphasize the point on timing of new supplies.
106	15	4.4.4	2	2	Makes me wonder why / how... This is not really the section to explain the impacts of DWP, but may be in an earlier section? People may wonder what kind of imbalance has this project caused, in a good way or bad way... Especially since there will be new alternatives that rely on use of this water or continuation of DWP, it may be important what those imbalances are.	Revised	In supply chapter (Chapter 3) the positive effects of the DWP on the aquifer levels was discussed.
107	15	4.4.4	2	1	Is "block" concept important? If so, needs more explanation if necessary	Revised	It is necessary to explain that a when a project is implemented, it can flip the direction of drawdown, as seen in Figure 10. Text added to clarify.
108	16	4.4.4	3	4	Use of bold font here & throughout text is very effective/ helpful!	Noted	
109	16	4.4.4	3	3rd bullet	Reword - ...it is proposed that ~~a~~ status update**s** be generated… The update**s** will include a…. An example of ~~the~~ **an** update…..	Revised	
110	16	4.4.4	Figure		Actually at any level, right?	Revised	This figure did not add to the text and was confusing and so it was removed from the text.
111	16	4.4.4	Figure		Not completely sure what is represented on x-axis (project or set of projects combined?)	Revised	This figure did not add to the text and was confusing and so it was removed from the text.
112	16	4.4.4	Figure		Confused about the y-axis title. Is it showing aquifer / groundwater level, or the drawdown?	Revised	This figure did not add to the text and was confusing and so it was removed from the text.
113	16	4.4.4.1	Figure 10		Change the 'E' and 'F' labels to read "250 ft Drawdown" and "50 ft Drawdown"	Revised	
114	17	4.4.4.2	1	1	Add "the" between "with" and "current"	Revised	
115	17	4.4.4.2	1	2	Insert comma after "ASR"	Revised	
116	17	4.4.4.2	1	2	Replace "may" with "might"	Revised	
117	17	4.4.5	1	2	Insert comma after "ratepayers"	Revised	
118	17	4.4.5	1	3	New customers?	Revised	
119	17	4.4.5	3	1	Replace "preventing that possibility " with "providing supply in times of emergency"	Revised	
120	17	4.4.5	3	2	Insert "a" after term	Revised	
121	17	4.4.5	4	1	Hard to relate to these numbers. Are there any numbers as $ per AFY or per some unit?	No Change	The unit cost is not available. See reference (Brown, 2002) for more details.
122	17	4.4.5	4	1	Add a space between "to" and "$1,117"	Revised	
123	17	4.4.5	4	1	Insert "million" after $349 and $425 and add space between "to" and $425 million	Revised	

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
124	18	4.4.5	6	2	Add an "s" to "withdrawal"	Revised	
125	18	4.4.5	9	2	Replace "But" with "However,"	Revised	
126	18	4.4.5	9	3	Add "below pre-development conditions" after "200-foot" and an "s" to "obligation"	Revised	Good suggestion, however at this point in the discussion it should be clear that management levels are from the reference of pre-development conditions.
127	18	4.4.5	10	1	Add "choosing" remove " choice of"	Revised	
128	18	4.4.5	10	2	Remove "begin seeking", add "bring new supplies online"	Revised	
129	18	4.4.5	10		Add "Water" in front of "Authority" throughout paragraph	Revised	
130	18	4.4.5			Shouldn't this discussion come in the beginning of the chapter? It may help justify the process if you explain the logic and methodology as well as the need as you are doing here, first, and then go through the exercise to pick the level	No Change	Hopefully this message came through in the introduction, since policies and framework were listed there as well. The Summary is intended to highlight the main points, and only repeats what was discussed in the rest of the chapter.
131	19	4.5.1			Remove semicolons from the end of each bullet	Revised	
132	19	4.5.1	1	1st bullet	Define or write out text of "Policies B and C"	Revised	Text added to define policies.
133	19	4.5.1	1	3rd bullet	Add "conditions" after "pre-development"	Revised	
134	19	4.5.2	2	1	Remove "been path breaking" and add "successful" and "had significant positive effects on the aquifer and the sustainability of the Basin's water resources."	Revised	
135	19	4.5.2	3	1	Remove "asset" and "management instrument further enhances its innovative reputation externally, another important asset in itself." and add "well managed resource, the Water Authority will ensure a viable water supply for the 100-year planning horizon."	Revised	
136	23	Appendix A	4	2	Not a full sentence.	Revised	
137	24	Appendix A	5	5	Format a, b and c into bullets	Revised	
138	24	Appendix A	6		Nearly the same as in Section 4.2.2?	No Change	Yes, more detail is provided in this appendix.
139	24	Appendix A	Figure A.1		Legend difficult to decipher, recommend differentiating bolder colors with different line styles (like dashed) or just writing the names in the margin at end of lines	No Change	This is a technical graph of the water balance in the model. It is in the appendix for reference, and because not all readers may be interested in this level of detail. All lines are defined in legend.
140	24	Appendix A	Figure A.1		What is the red box? Not in legend. Add to legend rather than as an addition to the title.	Revised	
141	24	Appendix A	Figure A.1		What is implied by pre-development conditions?	Revised	Text added to the figure to describe this.
142	24	Appendix A	Figure A.1		Axis Title: Water Quantity (AFY)	Revised	
143	24	Appendix A	Figure A.1		What does this box represent?	Revised	Label added for clarity.
144	24	Appendix A	Figure A.1		What does legend item "General Head Boundary (Jemez River)" mean?	Revised	
145	25	Appendix A	Figure A.2		Same as Figure 3?	No Change	Yes

Comments Regarding Chapter 4: Groundwater Management

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
146	26	Appendix A	7	4	Although I cannot clearly explain why, this sentence bothers me. If we are making the assumption that river water is available in sufficient quantity, one could ask why is it necessary to set a management level? This discussion implies that we can pump all we want as the river water will replenish it. Maybe it needs to have a qualifier that says as long as river water is available and as long as we don't pump it below irreversible level???	No Change	The river has been losing water to the aquifer due to high historic pumping rates; it is not a matter of having a sufficient quantity or not. Rather, the Water Authority has the responsibility to offset any losses in the river beyond our rights/permits to counter the effect.
147	27	Appendix A	Figure A.4		Same as Figure 8?	No Change	Yes
148	37	Appendix C	2	Case 1	Confusing - Seems important and is clear but why is it buried here in an appendix?	No Change	These are highly hypothetical and included for illustration purposes only.
149	41	Appendix D			Aquifer Status Update (pending)?	Revised	The appendix for monitoring was not ready at the time of review and is now part of the chapter.

Notes:
Comments were received from the Technical Customer Advisory Committee regarding the draft version of Chapter 4 from March 2016.
*Action column items are defined as follows:
Revised = A change to the text was made in response to the comment or during internal review
No Change = The comment did not result in a change to the text, with reasoning provided in the 'Response' column in many cases
Noted = Comment did not require a specific action

Chapter 5

Alternatives

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
1	Cover				Update name of Bear Canyon ASR to Bear Canyon Recharge. Name has been changed, and ASR implies wells.	Revised	
2	Cover				Like the idea of a consistent table for each alternative!	Noted	
3	Cover				Overall - great work on this chapter. Most of the alternatives are very clear. I do think 2 pages per alt would be fine.	Noted	
4	Cover				Building a bridge over the golf cart crossing is probably a good idea, but it isn't simple. Many of the golf holes below there are low elevation and would likely be flooded if we expand the reach (so would need to be bermed). Also, golfers cross the arroyo in many locations below the crossing, so one bridge may not be enough. If the reach were expanded we could probably double the recharge volume.	Noted	
5	Cover				Table though needs cost to build and operational $/ H2O cost	Revised	Cost information available
6	Cover				In 2.0 need to differentiate those in operation and water providing and those under consideration and water that could be possible and expected implementation date and cost.	Revised	Section 5.2 differentiates those in operation or planned. Costs are detailed in appendices.
7	Cover				In 1.0 seems several things identified appear twice, suggest they be re-worked.	Revised	
8	Cover				I looked over 3.0, but it is woefully incomplete. One example: conservation. Leaves out why values were selected, options to get to those values, relative benefits, etc. So I chose not to review in detail the other subsections until this is better fleshed out.	Revised	The draft has been through multiple revisions and comment cycles since this comment.
9	1	5.1	1	1	Does this need to be included at the beginning of every chapter?	No Change	Yes, the goal is that each chapter will be able to serve as a standalone document.
10	1	5.1	1	2	Insert 'water' after 'projected'	Revised	
11	1	5.1	1	2	Comma after 'required' and after 'development'	Revised	
12	1	5.1	2	1	Remove "for implementation" (repeats)	Revised	
13	1	5.1	2	2	Others?	No Change	
14	1	5.1	3	1	Any new projects introduced in 2007?	No Change	There were no new projects introduced in 2007.
15	1	5.1	3	1	Remove "a number of"	Revised	
16	1	5.1	3	Bullet pts	Why aren't all of these listed in section 2.0?	No Change	These are current projects and Section 2.0 discusses the new alternatives only.
17	1	5.1	3	2nd bullet	Hyphenate Large-Scale	Revised	
18	1	5.1	4	1	Is this really considered a "project" or is it a component of native storage in Abiquiu reservoir?	No Change	Yes, this is considered a project. Coordinating with other entities to use the Water Authority's storage at Abiquiu reservoir is considered a project that will take time and money.
19	1	5.1	4	Bullet pts	Why only part of the items in section 2.0 listed here?	No Change	The projects are grouped into general categories for brevity and big-picture function at this introductory level.
20	1	5.1	5	1	Change sentence to read "Potential on-going and new supply alternatives considered in 2017 WRMS include:"	Revised	Kept in "The projects underway are included in projections of future supply for planning purposes." and included the suggestion afterward.

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
21	1	5.1	5	1	This list should match the section headings later in the chapter when discussing new supply alternatives. Granted, it's noted these are "broad categories" w/ SJC example, but average reader may not understand these connections. I like the broad categories listed, so the more descriptive subcategories could be just that in how described later in chapter. Example: Section 3.3 Surface Water Use, Section 3.3.1 Utilization of Excess SJC Water	Revised	The order of this list has been updated to match the order in which alternatives are discussed in the chapter.
22	1	5.1	5	1st bullet	Add "Enhanced H20"	Revised	
23	1	5.1	5	2nd bullet	Add "Additional"	Revised	
24	1	5.1	5	4th bullet	Add "to increase surface water availability"	No Change	Additional surface water is not necessarily a goal of watershed management. It serves more as an insurance policy protecting the existing surface water supplies.
25	1	5.1	5	7th bullet	Add "wastewater"	Revised	
26	1	5.1	5	8th bullet	Is this different than the 2nd bullet in paragraph 3?	Revised	Yes, added the word additional.
27	1	5.1	5	8th bullet	Add acronym "ASR" to "Aquifer Storage and Recovery"	Revised	
28	1	5.1	5	10th bullet	Add "water" and remove "and use"	Revised	Did not remove "and use."
29	1	5.1	5	12th bullet	Add "Additional"	Revised	
30	1	5.1	6	2	Awkward wording	Revised	Changed to "For example, surface water use could include utilization of excess SJC water, lease of SJC water, or a new diversion. Any of these could connect to existing facilities or could require new facilities."
31	1	5.1	7	1	Insert colon and semicolons within paragraph	No Change	
32	1	5.1	7	1	Can these be formatted as bullet points?	No Change	Additional bullet points may break the flow of the document.
33	1	5.1	7	1	Underlined 'add new water to the basin in relatively large quantities that can be beneficially and consumptively used' with note: 'is this the point of the sentence?'	Revised	This half of the sentence speaks to the range of alternatives. It is not necessarily the point of the sentence. Rewritten for clarity.
34	1	5.1	7	1	Not clear what alt range is…Also, why repeat list above?	Revised	The sentence has been restructured to focus on function of having variability in alternatives: "The alternatives range from sources that allow for the efficient use of existing resources (i.e. surface storage) and enhance supply and our ability to use supplies (i.e. watershed management), to alternatives that add new water to the basin in relatively large quantities that can be beneficially and consumptively used (i.e. interbasin transfer). "
35	1	5.1	7	1	Ugh... I can't follow this sentence..	Revised	Sentence has been reworded.
36	1	5.1	7	1	Insert comma after 'resource' and 'supplies'	Revised	
37	1	5.1	8	1	Insert comma after "mutually exclusive"	Revised	
38	1	5.1	8	1	Supply to supplies	Revised	
39	1	5.1	8	1	Insert comma after 'exclusive' 'utilization' and 'rights'	Revised	
40	1	5.1	8	2	Insert comma after "for utilization"	Revised	
41	1	5.1	9	1	Replace "range" with "differ"	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
42	1	5.1	9	1	Insert comma after ‘period'	No Change	Style choice
43	1	5.1			Overall, an excellent chapter of interesting info!	Noted	
44	2	5.2	Title		Alternatives or Projects?	Revised	Projects. Change has been updated
45	2	5.2	1	2	Break into operating and planned and when planned to conserve time *not sure of all words, hard to read*	No Change	These are all planned or in progress
46	2	5.2	1	Bullets	Six projects are listed here. But only three were mentioned on the previous page. The list should match in number and name of projects.	Revised	Added category headings on top of project list to clarify and the first list of three are grouped by category.
47	2	5.2	1	Bullets	For every bullet point: A brief one sentence description of the project would be helpful. e.g. Large scale ASR project includes injection of excess surface water or treated wastewater effluent into vadose zone for future use	No Change	Each is already described in the bullet list.
48	2	5.2.1	1	1st bullet	Why is 4831 not in Table 1 of Supply Chapter?	No Change	This project is in progress.
49	2	5.2.1	1	1st bullet	Replace "4831 Application with "Storage of Native Water in Abiquiu"	Revised	Added headers for groups listed in the introduction section and reorganized order for clarity.
50	2	5.2.1	2	2nd bullet	Seems this is a sub-bullet to 4831 App. Above as it's not its own project?	Revised	Reorganized and moved under Section 5.2.1.
51	2	5.2.1	2	2nd bullet	Note sure what this means: "with the provision of water"?	Revised	Clarified.
52	2	5.2.2	1	1st bullet	Change "Large scale" to "Large-Scale"	Revised	
53	2	5.2.2	1	1st bullet	Insert comma after "concept"	Revised	
54	2	5.2.2	1	1st bullet	Change "injection/extraction" to "ASR"	Revised	
55	2	5.2.2	2	2nd bullet	Inset "would" after "bridge", remove "s" from "allows"	Revised	
56	2	5.2.2	2	2nd bullet	Change "ASR" to "Recharge" 2 places	Revised	
57	2	5.2.2	2	2nd bullet	Remove "by 500 acre-feet" - sidenote: (likely ,500 of increase w/bridge and berming)"	Revised	
58	2	5.2.2	3	3rd bullet	Change "those" to "these"	Revised	
59	2	5.2.2	3	3rd bullet	Insert "would" after "These"; insert comma after "winter"	Revised	
60	2	5.2.2	3	3rd bullet	Replace "can" with "could"; insert comma after "months"	Revised	
61	2	5.2.2	3	3rd bullet	"levels? Or no increase in gw demands?"	Revised	Changed to "This water could then be extracted in summer months, resulting in no net reduction in groundwater level."
62	2	5.2.2	3	3rd bullet	Insert "new wells will allow" after "These"	Revised	
63	2	5.2.3	1	1st bullet	Define	No Change	Unsure what needs additional definition.
64	2	5.2.3	1	1st bullet	Insert comma after "sought"	Revised	
65	3	5.3			This is a GREAT intro section to clarify approach!	Noted	
66	3	5.3	1	1	Insert "potential/projected' after "fill; change "in" to "between"	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
67	3	5.3	1	2	"change" to "changes"	Revised	
68	3	5.3	2	1	Insert "the" after "with"	Revised	
69	3	5.3	2	2	These are actually criteria according to the big table on the following pages. I suggest listing them to match the table, with their categories, or don't list and just refer to the table.	Revised	
70	3	5.3	2	3rd bullet	Lowercase "a"	Revised	
71	3	5.3	2	7th bullet	Lowercase "I"	No Change	
72	3	5.3	2	8th bullet	Lowercase "h" and "a"	Revised	
73	3	5.3	2	10th bullet	Lowercase "p"	Revised	
74	3	5.3	3	1	Insert comma after "characteristics"; change "help to "assist"; inset comma after "development"	Revised	
75	3	5.3	4	1	Insert comma after "footprint"	Revised	
76	3	5.3	4	2	Insert comma after "characteristics"	Revised	
77	3	5.3	4	2	"(the difference between projected water demands and available supplies.)"	No Change	Additional text deemed unnecessary.
78	3	5.3	4	3	Change "will be" to "are"	Revised	
79	4	5.3	Table 1		Define kwh/deltaF (or elsewhere)	Revised	Note added at end of first mention of unit in table cell: " (kWh/AF=kilowatt-hour per ac-ft)"
80	4	5.3	Table 1		Lowercase every word after the first word of heading level 1 and 2	No Change	Some liberty may be exercised here with case headings. We believe the group has chosen to stick with title case for this table's headings.
81	4	5.3	Table 1		Place a period at the end of every detail-level cell.	No Change	Because cells are in note form rather than sentence form, a period is not appropriate.
82	4	5.3	Table 1		Remove 'the' before 'habitat'; insert 'the' before 'bosque'	Revised	
83	4	5.3	Table 1		Change "Ranking Guide" to "Ranking"	No Change	This is the ranking guide; the ranking is provided below.
84	4	5.3	Table 1		Insert 'water rights' after 'current'	No Change	
85	4	5.3	Table 1		Add 's' to amendment'	No Change	
86	4	5.3	Table 1		Insert 'water rights' after 'Authority'	No Change	
87	4	5.3	Table 1		Insert 'water rights' after 'Revised'	No Change	
88	4	5.3	Table 1		Lowercase 't' in 'technology'	Revised	
89	4	5.3	Table 1		Comma after close parentheses	Revised	
90	4	5.3	Table 1		Remove "the timeframe of"; period at the end	Revised	
91	4	5.3	Table 1		Lowercase 'h' 'a' and 'v'	No Change	The group has chosen to stick with title case for this table's headings.
92	4	5.3	Table 1		Insert "the" after "in"; comma after "project"; period at end	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
93	4	5.3	Table 1		Period at end	No Change	Because cells are in note form rather than sentence form, so a period is not recommended.
94	4	5.3	Table 1		Insert comma after "project"; period at end	No Change	
95	4	5.3	Table 1		Insert comma after "benefits"; period at end	No Change	
96	4	5.3	Table 1		Comma after 'amenities; period at end	No Change	
97	4	5.3	Table 1		Comma after 'opportunities'; period at end	No Change	
98	4	5.3	Table 1		Comma after 'such'; period at end	No Change	
99	4	5.3	Table 1		Change hyphen after two to 'to'	Revised	
100	4	5.3	Table 1		Comma after 'alternative'; insert 'has been' before 'normalized'	Revised	The notes were incorporated into the text within the table.
101	4	5.3	Table 1		Comma after 'year'; insert 'has been' before 'normalized'	Revised	The notes were incorporated into the text within the table.
102	4	5.3	Table 1		Lowercase ‘availability'; acronym (FOA) after 'availability'; comma after 'analysis'; comma after 'example'; insert 'on' after 'depending'	Revised	The notes were incorporated into the text within the table.
103	6	5.3.1	Title		C1, C2, C3...This is a bit confusing as some sections note sub-alt and some don’t. Why not just list this within sub-section rather than include in heading?	No Change	Some alternatives have sub-categories (for example, different size storage facilities don't require their own page of detail, but are different alternatives).
104	6	5.3.1			In every instance, insert 'WRMS 2007' before 'Policy'	Revised	
105	6	5.3.1	1	1	Insert 'water' before 'conservation'	Revised	
106	6	5.3.1	1	2	Insert comma after 'demand'; insert 'the' before 'population'	Revised	
107	6	5.3.1	1	4	Why only groundwater?	Revised	Additional text added for clarification
108	6	5.3.1	1		Awesome!!	Noted	
109	6	5.3.1	2	1	Perhaps these C1, C2, C3 items can be combined in listing?	No Change	Some alternatives have sub-categories (for example, different size storage facilities don't require their own page of detail, but are different alternatives).
110	6	5.3.1	2	3rd bullet	Replace "Reduce" with "Goal of reducing"--for consistency to list as this is also a goal	Revised	
111	6	5.3.1	3	1	Insert ‘the' before 'demand scenario'	Revised	Sentence has been reworded.
112	6	5.3.1	3	1	Insert comma after 'time'; comma after 'implemented'	No Change	
113	6	5.3.1	5	2	Comma after 'alternatives'	Revised	
114	6	5.3.1	6	1	Comma after 'conserve'	No Change	
115	6	5.3.1	6	2	Comma after 'considered'	Revised	
116	6	5.3.1	6	2	Should all the "should be" phrases actually be "will be"? Isn't that what you are and will be doing in this report/study?	No Change	Since the document, on the whole, is a guiding document rather than a directive, we can leave it as "should be."
117	6	5.3.1	6	2	Maybe "reduce public turfgrass" as do you really want to promote reduced public access to vegetated spaces when they can be revised responsibly via xeriscaping? OR use non-potable for irrigation!	Revised	Added "reduce public green space…"

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
118	6	5.3.1	7	1	Change 'will' to 'would'; insert 'Water Authority' before 'policy'	Revised	
119	6	5.3.1	7	1	"conservation goals will" underlined, note: 'not true': Additional note: 'Density goals would also work'	No Change	Targeted conservation goals will require new policy. Density goals would also require new policy.
120	6	5.3.1	8	1	Sources not applicable??	Revised	Water Authority data sources can be referenced, as well as model results
121	6	5.3.1 to 5.3.22	Blue Boxes		"Not sure why this is here (needs caption/callout 7 maybe to take up a full page for legibility" and "will these be filled in?"	No Change	The "Criteria (rank)" blue boxes have all been filled in and are located next the section and text describing the details of the alternative.
122	6	5.3.1	Blue Box		Is this for C1, C2 or C3???; Needs a title to explain what table is	Revised	The table has been updated to include the alternatives.
123	6	5.3.1	Blue Box		Why is this list in a different format/order than Table 1?	No Change	Good point. The first 11 items in the blue table match table 1 (though not in the same order), and the 3 at the bottom are really separate from the ranking criteria but nonetheless important to note for each alternative.
124	6	5.3.1	Blue Box		I'm not understanding the inclusion of this? Should there be ranking info in the 2nd column?	Revised	The information in the blue box has been updated.
125	6	5.3.1			Note: 'cost/acft'	No Change	The cost/acft information is provided in Appendices B and C.
126	7	5.3.2	1	1	Insert 'water' before 'availability'	Revised	
127	7	5.3.2	2	1	USBR circle: Identify since first reference in this chapter - US Bureau of Reclamation. A.k.a. "Reclamation"	Revised	
128	7	5.3.2	2	1	Comma after 'acre-feet'	Revised	
129	7	5.3.2	2	1	USBR - 'already defined?'	Revised	
130	7	5.3.2	2	1	Insert 'current' after 'with'	Revised	
131	7	5.3.2	2	3	Insert comma after 'example'	Revised	
132	7	5.3.2	2	3	Comma after 'For example'; comma after 'Santa Fe'	Revised	
133	7	5.3.2	2	4	Insert 'its before 'contracted'	Revised	
134	7	5.3.2	3	1	Change 'said' to 'this'	Revised	
135	7	5.3.2	3	1	Change 'said water' to 'leased'	Revised	
136	7	5.3.2	3	2	Insert 'Water' before 'Authority'	Revised	
137	7	5.3.2	3	2	Insert 'Water' before 'Authority'	Revised	
138	7	5.3.2	3	2	Why is nonpotable project not viable? Why is SJC storage declining, and how does leased water help? Note during meeting; if you went to two pages, you could take the space to explain this.	Revised	Clarified in the following change: "This supply would help extend the availability of non-potable project water supply if SJC storage declines, it could also offset transport and storage losses and extend the ability of the Water Authority to utilize SJC surface water during drought."
139	7	5.3.2	5	1	Insert 'water rights' before 'permits'	Revised	
140	7	5.3.2	5	2	And where would that come from?' (referring to additional storage).	Revised	Clarified by adding information about a new off channel reservoir.
141	7	5.3.2	5	2	Is there a plan as to how additional storage could be achieved?	Revised	Clarified by adding information about a new off channel reservoir.

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
142	7	5.3.2	5	3	comma after 'enough'	Revised	Sentence has been removed.
143	7	5.3.2	6	1	Comma after 'permits'	No Change	
144	7	5.3.2	6	1	Sentences 'Additional storage' and 'This water could be stored' These statements conflict or need clarification.	Revised	Clarified in the text.
145	7	5.3.2	7	2	Comma after 'Policy G'	Revised	
146	7	5.3.2	8	1	Why are sources listed here rather than at end of chapter?	No Change	This is intended to be an all-inclusive snapshot for the Noted alternative(s).
147	7	5.3.2	8	2	I like the single page/same title and format for all alternatives	Noted	
148	7	5.3.2	Blue Box		What kinds of values will go in this column? Is it the 1-5 rank?; Photo and not a chart?	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.
149	7	5.3.2	Blue Box		Still don't understand inclusion? Why empty column 2?	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.
150	8	5.3.3	Title		Suggested: "3.3 Surface Water Use," change next to "3.3.1 Utilization of San-Juan Chama Water" Reformat example per my comments on page 5-1	No Change	Even though Surface Water Use is the general category under which this alternative falls, we are only listing alternatives here. The grouped category headings are only used in the Introduction, as a way to frame the larger picture. We don't need to break out the alternatives into sub-sections here, as this chapter's intent is to list all alternatives at the same hierarchical level and doing so would complicate the document.
151	8	5.3.3	1	1	How is price set and what is competition with other water users?	No Change	This is a complicated question. Currently the primary competition is Reclamation. As we are limited on space it may be best to refrain from adding detail on the topic, as it may detract from the focus of the section.
152	8	5.3.3	1	3	Even with climate change?	No Change	Climate change effects may cause regulators to change their minds in the long term. However, the precedent set is what we can expect and act on for now. Any changes can be included in later WRMS reports if climate change effects begin to change decision making on excess SJC water.
153	8	5.3.3	2	1	Change 'said' to 'this'; change 'is' to 'would be'	Revised	
154	8	5.3.3	2	2	Same concern as p. 5-5 (Section 5.3.1).	Revised	
155	8	5.3.3	2	2	Insert 'Water' before 'Authority'	Revised	
156	8	5.3.3	3	1	40000 acre-feet' underlined with note: All at once or in various years?'	Revised	Clarified that the water would be made available in a one-time basis over the planning period.
157	8	5.3.3	4	1	Insert 'water rights' before 'permits'	Revised	
158	8	5.3.3	4	1	Insert 'water rights' before 'permits'; comma after 'permits'	Revised	
159	8	5.3.3	4	2	Insert 'at' before 'Abiquiu'; insert 'Reservoirs' after 'Butte"	Revised	
160	8	5.3.3	6	1	Highlighted "should be": Should all the "should be" phrases actually be "will be"? Isn't that what you are and will be doing in this report/study?	No Change	Since the document serves as a guiding document versus policy, the normative language is sufficient.
161	8	5.3.3	7		Insert 'US Bureau of' before Reclamation	No Change	
162	9	5.3.4	Title		Heading crossed out, changed to 3.3.2	No Change	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
163	9	5.3.4	1	1	Underlined 'direct use of native pre-1907 rights or imported water' and also underlined sentence in Description: 'brought to the diversion by the parties or purchased or transferred' with the note: So these would be purchased water rights? Ok. Got it.	Noted	
164	9	5.3.4	2	1	Change 'industry to 'industries'; insert 'and' before 'commercial'	Revised	
165	9	5.3.4	4	1	Aren't these native pre-1907 rights currently used for offset requirements right now? if they are used as a supply, wouldn't we need to figure out offset?	Noted	Yes. However, some of these rights will be available for use in the near term.
166	9	5.3.4	4	1	NMOSE' circled, note: 'already defined'	Noted	
167	9	5.3.4	4	2	Change 'will' to 'would'	Revised	
168	9	5.3.4	5	2	Identify WRMS 2007 for policies notes	Revised	
169	9	5.3.4	5	2	Insert 'of the 2007 WRMS' after 'Policy C'	Revised	
170	9	5.3.4	Blue Box		Where does cost get explained?	No Change	Cost information is provided in Appendix B and C.
171	9	5.3.4	Blue Box		North I-25 Project needs a better description in Chapter 3	Revised	
172	10	5.3.5	Header		Change chapter 4 to chapter 5	Revised	
173	10	5.3.5	Footer		Change from 4-9 to 5-9	Revised	
174	10	5.3.5	1	3	NMOSE circled. Identify since first use in chapter - New Mexico Office of State Engineer.	Revised	
175	10	5.3.5	2	1	Format list as bullets	No Change	
176	10	5.3.5	2	1	AMAFCA' circled with note: 'define'	Revised	
177	10	5.3.5	2	2	Highlighted "all stormwater detained be discharged within 96 hours": Should clarify that this is for health reasons. Not because they don't own the water.	Revised	
178	10	5.3.5	2	2	Change 'in' to 'within'	Revised	
179	10	5.3.5	3	1	Insert 'of stormwater' after 'infiltration'; change 'from storage' to 'of stored stormwater from'; Note: 'don't understand?'; additional note: 're: edits in black, if that is what you mean then I do get it and the edits would help.'	Revised	
180	10	5.3.5	3	4	I don't quite understand this sentence	Revised	Sentence rewritten for clarity.
181	10	5.3.5	4	2	Underlined with note: 'does this require legislation?'	No Change	No new legislation needed.
182	10	5.3.5	5	1	Capitalize State	Revised	
183	10	5.3.5	6	1	So this source would be possible only in wet years, only when the amount is more than the compact requirement?	No Change	Not necessarily. It could also be taken when flows are high and could not be utilized.
184	10	5.3.5	8		Arrow above with note "spacing" (needs a space before heading)	Revised	
185	10	5.3.5	Blue Box		All enclosed with a large circle, question mark next to it.	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
186	11	5.3.6	Title		Circle around (WM1 and WM2) with arrow indicating it should go with the heading "Watershed Management"	Revised	
187	11	5.3.6	1	1	Insert 'watershed' after 'San Juan'	Revised	Added watershed after San Juan and Rio Grande.
188	11	5.3.6	1	1	Insert 'the reliability of' before 'watershed' with note: 'this is a crucial point'	Revised	
189	11	5.3.6	2	1	Will you also identify these watershed management tasks?	No Change	Specific watershed tasks will be determined by the Water Authority.
190	11	5.3.6	2	1	Insert 'Gage' after 'Otowi'	Revised	
191	11	5.3.6	2	2	Insert 'River' after 'San Juan'; insert comma after 'project'	Revised	
192	11	5.3.6	2	3	Insert 'would' after 'Rio Grande'; change 'allows' to 'allow'; insert comma after 'resources'; change 'protects' to 'protect'	Revised	
193	11	5.3.6	2	4	Insert comma after 'watersheds'; insert 'Gage' after 'Otowi'	Revised	
194	11	5.3.6	2	4	Format list as bullets	No Change	
195	11	5.3.6	3	3	Change to 'Treatments may include (1) forest thinning, (2) controlled burning (3) brush clearing, and (4) selective harvesting,; with note: 'the controlled burning is very impt and the cheapest option.'	Revised	
196	11	5.3.6	4	1	Insert comma after 'quantify'	No Change	
197	11	5.3.6	5	1	Insert comma before 'Policy J' and move close parentheses before period	Revised	
198	11	5.3.6	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
199	11	5.3.6	Blue Box		Add concept of watershed mgmt as an insurance policy	No Change	
200	12	5.3.7			Does this tell the whole story? Does not explain the operational impacts as well as has been presented verbally.	Revised	It is tough to get it all in in this brief discussion but information has been added for clarification.
201	12	5.3.7	1	1	Insert comma after 'diverted'	No Change	
202	12	5.3.7	2	1	Insert 'water' after 'Chama'	Revised	
203	12	5.3.7	2	2	Highlighted "through the Southside Water Reclamation Plant": Does it have to be returned through the treatment plant? Can it be offset through another source? Also, what ratio of return will be required, same as the existing, or would it be different?	Noted	Return flows from the watershed treatment plant are currently a permit requirement.
204	12	5.3.7	2	3	Check sentence structure	Revised	
205	12	5.3.7	2	3	Can a large size map be included, maybe as an attachment, that shows the general layout of all these location references?	Revised	Added: "(see Figure 1 in Chapter 2 for street locations, or alternatively http://www.abcwua.org for full map of diversion, gages, and water and wastewater treatment plant locations)."
206	12	5.3.7	2	3	Insert 'the' before 'Central'; insert comma after 'cfs'	Revised	
207	12	5.3.7	2	3	122 cfs' and 'below 195 cfs' underlined with note: explain how often this happens to make the impact apparent.	No Change	See chapter 3 for a description of frequency.
208	12	5.3.7	2	4	Inset comma before 'including'; hyphenate 'low-flow'; insert comma after 'events'	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
209	12	5.3.7	4	1	Change 'is' to 'would be'	Revised	
210	12	5.3.7	5	2	Insert comma after 'effort'	Revised	
211	12	5.3.7	6	1	Insert WRMS 2007 before 'Policy B'	Revised	
212	12	5.3.7	6	1	Citation - WRMS 2007	Revised	
213	12	5.3.7	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
214	13	5.3.8	1	1	Insert 'field' before 'fallowing'	Revised	
215	13	5.3.8	3	1	How are these quantities estimated?	Revised	Added footnote to explain.
216	13	5.3.8	5	1	Do you have a sense for what would be considered "large"?	Revised	Added information to clarify.
217	13	5.3.8	2	1	Insert 'in exchange' after 'typically'	Revised	
218	13	5.3.8	4	2	Change 'If banked water surface' to 'If water is banked in surface'	Revised	
219	13	5.3.8	4	2	If banked water surface reservoirs' underlined with note: 'is word missing?'	Revised	
220	13	5.3.8	5	1	Insert 'water rights' before 'permits'; insert comma after 'permits'	Revised	
221	13	5.3.8	6	1	Insert 'WRMS 2007' before 'Policy E'	Revised	
222	13	5.3.8	6	1	Inset WRMS 2007 before Policy E	Revised	
223	13	5.3.8	6	2	Change 'could' to 'should'	Revised	
224	13	5.3.8	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
225	14	5.3.9			I understood the section and have no comments	Noted	
226	14	5.3.9	1	1	Insert 'U.S.' before 'Bureau'	Revised	
227	14	5.3.9	1	2	Insert 'the' after 'by'; insert comma after 'Reservoir'	Revised	
228	14	5.3.9	2	1	Insert 'Reservoir' after 'Abiquiu'	Revised	
229	14	5.3.9	2	2	Insert 'Water' before 'Authority'	Revised	
230	14	5.3.9	4	2	Insert 'Reservoir' after 'Abiquiu'; insert comma after 'utilized'	Revised	
231	14	5.3.9	4	2	No new' underlined and 'expanded storage' circled with note - not "new"	Noted	
232	14	5.3.9	6	1	Insert 'WRMS 2007' before 'Policy E'	Revised	
233	14	5.3.9	6	1	Insert WRMS 2007 before Policy E	Revised	
234	14	5.3.9	6	2	Change 'could' to 'should'	Revised	
235	14	5.3.9	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
236			Title		(FCB3) circled, with arrow to heading 'Payback of Borrowed Water' showing they should be together, not separate columns	Revised	Removed from chapter.
237			1	1	Convert to 1-sentence overview / summary of alternative, similar to others	No Change	Removed from chapter.
238			2	1	Insert 'US Bureau of' before 'Reclamation'	No Change	Removed from chapter.
239			2	2	Insert comma after 'agreements'	No Change	Removed from chapter.
240			2	4	Insert 'Water' before 'Authority'	Revised	Removed from chapter.
241			3	1	Capitalize 'Reservoir'	Revised	Removed from chapter.
242			5	2	Insert 'Reservoir' after 'Abiquiu'	Revised	Removed from chapter.
243			6	1	Insert 'water rights' before 'permits'; insert comma after 'permits'	Revised	Removed from chapter.
244			6	1	Insert 'WRMS 2007' before 'Policy E'	Revised	Removed from chapter.
245			6	1	Insert WRMS 2007 before Policy E	Revised	Removed from chapter.
246			6	2	change 'could' to 'should'	Revised	Removed from chapter.
247			Blue Box		All enclosed with a large circle, question mark next to it.	Noted	Removed from chapter.
248	15	5.3.10	2	2	Insert comma after 'Texas'	Revised	
249	15	5.3.10	2	2	Insert comma after 'Texas'; insert 'US Bureau of' before 'Reclamation'	Revised	
250	15	5.3.10	6	1	Insert 'Reservoir' after 'Abiquiu'	Revised	
251	15	5.3.10	6	2	Insert comma after 'infrastructure'	Revised	
252	15	5.3.10	7	1	Insert 'WRMS 2007' before 'Policy E'	Revised	
253	15	5.3.10	7	2	Insert comma after 'alternative'; change 'could' to 'should'	Revised	
254	15	5.3.10	7	1	Insert WRMS 2007 before Policy E	Revised	
255	15	5.3.10	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
256	16	5.3.11	Title		Circle around (R3) and an arrow indicating it should be with heading 'Westside Reuse'	No Change	
257	16	5.3.11			How do we evaluate this alt versus previous strategies that specify additional af of water?'	Noted	Comparisons between alternatives were specific to this WRMS update.
258	16	5.3.11	1	1	Insert 'for' after 'provide'	Revised	
259	16	5.3.11	2	2	I assume the Riverside Drain Interceptor isn’t an existing sewer line (Map)	No Change	There is an existing large
260	16	5.3.11	3	1	Replace "raw water" with "new sewer collection piping". (raw water implies untreated surface water or groundwater)	Revised	
261	16	5.3.11	3	1	Replace "pump" with "lift" (as a common terminology of wastewater lift and water pump stations)	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
262	16	5.3.11	3	1	Replace " finished water" with "reclaimed water or treated wastewater effluent" (finished water typically implies treated clean potable water rather than treated wastewater effluent)	Revised	
263	16	5.3.11	3	2	Change 'will' to 'would'	Revised	
264	16	5.3.11	4	3	Capitalize 'Arroyo'	Revised	
265	16	5.3.11	5	1	Change 'will' to 'would'; insert 'underground' before 'storage'; remove 'of ASR' after 'recovery'; insert 'ASR and' before 'reuse'	Revised	
266	16	5.3.11	6	1	Insert 'WRMS 2007' before 'Policy B'; insert 'and' before 'protect'	Revised	
267	16	5.3.11	6	1	Inset WRMS 2007 before Policy E	Revised	
268	16	5.3.11	7	1	Bosque' circled with 'Tijeras?' written above	No Change	A feasibility study for both the Bosque area on the West side and Tijeras area on the East side were evaluated in a feasibility study published in 2012.
269	16	5.3.11	Blue Box		Currently, this area is not sewered?	No Change	This area is currently sewered.
270	16	5.3.11	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
271	17	5.3.12	Title		Circle around (R4) with an arrow indicating it should go with heading in left column.	Revised	
272	17	5.3.12	1	1	Insert 'for' after 'provide'	Revised	
273	17	5.3.12	2	1	Comma after 'areas'	No Change	
274	17	5.3.12	2	2	Lowercase'Interceptor'	Revised	
275	17	5.3.12	2	2	Change 'will' to 'would'	Revised	
276	17	5.3.12	2	2	Show the Tijeras Interceptor on map?	No Change	
277	17	5.3.12	2	3	Capitalize 'Arroyo'	Revised	
278	17	5.3.12	3	1	Replace "raw water" with "new sewer collection piping". (raw water implies untreated surface water or groundwater)	Revised	
279	17	5.3.12	3	1	Replace "pump" with "lift" (as a common terminology of wastewater lift and water pump stations)	Revised	
280	17	5.3.12	3	1	Replace " finished water" with "reclaimed water or treated wastewater effluent" (finished water typically implies treated clean potable water rather than treated wastewater effluent)	Revised	
281	17	5.3.12	5	1	Insert 'NMOSE' before 'permitting'; insert 'underground' before 'storage'; remove 'of ASR' after 'recovery'; insert 'ASR and' before 'reuse'	Revised	
282	17	5.3.12	6	1	Insert 'WRMS 2007' before 'Policy B'; insert 'and' before 'protect'	Revised	
283	17	5.3.12	6	1	Insert WRMS 2007 before Policy B	Revised	
284	17	5.3.12	7	1	Tijeras' circled with note: "says'Bosque' in references'	Revised	Revised to "Tijeras and Tijeras Reuse"

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
285	17	5.3.12	Blue Box		All enclosed with a large circle, question mark next to it.	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.
286	18	5.3.13	Title		Circle around 'project expansion (R1) ' with arrow indicating it should be with heading 'Eastside Reuse-Nonpotable'	Revised	
287	18	5.3.13			Note: 'map'	No Change	
288	18	5.3.13	1	1	Lowercase p in 'Project'	No Change	
289	18	5.3.13	1	2	Expanded' circled with note: 'by 50%?'	Revised	
290	18	5.3.13	1	2	Insert "towards East?" after "be expanded"	No Change	Expansion would likely be to the south and north.
291	18	5.3.13	2	2	Hyphen after 'SP'; insert comma after 'SJC water'; remove 'or'; insert comma after 'native water'	Revised	
292	18	5.3.13	4	3	I can't quite visualize this project since title suggests it is expansion to East, but there is a reference to Southside. A map would help locate.	No Change	It is a project on the eastside of town, but expansion could be in various directions.
293	18	5.3.13	4	3	Highlighted "Southside Reuse project": Why is this project not listed in Table 1 of Chapter 3?	No Change	It is listed in Table 1C.
294	18	5.3.13	5	1	Change 'this project' to 'the NPP'; insert 'SP-4819' after 'current'; comma after 'SJC water'	Revised	
295	18	5.3.13	5	3	Change 'was' to 'were'; change 'will' to 'would'; insert comma after 'DWP'	Revised	Sentence was removed from the text.
296	18	5.3.13	6	1	Insert 'WRMS 2007' before 'Policy E'; add 'and' before 'protect'	Revised	
297	18	5.3.13	6	1	Insert WRMS 2007 before Policy E	Revised	Revised (before Policy B).
298	18	5.3.13	Blue Box		All enclosed with a large circle, question mark next to it.	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.
299	19	5.3.14			General side note on non-potable water for irrigation: There are multiple references in doc for use on large turf areas, but non-potable can be used to irrigate shrubs, trees, etc. if selected (species) appropriately. This could be implemented in parks designs which would offer an educational component to our public spaces via signage of this grand technology in place ! :)	Noted	Agreed, large turf areas are targeted based on cost effectiveness.
300	19	5.3.14	3	2	Again, a map would be helpful, even if it is showing roughly the locations that are referenced. I am not clear how such an expansion would not require new pump stations	Revised	Map reference added (Figure 1, Chapter2). We leave the possibility open that we may indeed need new infrastructure. "Current capacity and pump stations, may be sufficient for the expanded demand. "
301	19	5.3.14	2	4	Insert 'treated' before 'wastewater'	Revised	
302	19	5.3.14	5	2	Where will the return flow come from?'	Noted	Return flow increases over time with increasing population.
303	19	5.3.14	1	2	Note from 'expanded' : 'nearly doubled or increased by 80 %'	Revised	
304	19	5.3.14	1	3	Projected' underlined with question mark	No Change	
305	19	5.3.14	1	2	Format list as bullets	No Change	
306	19	5.3.14	6	1	Insert WRMS 2007 before Policy E	Noted	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
307	19	5.3.14	6	1	Insert 'WRMS 2007' before 'Policy B'; insert 'and' before 'protect'	Revised	
308	19	5.3.14	Blue Box		All enclosed with a large circle, question mark next to it.	Revised	The values and information for the blue boxes has been updated and the values vary based on the criteria.
309	20	5.3.15	Title		Circle around (IDPR1, IDPR2, and IDPR3) with arrow indicating it should go with heading in left column	Revised	
310	20	5.3.15	1	1	Insert 'treated' before 'wastewater'; change 'flow' to 'flows'	Revised	
311	20	5.3.15	1	2	Insert "or re-injection to be consumed indirectly" after "such as blending"	Revised	
312	20	5.3.15	2	1	Insert comma after 'standards'	Revised	
313	20	5.3.15	3	2	Format list as bullets	No Change	
314	20	5.3.15	3	3	Insert 'treated' before 'wastewater'	Revised	
315	20	5.3.15	4	2	Remove "SJC" -- Please always use the same name. It was WTP in the previous chapters	Revised	
316	20	5.3.15	4	2	Change 'will' to 'would'	Revised	
317	20	5.3.15	5	1	Change 'is' to 'has; insert 'been' after 'not'	Revised	
318	20	5.3.15	5	1	Underlined 'the regulatory framework is not fully developed' with note: what does that mean in terms of obtaining permit needed?	No Change	State regulations are currently being developed for DPR and IDPR. Future WRMS updates will report the status.
319	20	5.3.15	6	1	Insert 'water' before 'rights'; insert comma after 'rights'; insert 'water' before 'demand'	Revised	
320	20	5.3.15	7	1	Insert 'WRMS 2007' before 'Policy B'; insert 'and' before 'protect'	Revised	
321	20	5.3.15	7	1	Insert WRMS 2007 before Policy B	Revised	
322	20	5.3.15	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
323	21	5.3.16	Title		Circle around (Recovery (ASR1) with an arrow indicating it should go with heading in left column	No Change	
324	21	5.3.16	2	1	Remove "SJC"	Revised	
325	21	5.3.16	4	1	Capitalize 'scale'; insert 'Water' before 'Authority'	Revised	
326	21	5.3.16	5	1	Insert 'underground' before 'storage'	Revised	
327	21	5.3.16	6	1	Insert 'WRMS 2007' before 'Policy B'; period at end of sentence	Revised	
328	21	5.3.16	6	1	insert WRMS 2007 before Policy B	Revised	
329	21	5.3.16	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
330	22	5.3.17	2	3	Replace "from" with "with"	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
331	22	5.3.17	2	2	Comma after 'wastewater'	Revised	
332	22	5.3.17	2	3	Change 'from' to 'using'	Revised	
333	22	5.3.17	4	4	Move 'and possibly pump stations' to after 'ponds'	Revised	
334	22	5.3.17	5	1	Next to 'see alternatives 5 and 16' question marks "3.5 and 3.16 or something else?"	Revised	Added reference to the other Alternatives.
335	22	5.3.17	6	1	Insert WRMS 2007 before Policy	Revised	
336	22	5.3.17	6		Insert 'WRMS 2007' before 'Policy B'; insert 'and' before 'protect'	Revised	
337	22	5.3.17	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
338	23	5.3.18	1	2	Comma after 'Plains'; insert 'the' before 'previously'	Revised	
339	23	5.3.18	2	1	Format list as bullets	No Change	
340	23	5.3.18	2	4	Sentence starting with 'quantities' underlined. "Not clear what it means for I1 vs. I3 and I2 vs. I4?"	Revised	
341	23	5.3.18	2	4	Insert "to" after "anticipated"	No Change	
342	23	5.3.18	2		Clarify please as reads a bit oddly to go from 2 options to I1 - I4 and back again.	Revised	
343	23	5.3.18	3	2	Insert 'to be' after 'considered'	Revised	
344	23	5.3.18	4	1	First option' and 'second option' underlined	No Change	
345	23	5.3.18	4	1	Highlighted "no new infrastructure": what about the potable water conveyance line to at least connect to Authority's distribution system?	No Change	The premise of the first option is that the water will be delivered directly to the WUA system ready for distribution, therefore no new infrastructure will be built by WUA. There may be new pipeline, installed/financed by other parties.
346	23	5.3.18	6	1	Comma after 'source'	No Change	
347	23	5.3.18	8	1	Insert "WRMS 2007' before 'Policy E'	Revised	
348	23	5.3.18	8	1	Insert WRMS 2007 before Policy E	Revised	
349	23	5.3.18	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
350	24	5.3.19	3	2	Comma after 'needed'	No Change	
351	24	5.3.19	4	1	Comma after 'time'	Revised	
352	24	5.3.19	4	1	Will or would? See other alternatives as well and match tense. I personally like "will" better throughout but both are ok.	No Change	The consensus seems to be on using "would".
353	24	5.3.19	4	2	Will or would? See other alternatives as well and match tense. I personally like "will" better throughout but both are ok.	No Change	The consensus seems to be on using "would".
354	24	5.3.19	4	2	Underlined with comment: 'how much water?; also underlined 'Permitting for use of this water is uncertain at this time.'	No Change	The volume of water and permitting terms is unknown until coordination with agencies or organization occurs.

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
355	24	5.3.19	4	3	Comma after 'reuse'; insert 'requirements' after 'Permitting'	Revised	
356	24	5.3.19	5	1	Comma after 'intensive'	Revised	
357	24	5.3.19	5	1	Will or would? See other alternatives as well and match tense. I personally like "will" better throughout but both are ok.	No Change	The consensus seems to be on using "would".
358	24	5.3.19	6	2	Comma after 'EMNRD'	Revised	
359	24	5.3.19	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
360	25	5.3.20	3	2	Insert 'a' before 'new'	Revised	
361	25	5.3.20	4	1	Insert 'WRMS 2007' before 'Policy G'; period at end of sentence	Revised	
362	25	5.3.20	5	2	Insert WRMS 2007 before Policy G	Revised	
363	25	5.3.20	1	1	Comma after ')'	Revised	
364	25	5.3.20	1	2	Insert 'water' before 'rights'; comma after 'production'; insert 'could' before 'potentially'; insert 'be' after 'potentially'	Revised	The first comma is not necessary, unless another comma is added after "potentially", but that breaks the flow (still correct either way)
365	25	5.3.20	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
366	26	5.3.21	1	2	Change 'In' to 'Within'; lowercase 'Service Area'	Revised	
367	26	5.3.21	2	5	Remove the first 'o' in "thorough"	Revised	
368	26	5.3.21	3	1	Insert "new" before "water"	Revised	
369	26	5.3.21	3	1	Insert "plant" or "facility" after "treatment"	Revised	
370	26	5.3.21	4	1	Change 'New Mexico Office…' to NMOSE	Revised	
371	26	5.3.21	4	1	(NMOSE) indicating to use acronym instead	Revised	
372	26	5.3.21	4	2	Remove 'as yet' and 'fully'	Revised	
373	26	5.3.21	4	2	Remove "as"	Revised	
374	26	5.3.21	4	4	Comma after 'energy'; remove 'relatively'	Revised	
375	26	5.3.21	4	4	Change "should" to "will be" or "would be"	Revised	
376	26	5.3.21	5	1	Remove "Because"	Revised	
377	26	5.3.21	5	1	change period to comma, lowercase 'It'; change 'policies' to 'current WRMS Policy'	Revised	
378	26	5.3.21	5	1	Is another policy meant to be referenced?	Revised	Policy G is in line with Brackish water use. But it may conflict with the listed Policy E.
379	26	5.3.21	5	2	Replace "policies" with "policy"	Revised	
380	26	5.3.21	5	2	Change policies to Policy	Revised	

Comments Regarding Chapter 5: Alternatives

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
381	26	5.3.21	Blue Box		All enclosed with a large circle, question mark next to it.	Noted	The values and information for the blue boxes has been updated and the values vary based on the criteria.
382	27	5.4	References	3	Circle around 'Tijeras' with 'Bosque?' written above	No Change	A feasibility study for both the Bosque area on the West side and Tijeras area on the East side were evaluated in a feasibility study published in 2012.
383	27	5.4	References		Bracketed with note: didn't use citation	Revised	Removed or references added into text.
384	27	5.4	References	13	Shomaker 2013, CRBS 2012, current agreement with City of Santa Fe, EMNRD 2015	Revised	Updated the referenced.
385	27	5.4	References	1	?	Revised	Removed from references.
386	27	5.4	References	4	Move Reclamation, 2005 to beginning of ref	No Change	References are in alphabetical order.
387	27	5.4	References	7	Move Reclamation, 2012 to beginning of ref	No Change	References are in alphabetical order.

Notes:
Comments were received from the Technical Customer Advisory Committee regarding the draft version of Chapter 5 from April 2016.
*Action column items are defined as follows:
Revised = A change to the text was made in response to the comment or during internal review
No Change = The comment did not result in a change to the text, with reasoning provided in the 'Response' column in many cases
Noted = Comment did not require a specific action

Chapter 6

Filling Future Gaps in Supply

Comments Regarding Chapter 6: Filling Future Gaps in Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
1	Cover				This chapter reads more clearly than the others reviewed to date. The flow of content is presented concisely with excellent form. My comments are mostly on legibility and consistency as the message is clear otherwise - Bravo!	Noted	
2	Cover				"Section" or "chapter"? (Consistency)	Revised	
3	1	6.1	1	2	Comma before "as well"	Revised	
4	1	6.2	1	1	What are all the numbers? (i.e. alternatives, combo alternatives, effects, etc.) that were evaluated and considered?	No Change	Addressed in previous chapters.
5	1	6.2	2	1	Remove "ultimately" from sentence.	Revised	
6	1	6.2	4	2	Not a full sentence	No Change	
7	1	6.2	4	2	Change "ground water" to "groundwater"	Revised	
8	2	6.2	1	3	Highlighted 'new supplies'	No Change	
9	2	6.2	Figure 1		Write the word GAP in the triangle? Since you introduced the concept in the previous page?	Revised	
10	2	6.2	Figure 1		Future? Should be "New Supplies" according to text	No Change	This is an historical figure that can't be edited
11	3	6.2	Figure 2		YES! Thumbs up for the map! Although the resolution is not very good and I cannot read the words. What is that icon say, next to Downtown Abq, looks like a bear cub?	No Change	This figure is from the historical 1997 WRMS.
12	3	6.2	Figure 2		Difficult to read; add legend for symbols to clarify for those unfamiliar	No Change	This figure is from the historical 1997 WRMS.
13	4	6.3			Bracket with note "Very Good!"	Noted	
14	4	6.3	6	3	Hyphenate "High Demand-Low Supply"	Revised	
15	4	6.3	7	1	Comma after "right"	No Change	
16	5	6.3	Figure 5		Add "LH" on square Low/High, add "LM" on Low/Medium	No Change	The abbreviations are in the text and seem sufficient.
17	5	6.3.1	1	3rd bullet	Based on Table 1, this metrics actually have two components	Revised	
18	5	6.3.1	1	3rd bullet	Add dash after "Flows"	Revised	
19	5	6.3.1	1	3rd bullet	Change dash to comma after "resources"	Revised	
20	5	6.3.1	1	4th bullet	Indicate whether this is only a capital cost or does it also include operation&maintenance costs?	Revised	
21	6	6.3.2.1	1	1	Why are these scenarios "bounding"? I guess it makes sense if the scenario is HL instead of HH. Maybe a statement can be added to say that these three scenarios will produce the minimum and maximum gap range.	No Change	Correct, the Low Demand-High Supply (LH) and High Demand-High Supply (HH) scenarios produce the minimum and maximum range.
22	6	6.3.2.1	1	1	Arrow to "HH": Based on the two other references and charts on Page 9, I am assuming this is supposed to be HL.	No Change	The High Demand-High Supply is "HH" and the High Demand-Low Supply is "HL".

Comments Regarding Chapter 6: Filling Future Gaps in Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
23	6	6.3.2.1	4	2	Arrow to "drawdown" with note: "move 'gaps' here"	No Change	The gaps are new supplies needed which are related to drawdown, but not explicitly the drawdown.
24	6	6.3.2.1	5	2	Move "maximizing use…a first priority" to the beginning of the first sentence. It may help emphasize that point of view.	Revised	
25	7	6.3.2.1	Figures 6a-6c		Increase size of boxes of color in legend for improved legibility; perhaps exaggerate these graphs vertically a bit for better legibility of the smaller items.	No Change	
26	7	6.3.2.1	Figure 6a		"Brackish groundwater"and "other supply" indicated, with note: "Are these on this chart too? hard to tell."	Revised	
27	7	6.3.2.1	Figure 6a		I am kind of confused why these particular supplies were utilized in these scenarios. These are supposed to be Baseline, i.e., only current practices. But there is brackish groundwater?	Revised	
28	7	6.3.2.1	Figure 6a		Lowercase all words after first word in key	Revised	Legend was Revised except for Non-Potable Project, which is a proper noun
29	7	6.3.2.1	Figure 6a		Spell out "Res"	Revised	
30	7	6.3.2.1	Figure 6b		I suggest having these supplies identified in Figure 1, using the same names. I see they are mostly there already, but use the same name and add the ones that are not showing.	No Change	Figure 1 is conceptual. Some of these supplies are not explicitly represented.
31	7	6.3.2.1	Figure 6b		What does this mean "Groundwater in Excess of Permit"? We are pumping more than we are permitted? How does that work?	No Change	This is showing where we would need to have new supplies, groundwater or otherwise, to meet demands. This could include permit changes.
32	7	6.3.2.1	Figure 6b		"Same" with arrow pointing to key of 6a	Revised	
33	8	6.3.2.1	Figure 6c	Caption	Does not match Page 7. It should be HH?	Revised	
34	8	6.3.2.1	Figure 6c		Key is circled, indicating same comments as 6a and 6b	Revised	
35	8	6.3.2.2	3	2	Use this sentence as a note in figure 7 legend	No Change	The text seems sufficient.
36	9	6.3.2.2	Figure 7		Arrow from caption: "maybe move this note to the legend to clarify; identify on legend for dashed lines	No Change	The text seems sufficient.
37	9	6.3.2.2	Figure 7		Not clear what the ---(purple dashed line) shows (add to key)	No Change	Text added to caption to clarify.
38	10	6.3.2.3	Figure 8		I don't understand why this chart fluctuates. Available return flow comes from wastewater. And wastewater is generated regardless of the water source and the climate change. What makes this chart fluctuate between years so significantly?	No Change	Wastewater is relatively constant. But the portion that is available for reuse fluctuates based on river hydrology. In normal years when surface water is available, a significant portion of the wastewater is used for surface offsets and therefore not available and in drought years, this same wastewater becomes available for use.
39	10	6.3.2.4	1		For some reason, when I first read your paragraph, I got the impression that you were saying this is a good thing. That's why I suggest adding a negative word.	Revised	
40	10	6.3.2.4	1	2	Insert "undesirable" after "toward"	Revised	
41	10	6.3.2.5	1	1	Insert "be" after "could" or replace "be near" with "approach"	Revised	

Comments Regarding Chapter 6: Filling Future Gaps in Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
42	11	6.3.2.4	Figure 9		Use table 4 imagery rather than this approach to describe 'tank' level as other is more clear; shift axis to move off of the number -300.	Revised	
43	11	6.3.2.4	Figure 9		There are two y-axis here. Maybe they should be separated on each side. Or, keep them together but should label them separately as Drawdown and Safety Reserve	Revised	One axis now exists.
44	11	6.3.2.4	Figure 9		Can you include the tic marks for the years?	Revised	Horizontal axis gridlines added.
45	11	6.3.2.4	Figure 9	Key	Need different line types or colors	No Change	
46	11	6.3.2.4	Figure 9	Key	Label to correspond LH, MM, HH	Revised	Renamed "Projected Average Drawdown, Individual scenarios", to be consistent with Table 4 results.
47	11	6.3.2.4	Figure 9	Red line	Groundwater Management Level	Revised	Red line removed from figure.
48	11	6.3.2.4	Figure 9	Y axis F	Spell out FULL, EMPTY	Revised	Used Table 4 imagery rather than Full, Empty.
49	11	6.3.2.4	Figure 9	y axis-0	Note: "Drawdown"	Revised	
50	11	6.3.2.4	Figure 9		Fix figure format, so that "-300" is not covered up by "Safety Reserve."	Revised	
51	11	6.3.2.5	Table 1	"Available Return Flow"	This is available excess, assuming no new projects are implemented. So, may be an * footnote reminder would be helpful because reader may want to decrease 65,000 by 9,358 afy. But that's only possible, if a wastewater reuse/potable use etc. project is implemented. Did I get that right?	No Change	This is supply that is available that is currently not being utilized.
52	12	6.4.1	2	1	Change "select" to "selected	Revised	
53	12	6.4.1			"Preserved" highlighted 3 times in section with note: "suggest re-evaluating the use of word "preserved". To me, preserved is protected for future. Maybe these options are "Reserved" for future?"	Noted	No change was made since this is a term used throughout the scenario planning.
54	12	6.4.1	2	1	Change "select" to "selected"	Revised	
55	12	6.4.1	3	3	Commas on both sides of "as available"	Revised	
56	12	6.4.1	7	2	"Three portfolios…" indicated with note: " Are these random examples? Will there be more? I think it needs a little bit of explanation on why these three. Looks like these are the Water Conservation based portfolios? Maybe you can state that, if so.	Revised	
57	13	6.4.1	Table 2	Indirect/Direct	Add units	Revised	
58	13	6.4.1	Table 2	Interbasin Transfer	Last words circled, indicating lines are incomplete.	Revised	
59	13	6.4.1	Table 2	Non-potable and reuse	Last word "by" circled in 2 lines, indicating incomplete.	Revised	
60	13	6.4.1	Table 2	Stormwater	Last words circled, indicating lines are incomplete.	Revised	
61	14	6.4.2	2	1	Change "as a tool" to "as tools"	Revised	

Comments Regarding Chapter 6: Filling Future Gaps in Supply

Comment #	Page	Section	Paragraph	Sentence Number	Comment	Action*	Response
62	14	6.4.2	Table 3		No doubt that costs will be challenging to calculate, but will be an incredibly interesting addition!	Noted	
63	14	6.4.2	Table 3		Add "yr" to blank unit cells	No Change	
64	15	6.4.2	Table 4		While I like the all-in-one look of this page with all the tables, I found it very hard to see the colors of the Supplies Meeting Demand charts. I ended up studying for a while and marking to see what source is supplying what area. The Supply Gap chart is very simple. Although they look nice when they are all the same size, may be that chart may be smaller, leaving more room for the first row. And also maybe put every Portfolio with only Baseline. I guess my comment is that it was hard to see the impact of the projects in the charts.	No Change	This table is intended to provide a broad overview and to be printed in a larger format.
65	15	6.4.2	Table 4	Groundwater Reserve Drawdown	I like these y-axis much better than the one in the text!	Noted	Revised previous to match these axes.
66	15	6.4.2	Table 4		I really like this table to summarize 4 results options, but needs to be much bigger for legibility; this visual is much better than the graphic used in figure 9	Noted	Figure 9 updated to match.
67	15	6.4.2	Table 4		Lowercase all words after first word in key	Revised	
68	16	6.4.2.1	1	1	Comma after "baseline"	Revised	
69	16	6.4.2.2	1	1	Comma after "baseline"	Revised	
70	16	6.4.2.3	1	1	Comma after "baseline"	Revised	
71	16	6.4.2.3	2	1	Remove parentheses around "Table 4, Supply Gaps, Portfolio 3"	No Change	

Notes:

Comments were received from the Technical Customer Advisory Committee regarding the draft version of Chapter 6 from May 2016.

*Action column items are defined as follows:

Revised = A change to the text was made in response to the comment or during internal review

No Change = The comment did not result in a change to the text, with reasoning provided in the 'Response' column in many cases

Noted = Comment did not require a specific action

Public Comments July 2016

Public Comments Regarding Chapters 2 through 6, July 2016

Comment received	Text of Comment
Thursday, July 21, 2016	In many respects Water 2120 is an excellent document. It demonstrates a thorough understanding of the intricacies of contemporary water management and seems to provide a sound technical analysis and associated management prescriptions. My primary concern is that Water 2120 does not sufficiently emphasize the over-riding water policy issue of the 21st century: climate change. Although climate change is clearly incorporated in the strategy (which puts it far ahead of the state of New Mexico's continuing head-in-the-sand approach), the manner in which it's addressed gives the impression that global warming is just one of several challenges facing the region and something we can deal with. This is a serious short-coming. The reality is that global warming, far from being just another water management challenge, represents an existential threat. It is no less serious than if our upstream neighbors suddenly decided "to hell with the compacts" and dammed up all the rivers, or if an invading army threatened to blow up Heron Reservoir. In fact, it's more serious, because while politicians and armed men are at least potentially responsive to reasoned arguments or bigger guns, it's pointless to argue with the laws of physics. To correct that short-coming the document needs a stand-alone explanation of climate change that affirms the scientific consensus on global warming, how it's already impacting our water resources, how those impacts will increase over time, and most importantly, how, in the absence of concerted, sustained, and aggressive efforts to combat it, global warming eventually will exceed our ability to adapt. The explanation also should note that on our current trajectory, Paris Agreement pledges notwithstanding, we're headed for a worst-case scenario that far exceeds the one Water 2120 relies on. None of this is meant to suggest that Water 2120 should take the place of a regional or state-wide climate action plan. (We already have the former but it hasn't been implemented. See https://www.cabq.gov/cap/CAPREV11forWEB.pdf) But a clear and direct statement on climate change is needed in the document because of its intrinsic link to our water resources and its over-riding impact on those resources. I would be happy to develop or assist in the development of such a statement.
Thursday, July 21, 2016	As a resident I find it difficult to evaluate in specific detail the new Water Resources Management Strategy, but I do feel knowledgable enough to recommend that we only use water from the aquifer and any surface water source which contributes the aquifer as a LAST RESORT. All other sources of water should be used first. We are clearly in a critical situation with regards to CLIMATE CHANGE for which we humans are solely responsible, and we must protect & conserve our most precious resource, the AQUIFER.