



Town of Queen Creek

Physical Availability Determination
(issued by ADWR)

- **1980** The Arizona Legislature Adopted The Groundwater Code
 - This was at the time and is still today the most progressive law ever passed on use of Groundwater Pumping in the Country
- **1986** Arizona amended the law and raised the depth of allowable pumping from **1200** feet below the surface to **1000** feet
- **1993** Legislature amended the law to no longer allow groundwater for Assured Water Supply Analysis. The Central Arizona Groundwater Replenishment District (CAGRDR) was formed with this amendment
- **2007** CAGRDR adopted its 10 year operating plan for enrollment and servicing its membership. **2017** CAGRDR will be adopting the next 10 year plan and possibly limiting membership for future development
- Today the Arizona Department of Water Resources issues the 100 year certificates for Assured Water Supplies for either Municipalities or Development
 - As new Hydrological Studies are done they must take into consideration all current and future uses for the next 100 years. For those developments that have 30 years left on their certificates it is assumed that the water will be there in perpetuity, or the Sustainable Supply Doctrine or “FOREVER”
 - For all new Development either you bring a surface water supply with you or you join the CAGRDR which will guarantee that for every gallon of water you pump a gallon of water is replenished in the Active Management Area (AMA)
 - Current Cost for 1 acre foot of replenished water for **2010-11** \$356, **2011-12** \$403, **2012-13** \$442, **2013-14** \$487, **2014-15** \$550
- **1989** Queen Creek Water received its original Physical Availability Determination (PAD) **22,000** acre feet to be pumped annually
- **2011** The Town of Queen Creeks PAD was updated to **26,400** acre feet to be pumped annually.
 - ***CAGRDR will begin recharging at Queen Creek Wash Superstition Recharge site in **2011** it is permitted for **25,000** acre feet per year

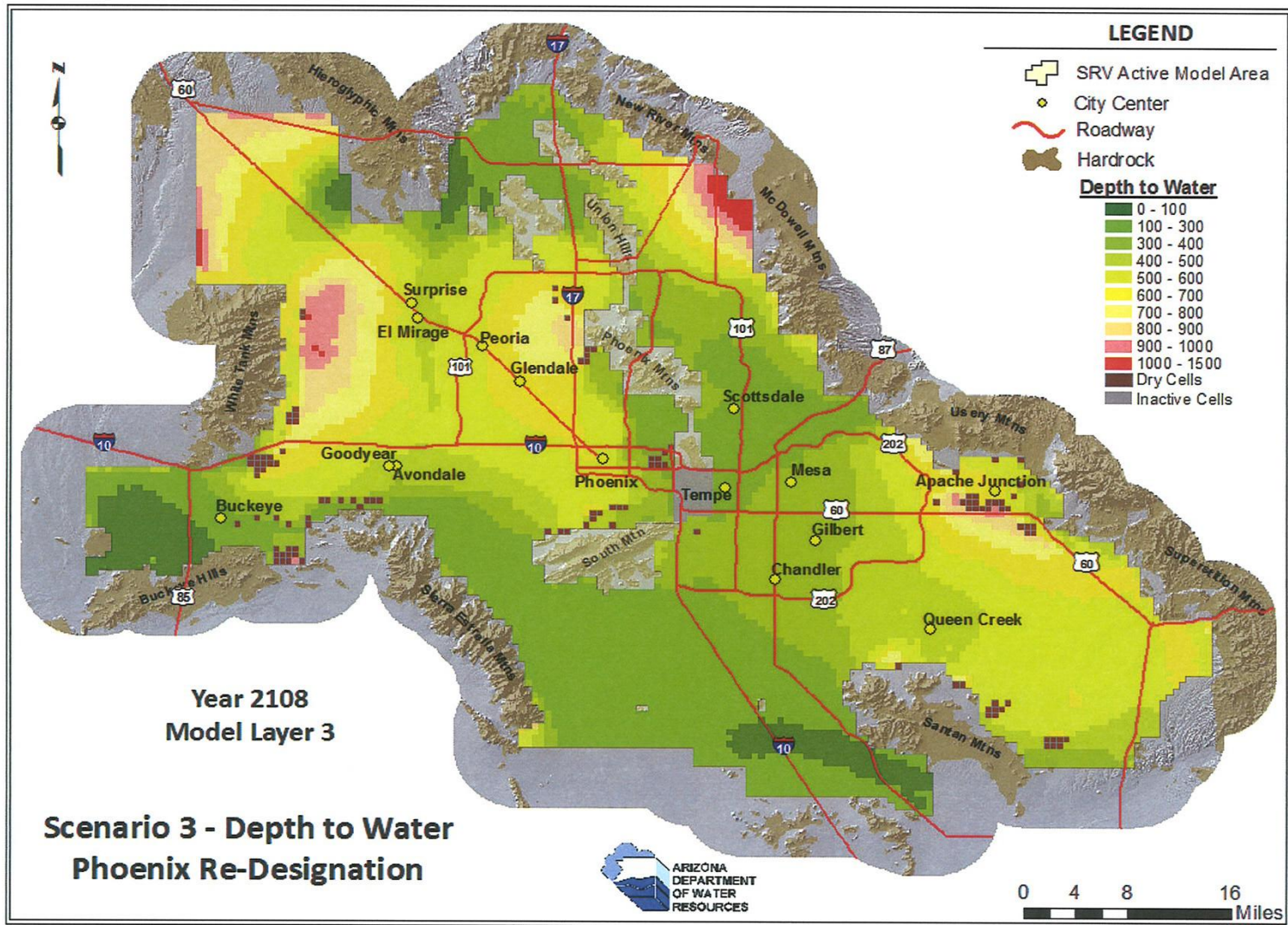


Figure 24. Scenario 3 - Depth to Water (DTW) of Layer 3 for the year 2108.

MODEL SIMULATION RESULTS

The model run identified as H_AddedQCWC_H2O_MovWels (Attachment II) is the final AWS run that includes pumping to meet the water demands for QCW and H₂O. The revised figures depicting the model results are presented in Attachment III.

Drawdown after 100 years of pumping was calculated assuming that all wells continuously pump at the assigned pumping rates. The 100-year model simulates that the estimated annual ground-water pumping for QCW is 26,400 ac-ft/yr and for H₂O is 15,841 ac-ft/yr from 2008 through 2108. Maps of ground-water level elevations after 100-years, 100-year drawdowns, 100-year depth to static water levels, and remaining saturated alluvial thickness above 1,000 ft bls are presented in Figures 2, 3, 4 and 5, respectively. Ground-water elevations after 100-years range from approximately 700 ft amsl to 900 ft amsl across the QCW. service area and range from approximately 900 to 1,000 ft amsl across the H₂O, Inc. service area. The depth-to-static ground water after 100-years at the simulated wells ranges from approximately 500 ft bls to 610 ft bls across the QCW service area and range from approximately 530 to 610 ft bls across the H₂O service area. This depth-to-static ground water is less than the 1,000 feet bls limit established for water providers in the Phoenix AMA by A.A.C. Rule R12-15-716. Comparison to the results of the model run without the added demands indicates that the additional pumping of 7,944 ac-ft/yr in the QCW area and 6,766 ac-ft/yr in the H₂O area resulted in a maximum of 180 feet of additional drawdown.

A digital copy of the MODFLOW input and output files for the analysis are provided in Attachment II.

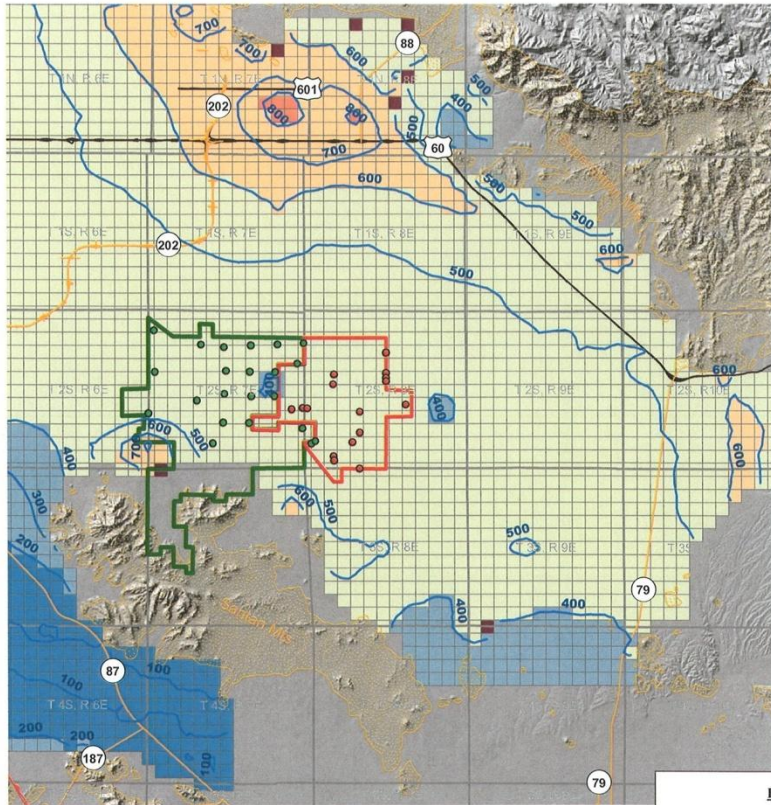
CONCLUSIONS

Southwest Ground-water Consultants, Inc. has completed this revised impact analysis in support of the PAD for Queen Creek Water and for H₂O, Incorporated. Based on the preceding information and calculations, SGC has made the following conclusions.

1. The regional aquifer found beneath the subject property contains sufficient ground water to meet the demand of the Project and area ADWR issued demands for at least 100 years;
2. The 100-year depth to water level beneath the Project will not exceed 1,000 ft. bls.
3. Review of model results for scenarios with and without the additional pumping indicates that once wells are repositioned within water providers' service areas, no AWS wells in the model domain are caused to go dry or



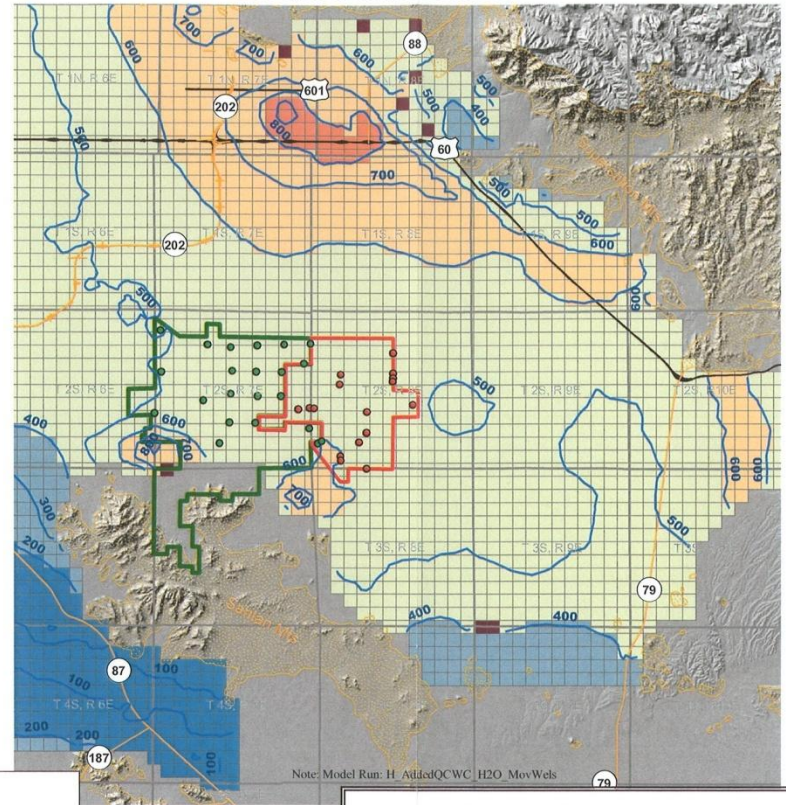
A. BASE RUN: AWS BASELINE MODEL PLUS COMMITTED DEMANDS



Note: Model results are presented for Model Layer 3 only
 Note: Base Model Run: F_AddedWareFarms

Model Base: ADWR (2010b)
 Data Source: ADWR Wells 55 CD (June, 09)
 ADWR GIS (Aug., 09)
 ADWR GWSI (Mar., 09)

B. BASE RUN PLUS 7,944 AC-FT/YR OF PUMPING FOR QUEEN CREEK WATER AND 6,766 AC-FT/YR FOR H2O, INC.



Note: Model Run: H_AddedQCWC_H2O_MovWells

EXPLANATION

- | | |
|--------------------|---|
| ● H2O, Inc. | — 100-year Depth to Water Contour (100-foot interval) |
| ● QCW | 100-year Depth to Water (ft bsl) |
| ▭ H2O, Inc. | 0 - 200 |
| ▭ QCW | 201 - 400 |
| ▭ Model Grid Cell | 401 - 600 |
| ▭ Hardrock Outcrop | 601 - 800 |
| | 801 - 1,000 |
| | 1,001 - 1,161 |
| | Dark Red: Dry Model Cell |

100-YEAR DEPTH TO STATIC WATER LEVEL

Queen Creek Water & H₂O, Incorporated,
 Maricopa & Pinal Counties, Arizona

**Southwest Ground-water
 Consultants, Inc.**



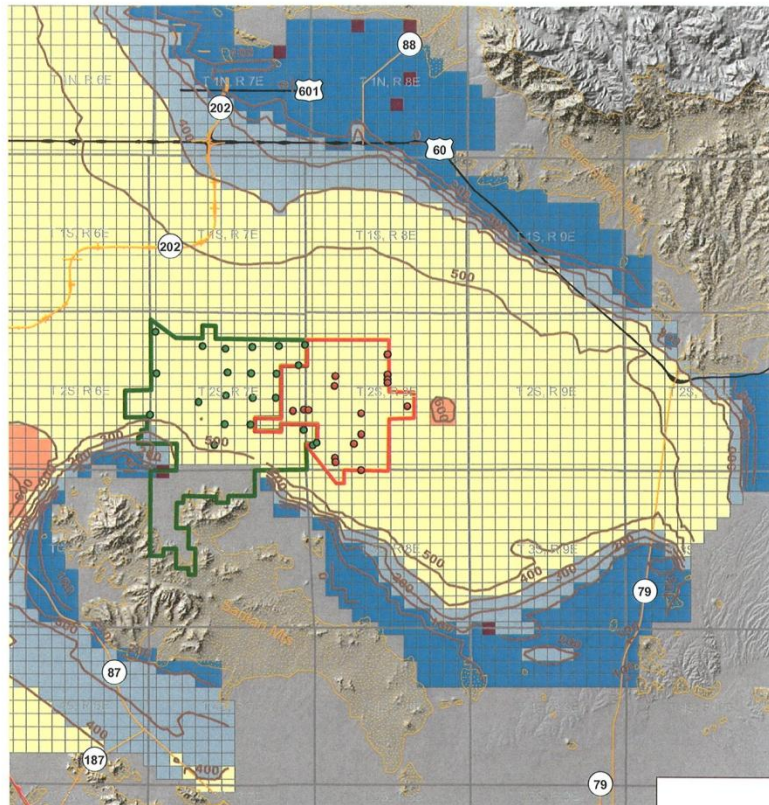
January 11, 2010

Project B.1370

Figure

4

A. BASE RUN: AWS BASELINE MODEL PLUS COMMITTED DEMANDS



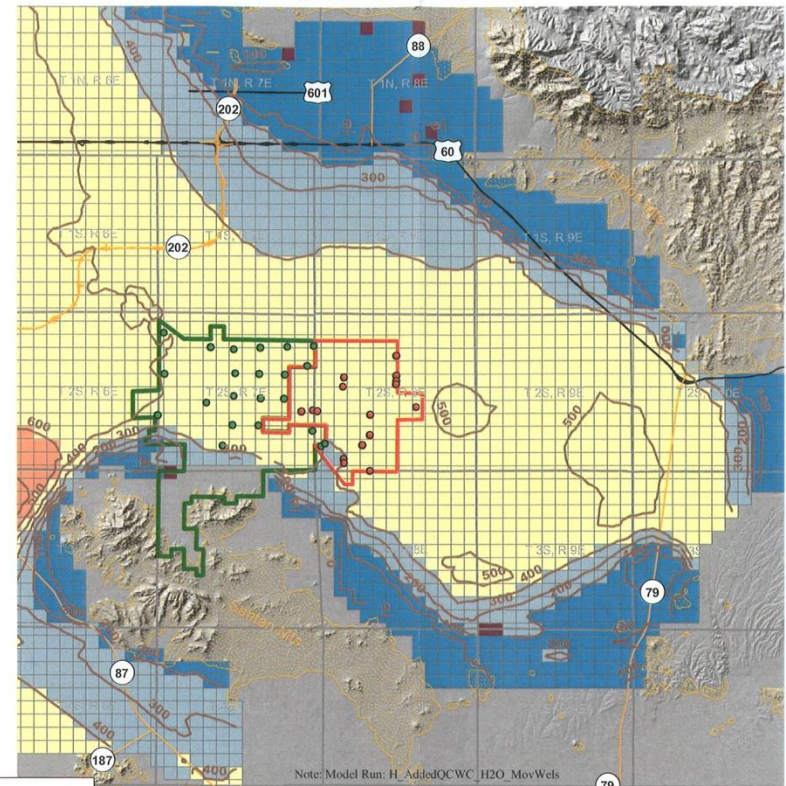
Note: Model results are presented for Model Layer 3 only
 Note: Base Model Run: F_AddedWareFarms



Model Base: ADWR (2010b)
 Data Source: ADWR Wells 55 CD (June, 09)
 ADWR GIS (Aug., 09)
 ADWR GWSI (Mar., 09)



B. BASE RUN PLUS 7,944 AC-FYR OF PUMPING FOR QUEEN CREEK WATER AND 6,766 AC-FYR FOR H2O, INC.



Note: Model Run: H_AddedQCWC_H2O_MovWels

EXPLANATION

- Simulated Well Locations
 - H2O, Inc.
 - QCW
- H2O, Inc.
- QCW
- Model Grid Cell
- ⊕ Handrock Outcrop
- 100-year Saturated Thickness above 1,000 feet bsl
- Contour (100-foot interval)
- 100-year Saturated Thickness above 1,000 ft bsl
 - 0 - 200
 - 201 - 400
 - 401 - 600
 - 601 - 800
 - 801 - 997
 - Dry Model Cell

SATURATED AQUIFER THICKNESS ABOVE 1,000 FEET AFTER 100-YEARS

Queen Creek Water & H₂O, Incorporated,
 Maricopa & Pinal Counties, Arizona

Southwest Ground-water Consultants, Inc.

January 11, 2010

Project B.1370

Figure 5



ARIZONA DEPARTMENT OF WATER RESOURCES

3550 North Central Avenue, Second Floor
 PHOENIX, ARIZONA 85012-2105
 (602) 771-8500

April 6, 2011

Mr. Paul Gardner
 Town of Queen Creek
 22713 South Ellsworth Road, Building A
 Queen Creek, Arizona 85242

**RE: Queen Creek Water Service Area
 Maricopa and Pinal County, Arizona, Phoenix AMA
 Issued Physical Availability Determination, revised balance
 DWR #51-501722.0001**

Mr. Gardner:

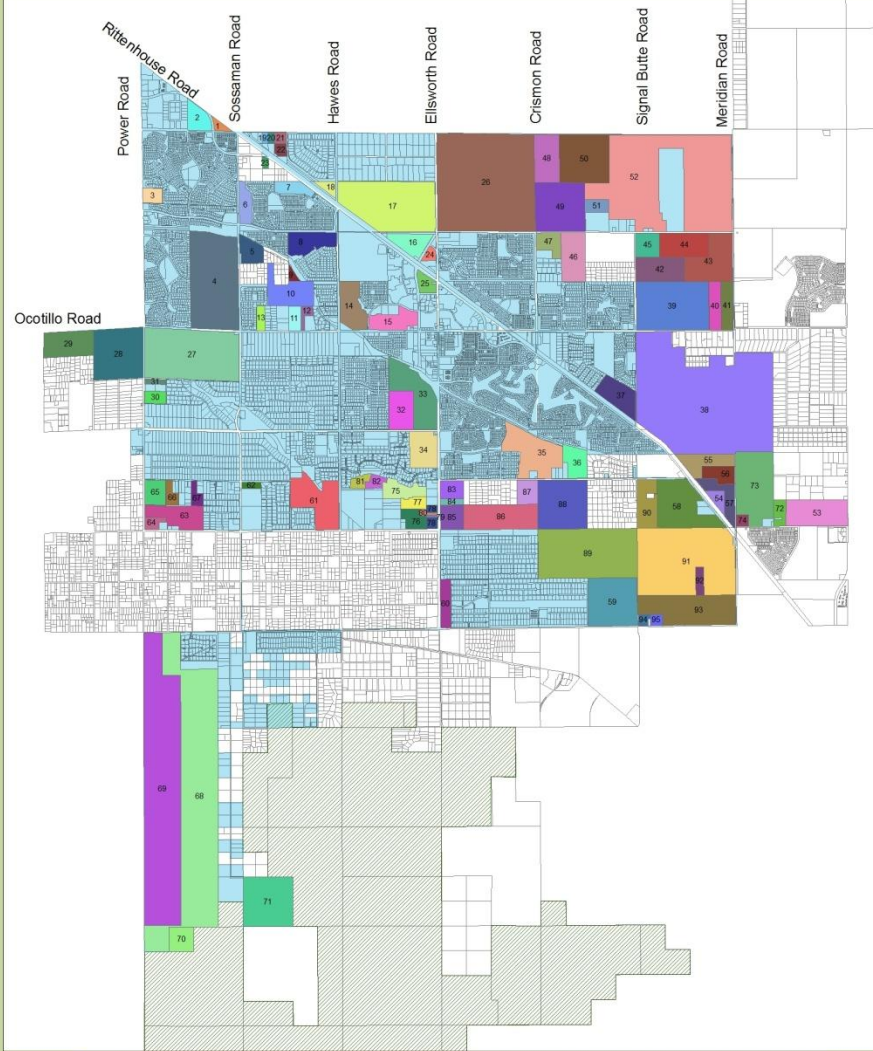
On March 31, 2011, the Department issued a Physical Availability Determination (PAD) for the Queen Creek Water Service Area. **The study area consisted of Township 2 South, Range 6 East, Sections 24 & 25; Township 2 South, Range 7 East, Sections 3, 6-12, 14-23, 25-30, 32-36 and Township 3 South, Range 7 East, Sections 3-9, 17-20** within the GSR B&M in portions of Maricopa and Pinal Counties in Arizona.

The Department has corrected the PAD balance of both H2O Water Company and the Town of Queen Creek to correctly reflect the demands for Healy Falkner (DWR #28-700693.0001) as being assigned to H2O instead of Queen Creek. The corrected accounting is summarized below.

In accordance with A.A.C. R12-15-702(D), the Department determined that a minimum of **7,980 acre-feet per year** of groundwater was physically available for 100 years under A.A.C. R12-15-716(B) for assured water supply purposes in the study area. Subsequent to issuing the PAD, the Department issued the following Analyses of Assured Water Supply (AAWS) relying on the PAD:

1. Barney Farms, DWR 28-700680.0000, issued for 1,718.89 acre-feet
2. Meridian Crossing, DWR 28-700681.0000, issued for 885.07 acre-feet
3. Sossaman Estates Phase B, DWR 28-700686.0000, issued for 1,758.07 acre-feet
4. Queen Creek Station-Jorde, DWR 28-700690.0000, issued for 1,110.54 acre-feet
5. Cloud and Crismon, DWR 28-700691.0000, issued for 1,401.5 acre-feet
6. Queen Creek Station-Commercial Corner, DWR 28-700692.0000, issued for 615.24 acre-feet
7. Victoria Estates Phases 5 & 9, DWR 28-700695.0000, issued for 246.82 acre-feet

As the total demands of these issued AAWS equal 7,736.13 acre-feet, there is 243.87 acre-feet remaining in Queen Creek's PAD for future Assured Water Supply applications.



Legend				
1. A&J Family LP	21. CHANDELIER INVESTMENTS INC.	41. BPT HOME LLC	61. Westwind Delta School	81. Trinity The Agency, The BTRM
2. A&J Family LP	22. RAJ MANULLA TR	42. JH HOLDING INC	62. QUEEN CREEK TEN INC	82. P and E Corner LLC
3. L&M Family LP	23. DORIS HULL GROUP LP	43. HORNDAV LLC	63. QUEEN CREEK TEN INC	83. P and E Corner LLC
4. Bessener Holdings LLC	24. ANDREW WILLIAM LUTHERINE & TR	44. DAN PASSETT TRUST LLC	64. ZEPHON BARR	84. Derrin & Corie LLC
5. East Coast Crane LLC	25. THE ANDERSONS WILSON	45. NORTH HAVEN DRIVE LLC	65. L&C LLOYD INVESTMENTS WESTPORT GROUP LLC	85. L&C LLOYD INVESTMENTS WESTPORT GROUP LLC
6. In-Cover Loans Being processed by Comer Bank	26. LINDSAY LLC	46. GENERAL FINANCIAL INC TR	66. PIONEER AND ROSS S LLC	86. SOUTHFLORIDA CHANGING JOINTLY TRUST ESTATE
7. Cooper Estates Inc	27. LINDSAY LLC	47. MICHAEL ONE ONE FINANCIAL TRUST	67. BRIDGEMOUNTAIN & INVESTMENTS QUEEN CREEK LLC	87. West Family Trust
8. Verde River Development Inc	28. LINDSAY LLC	48. LANDMARK PROPERTY HOLDINGS LLC	68. ROCK FOUNTAIN CHURCH	88. Arizona Throughway Training Center Inc
9. New Providence Inc	29. Bessener Holdings LLC	49. S&P HOLDING LLC	69. B.E. DENTON LLC	89. Riggs, Edward & LLC, JM Riggs & LLC
10. Verde Queen Creek - West Park	30. Bessener Holdings LLC	50. LAKESIDE ENTERPRISES LLC	70. LITTLE EARLY DEVELOPMENT MANAGER TR	90. Bessener-Carl Property Trust
11. 181 Ocotillo HOLDINGS LLC	31. Bessener Holdings LLC	51. JONES FAMILY INC	71. B.E. DENTON LLC	91. John Kenning
12. 181 Ocotillo HOLDINGS LLC	32. MBS HOLDINGS, L.L.C. BONAL	52. SCOTT'S HOLDING LLC	72. Parkside Family Trust	92. Queen Creek Ten LLC
13. VANDY BEE L&B REALTY TR VANDY, JUDITH & TR	33. SECURITY TITLE AGENCY INC	53. BARNEY FAMILY SPORTS COMPANY, L.L.P. ETAL	73. West Jordan Inc	93. Queen Creek Ten LLC
14. VICTORIAN LAND INVESTMENT GROUP - West Jordan	34. Bessener Holdings LLC	54. BARNEY FAMILY SPORTS COMPANY, L.L.P. ETAL	74. Union Creek	94. Queen Creek Ten LLC
15. VICTORIAN LAND INVESTMENT GROUP - L.L.C	35. SECURITY TITLE AGENCY INC	55. VESTER LLC	75. Queen Creek Land LLC	95. Queen Creek Ten LLC
16. THE ANDERSONS WILSON	36. QUEEN CREEK INVESTMENTS INC	56. APRIE REALTY	76. Queen Creek Land LLC	96. Queen Creek Ten LLC
17. H&C LLC	37. ARNETT FAMILY INC	57. BETTENCOURT DE LENDER LLC	77. Paradise Creek LLC	97. Arizona Throughway Training Center Inc
18. HANDEL BRYAN LLC	38. CHANDEL INVESTMENTS L.L.C. ETAL	58. H&C TRUST PROJECT A L.P. ET C	78. Piquette Holdings LLC	98. H&C Trust Project A L.P. ET C
19. PARK CANYON INVESTMENTS INC	39. ORVILLE GUY DUKOR FAMILY NORTH LIGHT VENTURE	59. PRIVATEY HILLS LLC	79. Piquette Holdings LLC	99. Queen Creek Ten LLC

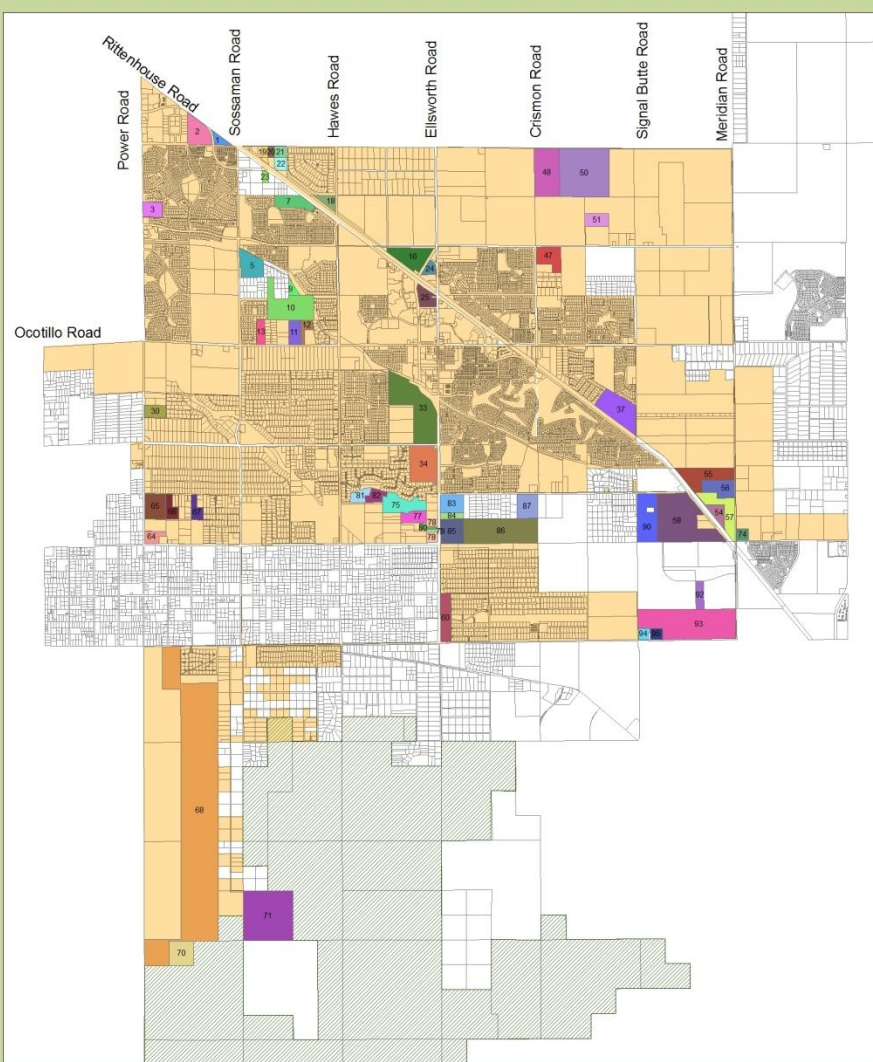
All information is believed to be accurate on the date of publication, but is not guaranteed.

Publish Date: 12/16/2010

Queen Creek Undeveloped Residential Land

Created by Dave Williams, Senior Planner 480-358-0898





Legend

1. ADV Family LP	18. FABRICATING DISTRIBUTOR INC	46. VACHOS ENTERPRISE S LLC	67. LITTLE GARY DE BOND/KATHIE MARLENE TR	83. BKD Family Trust
2. ADV Family LP	19. CHAMBLER WOODHOODS INC	47. OC WIND W LLC	68. Jove	84. Jackson Throughland Training Center/Inc
3. Los Padres LP	20. NALIA MARULLA TR	51. SHARNEY FAMILY SPORTS COMPLEX LLP ETAL	75. Pickett Family Trust	85. Rippel Edward 40 LLC / JIM Rippel 40 LLC
5. Quail Creek Owners LLC	22. SHAW VALLEY GROUP LP	54. UPRN RAYBARD	76. Keith Jordan Inc	86. Pharr Cynthia Barnes LE 010115
7. Emerson's Executive Inc	23. ANDERSON WILLIAM LAKESHORE S TR	56. OTTOSHORE SELENER LLC	76. Phipps Hills LLC (JIM RIPP)	87. Barnes Carl/Phyllis TR
8. Alba Foundation Inc	24. THELANDER DANIEL VENTAL	56. SALT RIVER PROJECT AI & P D	77. Flagler/Hoodlum LLC	89. Cloud Rendee M LLC
10. Town of Queen Creek West Park	25. LIPSOCH LLC	57. FRANTO HILLS LLC	77. Security The Agency T/ris 51884	90. Gensler Wreathams Services Inc
10. 107 COCTILLO HOLDINGS LLC	30. NEW MICHAEL/USE DONALD	58. FINE and CORN SHAW	78. R and E Comer LLC	90. Jackson Throughland Training Center/Inc
12. 108 COCTILLO HOLDINGS LLC	33. Elisworth Enterprises Limited Partnership	60. QUEEN CREEK TEN INC	79. R and E Comer LLC	94. Max Thomas S Y TR
13. YAMG STEVE JIS JIM/LELY V ATRIVANG JIN/LEAL TR	34. EARNHARDT HAL J JR TR	64. BRUND PARTNERS & INVESTMENTS QUEEN CREEK LLC	80. Diamond L Land and Care LLC	95. Chevon Group Inc
16. THELANDER DANIEL VENTAL	37. CHARLES WRETHAMTS F/LLC/ETAL	66. ROCK POINT OVERCO	81. COCTILLO/ROBERTO JEBEVE INVESTOR GROUP LLC	
18. HANES S A/V/AL LLC	47. SANDRUS S LLC	66. T & B RENTAL LLC	82. GOTTFRUCHT JOHN DIARY JO FAMILY TRUST/ETAL	

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 Publish Date: 4/14/2011

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