ARIZONA HOUSE OF REPRESENTATIVES
Fifty-sixth Legislature - Second Regular Session

COMMITTEE ON COMMERCE
AND
COMMITTEE ON NATURAL RESOURCES, ENERGY & WATER

Report of Special Joint Meeting
Tuesday, April 2, 2024
House Hearing Room 1 -- 2:00 P.M.

MINUTES RECEIVED
CHIEF CLERK'S OFFICE
4/3/24

Convened 2:06 P.M.
Adjourned 4:04 P.M.

Members Present
Representative Carter
Representative Gress
Representative Heap
Representative Hendrix
Representative Stahl Hamilton
Representative Carbone, Vice-Chairman
Representative Wilmeth, Chairman
Representative Dunn
Representative Martinez
Representative McGarr
Representative Parker
Representative Travers
Representative Smith, Vice-Chairman
Representative Griffin, Chairman

Members Absent
Representative Aguilar
Representative Austin
Representative Lucking
Representative De Los Santos
Representative Mathis
Representative Villegas

Agenda
Original Agenda – Attachment 1

Request to Speak
Report – Attachment 2

Committee Attendance
Report – Attachment 3

Presentations

Name	Organization	Attachments (Handouts)
Robert Anderson	Fennemore	4
Nathan Miller	Matrix New World	5, 6
Spencer Kamps	Home Builders Association of Central Arizona	7

Emily Stokich, Committee Secretary
April 3, 2024

(Original attachments on file in the Office of the Chief Clerk; video archives available at http://www.azleg.gov)

convened: 2:06 pm
adjourned: 4:04 pm

REVISED - 4/02/24 **REVISED - 4/02/24** **REVISED - 4/02/24**

ARIZONA HOUSE OF REPRESENTATIVES
Fifty-sixth Legislature - Second Regular Session

SPECIAL JOINT MEETING AGENDA

COMMITTEE ON COMMERCE
AND
COMMITTEE ON NATURAL RESOURCES, ENERGY & WATER

DATE Tuesday, April 2, 2024 ROOM HHR 1 TIME 2:00 P.M.

Members of the public may access a livestream of the meeting here:
https://www.azleg.gov/videoplayer/?clientID=6361162879&eventID=2024041008

Members:

NATURAL RESOURCES, ENERGY & WATER

Representative De Los Santos	Representative McGarr	Representative Villegas
Representative Dunn	Representative Parker B	Representative Smith, Vice-Chairman
Representative Martinez	Representative Travers	Representative Griffin, Chairman
Representative Mathis		

COMMERCE

Representative Aguilar	Representative Heap	Representative Ortiz
Representative Austin	Representative Hendrix	Representative Carbone, Vice-Chairman
Representative Carter	Representative ~~Lucking~~ Stahl Hamilton	Representative Wilmeth, Chairman
Representative Gress		

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1. Call to Order
2. Presentations:
   - *The Phoenix AMA Groundwater Model and Assured Water Supply Moratorium*, Robert Anderson, Director, Fennemore
   - *Phoenix AMA Model Proposal to Modify 100-Year Assumptions*, Nathan Miller, VP Groundwater Modeling Services, Matrix New World
   - *Water and Housing Affordability*, Spencer Kamps, VP of Legislative Affairs, Home Builders Association of Central Arizona
3. Adjournment

VC
~~04/01/2024~~
04/02/2024

People with disabilities may request reasonable accommodations such as interpreters, alternative formats, or assistance with physical accessibility. If you require accommodations, please contact the Chief Clerk's Office at (602) 926-3032 or through Arizona Relay Service 7-1-1.

Attachment 1

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD

HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on NREW/COM Bill Number _____

Date 4/2/24 ❑ Support ❑ Oppose ❑ Neutral

Name Mike Pierce Need to Speak? ☒ Yes ❑ No

Representing Larry Yount Development company Are you a registered lobbyist? ____

Complete Address _____

E-mail Address _____ Phone Number _____

Comments: _____

FIVE-MINUTE SPEAKING LIMIT

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD

HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on NREW/COM Bill Number _____

Date 4/2/24 ❑ Support ❑ Oppose ❑ Neutral

Name David O'Reilly Need to Speak? ☒ Yes ❑ No

Representing Howard Hughes Corp. Are you a registered lobbyist? ____

Complete Address _____

E-mail Address _____ Phone Number _____

Comments: _____

FIVE-MINUTE SPEAKING LIMIT

Attachment 2

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD

HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on NREW/COM Bill Number _____

Date 4/2/24 ☐ Support ☐ Oppose ☐ Neutral

Name Chris Barr Need to Speak? ☒ Yes ☐ No

Representing Brickeye Tartesso LLC Are you a registered lobbyist? ____

Complete Address _____

E-mail Address _____ Phone Number _____

Comments: _____

_____

*****FIVE-MINUTE SPEAKING LIMIT*****

PLEASE COMPLETE THIS FORM FOR THE PUBLIC RECORD

HOUSE OF REPRESENTATIVES

Please PRINT Clearly

Committee on NREW/COM Bill Number _____

Date 4/2/24 ☐ Support ☐ Oppose ☐ Neutral

Name Greg Abrams Need to Speak? ☒ Yes ☐ No

Representing Pulte Group Are you a registered lobbyist? ____

Complete Address _____

E-mail Address _____ Phone Number _____

Comments: _____

_____

*****FIVE-MINUTE SPEAKING LIMIT*****

ARIZONA STATE LEGISLATURE

Fifty-sixth Legislature - Second Regular Session

COMMITTEE ATTENDANCE RECORD

COMMITTEE ON **COMMERCE**

CHAIRMAN: Justin Wilmeth VICE-CHAIRMAN: Michael Carbone

	DATE	04/02/24	/24	/24	/24	/24
	CONVENED	2:06 pm	m	m	m	m
	RECESSED					
	RECONVENED					
	ADJOURNED	4:04 pm				
MEMBERS						
Aguilar		—				
Austin		—				
Carter		√				
Gress		√				
Heap		√				
Hendrix		√				
Ortiz		—				
Stahl Hamilton		√				
Carbone, Vice-Chairman		√				
Wilmeth, Chairman		√				

√ Present --- Absent exc Excused

Attachment 3

ARIZONA STATE LEGISLATURE

Fifty-sixth Legislature - Second Regular Session

COMMITTEE ATTENDANCE RECORD

COMMITTEE ON **NATURAL RESOURCES, ENERGY & WATER**

CHAIRMAN: Gail Griffin VICE-CHAIRMAN: Austin Smith

	DATE	04/02/24	/24	/24	/24	/24
	CONVENED	2:06 pm	m	m	m	m
	RECESSED					
	RECONVENED					
	ADJOURNED	4:04 pm				
MEMBERS						
De Los Santos		—				
Dunn		√				
Martinez		√				
Mathis		—				
McGarr		√				
Parker B		√				
Travers		√				
Villegas		—				
Smith, Vice-Chairman		√				
Griffin, Chairman		√				

√ Present --- Absent exc Excused

Attachment 3

Attachment 4

FENNEMORE

April 2, 2024

The Phoenix AMA Groundwater Model and Assured Water Supply Moratorium

Robert Anderson

FENNEMORE.



Robert Anderson

Water, Environmental and Natural Resources Attorney

Practicing since 1987

Working on Groundwater Management Act issues for over 35 years

Represents developers, home builders and the Home Builders Association of Central Arizona on water and environmental issues, including assured water supply

Lower Hassayampa Subbasin Owners Group

- Belmont, Festival Ranch, North Star Ranch, Sun Valley, Tartesso and Teravalis
- Convened to address Lower Hassayampa Subbasin (LHSB) Model (1/23); then the Phoenix AMA Groundwater Model (6/23)
- Projects had Analyses of Assured Water Supply issued by ADWR
- Analysis: groundwater allocation made in advance of development, a first step in securing a certificate
- Tartesso and Festival Ranch under development for decades, with thousands of residents
- Festival Ranch, North Star and Tartesso pending applications suspended
- Others are at the start of development, with substantial investments made and development occurring.

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Assured Water Supply Moratorium

- Applies to new certificates, even if an Analysis has been issued
- Singles out the one sector – owner-occupied housing – that can use groundwater but is legally obligated to replenish it
- A moratorium today is going to be felt down the road, as the pipeline of new projects is essentially halted.
- This will directly impact housing affordability

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Assured Water Supply (AWS)

- "*Sufficient groundwater, surface water or effluent of adequate quality will be continuously available to satisfy the water needs of the proposed use for at least* ***one hundred years***." A.R.S. § 45-576.L.1
- Required for subdivision development
- Originally consumer protection; now a water mgmt. regulatory program
- Designation vs. Certificate vs. Analysis
- Physical Availability

Physical Availability

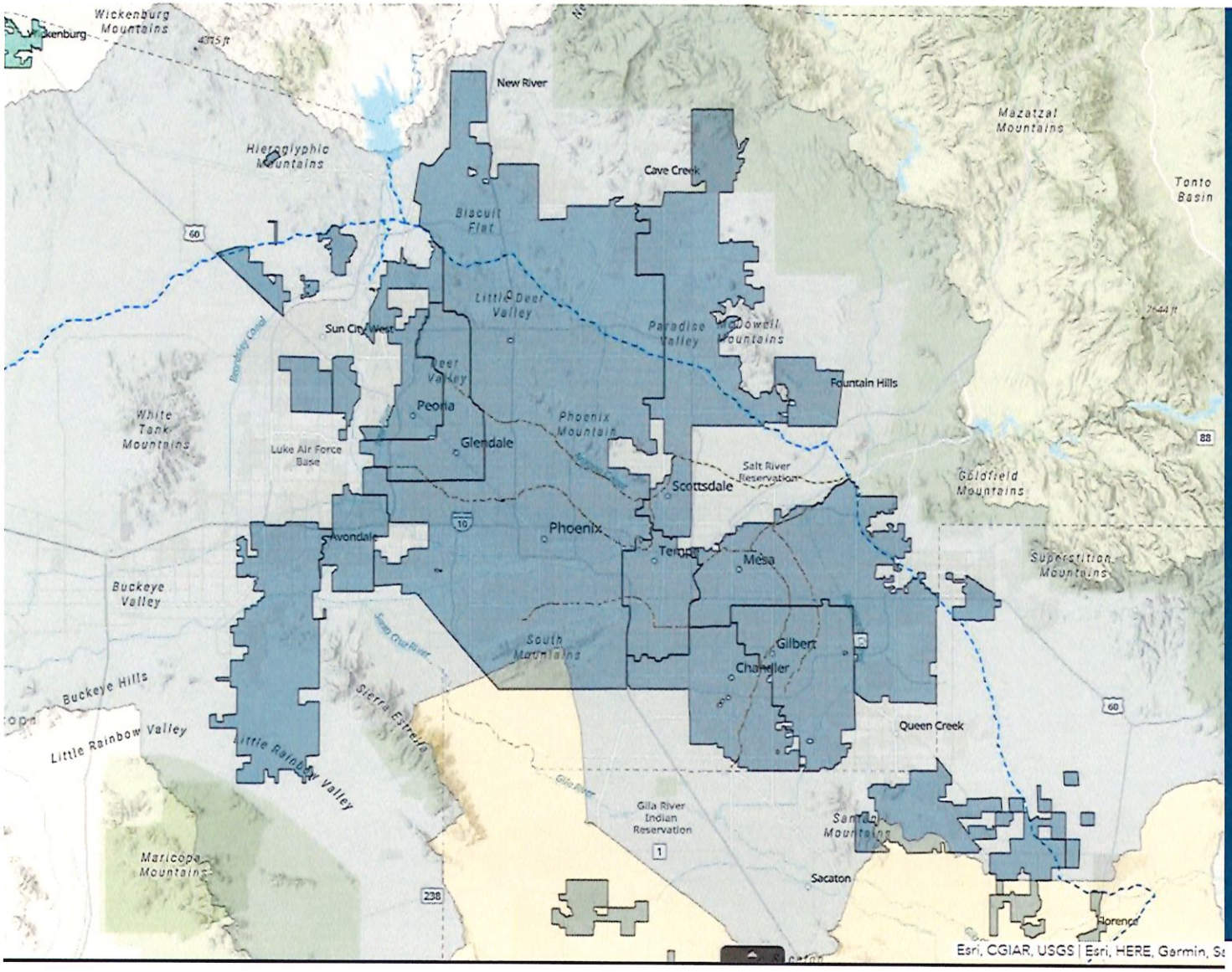
- Demonstrate that there is a sufficient supply of groundwater to serve the proposed use for 100 years
- Applicant must use a hydrology study approved by ADWR that incorporates existing uses and approved AWS uses as demands in the model
- Then determine if depth to water at the wells used to supply the groundwater stays above 1000 feet bgs

Regional groundwater models

- *"If the proposed source is groundwater, the applicant shall submit a hydrologic study, using a method of analysis approved by the Director, that accurately describes the hydrology of the affected area."*
- ADWR has shifted to using regional groundwater models as the basis for approved studies – "affected area" is now entire and even multiple groundwater basins
- If municipal/AWS wells go dry anywhere in the model domain, ADWR assumes there is "unmet demand"; and stops issuing certificates

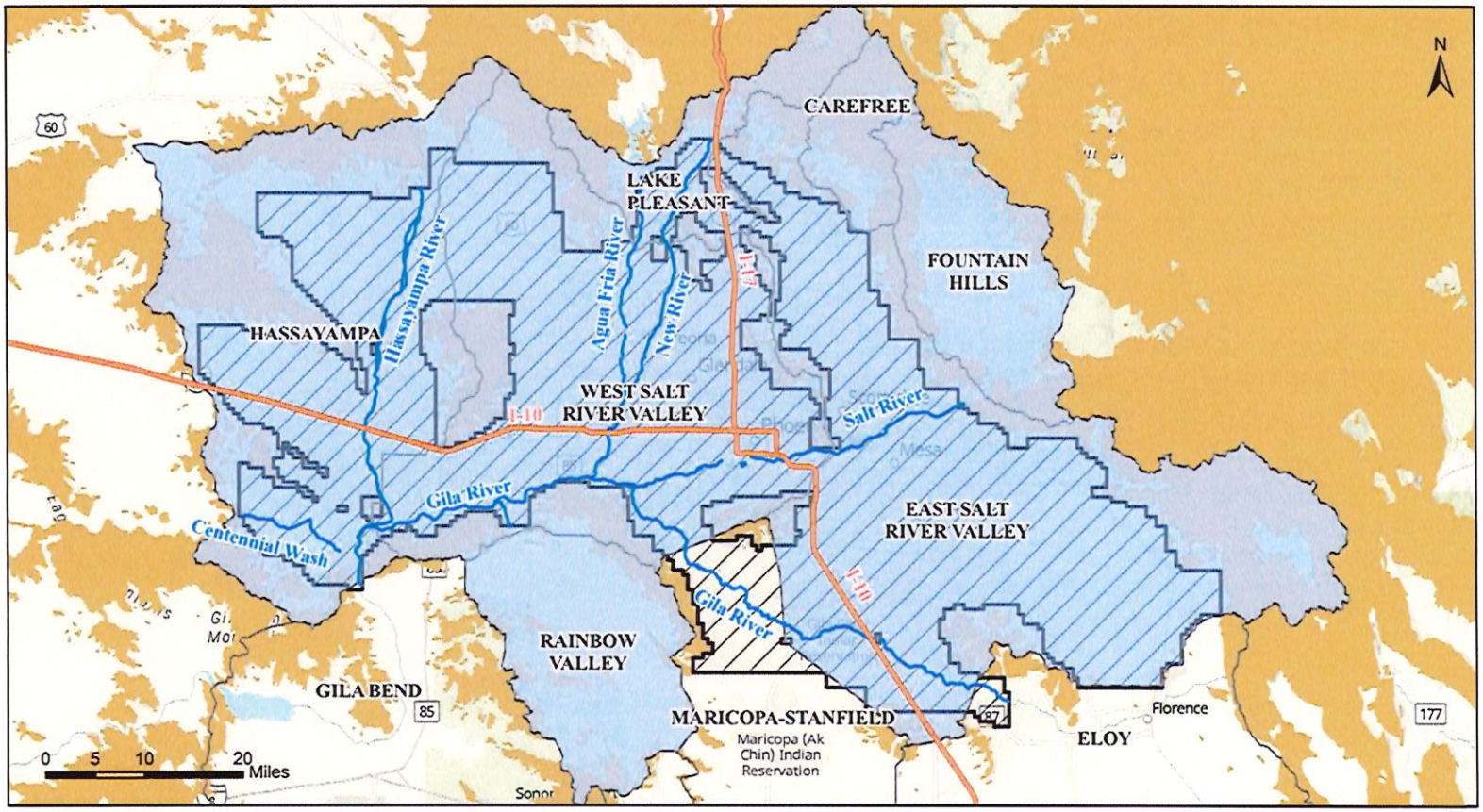
Phoenix AMA Groundwater Model

- The base model - released June 2023; incorporates LHSB Model; moratorium announced
- Projects **less than 2%** shortfall over 100 years in the municipal and future assured water supply sectors
- You will see that the shortfall is **entirely eliminated** if well locations are addressed.
- Much if not all of the 2% shortfall
- ADWR practice is to release models and then individual AWS applicants use and update the model to reflect site-specific conditions
- ADWR has welcomed owner input on well location



Designated water providers in the Phoenix AMA

From the Arizona Water Blueprint, Kyl Center at Arizona State University https://azwaterblueprint.asu.edu/



Groundwater Flow Model of the Phoenix Active Management Area

ADWR 2023

Figure 2-1

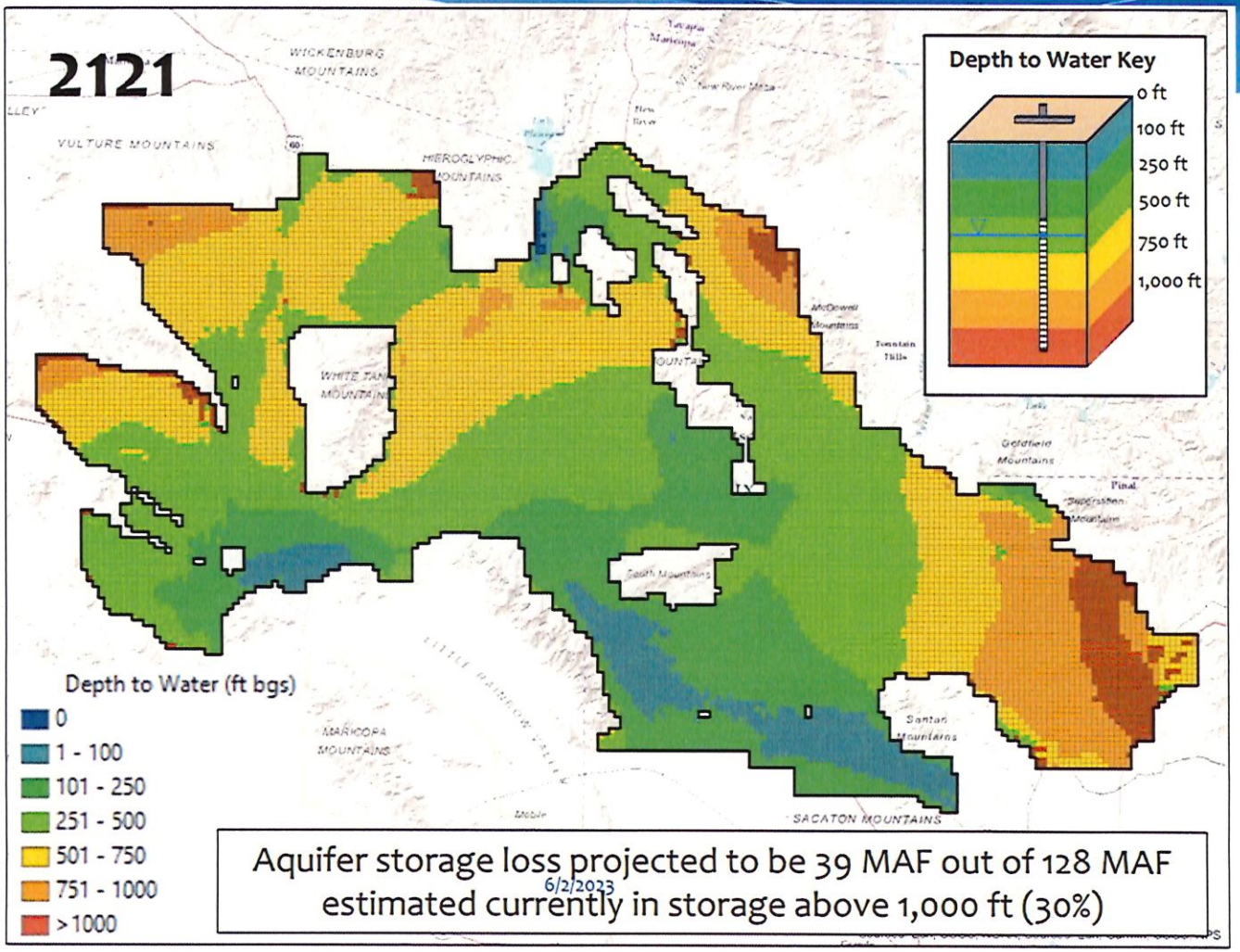
Phoenix AMA Groundwater Model Area

- Major Highway
- River
- Phoenix AMA Active Model Domain
- Phoenix Active Management Area
- Bedrock
- Sub-basins

Basemap: Esri, CGIAR, USGS, City of Phoenix, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS

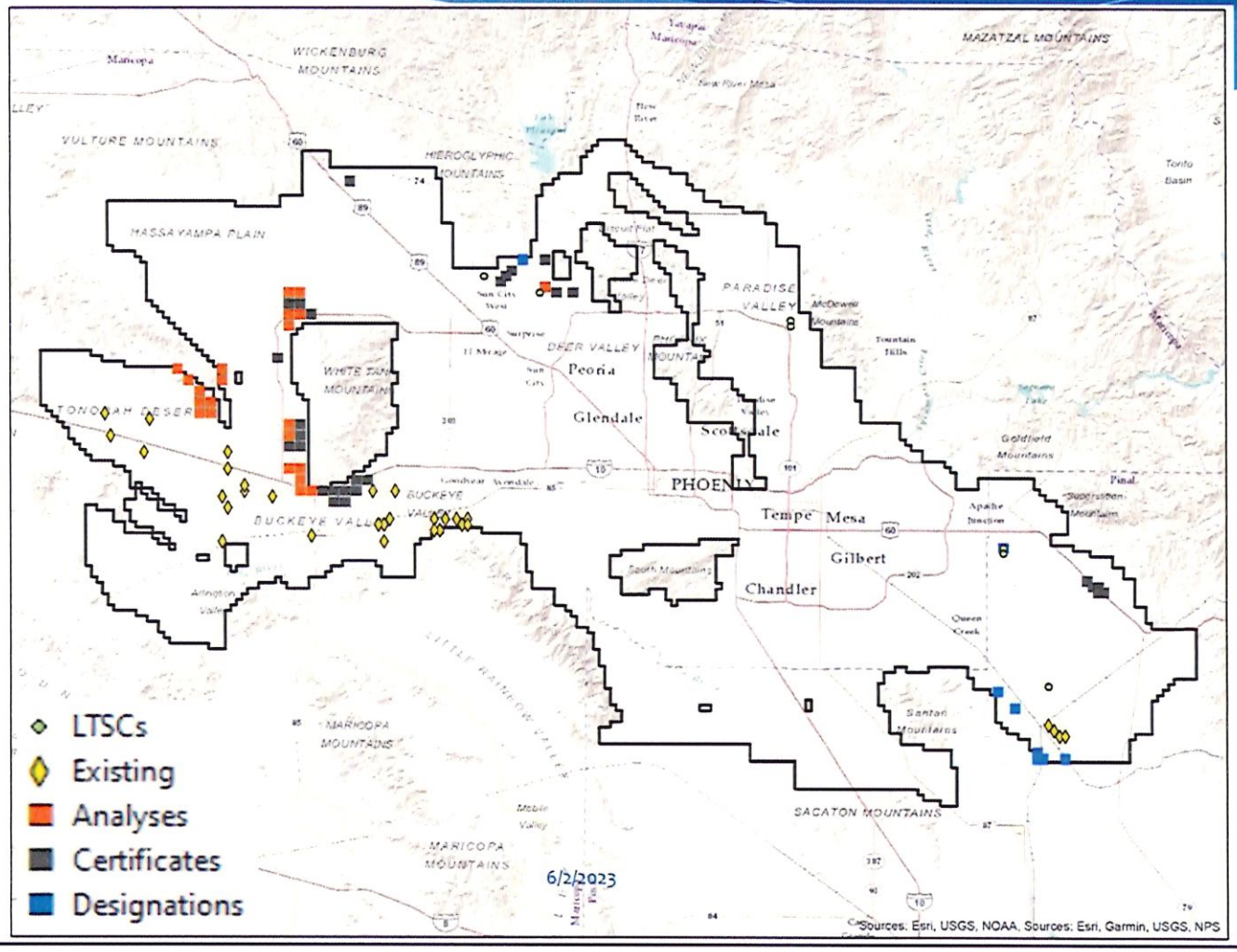
From ADWR Phoenix AMA Model Figures (June 2023)

Simulated Depth to Water after 100 Years



From ADWR Model Presentation (June 2, 2023)

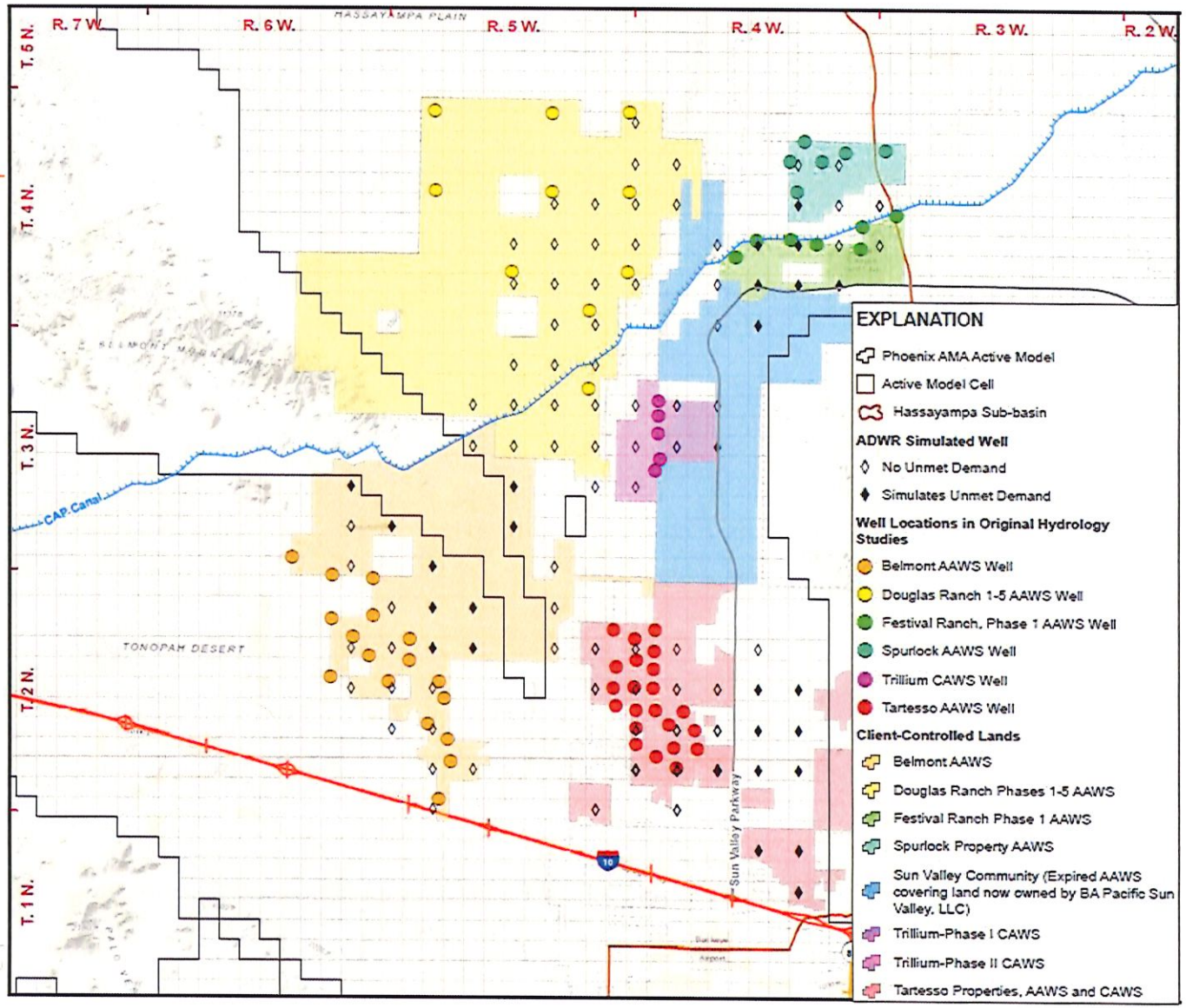
Unmet Demand



From ADWR Model Presentation (June 2, 2023)

Well Placement in Approved AWS Compared to ADWR Model

Wells placed in areas with little to no saturated aquifer



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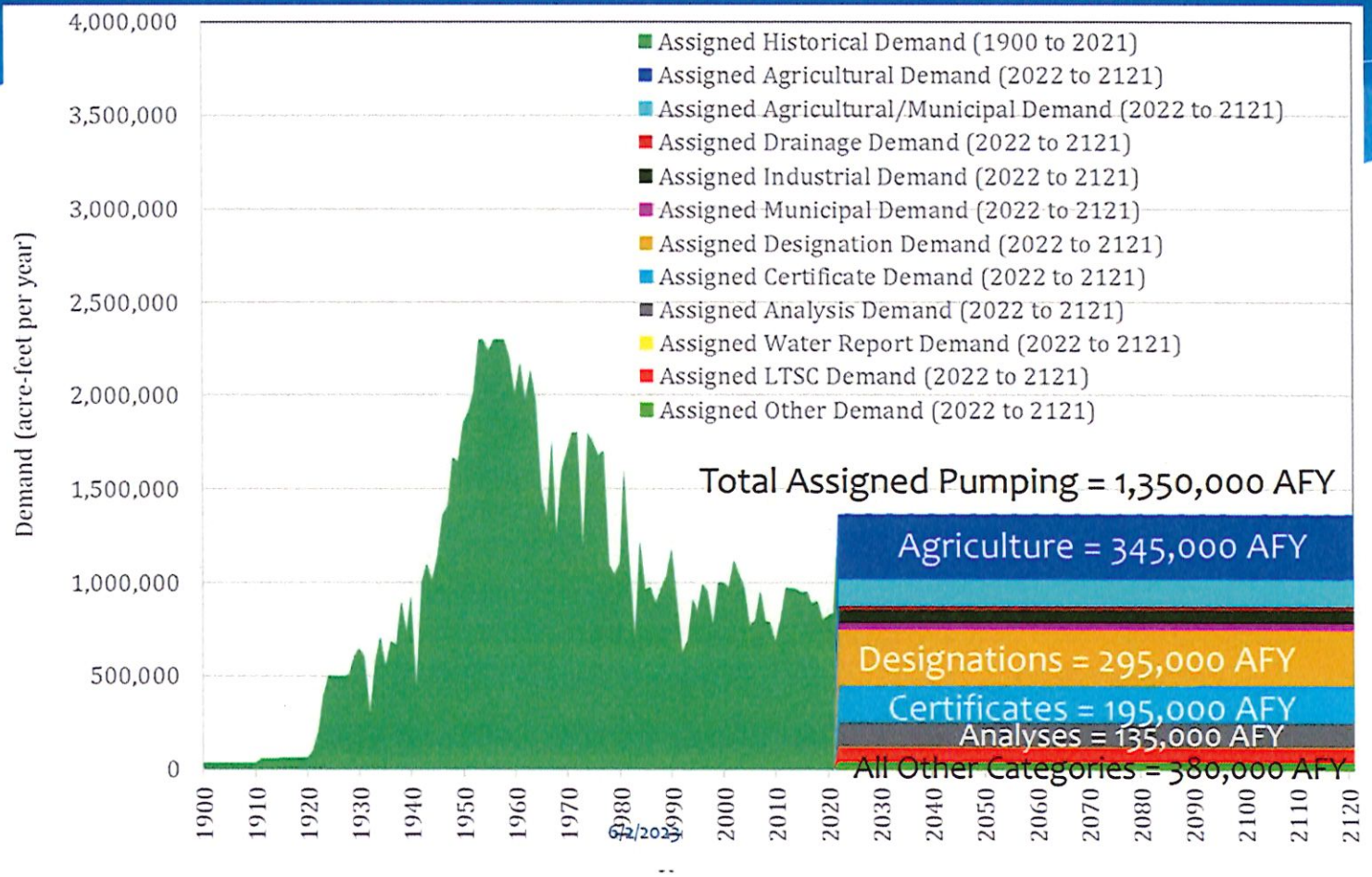
Key points about the ADWR Base Model

- The model is not a prediction of what will happen in the future, and when it will happen, due to the regulatory assumptions made in running the model.

- In particular, the model substantially overestimates groundwater demand and underestimates groundwater availability due to these regulatory assumptions.

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Assigned Pumping in Projection



From ADWR Model Presentation (June 2, 2023)

Projection Results

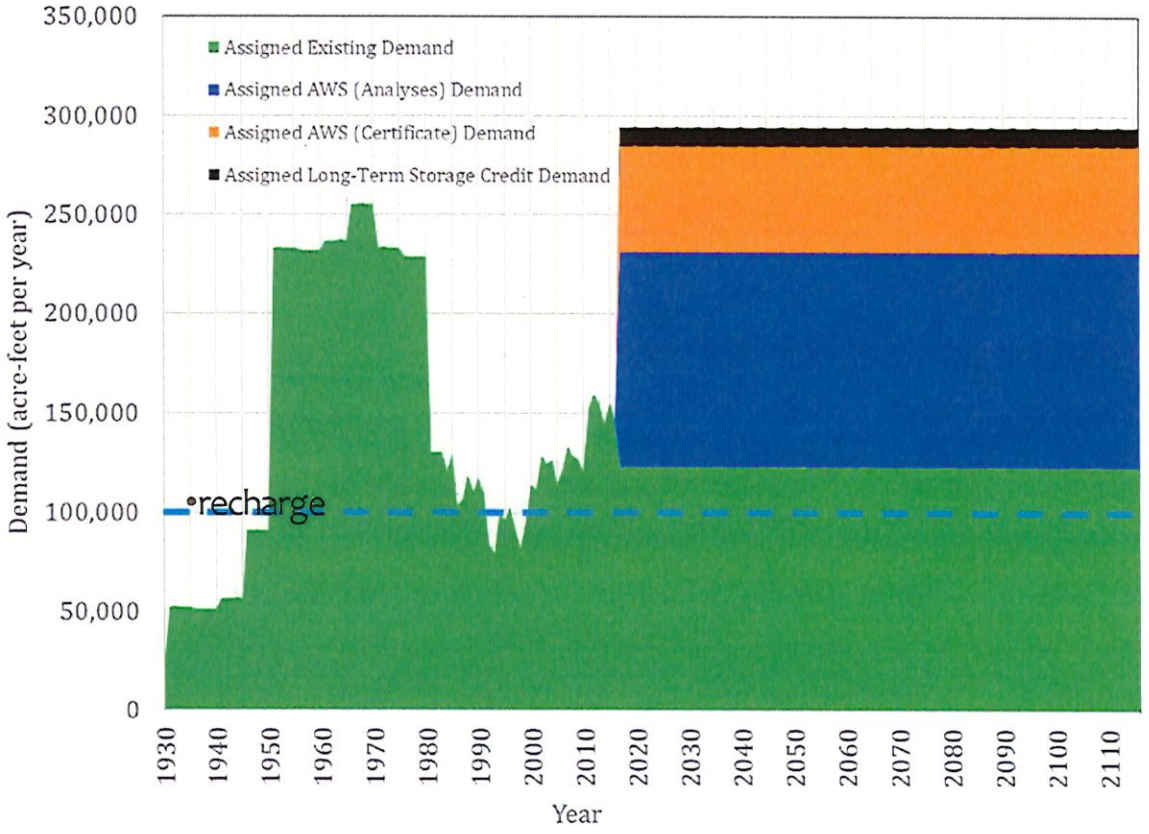
Note: Slide is from the Lower Hassayampa Subbasin Model (Jan. 2023)

- This graph shows the assigned demand in the historical and projection periods and helps explain why analyses & certificates are not fully satisfied from Day 1

- Existing demand in the historical period ranges from ~50,000 AFY to ~250,000 AFY

- Demand in the projection period exceeds historical demand by at least 40,000 AFY and as much as 200,000 AFY

- Recharge is about 100,000 AFY



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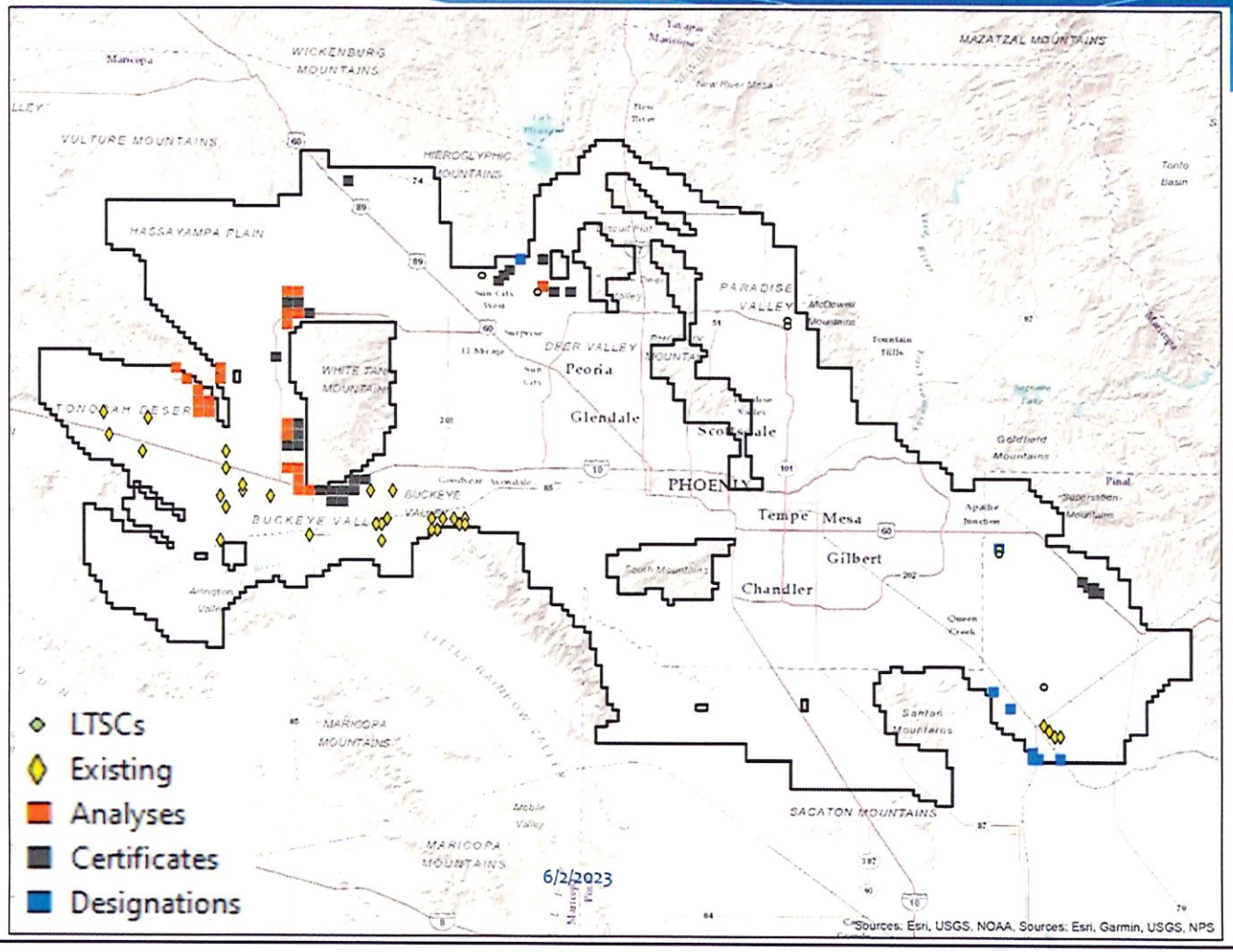
Overestimating demand

- **Buildout:** Model assumes full buildout of all approved AWS demands on day one of the Model. That cannot happen.
- **Outdated demand calculator:** Designation, Certificate and Analyses demands use ADWR "demand calculator" when issued, and do not reflect efficiency of new homes.
- **Effluent/CAP use:** Certificate and Analysis applicants typically do not control effluent or CAP water held by the non-designated provider and so water demands met by these supplies are covered by groundwater.

Underestimating groundwater availability

- **Well placement:** Single biggest factor. Unmet demand is driven by wells on the edge of the model domain.
- **Where did the effluent go?** Effluent is not included as a supply, but is also excluded from available groundwater, despite discharge/recharge.
- **Replenishment:** New development is required to replenish groundwater through Central Arizona Groundwater Replenishment District (CAGRD). Model includes current replenishment, but assumes that most of the future groundwater use will not be replenished.
- **Continued growth on groundwater without replenishment.** The Model does not include long term replenishment (see above) but assumes that groundwater based growth will continue, without replenishment. Under current law that cannot happen.

Unmet Demand



From ADWR Model Presentation (June 2, 2023)

Reviewing the Phoenix AMA Groundwater Model

- Matrix was retained by Owners Group to review the model
- Scope included "deep dive" on well location, but also an evaluation of impact on available supplies of current water management practices, i.e., lower water demand per home, recharge of effluent generated by future development, and full replenishment consistent with current law
- Results: Well location movement can address and eliminate unmet demand. Current water management practcies like water use efficiency, replenishment, and effluent reuse/recharge make the picture even better

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Where things stand . . . . .

- Updated model submitted to ADWR in January for an advance preview, then formally submitted by Tartesso as part of its pending applications
- We have had limited input from ADWR as yet.
- We have received assurances that ADWR will review the Updated Model

In the meantime,

- Continuation of the moratorium is blocking substantial investments in new projects and new housing. These projects take years of investment and construction to reach the point where houses can be sold.
- Festival Ranch application has been delayed more than 2 years; Tartesso and North Star are over a year delayed.
- This will have a ripple effect on housing affordability in the future.

Attachment 5

Phoenix AMA Model Proposal to Modify 100-Year Assumptions

April 2, 2024

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Matrix Team

- **Nathan Miller – Vice President, Groundwater Modeling**
  - 24 years conducting hydrogeologic studies and developing/calibrating groundwater models



- **Elizabeth Mora – Senior Hydrogeologist / Modeling Supervisor**
  - 20 years in AZ modeling, hydrogeologic studies, oversight of well drilling and testing, and geophysics



- **Brianna McClure – Senior Hydrologist / Groundwater Modeler** (*Not Present*)
  - 8 years in AZ modeling and hydrogeologic studies



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Key Points

- Under the revised model, all unmet demand in Assured Water Supply (AWS), Municipal, Long-Term Storage Credit (LTSC) sectors in the entire model domain is resolved with well movement and depth modifications for the duration of the 100-year projection period

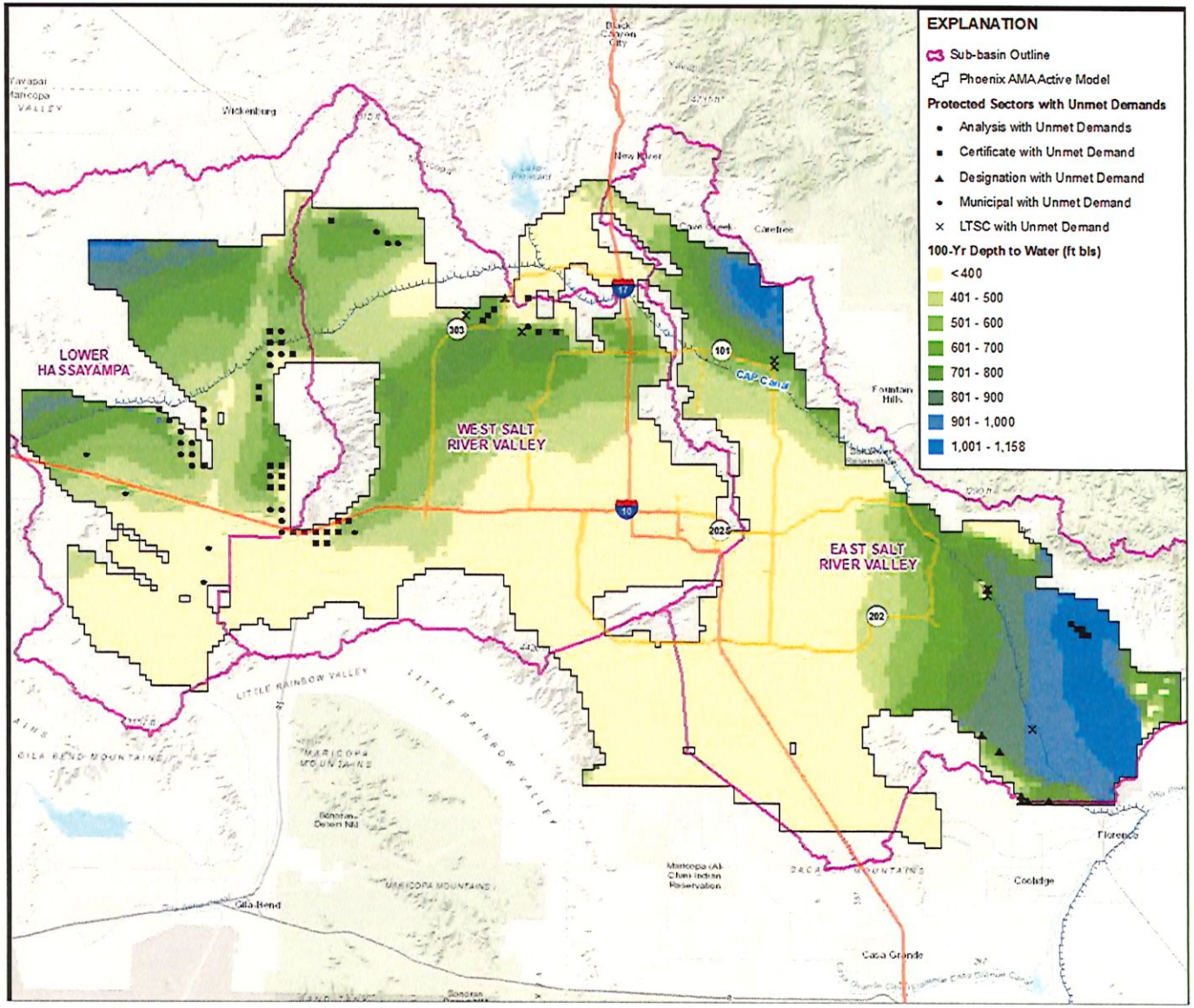
- Model tests in LHSB indicate more aligned with current water management practices show that the outlook of future aquifer conditions are significantly better than the regulatory model predicts

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June 2023 ADWR Base Model Unmet Demand in AWS Sectors

Unmet Demand (in MAF)

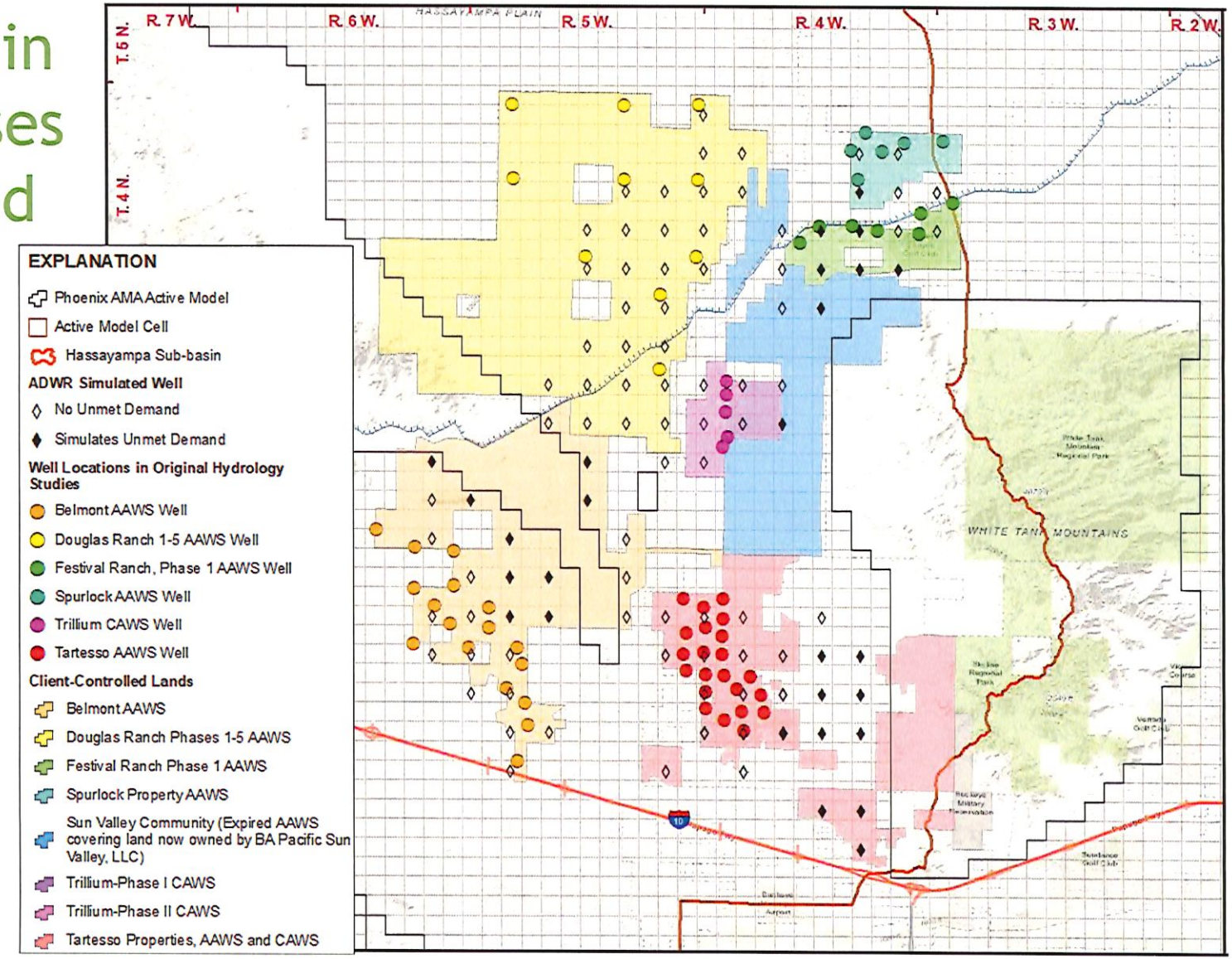
- All Sectors = 4.86
- AWS Sectors = 2.10
  - Municipal = 0.01
  - AWS = 2.08
  - LTSC = 0.01



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Well Placement in Approved Analyses of AWS Compared to June 2023 Base Model

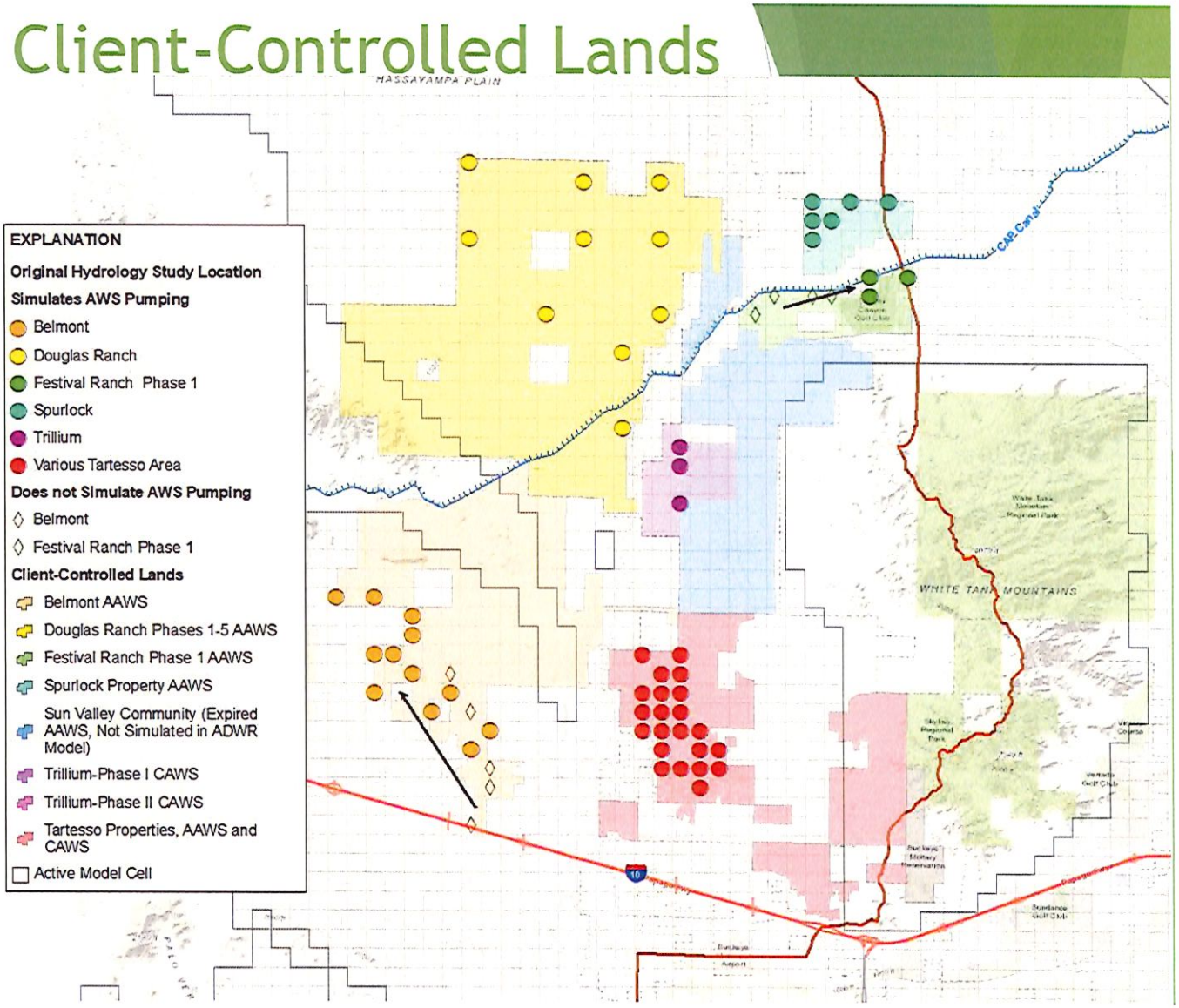
- ADWR wells placed in areas with little to no saturated aquifer, causing unmet demands



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Well Redistribution: Client-Controlled Lands

- Initially, demands simulated in locations from approved Analyses of AWS
- Unmet demands redistributed amongst approved well locations
  - Festival Ranch Phase 1 AAWS
  - Belmont AAWS

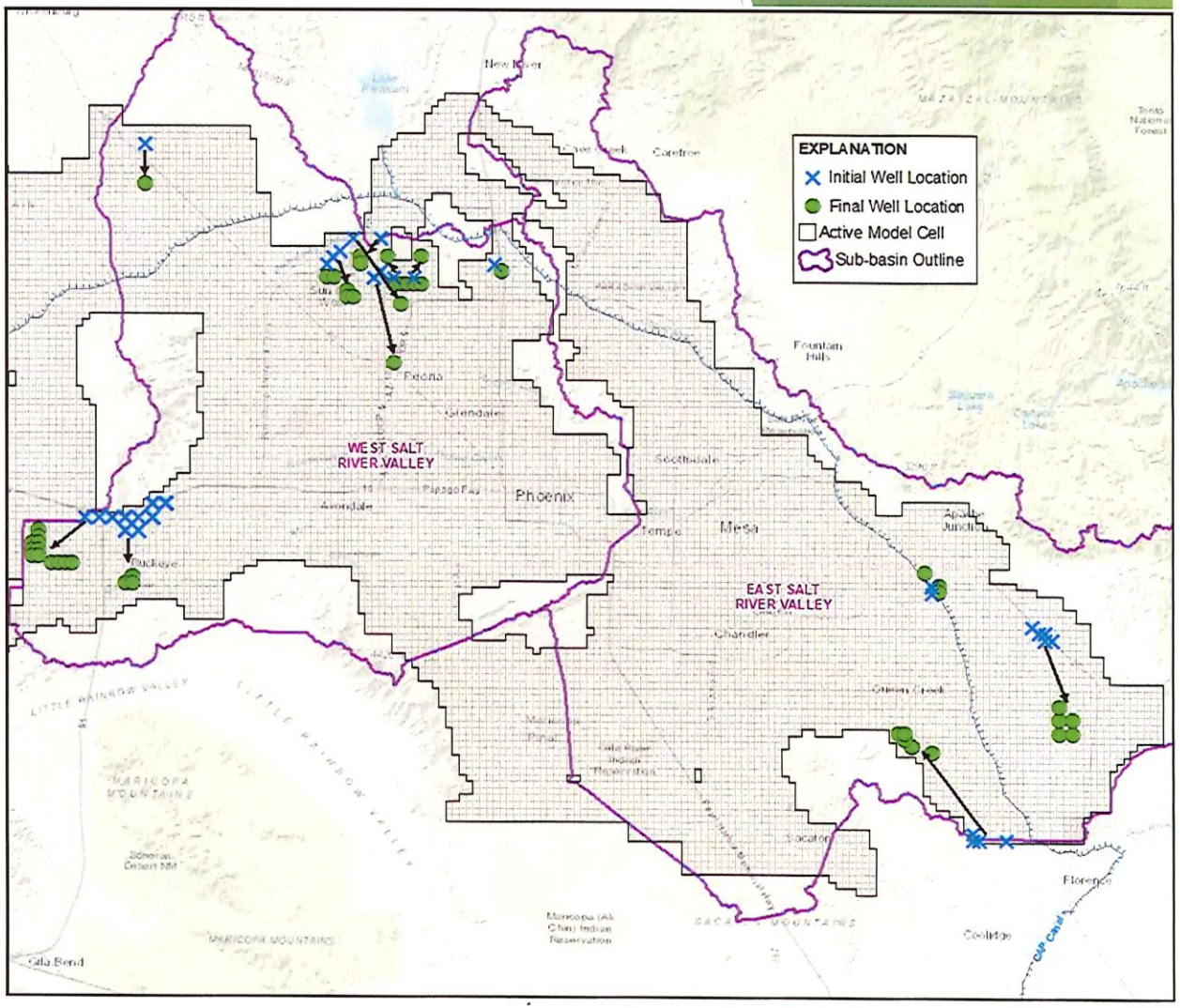


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Well Redistribution: Non-Client Controlled

Unmet Demand in LHSB, East SRV, and West SRV was redistributed for:

- AWS, Municipal, and LTSC unmet demands redistributed
- Wells redistributed within:
  - Property Boundary
  - Adjacent AWS Properties
  - Service Area
  - Planning Area



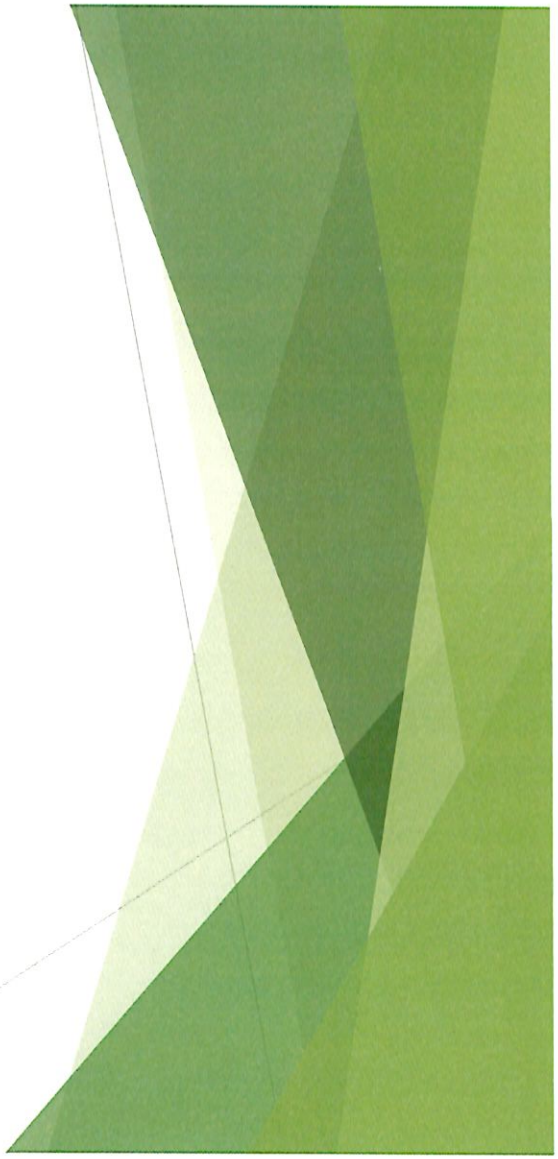
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Primary Conclusions – Revised Model

- **Under this model, all demand in the AWS, Municipal, and LTSC sectors can be fully met for the duration of the 100-year projection period**
  - **Client-Controlled Lands: Approved Analyses of AWS well locations successfully simulate full AWS demands**
  - **Non-Client-Controlled Lands: AWS, municipal, and LTSC demands redistributed**

- **Demand was met by deepening or redistributing pumping wells**

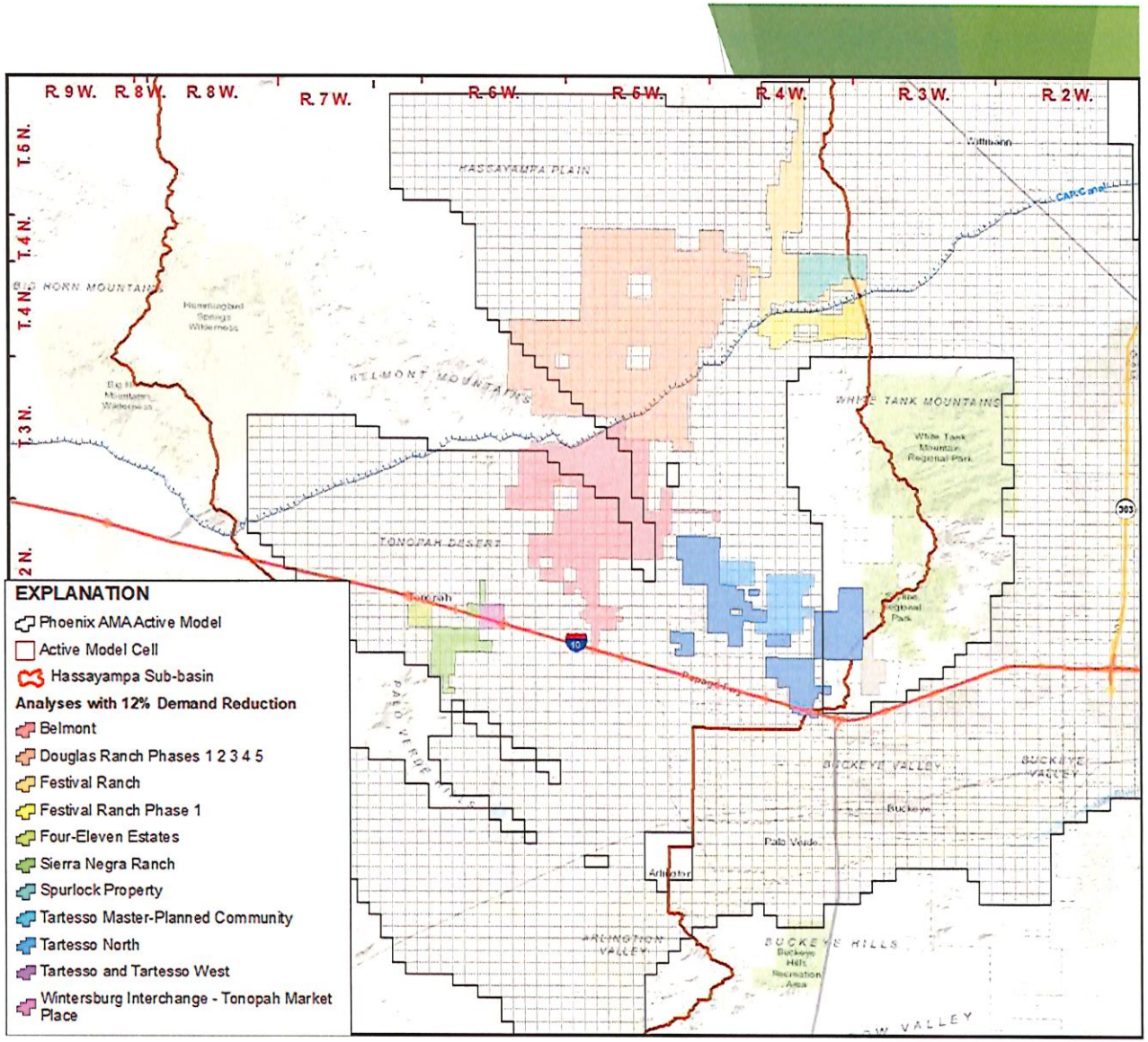
The AWS model is a regulatory tool, does ***not*** predict the future



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Test #1: Modernizing Demand Calculations

- AAWS demands in LHSB revised using current ADWR demand Calculator
  - Results in 12% demand reduction
- Actual water demand is likely to be less

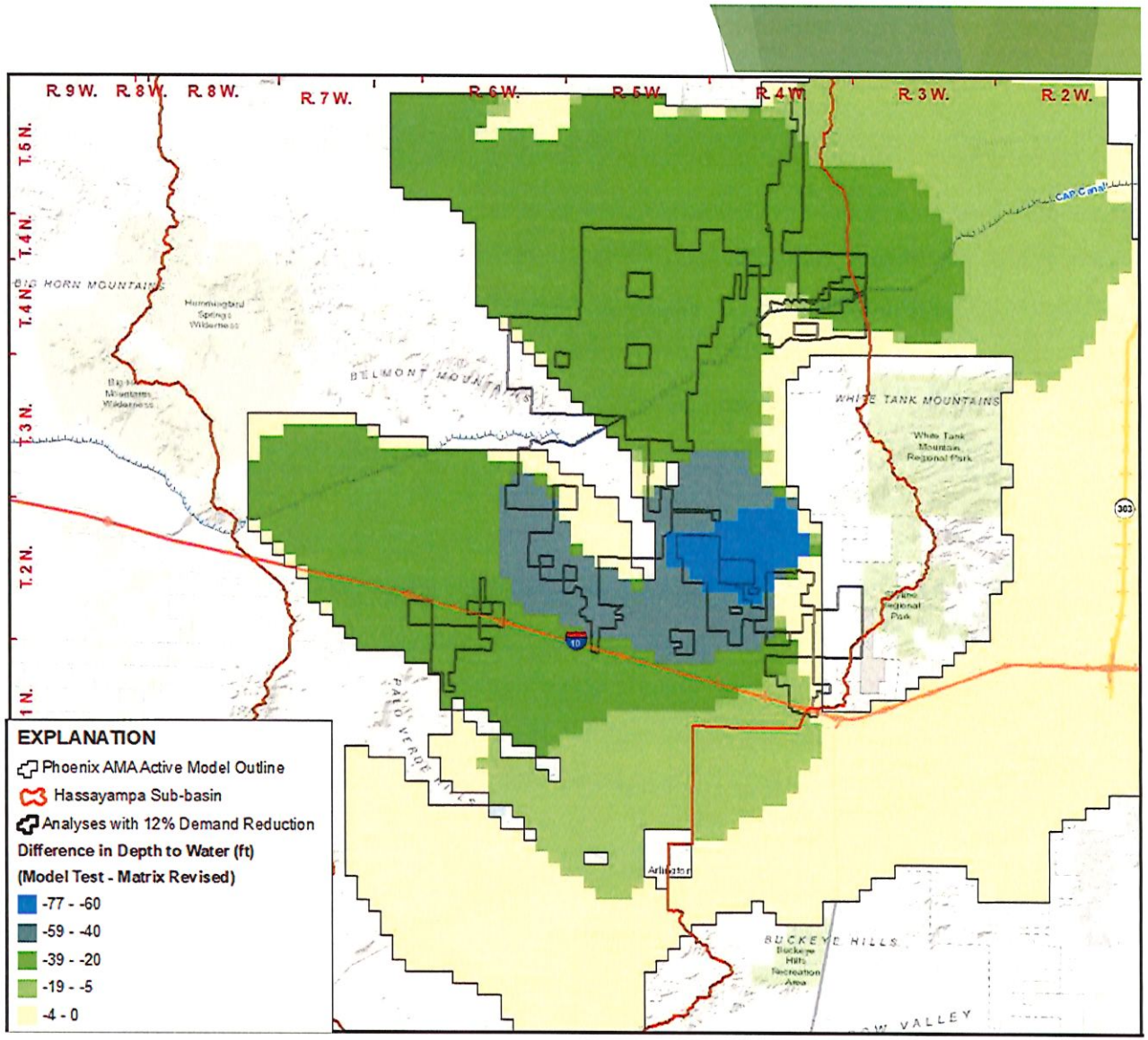


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Test #1: Modernizing Demand Calculations

100-Yr Depth to Water

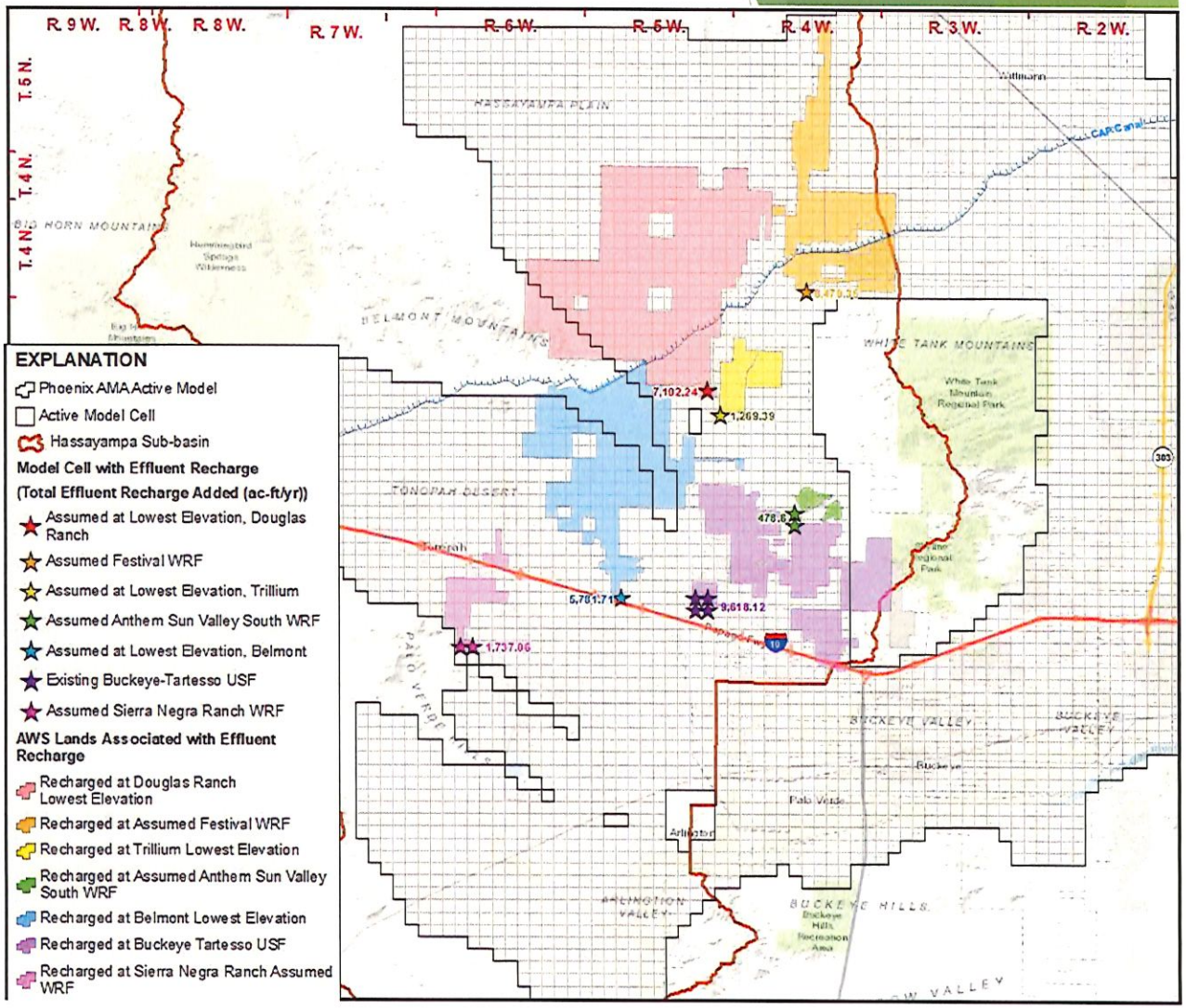
- AAWS demands in LHSB reduced by 12% per the revised demand calculator
- Water level up to 77 ft higher



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Test #2: Effluent Recharge

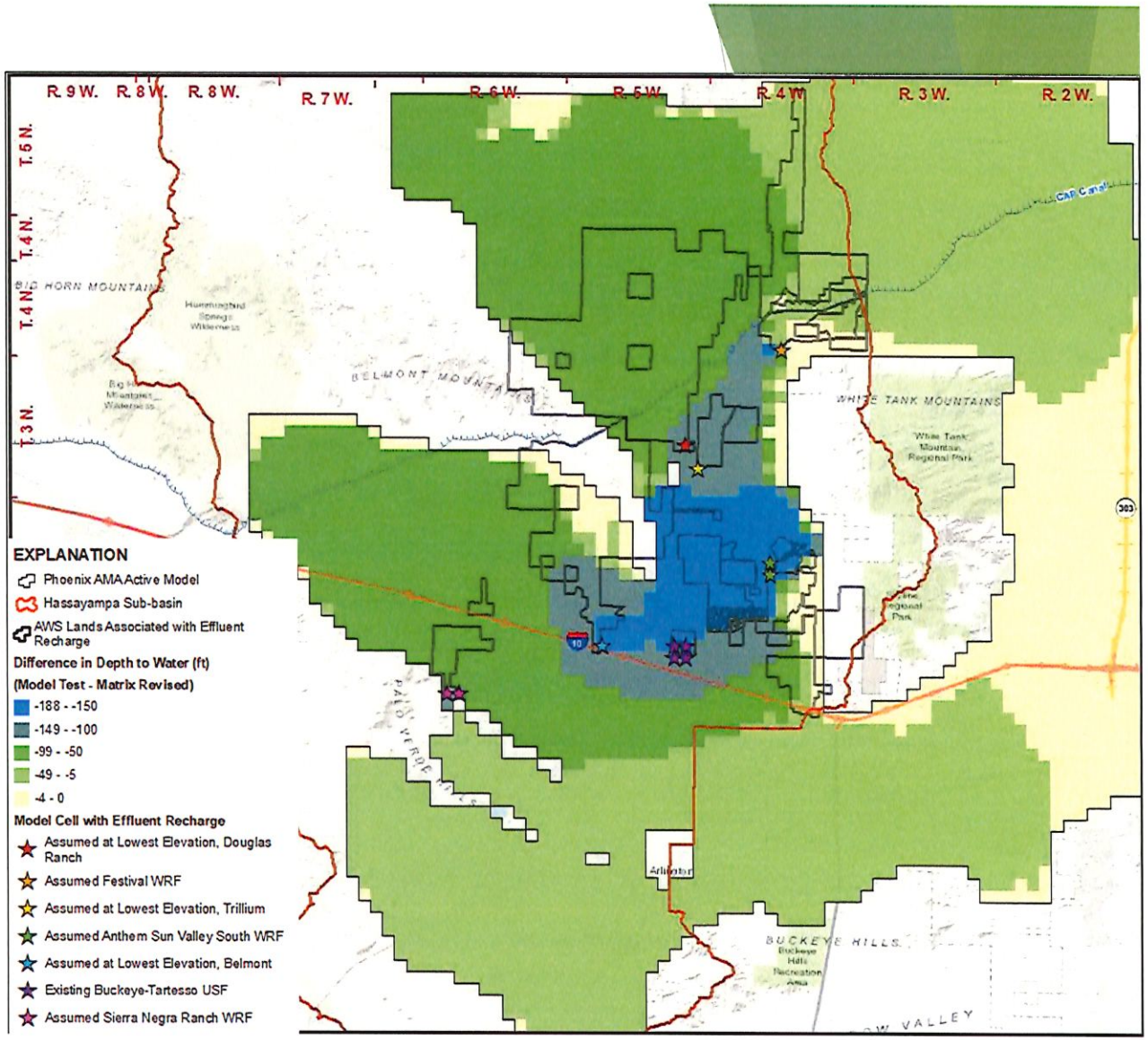
- 30% Effluent Recharge Added for AWS Lands
  - 34,466 afa
  - Existing Buckeye-Tartesso USF
  - Assumed Locations for all other Lands
  - Stars Represent Model Cells with Added Recharge



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Engineering Progress

Test #2:
Effluent Recharge
100-Yr Depth to Water

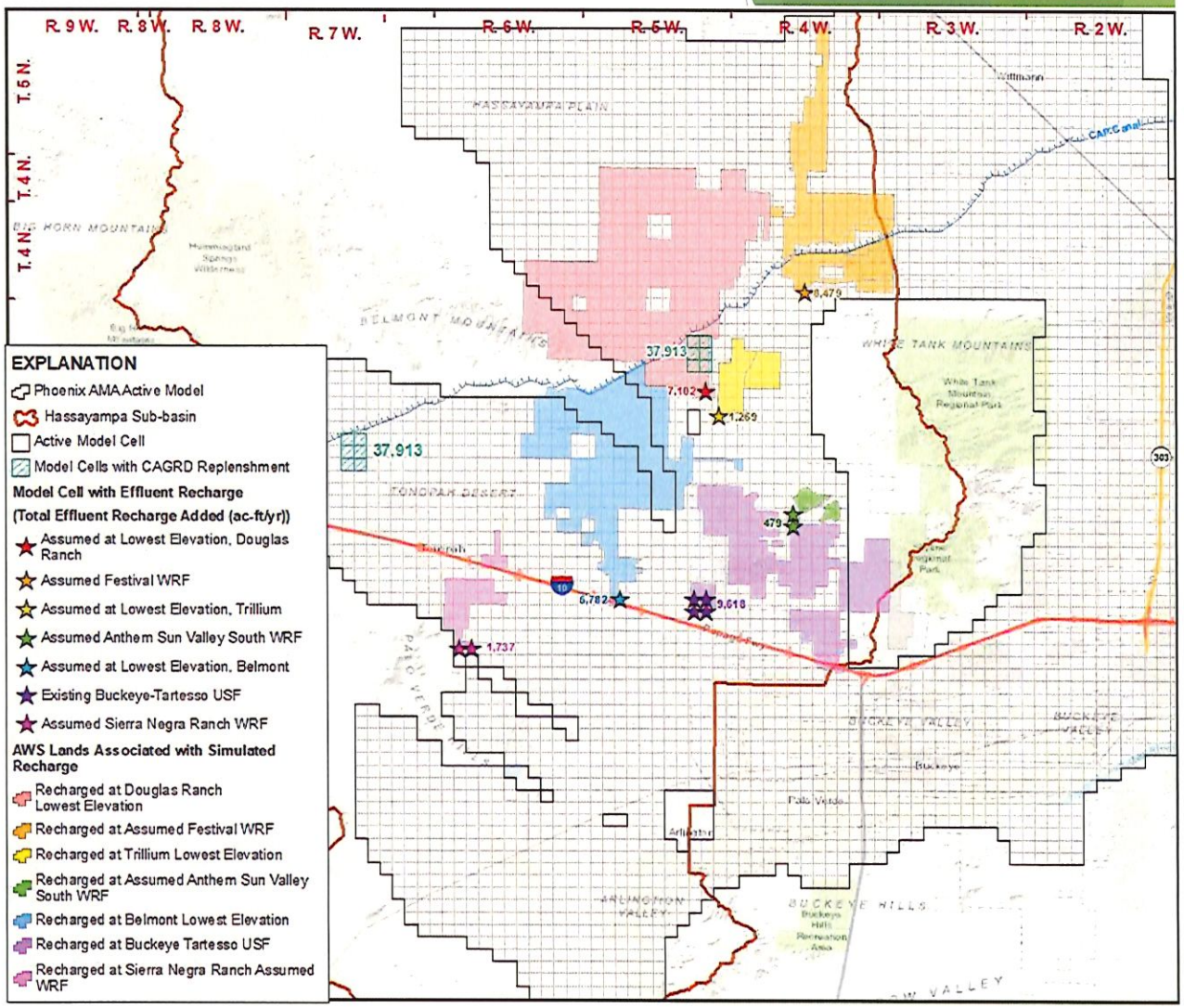
- 30% of AWS Demands (34,466 afa) recharged at assumed points
- Water level up to 188 ft higher



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Engineering Progress

Test #3:
96% CAGRD Recharge

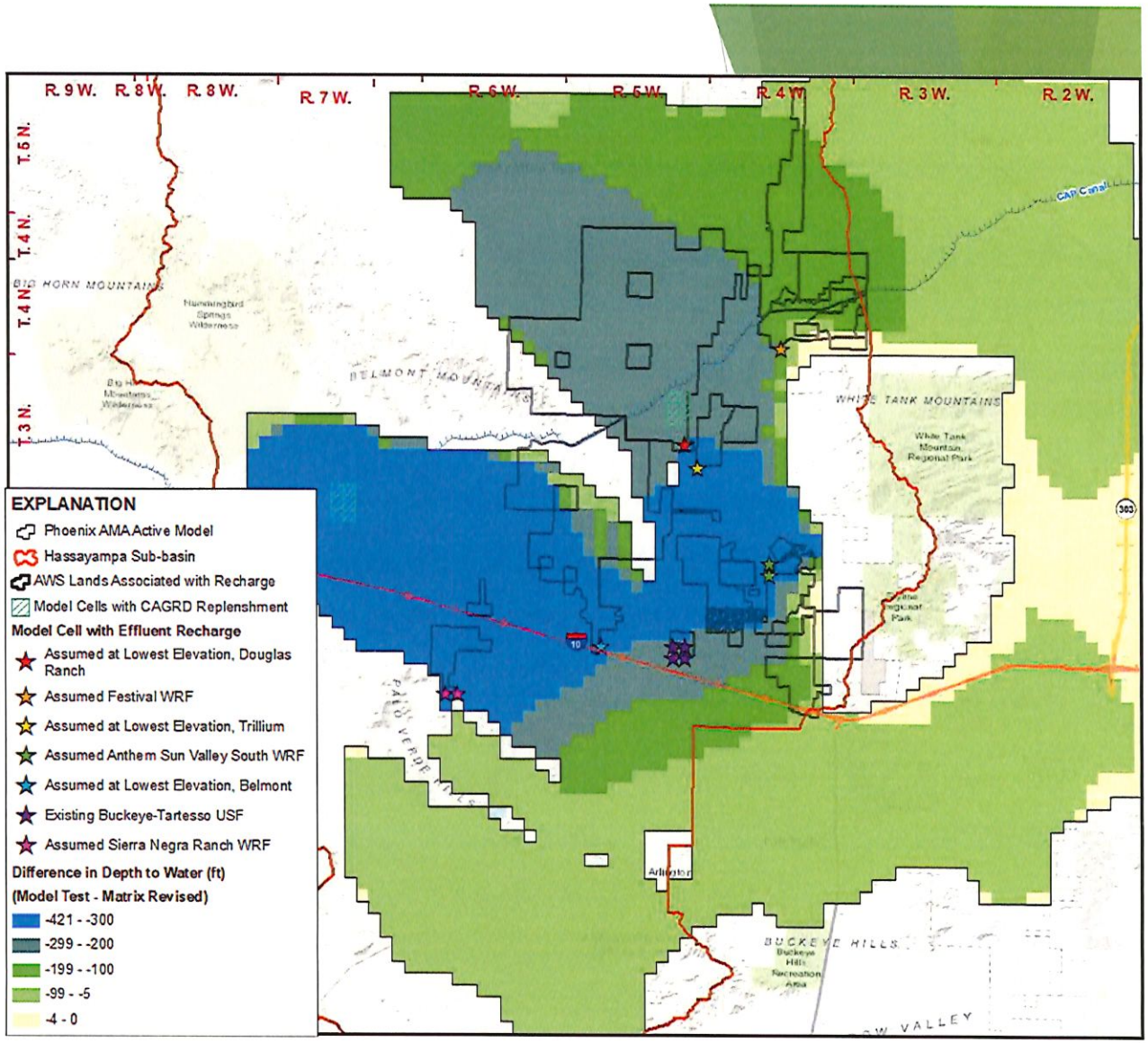
- Assumed Current Water Management Policies are still in place
- 96% of total demand is replenished
  - 34,466 afa of Effluent Recharge in LHSB
    (30% of AWS Demand)
  - 75,826 afa of CAGRD recharge
    (66% of AWS Demand)



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Engineering Progress

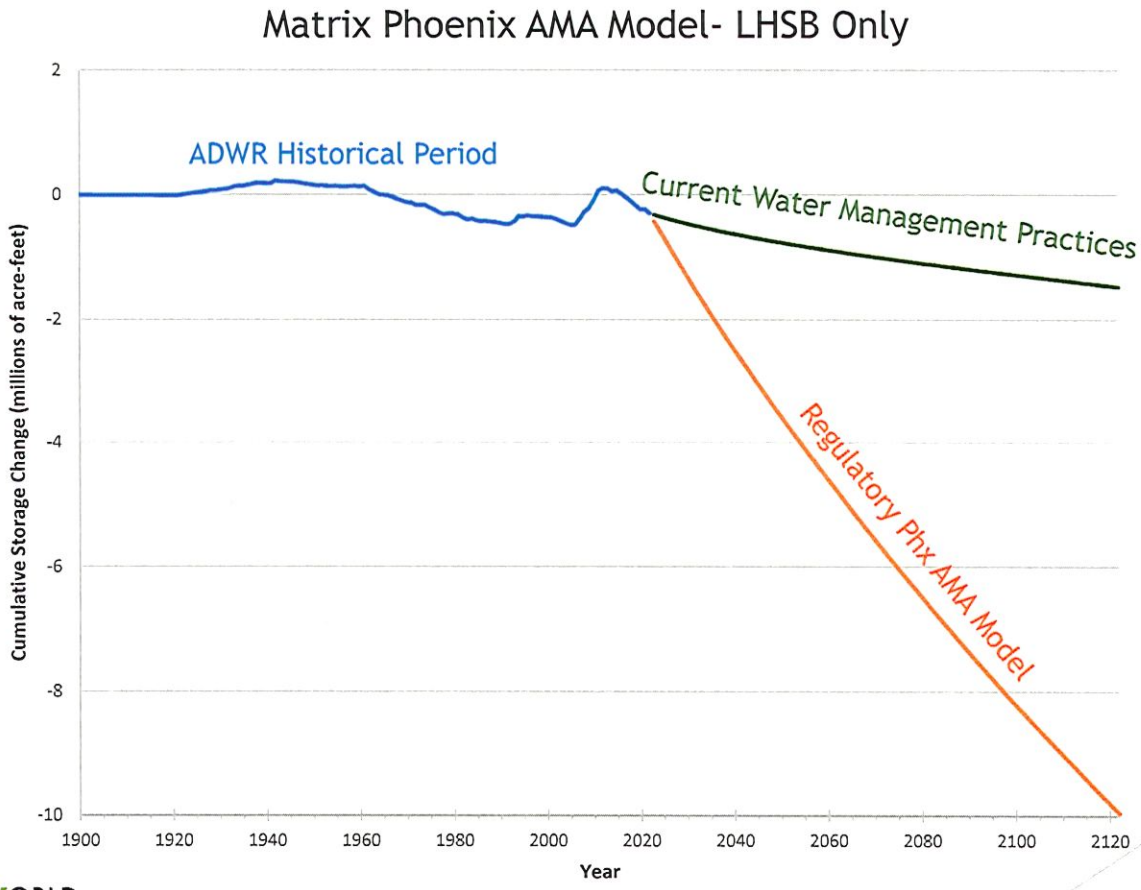
Test #3:
96% CAGRD Recharge
100-Yr DTW

- 96% of total demand is replenished
- Water level up to 421 ft higher



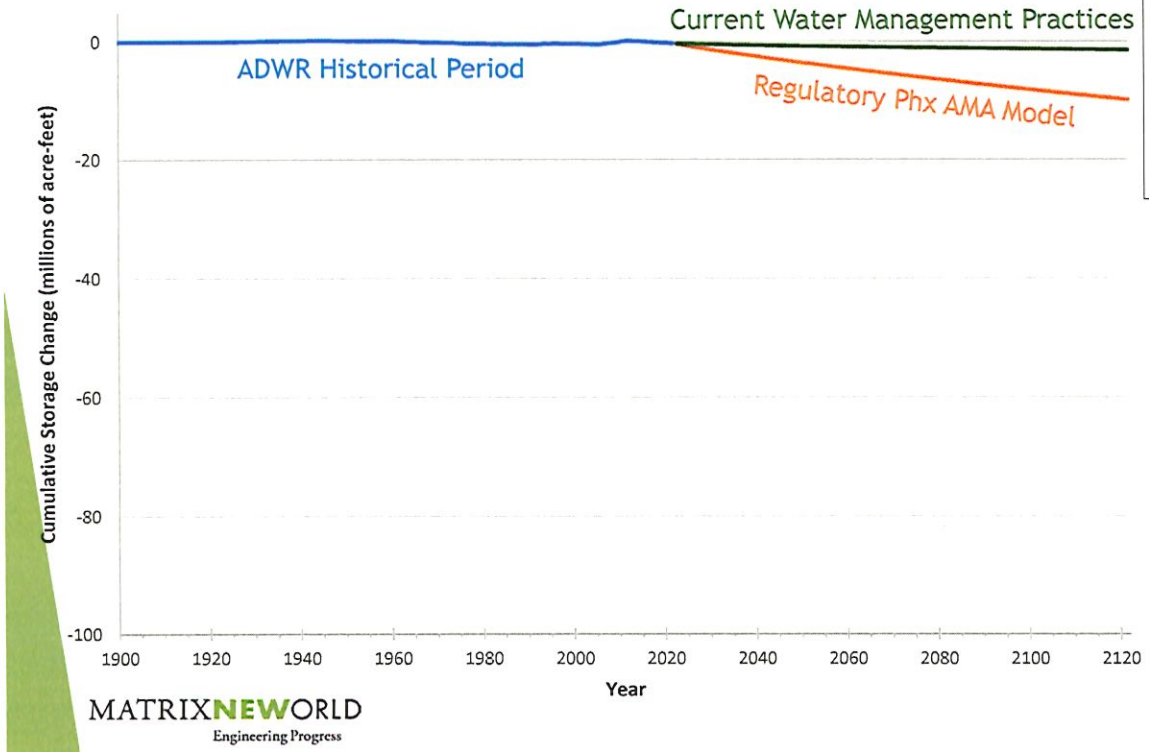
MATRIXNEWORLD
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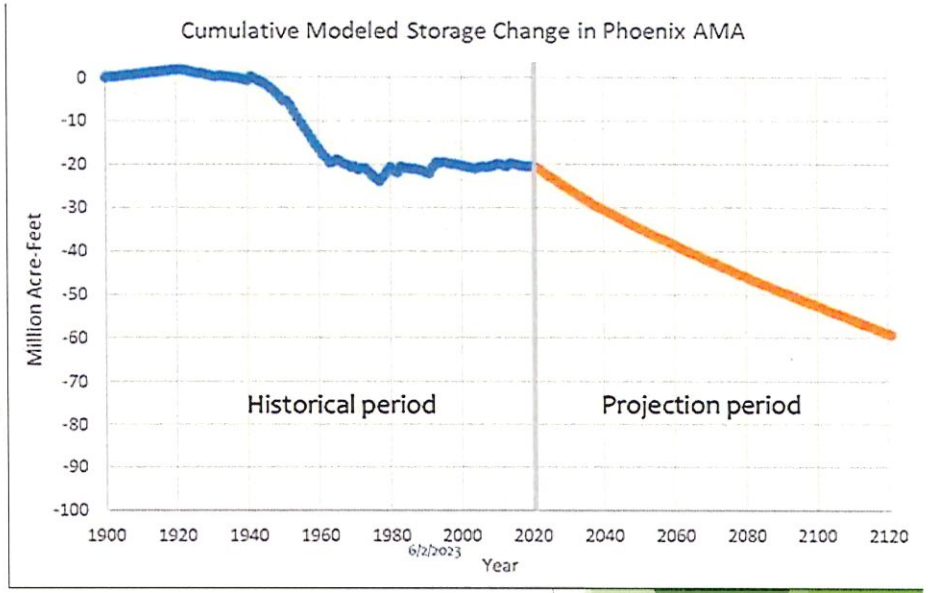
Change In Storage



MATRIXNEWORLD
Engineering Progress

Change In Storage





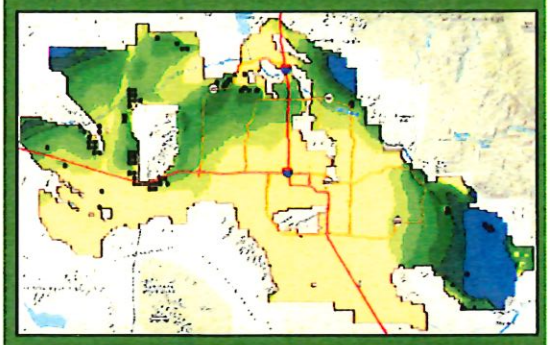
ADWR Phoenix AMA Model
(Presentation June 2)

Summary

- **Client-Controlled Lands: Approved Analysis of AWS well locations successfully simulate full AWS demands**
- **Non-Client-Controlled Lands: successfully simulates full AWS, Municipal, and LTSC demands by redistributing or deepening wells**
- **The model is a regulatory tool and does not predict the future**
- **Model Tests**
  - **Show the effectiveness of current water management practices**
  - **Are helpful to evaluate new policies under consideration**

MATRIXNEWORLD
Engineering Progress

2024 Matrix Revised Phoenix AMA Model



AWS, Municipal, LTSC demands shown as black points indicate insufficient groundwater at that location.

2023 ADWR Phx AMA Model

The ADWR Phoenix AMA Model simulates a total of 4.86 million acre-feet (MAF) of projected groundwater shortfall for 100 years. Of this, only 2.1 MAF (~2% of the total demand) occurs in demand sectors associated with the AWS program:

- 2.08 MAF in AWS
- 0.01 MAF in Municipal
- 0.01 MAF in Long-Term Storage Credit (LTSC)

The wells simulating these shortfalls occurring in the AWS, Municipal, and LTSC sectors are shown in the figure above.

In the ADWR model, when a well is not able to simulate the fully assigned withdrawal rate for the duration of the 100-year projection period, ADWR shows a lack of physically available groundwater.

ADWR determined that due to these isolated well problems, no new AWS determinations based on groundwater will be issued. This includes issuing any Certificate of Assured Water Supply (CAWS) citing an Analysis of Assured Water Supply (AAWS) to demonstrate compliance with the AWS Physical Availability requirement.

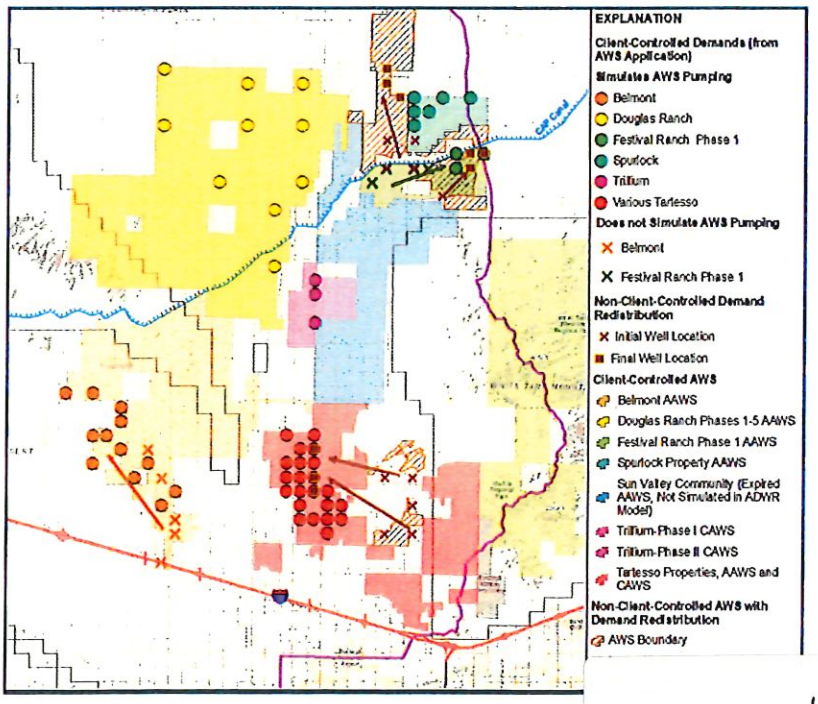
2024 Matrix Revised Phoenix AMA Model Client Group:

- HHC Douglas Ranch Member, LLC
- Buckeye Tartesso, LLC
- Festival Ranch North LLC
- Pulte Home Company, LLC
- BA Pacific Sun Valey, LLC
- Belmont Infraco, LLC

The Matrix revised model eliminates the ADWR projected 2.1 MAF shortfall in the AWS, Municipal, and LTSC sectors in the Phoenix AMA. The model shows that all these demands can be met throughout the entire model domain by deepening or redistributing simulated withdrawals at well locations within existing AWS property boundaries or water provider service areas. This is consistent with the fact that water providers will deepen existing wells and install future wells in locations where sufficient groundwater resources are available.

MARCH 2024 REVISIONS TO THE MODEL WELL DISTRIBITION SHOWS THAT ALL AWS, MUNICIPAL, AND LTSC DEMANDS ARE MET FOR 100 YEARS

Matrix's first model run included simulated well locations based on previous work optimizing available groundwater. In March 2024, Matrix revised the model to use previously approved Analysis of AWS well locations for the Lower Hassayampa Sub-basin (LHSB). With some demand redistributions these approved Analysis of AWS well locations were able to support full demands over the duration of the projection period. For example, if groundwater was not sufficient within an AWS property, demands were redistributed to adjacent AWS properties.



Attachment 6

WEST AND EAST SALT RIVER VALLEY DEMAND REDISTRIBUTIONS

There are a few wells that show a shortfall of groundwater outside the LHSB. These well location demands in AWS, Municipal, and LTSC sectors were resolved through redistributions encompassing the entire Phoenix AMA model domain, including in the West and East Salt River Valley Sub-basins.

West Salt River Valley

Demand redistributions occurred within water provider service areas for:

- City of Buckeye
- EPCOR-Agua Fria
- EPCOR-Sun City
- Sunrise Water Company
- City of Peoria
- Adobe Mountain School

Demand for Warrick Property (north of the White Tank Mountains) was redistributed to the nearest model cell with sufficient groundwater within the City of Surprise planning area.

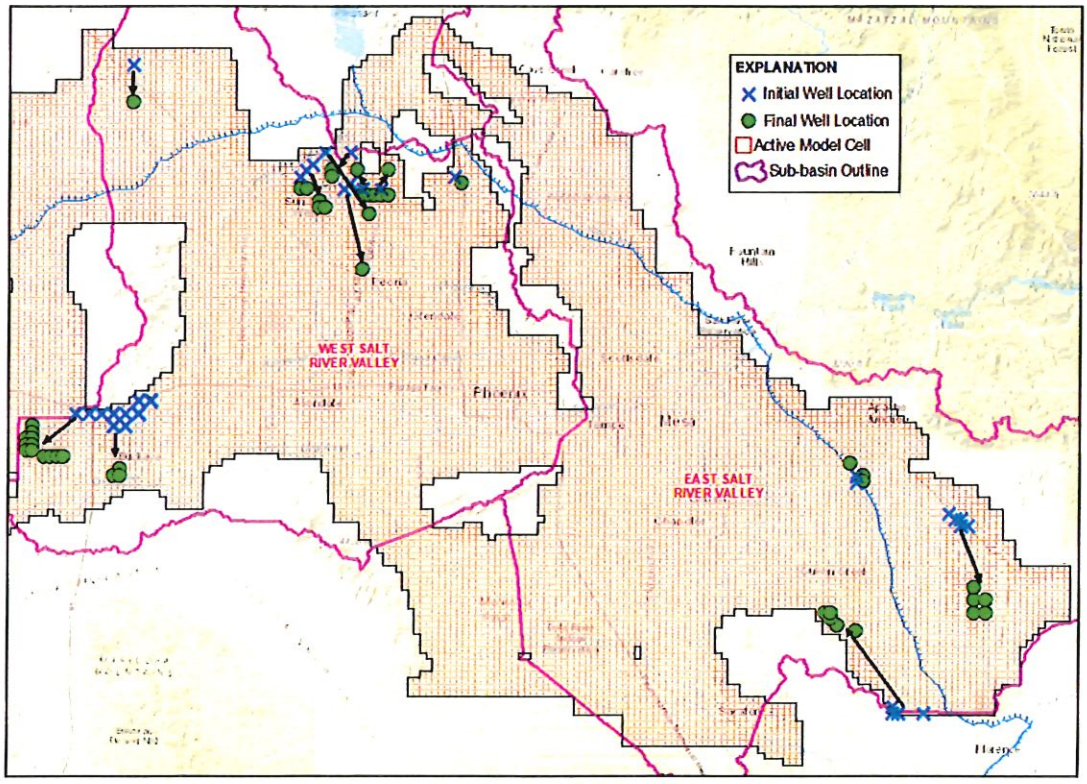
East Salt River Valley

Demand redistributions occurred within water provider service areas for:

- EPCOR San Tan-Phoenix
- Water Utilities Community Facilities District

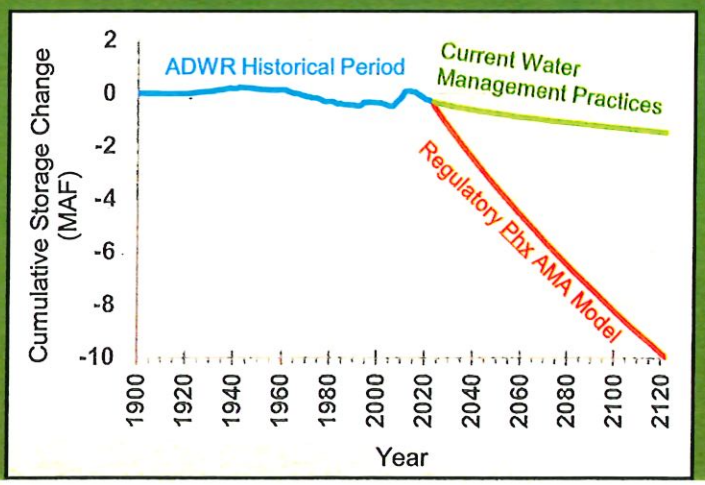
Demands for Arizona Water Company were redistributed to approved Physical Availability Determination (PAD) locations.

Demands for Superstition Mountains Community Facilities District (LTSCs) were redistributed to adjacent model cells.



CURRENT WATER MANAGEMENT PRACTICES SHOW A SUSTAINABLE FUTURE

Matrix also completed several model tests within LHSB to show the effects of current water management practices. Including 30% effluent recharge combined with an additional 66% of CAGRD replenishment results in significantly less depletion of the aquifer than what's shown in the ADWR model. Using cumulative storage change as a measure of impact to available groundwater resources, these test runs show a sustainable aquifer capable of supporting all AWS, Municipal, and LTSC demands in the LHSB.



Attachment 7

WATER-ARIZONA'S ECONOMY AND HOUSING

SPENCER KAMPS
VP of Legislative Affairs
Home Builders Association of Central Arizona

Housing - Highest Standard of Care for Groundwater

- Must comply with the Assured Water Supply Program – 100 years
- If using groundwater – must replenish that groundwater both inside and outside designated providers
- Only land use to do this outside designated providers
- Home building has been held to this standard since 1995
- How does for sale housing accomplish this?
  - Joining the Central Arizona Groundwater Replenishment District (CAGRD)

CAGRD – Largest Groundwater Replenishment District in the Country

- Critical to proving assured water supply
- No assured water supply – no subdivision
- Serves Phoenix, Pinal, and Tucson Active Management Areas
  - Allows continued and stable growth
  - Spreads full benefit of CAP canal
  - Reduces pressure on AWS program
  - Provides tax equity
  - Provides a regional water solution, available to multiple entities

Impacts of Development Facilitated by the CAGRD

- "Historical Economic and Fiscal Impacts of Development Facilitated by the Central Arizona Groundwater Replenishment District on the State of Arizona"

- Elliot D. Pollack & Company

- January 2024

Impacts of Development Facilitated by the CAGRD

- Since 2001, all new subdivisions in West Valley (outside of Phoenix, Peoria, Glendale) joined the CAGRD
- Since 1998, every new home built in Pima County was a member of the CAGRD
- Serves approximately 1.2 million residents and serves over 460,000 homes
- In many areas, CAGRD is the only option for builders to meet the GMA
- Allows non designated providers to grow a tax base to become a designate provider

Economics of CAGRD

- Construction activity has generated $135.7 billion in economic impact for the State
- Last 28 years, new residents of the CAGRD have spent $182 billion in the local economy and created $253 billion in economic activity
- 2022 supports 178,000 jobs and $24.9 billion in economic impact
- 2022 CAGRD regions generated $1.2 billion in state taxes and fees and $670.5 million in city taxes and fees
- Possible job loss is 26,000 jobs over the next ten years

Economics of CAGRD

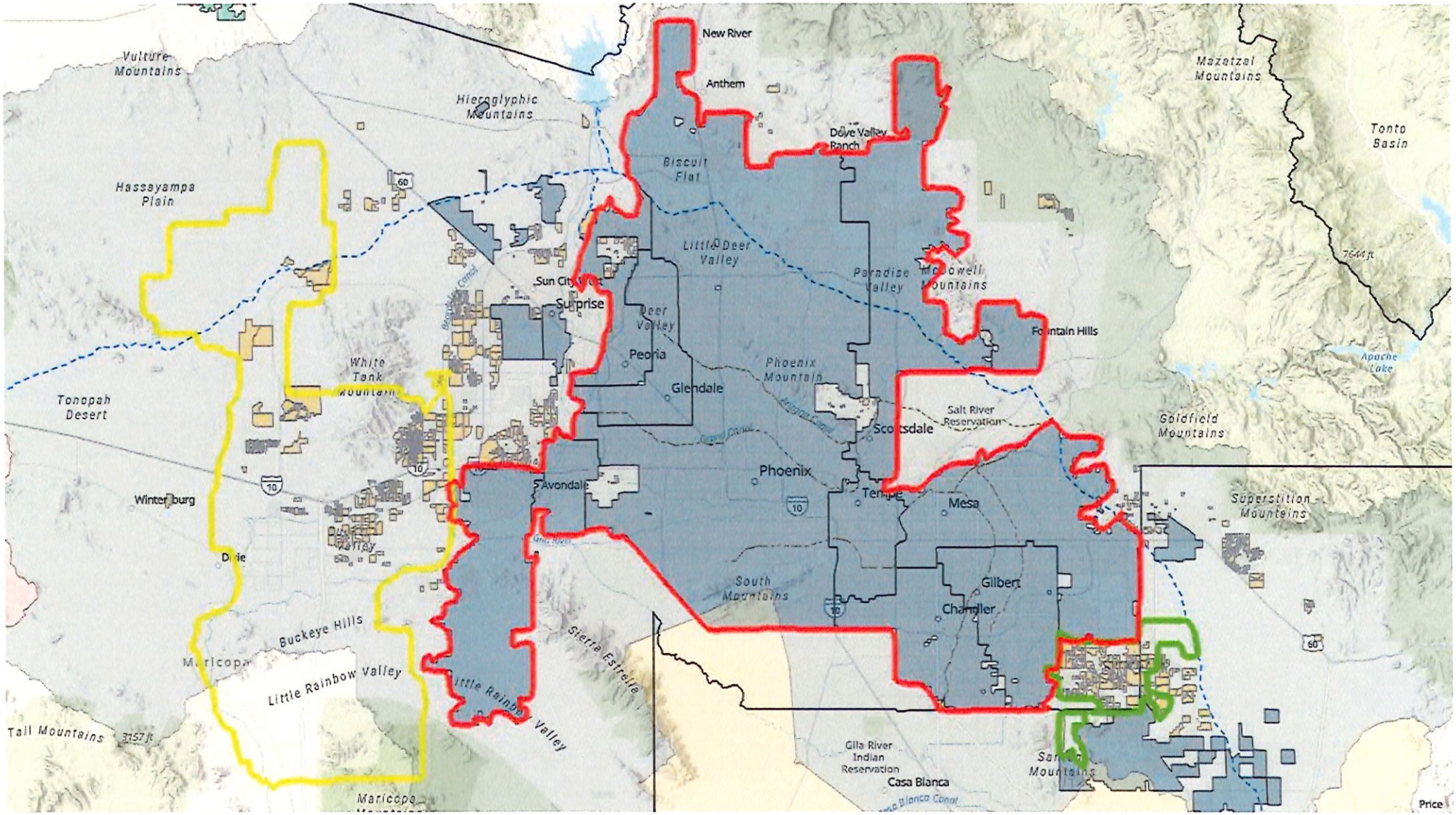
- From an economic perspective, the sudden and drastic loss of the issuance of CAWS created uncertainty and risk hurting future investment
- Hard to measure what investments we are losing
- What is known, it is hard to "un-ring" the bell that Arizona is out of water
- Many of the affected areas are key housing areas and some of the last remaining locations for new homes under $400,000

One Thought

- Water experts are not economic or housing experts
- Arizona's water policy conflicts with our housing affordability and supply crisis

Phoenix AMA Groundwater Model – what does this mean?

- No new Certificates of Assured Water Supply (CAWS)
- This impacts areas that are NOT designated providers – **Buckeye, Queen Creek and Maricopa County**
- Effectively, growth boundaries until the problem is solved
- Housing affordability and supply are a major concern
- The CAGRD will no longer serve new projects since home building cannot grow on groundwater


New River
Anthem
Vulture Mountains
Hieroglyphic Mountains
Dove Valley Ranch
Mazatzal Mountains
Tonto Basin
Biscuit Flat
Hassayampa Plain
Little Deer Valley
Paradise Valley
McDowell Mountains
7644 ft
Sun City West
Surprise
Deer Valley
Peoria
Fountain Hills
White Tank Mountains
Phoenix Mountain
Apache Lake
Glendale
Tonopah Desert
Salt River Reservation
Scottsdale
Goldfield Mountains
Phoenix
Avondale
Tempe
Mesa
Superstition Mountains
Winterburg
Gilbert
Chandler
South Mountains
Buckeye Hills
Sierra Estrella
Little Rainbow Valley
Tail Mountains
3157 ft
Gila River Indian Reservation
Casa Blanca
Price

80,000 Lots with a CAWS?

- Approximately 39% (31,000)have been approved in the last 15 years
- 50,240 lots were approved over 15 years ago
- Smart Growth infrastructure planning has been turned upside down
- Infrastructure costs will likely be borne by industrial and commercial
- These markets are AZ's only affordable markets in the urban areas.
- 2-3 years' worth of housing outside designated providers before significant economic impacts and housing supply impacts

Growth in Designated Providers

- For sale housing can grow in designated providers
- Avondale, Chandler, El Mirage, Gilbert, Glendale, Goodyear, Mesa, Peoria, Phoenix, Surprise, Tempe, Chaparral City Water Company, EPCOR San Tan, Apache Junction Water Company
  - Only major areas to grow for production builders are Surprise, Goodyear, AJ, and East Mesa
  - All available residential zoned land is under control of builders – 4 years from raw land to first sale
  - No significant pieces of land available for residential to feed the pipeline

Perspective

- Approximately 460,000 homes are members of the CAGRD – 30 years of for sale housing in the three-county service area (Maricopa, Pima, and Pinal).
- Annual replenishment obligation hovers around 35,000-acre feet a year
- Phoenix AMA – approximately 200,000 homes – 20,000-acre feet of annual replenishment
- Since 1995, every for-sale housing project in the three major AMAs has met safe yield.
- Less than the 49,000-acre feet of unmet demand identified in the Phoenix AMA
- TSMC plant – 40,000-acre feet of water according to AZ Republic

Distorted Markets

- Projects with CAWS have significantly increased in price
- Lands in designated providers have significantly increased in price
- Water supplies have significantly increased in price due to increase in demand
- 30-40 builder/developers are now "on the water market".
- Agriculture lands outside designated providers have lost development value.
- Residential is first – industrial, commercial, manufacturing follow

Any affordability is at serious risk

- Average new home sale is approximately $450,000
- Due to interest rates, few resales are on the market – new homes are their only market
- West Valley is the only market for homes under $400,000
- Buckeye is 26% of the market under $400K
- At current interest rates, need to make 100K to qualify for $400 K home
- Buckeye is the only market to attain affordability in the Phoenix area
- Need approximately 50,000 units

Meanwhile

- AZ Big media reports that Phoenix is the 2nd largest data center market in the country
- AZ Republic called us a global leader in data centers
- Mesa just approved a Water Park
- New data center in West Valley – 4,000-acre feet of water
- State keeps offering incentives to manufactures – which can access groundwater outside designated providers
- Avg salary is 70K – 75K
- Where are we going to house all these workers

How to solve the problem

- There are no other available water supplies in the near term
- The home building industry and development community was not aware that this groundwater model was coming.
- Need to overturn the narrative that AZ is out of water
- We need a short-term solution to allow these projects to move forward on groundwater with the certainty to allow continued investment in infrastructure.
- **Collaborative Process to move wells with ADWR in a timely manner**

Legislation

- HB 2008
  - Requires DWR to review and adopt new efficiencies and conservation on commercial and industrial
- HB 2017
  - Allows ADWR to require new developments to bring more than 100% of their water – residential is held to only 100%
- HB 2062
  - Allows CAWS applications submitted to ADWR prior to June 1, 2023 to be reviewed and process under the groundwater model that existed at the time the application was submitted
- HB 2589
  - Allows CAWS to be issued in an approved Analysis in return the for landowner forfeiting 15% of their groundwater approved in the Analysis.

Questions

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