Recharge System Optimization Report

Prepared for the

City of Peoria

8401 W. Monroe
Peoria, Az 85345

Prepared by:

HydroSystems, Inc.

9831 S. 51st Street, Ste. E-122
Phoenix, AZ 85044
P: 480-517-9050 F: 480-517-9049
E-mail: info@hydrosystems-inc.com

REGISTERED GEOLOGIST
CERTIFICATE NO.
42443
C. NANCY
LAMASCUS
Date Signed 10/29/12
ARIZONA U.S.A.
Expires 03/31/14

And

Burns & McDonnell

2600 N. Central Ave., Ste 1500
Phoenix, AZ 85004
P: 602-977-2623 F: 602-977-2660
www.burnsmcd.com

Registered Professional Engineer
CERTIFICATE NO.
22001
ROBERT S.
SCHULZ
Date Signed 10/29/12
ARIZONA U.S.A.
Expires 6/30/13

October 29, 2012
12-642

TABLE OF CONTENTS

Section No. Page No.

1.0 INTRODUCTION & PURPOSE 1

2.0 BACKGROUND 1

3.0 PHYSICAL SETTING 1

3.1. Physiography 2
3.2. Geology 2
3.2.1. Butler Water Reclamation Facility 5
3.2.2. New River Below & Above Grand Avenue 6
3.2.3. Rio Vista Community Park 6
3.3. New River Hydrology 7
3.4. Hydrogeology 7
3.4.1. Butler Plant Water Reclamation Facility 8
3.4.2. New River Below & Above Grand Avenue 9
3.4.3. Rio Vista Community Park 10
3.5. Water Quality 10

4.0 NAUSP DATA REVIEW 11

4.1. Stream Flows 11
4.2. Groundwater Levels 11
4.3. Surface Soils 12
4.4. Recharge Rates/Volumes 12
4.5. Water Quality 12
4.6. Overall Impact 13
4.7. Operational Issues 13
4.8. Recommended Operational Improvements 13

5.0 RECHARGE METHODS 13

5.1. Shallow Infiltration Basins 14
5.2. Vadose Zone Recharge Wells 14
5.3. ASR Wells 15
5.4. Managed Recharge 15
5.5. In-Stream Construction 16
5.6. Preferred Recharge Methods 16

6.0 PERMITTING 16

6.1. Regulatory Permitting Summary 16
6.1.1. ADWR 16
Underground Water Storage (UWS) Program 16
Underground Storage Facility (USF) Permit 17
Water Storage Permit 17
Recovery Well Permit 17
Notice of Intent to Drill/Well Permits 17
6.1.2. ADEQ 18
Aquifer Protection Permit 18
6.1.3. Maricopa County Environmental Services Division 18
Approval to Construct and Approval of Construction 18

6.1.4. EPA 18
Underground Injection Control (UIC) Inventory *18*
EPA Clean Water Act, Section 404 Permit *19*
6.2. Regulatory Permitting Issues *19*
6.2.1. Glendale Landfill MW-8 19
6.2.2. Multiple Recharge Facilities 19
6.2.3. Buckeye Waterlogged Area 19
6.2.4. Sand and Gravel Facilities 20
6.2.5. NAUSP 20
6.2.6. No Migration of Contaminant Plumes 20

7.0 RECHARGE ALTERNATIVES EVALUATION 20

7.1. Land Use & Availability *20*
7.2. Engineering & Construction Overview *22*
7.3. Cost Evaluation *24*
7.3.1. Methodology 24
7.3.2. Assumptions 25
7.3.3. Results 27
Unit Recharge Costs *28*
7.4. Evaluation Matrix *29*

8.0 RECOMMENDATIONS FOR THE NEXT PHASE 31

9.0 SUMMARY 31

10.0 REFERENCES 33

LIST OF FIGURES

Figure No.

Figure 1 – Study Area Map
Figure 2 – ADWR 55 Well Location Map
Figure 3 – Map Showing ADWR GWSI Well Locations and 2009 Water Level Elevations
Figure 4 – Cross-Section Location Map
Figure 5 – Cross-Section A-A'
Figure 6 – Cross-Section B-B'
Figure 7 – Cross-Section C-C'
Figure 8 – Cross-Section D-D'
Figure 9 – Cross-Section E-E'
Figure 10 – Cross-Section F-F'
Figure 11 – Cross-Section G-G'
Figure 12 – Cross-Section H-H'
Figure 13 – Cross-Section I-I'
Figure 14 – Cross-Section J-J'
Figure 15 – Cross-Section K-K'
Figure 16 – Location of Errol Montgomery Soil Borings Butler Drive WRF
Figure 17 – Cross-Section for Errol Montgomery Soil Borings Butler Drive WRF
Figure 18 – Location of Errol Montgomery Soil Borings Along New River
Figure 19 – Cross-Section for Errol Montgomery Soil Borings Along New River
Figure 20 – 2009 Depth to Water Map
Figure 21 – 1997-2009 Water Level Change Map
Figure 22 – Calculated TDS Concentrations for the Study Area
Figure 23 – Targeted Recharge Locations

LIST OF TABLES

Table No.

Table 1. Butler Wastewater Projections Report
Table 2. Cost Development
Table 3. Butler Combination 1 Analysis
Table 4. Butler Combination 2 Analysis
Table 5. Butler Combination 3 Analysis
Table 6. Butler Combination 4 Analysis
Table 7. Butler Recharge Optimization Unit Costs
Table 8. Evaluation of Alternatives Matrix

LIST OF APPENDICES

Appendix No.

A. ADWR Well Registration Data 55-Files
B. ADWR Imaged Records, Well Logs, and 35-Files
C. GWSI Well Data
D. GWSI Construction Data
E. GWSI Water Level Data
F. Errol Montgomery and Associates' Soil Boring Logs for the Butler WRF and along New River
G. NAUSP Evaluation
H. Permitting Requirements

1.0 INTRODUCTION & PURPOSE

The City of Peoria's (City) water portfolio is comprised of one-third Colorado River water, one-third surface water from the Salt-Verde River system, and one-third groundwater withdrawn from City owned wells. The groundwater is classified as "recovered" because it was stored by the City in the aquifers underlying the City. If surface water deliveries were curtailed, such as in times of drought, the City would be required to increase groundwater withdrawals to supplement the supply. The City is committed to their sustainability and conservation goals. In order to fulfill these goals, they would like to maximize their ability to store water underground. The City has contracted with HydroSystems, Inc. (HSI) and Burns & McDonnell (BM) to prepare a Recharge System Optimization Report (RSOR) that will be used by the City in its evaluation of the various recharge options that are available. The goals of the RSOR are to determine the most feasible, efficient, and cost effective recharge methods for recharging the reclaimed water from the Butler Water Reclamation Facility (WRF). A study area was established and provided in *Figure 1*. Information provided in the RSOR will support the City in its effort to secure capital funding.

2.0 BACKGROUND

Built in 2008, the Butler WRF currently produces between 6.8 and 7.9 million gallons per day (mgd) (7,620-8,856 acre-feet per year) of Class A+ treated effluent. The facility has a treatment capacity of 10 mgd (11,210 acre-feet per year) and the infrastructure to support 13.4 mgd (15,021 acre-feet per year), which is the maximum design capacity. Most of the current discharges are stored at the New River Agua Fria Underground Storage Facility (NAUSP), which was permitted to take up to 75,000 acre-feet per year (afy) at build-out. The City owns 20% of the monthly declared capacity at the recharge facility. The 20% monthly declared capacity has not been sufficient to accept all of the reclaimed water produced from the Butler WRF. (Since 2007, NAUSP accepts deliveries of between 19,000-24,000 afy.) To make up for this shortfall, the City has arranged to lease space in exchange for an equivalent volume of long-term storage credits from other NAUSP partners. The City does not receive any credit for this recharge, thus it loses out on this resource. Reclaimed water from the Butler WRF is also directly reused at the City's Municipal Operations enter truck wash and used to meet some of the City's irrigation demand and some residential irrigation demand.

3.0 PHYSICAL SETTING

In effort to evaluate whether City or adjacent properties can accommodate recharge projects and in effort to determine which projects would be appropriate for which locations, HSI staff researched the physiography, geology, hydrology, and hydrogeology for the study area. The following geology and hydrogeology sub-sections begin with a regional overview; more in-depth geologic and hydrogeologic characterizations are included after the regional overview. In-depth characterizations are provided for an area near the Butler Water Reclamation Facility (WRF), sites along New River below and above Grand Avenue, and at Rio Vista Community Park. It is very likely that other sites within the City's limits are suitable for recharge, but the City has advantage in using one or more of these sites for recharge. (See

Section 7.1) The spacing of these three areas within the City's limits gives a valuable understanding of the different geologic and hydrogeologic conditions encountered within the City's limits.

Research efforts included retrieving data from the Arizona Department of Water Resources' (ADWR's) 55-Files (*Appendix A),* Imaged Records (*Appendix B)*, 35-Files (*Appendix B*), and Groundwater Site Inventory (GWSI) database (*Appendix C, D,* and *E*). *Figures 2* and *3* show the locations of the wells that were identified in the ADWR's 55-Files and the GWSI database, respectively. Numerous investigations were also reviewed, including area-wide mapping projects, studies performed for water supply purposes, and recent smaller-scale investigations performed in support of urban development. References to selected studies are made throughout this section. This section provides a foundation on which management decisions can be made. It is not a comprehensive summary of all of the available geologic and hydrogeologic studies that have been performed in the study area.

3.1. Physiography

The City of Peoria Butler WRF is located in Township 3 North, Range 1 East, Section 35 (A-3-1-35 BAA) and Rio Vista Park is located in Township 3 North, Range 1 East, Section 10 (A-3-1-10). These facilities lie within the Basin and Range physiographic province that is characterized by northwest-southeast trending valleys created as a result of crustal extension in the western United States. They lie within the West Salt River Valley and are surrounded by the White Tank Mountains to the west, the Hieroglyphic and Phoenix Mountains to the north and east, respectively, and the Sierra Estrella Mountains and South Mountain to the south. The Gila River, Salt River, and Agua Fria River are the three major surface water drainages in this greater area. The principal surface water drainages in the study area are the Agua Fria River and the New River.

3.2. Geology

The City of Peoria sits near the western side of the Phoenix Basin. The nearest bedrock exposure is found in the White Tank Mountains about 15 miles to the west. Here, the rocks are composed of ancient Precambrian metamorphic and granitic rock (Reynolds et al., 1991) that were buried to great depths and strongly deformed during the Precambrian. During the Early Tertiary, these rocks were intruded by granite and overlain by volcanic rocks that now occupy the northern third of the mountain range. The granitic rocks form steep light-colored ridges on the northeast side of the range.

All of these rocks were originally buried many miles beneath the surface. But during the middle Tertiary, rapid extension of the crust led to faulting along low–angle structures called detachment faults. A detachment fault is exposed on the west side of the range where it separates highly altered Tertiary volcanic rocks above from stretched and crushed metamorphic and granitic rocks below (Ferguson et al., 2004). A mineral lineation suggests that the detachment fault projects up over the range from southwest to northeast and dives back down on the east side of the range where it is buried beneath alluvium of the western Phoenix Basin. To the south, near Luke Air Force Base, three wells encountered the detachment fault at depths of more than 6,000 feet below land surface (bls), where it appears to dip gently east-northeastward about 12 degrees (Spencer and Rauzi, 2005). Depth to bedrock maps (Richard et al., 2001) indicate that the subsurface between Luke Air Force Base and Sun City is the deepest part of the western Phoenix Basin. It may contain more than 10,000 feet of post-detachment sedimentary deposits.

Another significant geologic feature located within the deepest part of the western Phoenix Basin is the Luke Salt Body (Richard et al., 2007). The southwestern-most portion of the City of Peoria overlies the Luke Salt Body (Spencer and Rauzi, 2005). This deposit formed from evaporation of water that collected in the former playa. The salt body is at least several thousand feet thick, which indicates that the playa existed here for a long period of time, probably many hundreds of thousands of years. The salt is relatively impermeable, and it inter-fingers laterally into clay and silt.

Portions of the City lie within a subsidence feature identified by the ADWR as the West Valley Land Subsidence Feature (ADWR, 2012). This feature contains two smaller areas that have undergone more pronounced subsidence than the surrounding area. The western area is centered on Sun City, at Thunderbird Avenue between Del Webb Boulevard and 99th Avenue. The eastern area lies immediately east and northeast of the Butler WRF near 75th Avenue and Grand Avenue. Synthetic Aperture Radar (SAR) data collected since 1992 indicate that most of the observed subsidence occurred prior to 2000. The amount of subsidence measured between 1992 and 2000 near the center of the western area was about 15 to 20 centimeters (cm), and near the center of the eastern area was about 30 to 35 cm. Since 2000, however, the amount of subsidence has decreased to about 0 to 1 cm. Subsidence prior to 2000 may be a result of groundwater pumping for agriculture. As the area urbanized, demand for groundwater decreased, likely leading to less groundwater overdraft and land subsidence. There is also a possibility that hydrocompaction, associated with the artificial lakes north of Thunderbird Avenue, may have contributed to the subsidence observed in the western area at Sun City; however, this has not been verified.

The Arizona Geological Survey's earth fissure maps show that the closest earth fissures to the study area are located about 6 miles west of the Butler WRF, north of Glendale Avenue and west of El Mirage Road. The fissures' proximity to the surface bulge of the Luke salt dome, also located in that area, suggest that they are related more so to the formation of the salt dome than to subsidence caused by groundwater withdrawal, but this has not been verified. There are no other mapped fissures in the portion of Peoria included in the study area.

In effort to define the stratigraphy within the study area, cross-sections were developed from well drillers' logs obtained from the Imaged Records and the 35-Files (*Figure 4*). ADWR records were found for 203 wells, but only eighty-nine contained useful lithologic logs (*Appendix B*). Once the location of the wells with useful lithologic logs were plotted on a map, it was determined that eleven cross-sections could be prepared based on these logs. A stratigraphic column for each well (referenced herein and on the cross-sections either by ADWR's 55-Well number or 35-Well number) was developed from the description of the material in the driller's logs. It should be noted that there are some inherent difficulties with interpreting the subsurface geology for an area in this manner. Since well drillers typically do not have much, if any, training in geology, the accuracy of the lithologic description in these logs is difficult to evaluate. A greater confidence level in the accuracy of the logs is gained when nearby logs tend to agree with one another. In the case where there is only one well log within a several square mile area, as was the common in this study area, the accuracy of the singular log cannot be corroborated. Furthermore, a physical gap in lithologic information provides little on which to base an interpretation. Also adding to the frustration in interpreting subsurface geology in this manner is the fact that one would expect to see lateral facies changes between coarser stream channel deposits and finer flood plain deposits in an area such as this, where streams have meandered back and forth for several million years as the basin filled with sediment; however, when there are only a few, widely spaced lithologic logs available, confidence in identifying facies changes is very low. There must be sufficient geologic data to uphold such an interpretation. Development of the large body of geologic

data that would be necessary to identify the paleochannels in the study area was out of the scope of this study.

In the cross-sections (*Figures 5 – 15*), the lighter colors represent coarser material dominated by sand and gravel, while the darker brown and red represents finer material dominated by silt and clay. The light green is, therefore, probably more transmissive, whereas the darker color is probably much less transmissive. The darker green color represents fines mixed with "some" gravel. This is a common description in the driller's logs, but is also misleading. In most cases it is not clear if this description represents 98% silt and clay with 2% thumb-size pebbles mixed in, or if it represents 60% silt and clay with 40% rounded cobbles. As a general rule, any material that contains an appreciable amount of silt and clay, even if it fills in pore spaces between larger gravel clasts, will be much less transmissive than cleaner sand and/or sand and gravel.

Even with these limitations, some interpretations can be made. Cross-sections **A-A'** (*Figure 5*) and **B-B'** (*Figure 6*) slice northwest to southeast across the study area (*Figure 1*). The central part of A-A' (*Figure 5*) appears to be mostly sand and gravel within about 100 feet of the surface. This is consistent with the position of New River in this general location. Other wells to the northwest and southeast show intervals of mixed sand, gravel, and fines down to depths of at least 1,000 feet bls. It is possible that these may be old buried river channel deposits, but, as mentioned above, they may also be mostly fines with only sparse gravels. Cross-section B-B' (*Figure 6*) also shows some of these deeper intervals. On both cross-sections some of the deeper wells show very thick intervals composed almost entirely of fines. As will be discussed below, this appears to be consistent with the other cross-sections as well.

Cross-section **C-C'** (*Figure 7*) traverses east-west across the northern part of the study area. Several well logs show sand and gravel from the surface down to depths of roughly 200 and 400 feet. This is also consistent with the presence of both New River and the Agua Fria River in these areas. The four wells in the eastern part of the cross-section are relatively consistent, and show mostly coarser material above about 200 feet bls and mostly fines below. As previously mentioned, the wells that show very thick intervals of mixed fines, sand, and gravel, are difficult to evaluate.

Cross-section **D-D'** (*Figure 8*) also trends more or less east-west across the center of the study area. The well logs show a lot of variation, but numerous logs show quite a bit of fine detail, suggesting that the logger was paying attention to changes in the cuttings reaching the surface during drilling. If these changes are real, then it appears that near the center of the cross-section, near New River, the upper 200 feet or so is mostly sand and gravel and a thick deposit of silt and clay is below 200 feet.

Cross-section **E-E'** (*Figure 9*) is a short segment extending north-south on the west side of the study area. It intersects the west end of cross-section D-D' (*Figure 8*). Interestingly, in the northernmost portion of this cross-section, there is a group of six wells with the same cadastral that consistently show mostly fines from the surface to a depth of about 130 feet.

Cross-section **F-F'** (*Figure 10*) extends across the study area from the southwest to the northeast. The well logs are difficult to interpret, but it appears that there are some sand and gravel intervals within about 200 feet of the surface, and several of the deeper logs show mostly silt and clay below this. Cross-section **G-G'** (*Figure 11*) is similar to cross-section F-F', but also shows some deeper intervals of sand and gravel towards its east side.

Cross-sections **H-H'**, **I-I'**, **J-J'**, and **K-K'** (*Figures 12-15*) all show, more or less, mostly sand and gravel from the surface to a depth of between about 200 and 400 feet.

An HSI staff evaluation of well cuttings from a Sun City area well supports the conclusion that the Agua Fria River and its tributaries are very old and that the Agua Fria flowed through this area far into the past when the land surface was more than 1,000 feet lower than it is today. Because rivers frequently overflow their banks and change positions, it is quite possible that there are buried paleochannels, defined by sand and gravel deposits, in the area. Some of these may be visible in the aforementioned cross-sections. However, as previously mentioned, the available lithologic logs are so few and far between across most of the study area and within the City' limits, there is not enough resolution to be able to determine with any certainty exactly how many channels exist, what their positions are, and how thick they are.

To overcome this lack of data, resistivity or Time Domain Electromagnetics (TEM) surface-geophysical studies could be performed in areas of interest. A TEM study could help distinguish between coarse and fine intervals, particularly above the water table; however, there is a possibility that the results may not be conclusive because of factors such as the chosen orientation of the lines, and electrical interference from nearby electric usages.

Since there appear to be many more wells without lithologic logs in the area then wells with lithologic logs, some subsurface information may be obtained by running gamma-neutron logs down some of the cased wells. Because most of these existing wells likely contain steel casing, no other type of geophysical logs will penetrate the steel. The gamma-neutron logs themselves will be attenuated, but it is possible that the logs may be able to distinguish between sand and gravel intervals and fine-grained intervals. It might also be advantageous to run a gamma-neutron log down one or two of the wells in areas that already have a lithologic log, just to learn how well the lithologic log and the geophysical logs agree.

3.2.1. Butler Water Reclamation Facility

In 2004, Layne Christensen Company drilled four soil borings in the open space south and west of the Butler WRF property on behalf of Errol Montgomery and Associates, Inc. (Montgomery) who were investigating the recharge potential of the site (*Figure 16*). Montgomery developed a cross-section from the soil borings that shows that there is an interval of fine-grained material from the surface to a depth of about 30 to 40 feet (*Figure 17*, *Appendix F*). Below the fine-grained material is a 10 to 15 feet (ft) thick interval of medium to coarse-grained material that lies on top of about 40 ft of medium-grained sediment with varying amounts of fine and coarse-grained intervals that are not consistent across the borings. WRF-1 was terminated at 199 ft bls, while WRF-2, WRF-3, and WRF-4 were all terminated at 99 ft bls. The last 20 feet of WRF-2, WRF-3, and WRF-4 show coarse-grained material that is also found in WRF-1 but extends 20 ft further and is followed by about 15 ft of medium-grained material. Under this interval is 30 ft of predominantly fine-grained material, followed by 15 ft of medium to coarse-grained material, and about 25 ft of alternating intervals of fine and medium-grained material.

Other than the lithologic information developed for the Montgomery study, there is little lithologic information for the area near the Butler WRF. So, HSI staff examined the cross-sections created as part of this study in effort to estimate whether there may be a potential for a recharge in the sediment below 199 ft, which was the depth of the deepest Montgomery soil boring. Cross-sections A-A', B-B', G-G', and K-K' are the ones nearest to the Butler WRF. The lithologic information in these cross-sections,

especially A-A' and G-G', is sparse in the vicinity of the Butler WRF. Cross-sections B-B' and K-K' both include a lithologic log from well (55-537968) that indicates the existence of an interval of coarser-grained material from about 300 to 500 ft bls. The presence and location of this unit could be confirmed or refuted by drilling a deeper soil boring at this site or at a neighboring site.

3.2.2. New River Below & Above Grand Avenue

As part of the same recharge alternatives study that Montgomery performed, Layne Christensen Company drilled two soil borings north of the Butler WRF along a segment of New River, one about ¾-mile south of its crossing with Grand Avenue and the other about ½-mile north of its crossing with Grand Avenue (*Figure 18*). These borings revealed an interval of predominantly sand and gravel from the surface to depths of about 60 feet. (*Figure 19*, *Appendix F*). In both of these borings, finer-grained material followed the sands and gravel. At NR-1, fine-grained sediments predominated the lithology of the balance of the boring, which terminated at 219 ft bls. In this thick fine-grained unit, there were occasional, minor (1 to 7 ft) intervals of medium-grained sediment. At NR-2, the fine-grained sediment under the uppermost sand and gravel was about 64 feet thick. From 124 ft bls to 167 ft bls, medium-grained material with fines were encountered. Fine-grained sediments, with an occasional, minor (2 to 8 ft) interval of medium or coarse-grained sediment comprised the rest of the boring, which terminated at 229 ft bls. The presence of a 60 foot thick coarse-grained interval that starts at the surface and that overlies a fine-grained interval is just the opposite of what was encountered near the Butler WRF.

The lithology obtained through the Montgomery (2006) study is consistent with the geologic information presented in the upper 200 to 250 ft of cross-sections A-A', B-B', and D-D', which cross near the areas of NR-1 and NR-2. But, it should be noted that there is greater variation in the lithologic logs included in these cross-sections when the depth is greater than about 250 feet. There is also less information at deeper depths. These factors make it difficult to assess whether there are intervals of transmissive medium and/or coarse-grained sediment between 250 ft and 600 ft, and if so, to assess how thick the intervals are. To determine whether there is transmissive sediment at depth that would be suitable for recharge, a deeper soil boring or series of soil borings would need to be drilled at these sites.

3.2.3. Rio Vista Community Park

In addition to the two soil borings that Layne Christensen Company drilled along New River below and above Grand Avenue, another soil boring, NR-3, was drilled on the north side of Rio Vista Community Park. The layers encountered at depth exhibit considerable variation, which is common in fluvial environments. The first 23 feet of NR-3 were comprised of fill that contained steadily decreasing (35 to 10%) amounts of clay. Beneath this there were 26 ft of coarse and medium-grained sediment, then 20 ft of fine and medium-grained sediment. From 69 ft bls to 94 ft bls, there was an interval of medium with coarse-grained sediment. Between 94 ft bls and about 167 ft bls, medium and coarse-grained sediments were predominant but contained occasional, small stringers of fine-grained sediment. From 167 ft bls and continuing to 215 ft bls, were alternating intervals of fine and medium-grained sediment. From 215 ft bls to 274 ft bls, were mostly medium-grained sediment with coarse-grained sediment in some amount in all but three small intervals. The interval between 274 ft bls and 284 ft bls was like the previous unit, just with clay added. Following this was 10 ft of coarse and medium-grained sediment. The boring ended with 5 ft of fine with medium-grained sediment.

The lithology obtained through the Montgomery (2006) study is consistent with the geologic information presented in the upper 299 ft of cross-sections C-C' and F-F', which cross near Rio Vista Community Park. Both of these cross-sections include two lithologic logs (55-583890 and 55-574914) that have extensive medium and coarse-grained intervals from the surface to greater than 600 ft bls. Because NR-3 was terminated at 299 ft bls, the lithology beneath this depth needs to be confirmed through drilling.

3.3. New River Hydrology

Within the study area, the Flood Control District of Maricopa County (FCDMC) has two gaging stations on New River: one at Bell Road (#5598) and one at Glendale Avenue (#5508). Between these two gaging stations, Skunk Creek confluences with New River about a ¼ mile south of Greenway Road. Skunk Creek is joined by the Arizona Canal Diversion Channel just before its confluence with New River (*Figure 1*). About 4½ miles northeast of this, Skunk Creek is joined by Scatter Wash. New River at Bell Road (#5598) measures a 185 mi^2 watershed. Most of the flow measured at this station travels through the New River Dam (FCDMC, 2012). New River at Glendale Avenue (#5508) measures a 600 mi^2 watershed. The FCDMC estimates that approximately 27% of the watershed is controlled by New River Dam, 32% is controlled by the Cave Buttes Dam, and 15% is controlled by the Adobe Dam (FCDMC, 2012).

Between the years 2000 through 2011, the peak discharge measured in New River at Bell Road occurred January 22, 2010 and measured 1,644 cfs, which is just below a 2-year storm (1,920 cfs). For comparison, a 5-year flood at this site is estimated to be 6,510 cfs, a 10-year flood is estimated to be 11,700 cfs, and a 100-year flood is estimated to be 41,800 cfs. The estimated average yearly flow during this time period was 2,727 acre-ft.

Between 2000 and 2011, the flows on at Bell Road (#5598) were, on average, 27% of the flows observed at Glendale Avenue (#5508). Between the years 2000 through 2011, the peak discharge measured in New River at Glendale Avenue occurred February 14, 2003 and measured 6,416 cfs, which is just above a 5-year storm (5,930 cfs). For comparison, a 2-year flood at this site is estimated to be 1,910 cfs, a 10-year flood is estimated to be 10,800 cfs, and a 100-year flood is estimated to be 45,200 cfs. The estimated average yearly flow during this time period was 9,514 acre-ft.

3.4. Hydrogeology

The City of Peoria is located in the West Salt River Valley (WSRV) Groundwater Basin, which lies within the central to northwestern part of the Phoenix Active Management Area (AMA). For convenience in working with water supply issues, the hydrogeology of this portion of the WSRV has been divided into the upper, middle, and lower hydrogeologic units (Brown and Pool, 1989). The lower unit, commonly called the Lower Alluvial Unit (LAU) consists of playa, alluvial-fan, fluvial, and evaporite deposits that were deposited when the basin was closed and subsiding (Thiros, et al., 2010). The lower unit has been divided into a lower portion, which is greater than 10,000 ft at the basin center and contains the Luke Salt Body, and an upper portion, which is less than 1,000 ft (Thiros, et al., 2010). Brown and Pool (1989) estimated that the hydraulic conductivity ranges from 6 to 14 ft/d for the lower part, and from 3 to 25 ft/d for the upper part. The LAU is fully saturated in most of the basin (Thiros, et al., 2010).

The middle unit, commonly called the Middle Alluvial Unit (MAU), consists of playa, alluvial-fan, and fluvial deposits that are more fine-grained in the center of the basin. They were deposited when this portion of the WSRV was drained by the Agua Fria (Brown and Pool, 1989). The MAU is 800 ft thick near

the center of the basin. Brown and Pool (1989) estimated the hydraulic conductivity ranges from 4 to 60 ft/d. The upper unit, called the Upper Alluvial Unit (UAU), is comprised of a few hundred feet of channel, floodplain, and alluvial-fan materials chiefly deposited by the Agua Fria and its tributaries (Brown and Pool, 1989). Brown and Pool (1989) estimated that the hydraulic conductivity ranges from 180 to 1,700 feet per day (ft/d). *Figure 20*, which is a water level elevation map based on 2009 water level data (ADWR, 2012), reveals that the UAU is, for the most part, depleted in this area.

Aquifers within this portion of the AMA are recharged naturally via stream channels and mountain front recharge, via subflow from the Lake Pleasant sub-basin, and precipitation (ADWR, 2012). The aquifers are also recharged by recharge by anthropogenic activities including agricultural return flows and planned recharge facilities such as the NAUSP. Historically groundwater in the AMA flowed toward the Agua Fria River (Corkhill, Corell, et.al., 1993). Since the late 1800's, the groundwater flow direction has been impacted by agriculture, via production and return flows; by damming the rivers; and by urbanization, which has increased groundwater production and increased evapotranspiration rates.

Between the late 1800's and the 1970's, groundwater was primarily used to support this developing agricultural community. Since then, the use of groundwater has shifted to support the increased municipal demand. Evidence of the impact that years of hydrologic modification have had on the groundwater can be observed in *Figure 20*. This figure shows that the groundwater flow direction no longer flows along the Agua Fria River; rather, it flows primarily towards the northwest towards the intersection of Thunderbird Road and El Mirage Road.

Each year, ADWR staff measure the depth to water in a number of "index" wells identified throughout the state. Periodically, ADWR staff will perform more comprehensive water level monitoring (a "sweep") within a specific basin. The most recent basin "sweeps" performed in the study area were performed in 1997 and 2009. *Figure 21* shows the change in depth to water that occurred between the measurements made in 1997 and 2009. The northern third of the study area experienced, for the most part, a depth to water increase of 10 feet or more. Near the intersection of Thunderbird Road and 119th Avenue, about 1½ miles west of the area identified as having historic subsidence, one well showed an increase of up to 70 feet. For the most part, the depth to water decreased across the lower two-thirds of the study area. One minor exception to this was noted in a well ¾ mile southeast of the NAUSP facility, where the depth to water increased 10 feet. The two most significant decreases in the lower two-thirds of the study area were both measured in wells on 91st Avenue. An 80 ft decrease was measured near the intersection of 91st Avenue and Olive Avenue, which is within City of Peoria limits. A 70 decrease was measured about 1/3 mile north of Camelback east of 91st Avenue, which is within the City of Glendale.

3.4.1. Butler Plant Water Reclamation Facility

Per the 2009 depth to water map created for the study area (*Figure 20*), it is estimated that the depth to water in the vicinity of the Butler WRF is roughly 225 ft bls. The subsurface geologic information for this area shows that there is an interval of fines from the surface to a depth of 30 to 40 ft. Because of the presence of this thick fine-grained interval at the surface, recharge basins would not likely be an effective recharge alternative for this area. Fine-grained sediment would slow and possibly inhibit recharge. There is, however, a thick interval of coarse-grained material from about 80 ft bls to between 120 and 130 ft bls. This transmissive sediment would be amenable to recharge via vadose zone recharge wells. The current depth to water in this area is roughly 225 ft bls, therefore, more room exists

in the vadose zone to allow for mounding stemming from long term vadose zone recharge. This area should be able to assimilate the recharge from numerous vadose zone recharge wells.

As part of the recharge alternatives study completed by Montgomery (2006), an injection test was performed in the soil boring WRF-3, which was converted to a temporary well. A constant-head test, performed for 6 days, resulted in a final injection rate of 41 gallons per minute (gpm). Montgomery figured that this injection rate, 41 gpm, is less than what would occur had the well been designed as a full-scale vadose zone recharge well and had the injection test been a full-scale injection test. Furthermore, Montgomery noted that the soil boring WRF-3 was only drilled to a depth of 99 feet which, according the lithology log of nearby WRF-1, only penetrated the upper 20 feet of the coarse sand and gravel interval that was found at 80 ft bls. Had WRF-3 had penetrated the entire sand and gravel interval, there would have been an additional 30 ft or so of permeable material in which to inject.

One other recharge option that should be considered for this site is direct injection. Cross–sections B-B' and K-K' both include the same well (55-537968) that indicates that there is significant coarser-grained sediment between 300 and 500 ft. An interval of transmissive sediment at this depth, most of which is beneath the water table at 225 ft bls, may support recharge via direct injection. In order to confirm or refute the potential for deep injection, a deeper soil boring would need to be drilled at this site.

3.4.2. New River Below & Above Grand Avenue

Per the 2009 depth to water map (*Figure 20*), it is estimated that the depth to water in the segment along New River about ¾-mile below its crossing with Grand Avenue is 275 ft bls and the depth to water in the segment along New River about ½-mile above its crossing with Grand Avenue is 320 ft bls. Assuming that the 60 ft sand and gravel unit immediately beneath the surface at these locations (Montgomery, 2006) is fairly transmissive, it is likely that a managed or constructed facility would work well as a recharge solution at these locations and possibly at other sites along New River between these locations. The presence of fine-grained materials below 60 ft bls may limit how much is recharged via such facilities, though. As mentioned in the Montgomery (2006) report, recharge at these sites may result in perched groundwater conditions. It is possible that water recharged along New River may flow laterally in the subsurface downstream for some distance before infiltrating downward. It should be noted that the recharge basins at the Gilbert Riparian Preserve were constructed in fine-grained material and, although the infiltration rate is rather low, the basins function adequately. Should the City chose to utilize a constructed facility at either of these sites or at other sites along New River between these locations, percolation testing should be performed at the proposed recharge facility location before the permitting process is commenced.

It may be possible to effectively utilize shallower vadose zone recharge wells at these two sites along New River, however, the zone of recharge would need to target the area above the fine-grained unit at 60 ft bls. Because of this, the recharge rate may need to be limited to 200 to 250 gpm. Measures that could be taken to reduce mounding that will likely result from recharge include lowering the recharge rates and increasing the spacing between the wells. Any wells installed along the river would need to be protected from storm flows.

It is not known whether deep injection is a viable recharge solution for these locations along New River. The lithologic logs included in the cross-sections nearest to these locations were inconsistent and insufficient at depths greater than about 250 ft. These factors make it difficult to assess whether there is transmissive sediment between 250 ft and 600 ft, and if so, how thick the interval is. In order to

properly evaluate the potential for deep injection at these sites, deeper soil borings would need to be drilled at or near these sites.

3.4.3. Rio Vista Community Park

Per the 2009 depth to water map (*Figure 20*), it is estimated that the depth to water in the vicinity of Rio Vista Community Park is 350 ft bls. The lithology obtained through the Montgomery (2006) study indicated that a significant interval of transmissive sediment was found immediately beneath the surface in soil boring NR-3. Considering this, it is likely that a managed or constructed facility would work well as a recharge solution at this location. Should the City choose to utilize a managed or constructed facility at Rio Vista Community Park, percolation testing should be performed at the proposed recharge facility location before the permitting process is commenced.

The lithology of NR-3 also indicated that fairly transmissive sediment was present from the surface to 167 ft bls and between 215 ft bls and 299 ft bls. Small intervals of fine-grained material were interspersed through these sections, but they are not significant enough to discourage the use of vadose zone recharge wells at this location. Because the current depth to water in this area is roughly 350 ft bls, there would be more room in the vadose zone to allow for mounding stemming from long term vadose zone recharge. This area should be able to assimilate the recharge from numerous vadose zone recharge wells.

It should be noted that Montgomery (2006) attempted an injection test in NR-3 just as they had performed in WRF-3 at the Butler WRF. Results obtained from the test in NR-3 were counter to what was anticipated based on the lithology obtained from the soil boring. The constant-head test was intended to be run long enough to allow the injection rate to stabilize. However, after one day, the test was terminated because low injection rates were obtained. During testing, Montgomery observed that the rate needed to be continually adjusted downward to maintain the mound just above 20 ft bls. (The temporary well was screened from 47 ft bls to 97 ft bls.) Although it was recognized that that the results of this test would be less than what would occur had the well been designed as a full-scale vadose zone recharge well and had the injection test been a full-scale injection test, injection rates this low were not anticipated. Montgomery offered numerous reasons why a low injection rate was observed. They proposed that fines may have been introduced to the soil boring while it was converted to a temporary well, and/or that the borehole was smeared. Either way, it appears that the testing that was performed did not necessarily confirm or refute vadose zone recharge as a viable recharge option for this site. Additional vadose zone recharge testing is recommended based on the lithology obtained from NR-3. Vadose zone recharge should be kept as an option for this site until results from further testing are obtained.

One other recharge option that should be considered for this site is direct injection. As mentioned in Section 3.2.3, cross–sections C-C' and F-F' both included wells that indicate that there is significant medium to coarse-grained sediment lower than 600 ft bls. An interval of transmissive sediment to this depth may support recharge via direct injection. In order to confirm or refute the potential for deep injection, a deeper soil boring would need to be drilled and tested at this site.

3.5. Water Quality

An Environmental Assessment was not included in this phase of the project.

The ADEQ Azurite database was reviewed via eMaps on the ADEQ website (http://gisweb.azdeq.gov/arcgis/emaps/) on September 17, 2012. No leaking underground storage tanks (LUST) or Superfund sites are located in the immediate vicinity. The well-documented Glendale landfill is noted on the map and was considered in this study.

A map showing total dissolved solids (TDS) was created with existing info, *Figure 22*, and it was determined that TDS was not a factor that needed special consideration with regard to the proposed recharge activities.

4.0 NAUSP DATA REVIEW

A brief evaluation of NAUSP operational data was performed on data provided by Salt River Project (SRP) staff. The following bullet-point style summary lists observations made during that data review. These results do not represent a complete evaluation by any means and suggest only a starting point. Considerably more work would be required to obtain a more complete working knowledge of the recharge performance of this recharge facility. More detailed information resulting from this overview can be seen in *Appendix G* of this report.

4.1. Stream Flows

Stream flow data were obtained from the FCDMC website for the New River and Agua Fria River gages immediately above the NAUSP. The following observations were made after the FCDMC data were reviewed.

- Surface flows in New River have a more immediate impact on the depth to water underlying the NAUSP than do the flows in the Agua Fria.
- For the past 13 years, the New River stream flow gauge recorded flows ranging from low of approximately 250 acre-feet (AF) in 2011 to a high of 25,000 AF in 2005. The peak discharge measured since the beginning of operations at the NAUSP was just above a 2-year storm.

4.2. Groundwater Levels

Historic groundwater data in the vicinity of the NAUSP were reviewed to estimate the impact that the NAUSP has had on the groundwater table. The following observations were made after the data were reviewed.

- The 2006 groundwater levels indicate the groundwater flow direction at the NAUSP was to the northwest.
- The 2006 groundwater levels indicate the groundwater flow direction near the Glendale Airport is to the west.
- There are 8 wells, including monitor wells (MW), points of compliance (POC), and Roosevelt Irrigation District (RID) wells, that monitor the impact of the facility: MW-1 (POC-4), MW-2, MW-3 (POC-3), POC-1, MW-4, MW-5 (POC-2), MW-8, PZ-6, and RID-70.
- Each monitoring well, except MW-4, has a water production well located within 1 to 1.5 miles of it. No significant production occurs nearby MW-4.
- Groundwater pumping impacts the site on a regional basis only.

- Monitor wells MW-1 (POC-4), MW-2, MW-3 (POC-3), and POC-1 respond more directly to local effect of recharge from the basins.
- Monitor wells MW-4, MW-5 (POC-2), MW-8, PZ-6, and RID-70 respond to regional events.
- Monitor wells MW-2 and MW-3 (POC-3) reflect more of the mounding effects from recharge than do the other monitor wells.
- The travel time for recharge water to reach the groundwater table and reflect a change in the monitor wells was estimated to be two weeks in MW-2 and MW-3 (POC-3) and four weeks in MW-1 (POC-4) and POC-1, based on the data from the start up of the facility in 2006.

4.3. Surface Soils

Before the NAUSP was constructed, soil samples were collected for SRP from the area now under the NAUSP basins. Review of the geoprobe information lead to the following observations.

- The lithology of the current basin bottoms was estimated to be either fine sand or medium fine sand with gravel. This analysis was based on the 2004 geoprobe samples collected for SRP before the basins were graded and brought to their current elevations.
- Considering the lithology at the basin bottoms, basins #2 and #6 should have the best percolation rates. Basins #2 and #5 have only portions of the coarser grain materials present.

4.4. Recharge Rates/Volumes

Historic recharge data for the NAUSP were reviewed and the following observations were made.

- The two major water sources recharged during the first five years of operations were surface water and effluent.
- Approximately 107,000 AF of water has been recharged over the nearly five years of operation. Sixty-two percent of that water was surface water and 38% was effluent.
- Average annual infiltration rates for the entire facility ranged from a high of 1.05 ft/d in 2007 to a low of 0.72 ft/d in 2008.
- The highest annual recharge volume was nearly 24,000 AF in 2009 and the lowest was approximately 19,000 AF in 2010 not counting the initial three months of recharge during start up in 2006.

4.5. Water Quality

HSI was able to obtain only a minimal amount of historic water quality related to the NAUSP operation. Based on that data, the following observation was made.

- There are no major variances in water quality results when comparing the 2007 quarterly samples collected from the delivery weirs 1, 2 and 3 to the Butler WRF effluent quality sample collected in April 2012.

4.6. Overall Impact

It is estimated that mounding stemming from five years of recharge operations at NAUSP coupled with changes in local production and natural recharge associated with river flows and rainfall increased the depth to water in the NAUSP monitoring wells as follows: approximately 55 ft at MW-4, 61 ft at MW-8, 41 ft at PZ-6, 43 ft at MW-5 and 10 ft at RID-70.

4.7. Operational Issues

While historic NAUSP data were reviewed, the following operation-related observations were made.

- Data indicate that the basins have been operated in an erratic manner. Documented non-sequential filling and drying cycles have made it difficult to assess cause and affect relationships that would indicate the performance of each individual basin.
- Measured water depths in each basin were not obtained so true infiltration rates and impacts were not possible to estimate.
- Individual basin performance was not possible to estimate due to a lack of measured flows going into each basin.
- Information on maintenance procedures was not obtained so an evaluation of the effectiveness of the procedures was not assessed.

4.8. Recommended Operational Improvements

After reviewing historic NAUSP operational data, HSI staff recommend the following operation improvements for the NASUP.

- Add individual flow measuring devices to obtain daily individual basin inflow data.
- Utilize the existing water depth measuring devices in each of the individual basins to obtain more accurate water depths across the basins instead of estimating the depth.
- Utilize basin water-depth data to determine the optimum water depth for maximum recharge rates for each basin.
- Establish a routine basin filling and drying cycle while recording individual basin data to determine the variation of cycle time based on individual percolation rates.
- Develop an Operational Model focused on the vadose zone, stream flow and the upper 25 ft of the aquifer, which will utilize the monthly individual basin performance and groundwater level data.
- Utilize the results of the Operational Model to determine monthly wetting and drying cycles and to predict groundwater level rise (locally and regionally) based on recharge rates and basin location.

5.0 RECHARGE METHODS

Several factors must be considered when selecting the optimal recharge method(s) for a particular site. These factors may include monetary budget, creation of public amenity, available land area, depth to groundwater, source water quality, groundwater contamination, soil conditions at the surface, and perching layers below the surface. Although additional recharge methods are available to choose from, this optimization plan evaluated five recharge methods that may be appropriate for the City, including:

(1) infiltration basins, (2) vadose zone recharge wells, (3) aquifer storage and recovery wells (ASR) and, (4) managed recharged, and (5) constructed facilities in the wash. Each of these methods is an applied technology that has been used to recharge water at other sites in Arizona.

5.1. Shallow Infiltration Basins

Infiltration basins consist of a large bermed area that creates a basin used to recharge water. This artificial recharge method requires significant land area for large-volume recharge projects. The method works by discharging water directly into the basins, where the water naturally infiltrates through the land surface into the unsaturated (vadose) zone, and eventually reaches the groundwater table. Basin water depths are generally maintained at approximately 2 feet to prevent compaction of the underlying soils, which may impede infiltration.

Shallow infiltration basins are better suited to areas where coarse sands and gravels are near the land surface and no continuous perching layers (clays and clayey silts) are present in the unsaturated zone. Therefore, a detailed site specific soils investigation is recommended to verify the absence of major clay layers that can become saturated and subsequently result in poor infiltration rates and excessive water level mounding. One advantage of the infiltration basin method is that this recharge method tends to be simpler in application as well as in operation and maintenance as compared with other recharge methods. When located in an area of coarser unsaturated zone materials, implementation of a wet/dry cycle that includes scarification of the basin bottom can be used to maintain system efficiencies for a number of years. The dry cycle is used to control the development of biological growth, particularly algae, at the surface, which impedes the downward movement of applied water. Scarification breaks up the layer of fine-grained sediments and organic matter that builds up on the basin floor when suspended materials settle out of the recharge water.

Another item needing attention with recharge basins is accounting for evaporation losses in order to receive credits for the amount of water recharged for the ADWR regulatory programs. Evaporation losses can be estimated according to the method offered by Cooley (1970) which is widely accepted by ADWR and the Arizona Department of Environmental Quality (ADEQ). The average annual evaporation loss for the greater Phoenix area is estimated at over 72-inches (Cooley, 1970).

5.2. Vadose Zone Recharge Wells

The vadose zone recharge well method uses the unsaturated zone, also known as the vadose zone, to facilitate the recharge of applied water.

Vadose zone recharge wells can be constructed to various depths within the unsaturated zone, depending on site-specific conditions. A typical vadose zone recharge well consists of a large diameter soil boring (up to 4 ft or greater) from land surface to the target recharge zone, usually no deeper than 180 ft. Vadose zone recharge wells can be equipped as high-tech or low-tech wells, depending on their application. The high-tech vadose zone recharge wells typically have filter fabric lined boreholes and consist of several tens of feet of perforated casing surrounded by a coarse gravel pack. They are equipped with an injection and orifice system, in which the injection pipe fits inside the well casing and is used to convey the recharge water to the bottom of the well and out through the casing perforations and into the surrounding gravel pack and formation. The orifice system can be either a fixed or variable opening, with a diameter or range of diameters that depends on the capacity of the well. Low tech wells are typically fabric lined, gravel pack-filled boreholes equipped with shallow injection and vent lines.

The vadose zone recharge well is appropriate for sites with fine-grain surface soils, shallow perching layers, limitations on land availability, and low turbidity (suspended solids) source water. In addition, these vadose zone recharge wells are less expensive to construct than direct injection wells and can take advantage of the unsaturated zone for Soil Aquifer Treatment (SAT).

The long-term viability of vadose zone recharge well technology is largely dependent on the water quality to minimize well plugging. Additionally, minimizing air entrainment and source water turbidity prolongs the life of the well. Higher pre-treatment costs may offset the replacement cost s in the future.

Rehabilitation of these wells, though not impossible, may not always be long lasting or cost effective. However, rehabilitation methods have been successfully performed to reduce plugging and improve infiltration rates (at least for the short-term). On-going research and testing of vadose zone recharge well designs and rehabilitation methods is directed toward maximizing infiltration rates for longer periods of time.

5.3. ASR Wells

ASR wells can be used as multi-purpose wells to inject and recover water. ASR wells are very similar to large diameter (16 to 18-inch, or larger) water production wells. These wells are usually constructed to a target depth within a defined aquifer unit (usually a coarse-grained water producing zone). Well materials include screen, perforated or louvered casing set at the targeted zones. A gravel pack is placed adjacent to the screened casing. The annular space between the borehole wall and blank casing is sealed with cement or bentonite grout. The well is equipped with an injection pipe, variable orifice valve, and an appropriately sized pump for back flushing and recovery (pumping). The injection capacity can be estimated by a “rule of thumb” to be about half or more of the pumping capacity of the well. This assumes that the mound size is the same approximate size as the cone of depression.

Some of the reasons for using this method of recharge include the need to recharge in a deeper aquifer, poorly transmissive materials in the unsaturated zone, and the limitation of available land. This recharge method is generally the most complex and expensive method in terms of maintenance of all the methods evaluated in this study. Some of the maintenance required includes establishing a schedule for periodic back flushing (pumping) during the regular injection cycle that helps to clear out the physical and biological materials that build up around the well borehole and contribute to clogging and reduced recharge capacities. Other more expensive methods may also be used to rehabilitate the well depending upon the success of back-flushing. This method also requires high quality source water with low suspended solids that meets drinking water standards.

5.4. Managed Recharge

In a managed recharge facility, water is discharged and allowed to infiltrate naturally in a wash or streambed. Managed recharge facilities offer the least amount of up front construction and capital costs, but require routine monitoring to accrue the maximum amount of credits possible. Groundwater levels and groundwater quality are monitored along the defined reach, as well as the wetted surface area of the recharge flow. Riparian growth is monitored for expansion, which may reduce the amount of credits accrued.

This type of recharge method using effluent limits the accrual of credits to 50% of the recoverable amount of water stored. Therefore, may not be the best option for consideration if accruing credits is a primary goal for future use.

5.5. In-Stream Construction

The construction of basins or T-levees in a streambed constitutes a constructed facility. The construction allows the maximum amount of credits to be accrued. The primary goal is to allow the discharges into the facility to slow down and infiltrate as quickly as possible using the permeable stream soils.

This type of facility may be destroyed by natural flows in the streambed, which requires continued maintenance and reconstruction, etc. after flow events.

5.6. Preferred Recharge Methods

Although several recharge methods may be suitable for the City, it is important to match the recharge method with the facility offering the most value for the cost.

The efficiency of the infiltration basins will be dependent upon the soil lithology between the land surface and the groundwater table. Hydrologic characteristics of the selected recharge area should be investigated through soil borings, surface geophysics, infiltration testing, plus the construction and perhaps the operation of a pilot-scale recharge facility.

The rehabilitation of existing old agricultural wells may be an option to consider although it was not an option seriously considered in this study. These old wells could lower the overall capital costs of the recharge facility considerably dependent upon their condition and access to effluent pipelines.

6.0 PERMITTING

6.1. Regulatory Permitting Summary

In order for the City to store treated reclaimed effluent underground, permits from state, county, and federal governmental agencies are required depending upon the method of underground storage proposed. These agencies include ADWR, the Arizona Department of Environmental Quality (ADEQ), Maricopa County Environmental Services Division (MCESD), and the Environmental Protection Agency (EPA) and United States Army Corps of Engineers (USACE). A Summary of each agency's required permits are summarized below. Further description of these requirements, application processes, and fees are provided in *Appendix H*.

6.1.1. ADWR

Underground Water Storage (UWS) Program

Under ADWR's UWS program, recharge in encouraged as a water management tool to store water that cannot reasonably be used directly, to ensure adequate water supplies are available for the future, and for conjunctive use. Under the UWS program, each acre-foot of water that is stored underground may

generate a long-term storage credit that can be used to pump (or recover) the stored water at a later date. The water that is stored retains its legal character upon recovery, such that if effluent is stored underground, it is legally considered effluent when it is recovered via a permitted recovery well. This applies regardless of whether the recovery occurs inside or outside the area of impact of the stored water. Recovery of effluent inside the area of impact benefits municipal providers such as the City, regulated under ADWR's total gallons per capita per day (GPCD) program, because this water would be excluded from the City's total water use calculation, and thereby reducing the City's total regulated water use. Whereas, effluent stored and later recovered outside the area of impact would be included in the City's total water use calculation. This legal characterization provides some flexibility in managing the water supplies within the City's service area. Additionally, existing infrastructure, such as production wells, can become designated as recovery wells, which may forego the need to drill new wells. One limitation to recovery outside of the area of impact is that the recovery well cannot be located in an area where groundwater declines are greater than 4 feet per year.

Underground Storage Facility (USF) Permit

ADWR issues an Underground Storage Facility (USF) permit for the operation of a facility that stores water in an aquifer. Depending upon whether the facility is a *constructed* or *managed* facility determines whether the applicant will need a constructed USF or a managed USF. A constructed USF applies for any recharge method that requires manmade construction i.e., basins, vadose zone recharge wells, injection or ASR wells, or T-levees in a stream or riverbed. A managed facility recharges in a natural streambed where no changes are made and water is allowed to infiltrate naturally.

Water Storage Permit

A Water Storage (WS) permit is issued for the authority to store at a permitted facility. The applicant must have the legal right to the water stored.

Recovery Well Permit

Recovery well (RW) permits may be issued to entities holding a water storage permit, or long-term storage credits. Recovery wells may be existing service area wells or new wells, subject to well spacing rules. Recovery can occur anywhere within the same AMA as storage, subject to the applicable Active Management Plan recovery criteria.

Notice of Intent to Drill/Well Permits

In Arizona, in order to drill a well, the applicant must first file a notice of intent to drill (NOI) with ADWR and/or obtain applicable permits and drill cards associated with the drilling and use of vadose zone recharge wells, ASR wells, direct injection wells, recovery wells, piezometer wells, and monitoring wells. Well spacing requirements are necessary for wells that withdraw water, such as recovery wells and ASR wells to protect existing wells of record from unreasonable increasing damage due to the concentration of wells. However, monitoring wells, piezometer wells, vadose zone recharge wells, and direct injection wells do not.

6.1.2. ADEQ

The ADEQ must issue an Aquifer Protection Permit (APP) for any discharges that either directly discharge to an aquifer, to the land surface, or the vadose zone if there is a reasonable probability that potential pollutants could reach the aquifer. This specifically includes the recharge of reclaimed water. No reclaimed water use permits are required for recharge facilities.

Aquifer Protection Permit

Underground Storage Facilities are statutorily defined as discharging facilities and are required to obtain an APP. Under an APP permit, an applicant must make three primary demonstrations. The first is within the technical requirements that "the [discharging] facility will be so designed, constructed, and operated as to ensure the greatest degree of discharge reduction achievable through the application of the best available demonstrated control technology, processes, operating methods or other alternatives, including, where practicable, a technology permitting no discharge of pollutants" (ADEQ, 1997). This requirement, commonly referred to as "BADCT," is described in A.R.S. 49-243.B.1. The second major demonstration is that the discharge will not cause or contribute to a violation of an aquifer water quality standard at the applicable point of compliance, or if an aquifer water quality standard is already exceeded at the point of compliance, that the discharge will not cause further degradation of the aquifer with respect to the parameter which exceeds the standard. The third demonstration required is the financial and technical capability of the applicant.

6.1.3. Maricopa County Environmental Services Division

Approval to Construct and Approval of Construction

In Maricopa County, ADEQ has delegated authority to the MSESD for applications of Approval to Construct (ATC) and Approval of Construction (AOC). An ATC is required for new public water supply systems, extensions, or modifications to existing public water supply systems, extensions, or modifications to existing sewage collection systems, new sewage collection systems, or reclaimed water distribution systems. These are also required specifically for recharge/recovery facilities.

6.1.4. EPA

Underground Injection Control (UIC) Inventory

The UIC Program regulates the subsurface injection of waste fluids below, into and above underground sources of drinking water (USDWs) through wells. The Environmental Protection Agency (EPA) requires the inventory of all recharge wells, referenced as Class V Sewage Treatment Effluent Well. In Arizona, the EPA directly implements the UIC program with support from ADEQ.

Filing an inventory form, identifying each well, and its associated aquifer protection permit number, plus some basic construction information satisfies this program. The information is used to update the well owners of applicable regulatory requirements or best management practices to prevent contamination.

EPA Clean Water Act, Section 404 Permit

The EPA's Clean Water Act, Section 404, regulates discharges of dredged and fill material into waters of the United States, including wetlands. Both the EPA and U.S. Army Corps of Engineers (USACE) are responsible for the enforcement and administration of the 404 program.

In general, to obtain a Section 404 permit, applicants must demonstrate that the discharge of dredged or fill material would not significantly degrade the nation's waters and no practicable alternatives less damaging to the aquatic environment are available. Permits will not be granted for proposals that are found to be contrary to the public interest. Compliance with the Endangered Species Act and/or Section 106 of the National Historic Preservation Act may also be required before a Section 404 permit can be issued.

6.2. Regulatory Permitting Issues

Recharge facilities, while beneficial on so many levels, are often challenging to permit for various reasons. Below are listed several permitting challenges that will need to be considered for any new recharge location within City limits.

6.2.1. Glendale Landfill MW-8

The Glendale Landfill is an existing facility that must be considered as part of meeting the USF requirement for "no unreasonable harm". The analysis of this requirement is made in reference to MW-8 at the landfill. ADWR requires the groundwater modeling simulation to demonstrate that the maximum rise in the water level elevation from the recharge mound remain a specified distance below the bottom of the landfill to ensure there is no leaching of potential contaminants into the aquifer. ADWR does not currently permit such facilities contingent with additional monitoring to ensure the water level does not rise at this point. They have required that the theoretical water level cannot rise above this threshold. This has been a difficult issue for several USFs in the WSRV and is likely to effect the permitting of future USFs as well.

6.2.2. Multiple Recharge Facilities

ADWR requires applicants to simulate the maximum permitted recharge volume of every USF within the area of impact of a proposed facility. This is required regardless of whether the facility actually stores the permitted volume or not. This puts unnecessary demands on the aquifer capacity available to the applicant. This also relates to the maximum mound height beneath the monitor well at the Glendale landfill, described above. With the number of recharge facilities in the WSRV, the available aquifer capacity simulated for new facilities is challenging to demonstrate.

6.2.3. Buckeye Waterlogged Area

As described above, cumulative impacts from multiple recharge facilities affects not only the mound height, but also the area of impact of new facilities. As such, ADWR will evaluate the potential theoretical impacts to the Buckeye Waterlogged area. ADWR evaluates whether additional water storage from recharge facilities increases the water table in the waterlogged area.

6.2.4. Sand and Gravel Facilities

The requirement to protect against unreasonable harm extends to Sand and Gravel facilities in the WSRV. Sand and Gravel facilities are protected from rising water levels due to recharge projects. All USF mounding analyses must ensure that the theoretical water rise does not rise above the deepest point measured at a sand and gravel facility prior to the USF application submittal.

6.2.5. NAUSP

With the increasing loss of capacity at NAUSP due to plugging, the City could take their share of the capacity and store it elsewhere. This situation opens up the concern that ADWR would consider this volume on top of the full permitted volume at NAUSP, in effect double counting the City's water permitted for storage. The City only has so much water to store, and the full amount would be stored at NAUSP or another USF, not both. ADWR has indicated they would not double count the supply when evaluating impacts, but it is a concern until it is addressed through a formal application process. They would likely require some limitation at NAUSP that the City's capacity could not be used by another water storer, perhaps by precluding any other entity from using the City's capacity at NAUSP.

6.2.6. No Migration of Contaminant Plumes

Statutes prohibit USF facilities from causing the migration of contaminant plumes. At this point, the potential location of contaminant plumes or other water quality issues have not been thoroughly investigated in this report. Further investigation is required.

7.0 RECHARGE ALTERNATIVES EVALUATION

This portion of the study explores potential recharge sites and methods within the study area (*Figure 1*). An engineering and construction overview is included, identifying major system components used to develop conceptual costs for the options. Physical constraints are reviewed as well as other identifiable challenges associated with constructing a recharge facility including items such as major transportation corridors, railroads, and major infrastructure/utilities that could significantly increase project costs. For each of the recharge locations identified a present worth analysis has been prepared. In addition to the cost evaluations, other criteria were used to rank the options identified to assist in determining the optimal locations and methods for recharging the Butler WRF reclaimed water.

7.1. Land Use & Availability

Currently the existing NAUSP facility and the adjacent park property (Peoria Community Park II) to the Butler WRF are the prime locations for existing recharge and potential expanded recharge. Neither of these location options singularly or combined can provide the needed space for recharging the maximum effluent discharge from the Butler WRF. As such, other areas needed to be evaluated. As described earlier in this report, the focus area for this study is bounded by Bell Road on the north, Litchfield Park Road on the west, Camelback Road on the south and 67th Avenue on the east (*Figure 1*). This has included evaluation of parks and areas along the Agua Fria and New Rivers.

Identification of areas for recharge is predicated on the defined methods and the associated special requirements for each. Any of the alternatives; managed, infiltration basins, vadose zone recharge wells, or ASR wells all requires a relatively large amount of space based on the effluent quantity to be recharged and operational characteristics of each alternative.

In addition to the areas identified using available hydrogeologic data and previous consultant studies, the City of Peoria's General Plan (Land Use Element and Zoning Maps) was used to identify potential sites for recharge facilities. There are a number of parks scattered within the entire study boundary. There is also a rather large area of industrial property near Olive and Grand Avenue, in the southeast quadrant of the study area. However, this area is occupied by many building structures and limits usage to parking lots etc., which have limited ability to meet the recharge needs.

With the use of park property, there is the need for many park parcels. This takes a lot of infrastructure to make sure the effluent can be delivered to the recharge sites. The more sites and sparse nature of those sites, the more piping and pumping facilities are required for delivery. Transportation infrastructure also compounds the selection of good options. Loop 101, Grand Avenue, and Atchison Topeka and Santa Fe (ATSF) Railroad all present obstacles to routing of pipelines and pump stations. With these natural features in place, it is necessary to limit pipelines and sites in a network layout fashion and rely on a main truck line with minimal branching.

The existing effluent recharge line from the Butler WRF also has positively impacted selection of future areas for recharge. This is primarily due to the existing line crossing under the Loop 101 thereby eliminating the need for more crossings and providing access to the majority of the available property.

Minimizing major road crossings and utilization of a trunk main layout helped focus the identification and layout of recharge facilities along the New River. The areas targeted were either the river channel itself, agricultural and drainage areas along the channel and some connecting property with parks, or related activities. Other factors in the location of land were hydrogeologically and environmentally driven; ideally, it would be best to minimize recharge in areas near the existing NAUSP recharge facility and the Glendale landfill due to mounding impacts during operation.

The following is a brief listing of the primary locations considered for future recharge and the type of recharge anticipated for that area (*Figure 23*).

- Area 1 – New River from Loop 101 and Rio Vista Park southwest to Thunderbird Road. Natural stream channel (managed recharge) in joint use with a proposed potential site for a riparian habitat. Location for ASR Well(s) above the natural channel.
- Area 2 – New River from Peoria Avenue to Northern Avenue. Infiltration basins above the natural stream channel and/or "T" levees within the channel.
- Area 2A – New River from Northern to Glendale. Infiltration basins with "T" berms. This area was used only for Combination 3. It removes the need for added piping and a pump station.
- Area 3 – Area surrounding Butler WRF. Vadose zone recharge wells and one or more ASR Well(s).
- Area 4 – New River drainage from Grand Avenue southwest to 95th Avenue. Vadose zone recharge wells above the natural channel.
- Area 5 – North side New River drainage to 1000 feet northeast of Grand Avenue. Vadose zone recharge wells above the natural channel.

- Area 6 – Southeast side New River drainage from Area 5 northeast to 91st Avenue – width extending southeast to Loop 101. Vadose zone recharge wells above the natural channel.
- Area 7 – Northeast side New River drainage from Area 5 northeast to 91st Avenue (opposite side of New River from Area 6). Vadose zone recharge wells above the natural channel.

7.2. Engineering & Construction Overview

The analysis is based on conceptual engineering design for the components and areas defined for recharge from the Butler WRF. The basis of the analysis and subsequent design is current and projected effluent availability from the Butler WRF from the current time to the projected plant capacity of 13 mgd. (The future discharge capacity of 13.4 mgd was rounded to 13.0 mgd for the analysis.) This analysis includes some wastewater flows being transferred from Beardsley to Butler through year 2022, as projected by City staff. From year 2022 to 2052 it was projected that wastewater effluent quantities would increase by 2 percent per year. The annual wastewater projections for the Butler WRF along with the 5-year time periods are shown on *Table 1*.

One goal of the analysis was to provide as many feasible recharge methods as practical for the area under study. For each feasible recharge method, the objective was to maximize the annual recharge volume with the target being the maximum needed to recharge capacity to handle all of the Butler WRF effluent (14,560 afy) by year 2045. The following is a summary of the recharge methods considered:

- Infiltration Basins, includes In-Stream Infiltration Basins (T-Levees and Berms)
- Managed Recharge Facilities
- Vadose Zone Recharge Wells
- ASR Wells

Infiltration basin recharge facility design is based on a recharge rate of 1 acre-foot per day af/d. This value is an average based on similar type facilities in similar hydrogeologic conditions. It also assumes a maintenance program that involves wet/dry cycling. Typical design to allow for cycle operation is based on using a factor of safety in defining acreage requirements to recharge, which has been set at 2.5 for the given conditions. Approximately 60 usable acres have been identified in Area 2 for recharge. Typical layout with T-levees or berms in the New River channel will provide for 48 useable acres. The factor of safety reduces the actual recharge to 19.2 acres or 7,011 afy.

Managed recharge facilities are primarily based on the availability of a natural stream channel and generally are not restricted to cycle design criteria. It is assumed that natural flood events in the channel will provide scouring to remove any clogging layers. Concerns exist that a managed facility located near the existing outfall has the potential to impact water levels near the Glendale landfill and to affect the operations of the NAUSP. For these reasons, a managed facility has been located in the northern portion of the study area by Rio Vista Park. The managed facility capacity has been set as 11,648 afy based on an estimated 1-afd recharge rate. Note that this facility is located adjacent to an existing park. This location would lend itself to a riparian habitat or outdoor classroom. Flows may increase or decrease from the established amount to account for operation of the riparian preserve.

Vadose zone recharge wells are a good fit for the area, because they do not require a large surficial area for a single location. There are benefits to locating these wells in clusters to reduce operational costs

and importantly to reduce the permitting requirements. Design criteria for the wells is set at 250 gpm per well based on the performance of wells in a similar hydrogeologic setting. Typical layout of the wells is on a linear alignment allowing approximately 200 feet between wells. This reduces potential interference between wells. This also allows for replacement (or additional) wells to be drilled in the 200 foot separation at a later date. Vadose zone recharge wells typically have a lifespan of 7 to 10 years. For this study, it was projected that each well would have a lifespan of 10 years, which is the longer end of values typically used. This value was chosen because of the better effluent quality generated at the Butler WRF. For this study each vadose zone recharge well has a capacity of 403 afy.

ASR wells have more flexibility than vadose zone recharge wells. They can be used to either inject or withdrawal water from the aquifer as they extend into the saturated zone. As for the other facilities, the projected capacity of the ASR wells was based on the performance of wells in similar hydrogeologic conditions as well as reviewing well yields in the vicinity. For the purposes of this study, the injection rate was estimated at 1,000 gpm. This translates into a recharge rate of 1,210 afy. For the ASR wells, two locations were identified where these wells may work well. The assumption has been made that only one ASR well is recharging at any one time. One well is planned for the Area 3 at the Butler WRF and the other is planned for Area 1 at Rio Vista Park, thereby covering the south and north of the respective study area with option of withdrawing water as well as injecting.

Another important part of the evaluation is the defined method of transporting the effluent from the Butler WRF to the respective areas for recharge. Area 3 is located at the Butler WRF. Any connection to the existing discharge line from the facility will provide enough operating pressure (head) to the individual vadose zone recharge wells and the ASR well(s). Additional pumping or conveyance was not included for this location or for Area 2A. To provide flow to Areas 1, 2, 4, 5, 6, and 7 a pump station has been planned and located at 99th Avenue and Powerline Trail. It will be fed by the existing 30-inch effluent line. The conceptual plan for the pump would include a simple vertical turbine pump station with little storage volume other than what would be needed for pumping operations. The plan is to use the vadose zone recharge wells at the Butler WRF to take care of peak flow conditions allowing the remaining facilities to operate on a more constant average day flow rate. The pump station concept has four pumps for the ultimate capacity of 13 mgd. Three pumps are operational and a fourth serves as a backup. One of the three pumps should be variable speed to provide a more energy efficient system. Each pump capacity will be in the range of 4.5 to 5 mgd.

With the selected locations of the recharge areas, one major transmission main can service them all. Based on the proposed design conditions and conceptual operation strategies, the transmission main is sized as a 24-inch pipe from the pump station north to the end of delivery for Areas 6 and 7. From that point, the line will decrease to 18-inch to serve the Area 1 recharge operations near Rio Vista Park. Pipe sizing is based on keeping friction head losses low for best operation of recharge facilities and to target a velocity in the pipeline to about 5 feet per second (ft/s).

Based on the above design criteria selected for this conceptual recharge optimization evaluation, unit costs for construction, operation, and maintenance of the facilities were defined. *Table 2* provides a summary for those costs per area and recharge method selected.

Costs, as presented, are based on recent construction bidding information, applicable costs developed from other project information and general vendor information. Unit costs developed include an allowance for electrical components. Unit costs are based on installed cost including the materials, equipment and labor. Operational and reporting costs are based on historical information for facilities

of approximately the same size and capacity. Values presented represent the value of that service for the year in which that service begins. Operational costs for the pump station are based on estimated electrical usage needed for the pump station based on flows projected for the 5-year period flows.

With the layout of Areas for recharge and the options selected, we know there will be opportunities for use of solar energy to generate power for operational needs of the facility. The most feasible use of solar would be for the vadose zone recharge wells and the pump station with service provided to each specific area.

There are opportunities for the incorporation of solar photovoltaic power at both the vadose zone recharge wells and the pumping station. The energy needs of the vadose zone recharge wells are very low as the loads consist exclusively of telemetry and control equipment. In most cases, it will probably be more cost effective to use a small, stand-alone PV system with pole-mounted PV modules at each well than to bring utility power to each site.

There are opportunities for the incorporation of solar photovoltaic power at both the vadose zone recharge wells and the pumping station. The energy needs of the vadose zone recharge wells are very low as

As the pumping station needs to run 24 hours a day and 7 days a week, it would not be practical to power it solely with a solar PV system. However, a grid-tied PV system could be used to offset much of the pumping station's daytime energy consumption. As a general rule, the AC capacity of the PV system should not exceed the typical daytime electrical demand of the station. Because the power would be supplementary, there is essentially no minimum. However, for a pumping station of this size the practical minimum would generally be 100kW corresponding to a typical industrial inverter size. The estimated land area required would range from approximately 0.5 to 2 acres depending on the system capacity.

Because the construction of these facilities is a number of years in the future, and the tremendous variation and improvements being made to the solar systems, specific solar design components would not add to the evaluation and would be outdated in a short time. When the concepts are finalized into a preliminary design phase, it would be appropriate to design solar components as described above at that time.

7.3. Cost Evaluation

7.3.1. Methodology

An objective of this RSOR study is to identify the most cost effective methods for recharging reclaimed water from the Butler WRF by either individual or a combination of multiple facilities and methods. Additionally, the City will be able to accumulate long-term storage credits to recover or generate revenue. The economic analysis is based on looking at present worth values for each of the four combinations identified, determining the most economical method, and to at least provide a sense of worth. The potential revenue generated from selling accumulated long-term storage credits is calculated and compared to project expenditures to reflect a value of the long-term storage credits compared to construction and annual costs.

Several criteria were used to form limits on this study. The primary criterion is the amount of effluent that would be available for recharge and that is 14,560 afy representing the build-out capacity of the Butler WRF. This evaluation assumes that no effluent flow would be going to the NAUSP facility. Combination 3 represents an exception to this conditions with 1,095 afy continuing to NAUSP for recharge. Several values for projected wastewater generation were provided by the City and are defined as a rate of the 2 percent per year increase in effluent generation. Another important variable in the analysis is the value of the recharged water or long-term storage credits being generated. Values were selected which represent current conditions to identify a range in revenue generation over the evaluation period.

Utilizing the various recharge methods and locations plus the varying wastewater flows, it became obvious that a 10- to 20-year evaluation was too short of a timeframe to consider. Six 5-year periods were selected to define construction and operations evaluations. This covers the entire build-out development of the Butler WRF starting in 2016 and concluding in 2045. In general, an infiltration basin system has a useful life of 20 years, which can be extended to 30 years if annual maintenance is performed on the basins. These annual costs were included to reflect the activities required for extending the life of the infiltration basins. Replacement costs were reflected for the vadose zone recharge wells in 10-year increments as well as adding new wells needed for increased capacity. Rehabilitation costs were also included in the ASR options using a 20-year useful life.

For each of the four evaluated combinations and their corresponding components, capital or up-front costs and annual costs were identified. Capital costs included professional services, permitting fees, and construction costs. Professional services are primarily the design related costs including civil and discipline engineering services as well as, hydrogeology design. Permitting represents the cost to provide ADEQ and ADWR permits including reviews for the recharge areas and components. Based on professional experience, multiple permits are needed for each area/type of recharge and is reflected in the values included in the evaluation table. Annual values are made up of three main categories: operations, reporting, and revenue from reclaimed water credit sales. For each combination identified, we have developed present worth values for one-time costs, annual expenditures, and potential revenues for the 30-year project period identified to cover the build out capacity of the Butler ARF.

7.3.2. Assumptions

Capital and annual costs have been projected to future year values for each capacity of the combination components identified in the analysis using a 4% inflation rate. Annual costs have been averaged for the 5-year time periods. Consistent with the present worth analysis, future values are projected using 4 % annual increases and all present worth costs are based on a 4% time value of money. Present worth values are brought back to 2012 dollars for comparison.

Long-term storage credits earned vary depending on the method of recharge used. Vadose zone recharge wells and ASR wells are assumed to have full credit for recharge volumes. Both managed and infiltration basin recharge is based on a fractional return of the recharged effluent quantities. This general analysis has been provided based on similar facilities in the area. Infiltration basin systems have the highest long-term storage credit percentage of up to 100%, compared to up to 50% for managed. This is the driver that makes basin facilities much more economically feasible compared to managed facilities, which will be observed in the completed cost analysis tables.

Timing of the components within each combination is based on the need for additional recharge capacity and is also based on the ADEQ criteria of beginning the planning and design effort when 80% use of available capacity is reached. Actual conditions may dictate slightly different dates needed to initiate future conditions, but such changes will have minimal impacts to the overall financial analysis.

Four combinations were run to represent a range in operational characteristics to see what these modifications do to the overall value of the operation and use of components identified and located in the various areas along the New River. *Tables 3, 4, 5,* and *6* represent the four combinations evaluated. There are almost an unlimited number of combinations that could be run, but these four represent solutions, which define practical operational set points the overall value each brings to the total system. A summary of the combinations follows.

- Combination 1- Represents the use of all components identified for this study. Maximum use of infiltration basins is the focus of this combination.
- Combination 2 – Represents the use of all components identified for this study. Maximum use of vadose zone recharge wells is the focus of this combination.
- Combination 3 – Represents the maximum use of vadose zone recharge wells around the Butler WRF to minimize costs and time to execute this portion of the combination. To accomplish this, the spacing is slightly reduced between wells and two additional perimeter alignments around the plant and adjoining park have been identified to place a total of 16 wells at this location. Infiltration basin recharge is also being used. For this combination, we have moved recharge to Area 2A which is about a mile south of Area 2 beginning at the Butler Influent Pump Station and continuing south to Glendale Avenue. This relocation will eliminate the need for a pump station and may fit in with a potential riparian area/outdoor classroom concept. A small amount of recharge continues to NAUSP.
- Combination 4 – Represents the use of a single component for recharge. Based on special constraints, the only component that can recharge all flow is vadose zone recharge Wells.

The top of each master combination table lists the recharge credit value for each 5-year evaluation period. A color-coded sub-table at the top contains a breakdown of the components and the recharge volume per component for the combination for each of the six 5-year time periods included in the 30-year evaluation period. Recharge values showing what is needed and what is provided are included. Based on these flows, both in acre feet per year and million gallons per day, horsepower calculations are also completed which are used for operational annual costs in the present worth analysis.

Costs for purchase of land have not been included because the City currently owns the property or there is an excellent opportunity to partner with the landowner on the recharge programs identified for the New River. Many of the parcels along the New River are identified as owned or under control by the FCDMC. Based on casual discussions with FCDMC, they are interested in exploring the opportunity to partner with the City in the development of their program.

For the purposes of the economic evaluation, we have assumed that all piping of a particular line size will be installed at once. The identification of combinations has been structured to minimize extending the pipe at the current time. Extensions of pipe are identified in the table below the colored table and are identified as capital cost items in multiple years for the pipeline/pump station component. In general, all 24-inch pipe is installed at one time and the 18-inch pipe is installed at a later date. No pump station or major added piping is assumed for the vadose zone recharge wells at the Butler WRF site.

For each of the four combination evaluations conducted, the "Gross Values as Noted" table contains the input data as previously discussed. Red values in the table represent expenditures and the black values represent potential revenue. The tale to the right "Present Worth @ 4% with base year 2012", is set up using accounting values. Positive values have no special designation and negative values are identified within parentheses.

7.3.3. Results

There are several clear-cut conclusions that can be drawn from the four optimization combinations included for review. These conclusions refer only to costs and do not consider issues such as land availability or benefits of an amenity.

- With respect to infiltration basins, infiltration basin recharge is by far better than managed recharge because of the substantial increase in credits available from the permitting agencies.
- Based on the evaluations completed, overall expenditures for managed facilities are less than for infiltration basin facilities. However, managed facilities barely break even while infiltration basin facilities have a much greater potential of generating a positive cash flow.
- Infiltration basin and managed facilities are good options to facilitate development of the riparian area/outdoor classroom concept. They do support each other and some value is provided from long-term storage credits. From an aesthetic perspective, this is a good strategy. Due to potential permitting constraints in the south area (Area 2A), infiltration basins and managed facilities may be better suited to be sited in the vicinity of Area 1.
- Available land limits the maximum development of infiltration basin facilities.
- Location of infiltration basin facilities (specifically those built in floodways and inundated by flow events) can be impacted by flows in the channel and my not be able to be used during some times of the year. This is also the case for managed facilities. For this reason, it is necessary to have alternate locations for recharge.
- Vadose zone recharge wells, especially those located in Area 3 (Butler WRF), provide a good alternative for recharge in infiltration basins or managed facilities that might be shut down due to flow in the New River.
- Vadose zone recharge wells provide a recharge component that can recharge the total volume of effluent generated from the Butler WRF, but this component may not represent the least costly method, especially as a single method of recharge.
- Value of long-term storage credits have increased over the past 5 years. Water is a very valuable commodity. If the rates continue to increase above the levels currently projected, the recharge options for optimization become even more valuable. They will further offset future price increases of material and labor for construction of recharge facilities.
- Not all combinations comprised of the same multiple recharge components, but with different capacities result in the same financial outcome even though they meet the volume criteria. Compare Combination 1 versus Combination 2.
- Use of several recharge components in a combination may be as effective, or more effective, than combinations using all of the possible recharge components. Compare Combination 3 to Combination 2. Compare Combination 4 to Combination 2.

- The results of a recharge Combination are not predictive based on type or number of components included. The results are based on the goals identified for this study. The goals may change, the components may change, but it does not mean these have to occur at a loss in overall value.
- Combination 3 appears to be a very cost effective option as very little new infrastructure such as pipeline and pump stations would not be needed. However, permitting infiltration basins, levees or berms, or a managed facility in Areas 2 or 2A may be quite difficult for multiple reasons as described in Section 6.2. Of greatest concern is ADWR's demonstration of hydrologic feasibility and unreasonable harm. It is highly recommended that they City conduct groundwater modeling prior to moving forward with this option.

Unit Recharge Costs

Table 7 contains a summary breakout of unit costs and revenues with total program values for each of the recharge combinations broken down by recharge component and 5-year evaluation period. The basis for the information presented in this summary table is found in the main table for financial evaluations of each combination and is labeled "Present Worth Unit Expenditure/Revenue". Both capital costs and annual costs, for each 5-year period, are summed and then divided by the recharge volume being disposed of during that period to arrive at a "per acre-feet per year" value. Present worth monetary values are used to put the capital and annual costs on an equal financial analysis value. Revenue is calculated the same way for each 5-year period.

The results are predictable being that the least costly recharge methodologies are managed facilities and infiltration basins. Most costs for these recharge methods are associated with earthwork and there are relatively few mechanical components to be installed. Infiltration basin costs are greater than managed facility costs due to the need to construct defined areas that will operate in defined sequences or cycles and unlike managed facilities, they also require continued maintenance.

The unit costs for up-front one-time expenditures of construction are adjusted slightly. We have spread those costs over the useful life of that component. For managed, infiltration basins, and pump station/pipeline, the period is 30 years. For vadose zone recharge wells the period is 10 years and ASR wells the period is 20 years. If the defined payback period extended beyond 2045, those costs were not included in the unit cost, only that portion that fell within the 30-year window.

The unit cost of pump station/pipeline is lower than some of the unit costs for recharge. Any means to reduce that cost will make the program more financially positive. We have used combination with these facilities and combinations without these facilities.

The important thing to remember is unit costs will vary according to the combination that is being considered. These four particular combinations were evaluated to provide an assessment of varying system operation conditions and varying potential revenue to exemplify potential sequences the City may choose to implement over the 30-year study period.

In summary, one set of financial data does not provide the total answer. Unit values are important, as is the end goal of the project regarding the volume of water that can be recharged and the value of it over a lengthy period of time. Both of these monetary decision factors are impacted by availability of sites

for each recharge method. All of these issues must be considered when making long-term decisions for recharge.

No decision on a specific combination should be made without running an assessment of the specific criteria assigned to that combination. Each is unique. The four combinations selected for analysis were provided to give a general idea to results for what we have termed the edges of the envelope. What we do know is that all combinations, when compared to potential revenues from long-term storage credit accounting, will likely be a positive value. Equal expenditure values will not likely result in equal total value.

7.4. Evaluation Matrix

An evaluation matrix has been developed to compare the recharge optimization combinations and components with both financial and non-financial criteria. The following is a summary of all criteria used to evaluate the options contained in *Table 8*.

- Benefit to the City
- Potential Environmental Concerns
- Level of Treatment Required
- Aquifer Impacted
- Location of Water Source
- Regulatory/Permitting Constraints
- Property Requirements (area)
- Property Purchase (ownership)
- Capital Costs
- Operational Costs
- Recharge Credits
- Construction impact to residents
- Overall feasibility

Each of the criteria is assigned a value from 1 to 5 and those values are shown in the body of the table for each option. Those criteria listed (above) in italics represented a reverse value with 5 being the lowest value but having the most impact. Those listed in normal font represent corresponding values with 5 being the highest and having the highest value. Each of the criteria is also weighted to reflect the importance of that particular item compared to the others. Weighting factors for each option totaled 100. Long-term storage credits produced were assigned a value of 20 and accounted for 20% of the total ranking score developed for each recharge option. Regulatory/permitting, property purchase, capital costs, and operational costs were each assigned a value of 10 and thereby represented 10% each of the ranking score. All of the remaining criteria were assigned values of 5 and represented 5 % of the total ranking score for each criteria identified. Scores for rankings ranged from a high of 445 to a low of 250. The following highlight assignment of values used in the table:

- The greatest perceived value to the City is the managed facility because of its beneficial support of a riparian habitat and ASR well because it serves the dual functions of recharge and recovery.
- The managed facility at Rio Vista received the highest points for environmental concerns since it is the farthest away from the environmentally sensitive areas in the south of the study area.

- Managed facilities also received the highest points for treatment because it is least impacted by source water quality/requires less treatment.
- The Butler vadose zone recharge wells received the highest points for source water consideration. These wells are closest to the source and require the least piping and no cost associated with a pump station.
- Those options with the easiest ability to permit and farthest away from the environmental hot spots received most points for the regulatory criteria.
- Less property appears to be available for the areas along the New River in the southern area of the study area with the potential to partner with Maricopa County Flood Control District.
- The Butler site has the least influence from pipeline and pump station costs. The constructed recharge facilities are the least costly technology outside of the Butler site. It also has the least impact for pumping and piping.
- Clearly, vadose zone recharge wells have the least amount of annual maintenance required and/or the least amount of labor associated with it, so they collectively have the highest points.
- Long-term storage credit are straight forward with those receiving 100 % of recharge volume transferring to credits having the highest points.
- Construction impact to residents is even for all. With the selected sites, there is little or minimal impact to residents relating to construction activity.
- Overall feasibility is the most general category and mainly is tied with any and all criteria developed. Our evaluation has selected vadose zone recharge wells to meet the feasibility criteria the best.
- Overall, the evaluation indicates that the best options include vadose zone recharge wells at Butler WRF, infiltration basins, and vadose zone recharge wells at the upper reach of the infiltration basin facility. These represent the highest scores and the first point of focus. Based on the layout of the facilities, these also represent the least costly to construct, especially if phased construction is going to be used.

Two other potential options deserve special discussion: the Glendale recharge facility and recovery for park irrigation. At the beginning of the study, it was brought to the attention of HSI staff that a recharge facility near the Glendale airport was not being fully utilized. This was identified as a potential opportunity for the City. It could use or trade the use of this facility in exchange for the City placing the facility in operation and maintaining it for continual use. That condition has changed in that Glendale is now using the facility. It may still be worthy of ranking in case conditions for use change in the future.

Use of recovery wells for park irrigation is another item for discussion. In general, infiltration basins, managed facilities, and vadose zone recharge wells represent the options with the greatest amount of recharge quantity for the least cost, both first costs and annual costs. The reason vadose zone recharge wells, as proposed, fit in this category is because they can be clustered in several areas to make it more cost effective. If vadose zone recharge wells were to be located in existing parks, there would need to be a substantial number of parks involved to provide the same volume to total recharge. The piping required to accomplish this also transitions from a distribution main to a distribution network, which adds to the cost. Even using effluent for irrigation is not as cost effective as the recharge of effluent as defined in this report. Storage is required; pipe sizes increase to meet irrigation schedules and application flow rates. If these systems (pipelines) are in place then it makes sense to use this infrastructure to reduce the need to purchase irrigation water.

8.0 RECOMMENDATIONS FOR THE NEXT PHASE

Following are recommendations for the next phase of work. These recommendations focus on the collection and analysis of data that will be used to site the recharge facilities.

Field Investigations

1. Conduct groundwater modeling
2. Install soil borings/monitor wells
3. Perform soil sampling
4. Conduct surface geophysics
5. Perform aquifer tests
6. Perform injections tests
7. Measure water levels
8. Sample water quality – groundwater, surface water, and effluent
9. Environmental Assessment

9.0 SUMMARY

The Recharge Systems Operation Report study reviewed existing hydrogeological data, land use, and land availability. Several locations were identified for target recharge locations based on the above. In addition to utilizing existing data, a Cost Evaluation was performed to determine the efficiency, feasibility, and effectiveness of multiple recharge methods in multiple locations. Early in the analysis it was determined that utilizing City parks was not feasible due to the limited space and capital cost for infrastructure versus volume of water that could be recharged at those locations. The investigation shifted to identifying locations that could utilize the existing discharge pipeline (already sized to handle the maximum flow from Butler WRF) by connecting an extension running north toward Rio Vista Park. The pipeline was located close to the New River in order to take advantage of the greater incidence of available land and potential for multiple recharge methods as well as the addition of a riparian habitat component. Building from a single pipeline also provides the flexibility to phase in facilities as needed.

The study identified seven locations as potential recharge sites. Note that all results must be considered preliminary as no site-specific investigation or groundwater flow modeling was conducted, both of which are recommended in a next phase. Area 1 is the Rio Vista Park, which appears to be a good location for recharge. It ranks high based on several criteria such land availability and hydrogeologic feasibility. Capital costs will be higher because of the construction of the reclaimed water delivery system, however the location allows for the possibility of multiple recharge methods and the possibility for greater volumes of recharge, which may offset the capital costs. In addition, ranking high is the installation of vadose zone recharge wells and an ASR well(s) or wells near the Butler WRF, Area 3. Previous soil borings and injection tests indicate its suitability for vadose recharge. This site has the added advantage of not requiring additional pipeline or pump stations. Area 2 and 2A are tentatively identified as a location for infiltration basins or T-levees and the option for a riparian habitat. Before moving forward with a recommendation for this location, groundwater flow modeling should be considered to ensure that the demonstration of no unreasonable harm and hydrologic feasibility could be made to the satisfaction of ADWR. This location may be favorable for its cost effectiveness but its proximity to NAUSP and the Glendale landfill make it less desirable. Areas 4, 5, 6, and 7 were targeted for vadose zone recharge wells. Preliminary, a hydrogeologic investigation by Montgomery (2006)

indicates that vadose zone recharge wells in this location may need to be shallower and spaced further apart which will impact the volume recharged at those locations. Locations were identified to handle approximately 29,000 afy total and the goal of the study was to find space for a maximum of 14,600 afy. Therefore, there is flexibility in the plan and further investigation at these sites is recommended.

The advantage of this study is that it makes available the estimated costs for each recharge methodology. Multiple recharge methods can be substituted in or out along the existing or proposed pipeline based on the results of the collection of more site-specific data, groundwater flow modeling, and land availability. The evaluation matrix provides a framework for decision-making as it can be updated and or reformulated to reflect the City's needs and concerns as they arise.

10.0 REFERENCES

Arizona Department of Environmental Quality, eMaps [no date]. [Online]. Available from: http://gisweb.azdeq.gov/arcgis/emaps/ 2012, September 17.

Arizona Department of Water Resources, Active Management Area Hydrology – Groundwater Overview and Phoenix AMA [2011, October 28]. [Online]. Available from: http://www.azwater.gov/azdwr/StatewidePlanning/WaterAtlas/ActiveManagementAreas/PlanningAreaOverview/Hydrology.htm#westsalt, 2012, September 21.

_____, GWSI-Ground Water Site Inventory [no date]. [Online]. Available from: https://gisweb.azwater.gov/waterresourcedata/gwsi.aspx 2012, April and May.

_____, Imaged Records Database [no date]. [Online]. Available from: http://imagedrec.water.az.gov/PowerWeb/Dll/pwrwbext.dll/ (This now can be accessed at: http://infoshare.azwater.gov/docushare/dsweb/HomePage) 2012, April and May.

_____, Well Registry Web [no date]. [Online]. Available from: https://gisweb.azwater.gov/waterresourcedata/wellregistry.aspx 2012, April 10.

_____, West Valley Land Subsidence Feature [May 1, 2012]. [Online]. Available from: http://www.azwater.gov/AzDWR/Hydrology/Geophysics/WestValleySubsidence.htm 2012, September 24-26.

Brown, J.G., and Pool, D.R., 1989. Hydrogeology of the Western Part of the Salt River Valley, Maricopa County, Arizona. U.S. Geological Survey Water-Resources Investigations Report 88–4202, 5 sheets.

Cooley, Keith R., 1970. Evaporation from Open Water Surfaces in Arizona. U.S. Water Conservation Laboratory, Soil and Water Conservation Research Division, Agricultural Research Service, U.S. Department of Agriculture.

Corkhill, E.F., Corell, Steve, Hill, B.M., Carr, D.A., 1993. A Regional Groundwater Flow Model of the Salt River Valley—Phase I: Phoenix Active Management Area Hydrogeologic Framework and Basic Data Report. Arizona Department of Water Resources Modeling Report No. 6, 120 p., 2 plates.

Eaton, G.P., Peterson, D.L., and Schumann, H.H., 1972. Geophysical, Geohydrological, and Geochemical Reconnaissance of the Luke Salt Body, Central Arizona. U.S. Geological Survey Professional Paper.

Errol L. Montgomery and Associates, Inc., 2006. Evaluation of Recharge Alternatives for Storage of Treated Effluent from Butler Water Reclamation Facility (WRF), Phase 1—Conceptual Design, Butler WRF Recharge Study. Prepared for City of Peoria and Black and Veatch.

Ferguson, C.A., Spencer, J.E., Pearthree, P.A., Youberg, A., and Field, J.J., 2004, Geologic Map of the Wagner Wash Well 7.5' Quadrangle, Maricopa County, Arizona: Arizona Geological Survey Digital Geologic Map 38, scale 1:24,000.

Flood Control District of Maricopa County. New River at Bell Road – ID # 5598 [2012, June 26]. [Online]. Available from: http://156.42.96.39/alert/Flow/5598.htm 2012, October 2 and 9.

Pearthree, P.A., Youberg, A,. Filed, J.J., Ferguson, C.F., and Spencer, J.E., 2004. Geologic Map of the Daggs Tank 7.5' quadrangle, Maricopa County, Arizona. Arizona Geological Survey Digital Geologic Map DGM-39, scale 1:24,000.

Rauzi, S.L., 2002. Luke Salt Deposit. Arizona Geological Survey Map 36, scale 1:63,360.

Reynolds, S.J., Wood, S.E., Pearthree, P.A., and Field, J.J., 1991. Geologic Map of the White Tank Mountains, Central Arizona. Arizona Geological Survey Digital Geologic Map DGM-14, 2 sheets, scale 1:24,000.

Richard, S.M., Shipman, T.C., Greene, L.C., and Harris, R.C., 2007. Estimated Depth to Bedrock in Arizona. Arizona Geological Survey Digital Geologic Map DGM-52, scale 1:100,000, 9-page text.

Spencer, J.E., Rauzi, S.L., 2005. Drill Holes in the Luke Salt Body Penetrate Underlying Fault. Arizona Geological Survey, AZGS volume 35, no.3.

Thiros, S.A., Bexfield, L.M., Anning, D.W., and Huntington, J.M., eds., 2010. Conceptual Understanding and Groundwater Quality of Selected Basin-Fill Aquifers in the Southwestern United States: U.S. Geological Professional Paper 1781, 288 p.

Table 7. Butler Recharge Optimization Unit Costs

SUMMARY - Butler Recharge Optimization Combination Present Worth Unit Expenditures and Revenues

Note - All Dollar Figures Represent the Sum of Expenditures and Reveneues Over the Entire 30 Year Period in the Orange and Green Boxes

Note - All Dollar Figures Represent the Average Annual Unit Expenditure and Revenues Over the 30 Year Period in the White Boxes

Programming Components Used in each Combination	Present Worth Unit Expenditures and Revenues															
	Combination 1				Combination 2				Combination 3				Combination 4			
	AF/Yr Rech	MGD	Exp $/AF/Yr	Rev $/AF/Yr	AF/Yr Rech	MGD	Exp $/AF/Yr	Rev $/AF/Yr	AF/Yr Rech	MGD	Exp $/AF/Yr	Rev $/AF/Yr	AF/Yr Rech	MGD	Exp $/AF/Yr	Rev $/AF/Yr
Component 1 - Managed USF - Area 1	1,500	1.34	$ (85.83)	$ 70.08	2,000	1.79	$ (117.00)	$ 161.00								
			$ (28.61)	$ 23.36			$ (23.40)	$ 32.20								
Component 2 - Constructed USF - Area 2	7,011	6.26	$ (179.00)	$ 670.00	3,500	3.13	$ (225.00)	$ 670.00	7,011	6.26	$ (179.00)	$ 670.00				
Note Area 2A used for Combination 3			$ (29.83)	$ 111.67			$ (37.50)	$ 111.67			$ (29.83)	$ 111.67				
Component 3 - Vadose Zone Wells - Area 3 @ Butler	3,227	2.88	$ (595.00)	$ 744.00	3,227	2.88	$ (595.00)	$ 744.00	6,454	5.76	$ (405.00)	$ 592.00	3,227	2.88	$ (595.00)	$ 744.00
			$ (99.17)	$ 124.00			$ (99.17)	$ 124.00			$ (67.50)	$ 98.67			$ (99.17)	$ 124.00
Component 4 - Vadose Zone Wells - Areas 4,5,6, & 7	1,613	1.44	$ (221.00)	$ 323.00	5,340	4.77	$ (498.00)	$ 744.00					11,863	10.59	$ (393.00)	$ 744.00
			$ (73.67)	$ 107.67			$ (83.00)	$ 124.00							$ (65.50)	$ 124.00
Component 5 - Pipeline and Pump Station	10,124	9.04	$ (168.00)		10,840	9.68	$ (166.00)						11,863	10.59	$ (207.00)	
			$ (28.00)				$ (27.67)								$ (34.50)	
Component 6 - ASR Wells - Area 3	1,210	1.08	$ (293.00)	$ 454.00	1,210	1.08	$ (96.00)	$ 97.00								
			$ (58.60)	$ 90.80			$ (48.00)	$ 48.50								
NAUSP for Combination 3 only									1,095	0.98	$ -	$ -				
Total for 30Yyear Period			$ (1,541.83)	$ 2,261.08			$ (1,697.00)	$ 2,416.00			$ (584.00)	$ 1,262.00			$ (1,195.00)	$ 1,488.00
Total PW Unit Expenditures (AF/Yr)	$ (1,541.83)				$ (1,697.00)				$ (584.00)				$ (1,195.00)			
Total PW Unit Revenue (AF/Yr)	$ 2,261.08				$ 2,416.00				$ 1,262.00				$ 1,488.00			
Total PW Unit Value (AF/Yr)	$ 719.25				$ 719.00				$ 678.00				$ 293.00			
Total Present Worth Value	$ 10,919,411.00				$ 4,954,235.00				$ 24,678,410.00				$ 4,427,539.00			
Total Combination Avg Annual Value in AF/Yr for 30 Yr Pd			$ (317.88)	$ 457.49			$ (318.73)	$ 440.37			$ (97.33)	$ 210.33			$ (199.17)	$ 248.00

Summary of Combinations Evaluated

1. Combination 1 - Use of all recharge components with maximum emphasis placed on constructed recharge facilities
2. Combination 2 - Use of all recharge components with a more equal distribution of usage to each recharge component
3. Combination 3 - Utilize constructed recharge basins without the need of pumping and maximize use of Vadose Zone Wells at the Butler WRF
4. Combination 4 - Utilize only Vadose Zone wells for recharge

Summary of Area Locations

1. Area 1 – New River from Loop 101 and Rio Vista Park southwest to Thunderbird Road. Managed recharge basins in joint use with a proposed potential site for a wildlife refuge. Location for Aquifer Storage and Recovery Well.
2. Area 2 – New River from Peoria Avenue to Olive Avenue. Constructed recharge basins with "T" berms.
3. Area 2A – New River from Northern to Glendale. Constructed recharge basins with "T" berms. This area was used only for Combination 3 removes the need for added piping and a pump station.
4. Area 3 – Area surrounding Butler WRF. Vadose Zone well locations and an Aquifer Storage and Recovery Well.
5. Area 4 – New River drainage from Grand Avenue southwest to 95th Avenue. Vadose Zone wells.
6. Area 5 – North side New River drainage to 1000feet northeast of Grand Avenue. Vadose Zone Wells.
7. Area 6 – Southeast side New River drainage from area 5 northeast to 91st Avenue – width extending southeast to Loop 101. Vadose Zone wells.
8. Area 7 – Northeast side New River drainage from area 5 northeast to 91st Avenue (Opposite side of New River from Area 6). Vadose Zone wells.

Table 6. Butler Combination 4 Analysis

Peoria Butler Recharge Optimization Combination 4 Analysis

12-Sep-12

2012-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00

Utilized AF/Year

Component	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045		Maximum Available AF/Year
Managed (Area 1)								11648
In Operation								32 Acres
Infiltration Basins or Berms (Area 2)								7011
In Operation								48 Acres
Vadose Zone - Butler (Area 3)	3227	3227	3227	3227	3227	3227	8	3227
In Operation	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells		8 Wells
Vadose Zone - (Areas 4,5,6&7)	6045	6851	8060	8866	9672	11863		11863
In Operation	15 Wells	17 Wells	20 Wells	22 Wells	24 Wells	29 Wells		29 Wells
Pipeline and Pump Station	6045	6851	8060	8866	9672	11863		
In Operation	24-inch	24-inch	24-inch	24-inch	24-inch	24-inch		
ASR Wells (Area 3)								1210
In Operation								1 Well
Provided Total	9272	10078	11287	12093	12899	15090		
AF/Year Projected Need	9139	9876	10904	12039	13293	14560		
GPM	5663	6120	6757	7460	8237	9022		
HP	168	182	201	222	245	268		
Annual Power Cost	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271		

Programming Schedule — Gross Values as noted — Present Worth @ 4% with base year 2012

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 1 - Managed USF -													
Professional								$ -					$ -
Permitting								$ -					$ -
Construction								$ -					$ -
Operational (Annual)									$ -	$ -	$ -	$ -	$ -
Reporting (Annual)									$ -	$ -	$ -	$ -	$ -
Recharge Revenue(Annual)									$ -	$ -	$ -	$ -	$ -
									Component Total Present Worth				$ -
Component 2 - Infiltration Basins or Berms USF													
Professional							$ -						$ -
Permitting							$ -						$ -
Construction							$ -						$ -
Operational (Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reporting (Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
Recharge Revenue(Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
									ComponentTotal Present Worth				$ -
Component 3 - Vadose Zone Wells @ Butler													
Professional	$ 170,000		$ 550,000		$ 800,000		$ (145,316)		$ (317,625)		(312,080.00)		$ (775,021)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		(91,673.50)		$ (428,264)
Construction	$ 1,661,338		$ 5,319,710		$ 7,874,470		$ (1,420,112)		$ (3,072,133)		(3,071,830.75)		$ (7,564,075)
Operational(Annual)	$ 23,432	$ 28,512	$ 34,688	$ 42,200	$ 51,344	$ 62,472	$ (89,172)	$ (89,185)	$ (89,184)	$ (89,165)	$ (89,170)	$ (89,195)	$ (535,071)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 645,400	$ 709,940	$ 822,885	$ 903,560	$ 1,000,370	$ 1,100,407	$ 2,456,115	$ 2,220,675	$ 2,115,662	$ 1,909,149	$ 1,737,368	$ 1,571,113	$ 12,010,082
									Component Total Present Worth				$ 2,413,361
Component 4 - Vadose Zone Wells @ Area 4,5,6 &7													
	$ 400,000		$ 750,000		$ 1,500,000		$ (341,920)		$ (433,125)		$ (585,150)		$ (1,360,195)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		$ (91,674)		$ (428,264)
Construction	$ 3,818,418		$ 7,314,601		$ 14,272,477		$ (3,263,984)		$ (4,224,182)		$ (5,567,693)		$ (13,055,859)
Operational(Annual)	$ 43,935	$ 60,588	$ 86,720	$ 116,050	$ 154,032	$ 226,461	$ (167,198)	$ (189,518)	$ (222,960)	$ (245,204)	$ (267,511)	$ (323,331)	$ (1,415,722)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 1,209,000	$ 1,507,220	$ 2,055,300	$ 2,482,480	$ 2,998,320	$ 4,045,283	$ 4,600,934	$ 4,714,547	$ 5,284,238	$ 5,245,280	$ 5,207,258	$ 5,775,679	$ 30,827,935
									Component Total Present Worth				$ 14,273,606
Component 5 -Pipeline and Pump Station - No Gereration of Income Item													
Professional	$ 1,186,000						$ (1,013,793)			$ -			$ (1,013,793)
Permitting	$ 20,000						$ (17,096)			$ -			$ (17,096)
Construction	$ 11,861,800						$ (10,139,467)			$ -			$ (10,139,467)
Operational(Annual)	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	$ (232,349)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (1,089,073)
Reporting (Annual)													$ -
Recharge Revenue(Annual)													$ -
									Component Total Present Worth				$ (12,259,428)
Component 6 - ASR Wells @ Area 1 & 3													
Professional										$ -			$ -
Permitting										$ -			$ -
Construction										$ -			$ -
Operational(Annual)											$ -	$ -	$ -
Reporting (Annual)											$ -	$ -	$ -
Recharge Revenue(Annual)											$ -	$ -	$ -
									Component Total Present Worth				$ -
													$ 4,427,539

PW Costs							
PW Revenue							
AF/Year							
MGD							
$/AF/Year							$ -
$/MGD							
Rev./AF/Year							$ -
PW Costs							
PW Revenue							
AF/Year							
MGD							
$/AF/Year							$ -
$/MGD							
Rev./AF/Year							$ -
PW Costs	$ (1,904,524)	$ (138,235)	$ (3,663,704)	$ (138,208)	$ (3,613,800)	$ (138,250)	$ (9,596,720)
PW Revenue	2456114.62	2220674.713	2115662.022	1909149.272	1737367.788	1571113.137	$ 12,010,082
AF/Year	3227	3227	3227	3227	3227	3227	
MGD	2.88125	2.88125	2.88125	2.88125	2.88125	2.88125	
$/AF/Year	$ (118.04)	$ (8.57)	$ (227.07)	$ (8.57)	$ (223.97)	$ (8.57)	$ (595)
$/MGD	$ (661,006.16)	$ (47,977.30)	$ (1,271,567.56)	$ (47,968.12)	$ (1,254,247.21)	$ (47,982.53)	$ (3,330,749)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744
PW Costs	$ (4,023,026)	$ (238,568)	$ (5,065,029)	$ (294,247)	$ (6,561,073)	$ (372,386)	$ (16,554,329)
PW Revenue	4600933.646	4714546.781	5284237.959	5245279.656	5207257.902	5775678.693	$ 30,827,935
AF/Year	6045	6851	8060	8866	9672	11863	
MGD	5.397321429	6.116964286	7.196428571	7.916071429	8.635714286	10.59196429	
$/AF/Year	$ (133.10)	$ (6.96)	$ (125.68)	$ (6.64)	$ (135.67)	$ (6.28)	$ (414)
$/MGD	$ (745,374.47)	$ (39,000.97)	$ (703,825.43)	$ (37,170.87)	$ (759,760.33)	$ (35,157.41)	$ (2,320,289)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744
PW Costs	$ (11,402,705)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (12,259,428)
PW Revenue							$ -
AF/Year	11863	11863	11863	11863	11863	11863	
MGD	10.59196429	10.59196429	10.59196429	10.59196429	10.59196429	10.59196429	
$/AF/Year	$ (192.24)	$ (3.48)	$ (3.16)	$ (2.87)	$ (2.60)	$ (2.34)	$ (207)
$/MGD	$ (1,076,542.98)	$ (19,484.58)	$ (17,682.33)	$ (16,044.27)	$ (14,561.32)	$ (13,111.79)	$ (1,157,427)
Rev./AF/Year							$ -
PW Costs							
PW Revenue							
AF/Year							
MGD							
$/AF/Year							$ -
$/MGD							
Rev./AF/Year							$ -
							$ (1,216)
							$ 1,489
							$ 273

Table 5. Butler Combination 3 Analysis

Peoria Butler Recharge Optimization Combination 3 Analysis

12-Sep-12

2012-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00

Utilized AF/Year

Component	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	Maximum Available AF/Year
Managed (Area 2)	5840	5840	5840	5840	5840	5840	5840
In Operaton	Limited	Limitede	Limited	Limited	Limited	Limited	48 Acres
Infiltration Basins or Berms (Area 2)							7011
In Operaton							48 Acres
Vadose Zone - Butler (Area 3)	3227	3227	3227	3227	3227	3227	3227
In Operaton	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells
Vadose Zone - (Areas 4,5,6&7)	1613	1613	2017	3227	4437	5646	11863
In Operaton	4 Wells	4 Wells	5 Wells	8 Wells	11 Wells	14 Wells	29 Wells
Pipeline and Pump Station	7453	7453	7857	9067	10277	11486	
In Operaton	24-inch	24-Inch	24-Inch	24-Inch	24-Inch	24-Inch	
ASR Wells (Area 3)							1210
In Operaton							1 Well
Provided Total	10680	10680	11084	12294	13504	14713	
AF/Year Projected Need	9139	9876	10904	12039	13293	14560	
GPM	5663	6120	6757	7460	8237	9022	
HP	168	182	201	222	245	268	
Annual Power Cost	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	

Programming Schedule — Gross Values as noted — Present Worth @ 4% with base year 2012

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 1 - Managed USF													
Professional	$ 99,000						$ (84,625)	$ -					$ (84,625)
Permitting	$ 235,000						$ (200,878)	$ -					$ (200,878)
Construction	$ 988,823						$ (845,246)	$ -					$ (845,246)
Operational (Annual)	$ 11,717	$ 14,255	$ 17,343	$ 21,101	$ 25,672	$ 31,235	$ (44,590)	$ (44,589)	$ (44,589)	$ (44,585)	$ (44,585)	$ (44,596)	$ (267,534)
Reporting (Annual)	$ 11,717	$ 14,255	$ 17,343	$ 21,101	$ 25,672	$ 31,235	$ (44,590)	$ (44,589)	$ (44,589)	$ (44,585)	$ (44,585)	$ (44,596)	$ (267,534)
Recharge Revenue(Annual)	$ 483,886	$ 532,274	$ 616,954	$ 677,440	$ 750,023	$ 825,025	$ 1,841,461	$ 1,664,941	$ 1,586,208	$ 1,431,376	$ 1,302,584	$ 1,177,935	$ 9,004,504
												Component Total Present Worth	$ 7,338,686

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs	$ (1,219,929)	$ (89,179)	$ (89,179)	$ (89,169)	$ (89,170)	$ (89,192)	$ (1,665,818)
PW Revenue	1841460.701	1664940.708	1586207.923	1431375.933	1302583.552	1177934.887	$ 9,004,504
AF/Year	5840	5840	5840	5840	5840	5840	
MGD	5.214285714	5.214285714	5.214285714	5.214285714	5.214285714	5.214285714	
$/AF/Year	$ (41.78)	$ (3.05)	$ (3.05)	$ (3.05)	$ (3.05)	$ (3.05)	$ (57)
$/MGD	$ (233,958.95)	$ (17,102.74)	$ (17,102.77)	$ (17,100.98)	$ (17,101.18)	$ (17,105.30)	$ (319,472)
Rev./AF/Year	$ 63.06	$ 57.02	$ 54.32	$ 49.02	$ 44.61	$ 40.34	$ 308

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 2 - Infiltration Basins or Berms USF													
Professional							$ -						$ -
Permitting							$ -						$ -
Construction							$ -						$ -
Operational (Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
Reporting (Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
Recharge Revenue(Annual)							$ -	$ -	$ -	$ -	$ -	$ -	$ -
												ComponentTotal Present Worth	$ -

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs							
PW Revenue							
AF/Year							
MGD							
$/AF/Year							$ -
$/MGD							
Rev./AF/Year							$ -

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 3 - Vadose Zone Wells @ Butler													
Professional	$ 170,000		$ 550,000		$ 800,000		$ (145,316)		$ (317,625)		(312,080.00)		$ (775,021)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		(91,673.50)		$ (428,264)
Construction	$ 1,661,338		$ 5,319,710		$ 7,874,470		$ (1,420,112)		$ (3,072,133)		(3,071,830.75)		$ (7,564,075)
Operational(Annual)	$ 23,432	$ 28,512	$ 34,688	$ 42,200	$ 51,344	$ 62,472	$ (89,172)	$ (89,185)	$ (89,184)	$ (89,165)	$ (89,170)	$ (89,195)	$ (535,071)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 645,400	$ 709,940	$ 822,885	$ 903,560	$ 1,000,370	$ 1,100,407	$ 2,456,115	$ 2,220,675	$ 2,115,662	$ 1,909,149	$ 1,737,368	$ 1,571,113	$ 12,010,082
												Component Total Present Worth	$ 2,413,361

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs	$ (1,904,524)	$ (138,235)	$ (3,663,704)	$ (138,208)	$ (3,613,800)	$ (138,250)	$ (9,596,720)
PW Revenue	2456114.62	2220674.713	2115662.022	1909149.272	1737367.788	1571113.137	$ 12,010,082
AF/Year	3227	3227	3227	3227	3227	3227	
MGD	2.88125	2.88125	2.88125	2.88125	2.88125	2.88125	
$/AF/Year	$ (118.04)	$ (8.57)	$ (227.07)	$ (8.57)	$ (223.97)	$ (8.57)	$ (595)
$/MGD	$ (661,006.16)	$ (47,977.30)	$ (1,271,567.56)	$ (47,968.12)	$ (1,254,247.21)	$ (47,982.53)	$ (3,330,749)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 4 - Vadose Zone Wells @ Area 4,5,6 &7													
	$ 90,000		$ 270,000		$ 290,000		$ (76,932)		$ (155,925)		$ (113,129)		$ (345,986)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		$ (91,674)		$ (428,264)
Construction	$ 898,451		$ 2,659,855		$ 6,890,161		$ (767,996)		$ (1,536,066)		$ (2,687,852)		$ (4,991,914)
Operational(Annual)	$ 11,716	$ 14,256	$ 21,680	$ 42,200	$ 70,598	$ 109,326	$ (44,586)	$ (44,592)	$ (55,740)	$ (89,165)	$ (122,609)	$ (156,091)	$ (512,784)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 322,600	$ 354,860	$ 514,335	$ 903,560	$ 1,375,470	$ 1,925,286	$ 1,227,677	$ 1,109,993	$ 1,322,371	$ 1,909,149	$ 2,388,813	$ 2,748,839	$ 10,706,843
												Component Total Present Worth	$ 4,133,606

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs	$ (1,139,438)	$ (93,642)	$ (1,932,494)	$ (138,208)	$ (3,064,309)	$ (205,146)	$ (6,573,237)
PW Revenue	1227676.753	1109993.279	1322370.715	1909149.272	2388813.411	2748839.408	$ 10,706,843
AF/Year	1613	1613	2017	3227	4437	5646	
MGD	1.440178571	1.440178571	1.800892857	2.88125	3.961607143	5.041071429	
$/AF/Year	$ (141.28)	$ (11.61)	$ (191.62)	$ (8.57)	$ (138.13)	$ (7.27)	$ (498)
$/MGD	$ (791,178.38)	$ (65,021.24)	$ (1,073,075.39)	$ (47,968.12)	$ (773,501.42)	$ (40,694.87)	$ (2,791,439)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 5 -Pipeline and Pump Station - No Gereration of Income Item													
Professional	$ 1,186,000						$ (1,013,793)			$ -			$ (1,013,793)
Permitting	$ 20,000						$ (17,096)			$ -			$ (17,096)
Construction	$ 11,861,800						$ (10,139,467)			$ -			$ (10,139,467)
Operational(Annual)	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	$ (232,349)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (1,089,073)
Reporting (Annual)													$ -
Recharge Revenue(Annual)													$ -
												Component Total Present Worth	$ (12,259,428)

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs	$ (11,402,705)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (12,259,428)
PW Revenue							$ -
AF/Year	11486	11486	11486	11486	11486	11486	
MGD	10.25535714	10.25535714	10.25535714	10.25535714	10.25535714	10.25535714	
$/AF/Year	$ (198.55)	$ (3.59)	$ (3.26)	$ (2.96)	$ (2.69)	$ (2.42)	$ (213)
$/MGD	$ (1,111,877.88)	$ (20,124.11)	$ (18,262.71)	$ (16,570.88)	$ (15,039.26)	$ (13,542.16)	$ (1,195,417)
Rev./AF/Year							$ -

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 6 - ASR Wells @ Area 1 & 3													
Professional										$ -			$ -
Permitting										$ -			$ -
Construction										$ -			$ -
Operational(Annual)											$ -	$ -	$ -
Reporting (Annual)											$ -	$ -	$ -
Recharge Revenue(Annual)											$ -	$ -	$ -
												Component Total Present Worth	$ -

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs							
PW Revenue							
AF/Year							
MGD							
$/AF/Year							$ -
$/MGD							
Rev./AF/Year							$ -
							$ (1,364)

$ 1,626,225 — $ 1,797

$ 433

Table 4. Butler Combination 2 Analysis

Peoria Butler Recharge Optimization Combination 2 Analysis

12-Sep-12

2012-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00

Component	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	Maximum Available AF/Year
	Utilized AF/Year						
Managed (Area 1)			1000	2000	2000	2000	11648
In Operation			32 Acres	32 Acres	32 Acres	32 Acres	32 Acres
Infiltration Basins/Berms (Area 2)	3500	3500	3500	3500	3500	3500	3500
In Operation	24 Acres	24 Acres	24 Acres	24 Acres	24 Acres	24 Acres	24 Acres
Vadose Zone - Butler (Area 3)	3227	3227	3227	3227	3227	3227	3227
In Operation	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells	8 Wells
Vadose Zone - (Areas 4,5,6&7)	3727	3727	3727	3727	5340	5340	11863
In Operation	8 Wells	8 Wells	8 Wells	8 Wells	13 Wells	13 Wells	29 Wells
Pipeline and Pump Station	7227	7227	8227	9227	10840	10840	
In Operation	24-inch	24-Inch	24+18-inch	24+18-inch	24+18-inch	24+18-inch	
ASR Wells (Areas 3)						1210	1210
In Operation						1 Well	1 Well
Provided Total	10454	10454	11454	12454	14067	15277	
AF/Year Projected Need	9139	9876	10904	12039	13293	14560	
GPM	5663	6120	6757	7460	8237	9022	
HP	168	182	201	222	245	268	
Annual Power Cost	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	

Programming Schedule — Gross Values as noted — Present Worth @ 4% with base year 2012

	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	2016-2020 2 years	2021-2025 5 years	2026-2030 5 years	2031-2035 5 years	2036-2040 5 years	2041-2045 5 years	Total Present Worth
Component 1 - Managed USF -													
Professional		$ 150,000						$ (97,440)					$ (97,440)
Permitting		$ 235,000						$ (152,656)					$ (152,656)
Construction		$ 1,301,223						$ (845,274)					$ (845,274)
Operational (Annual)			$ 17,343	$ 21,101	$ 25,672	$ 31,235			$ (44,589)	$ (44,585)	$ (44,585)	$ (44,596)	$ (178,355)
Reporting (Annual)			$ 17,343	$ 21,101	$ 25,672	$ 31,235			$ (44,589)	$ (44,585)	$ (44,585)	$ (44,596)	$ (178,355)
Recharge Revenue (Annual)			$ 105,643	$ 232,000	$ 256,857	$ 282,543			$ 271,611	$ 490,197	$ 446,090	$ 403,402	$ 1,611,301
									Component Total Present Worth				$ 159,220
Component 2 - Infiltration Basins or Berms USF													
Professional	$ 300,000						$ (256,440)						$ (256,440)
Permitting	$ 235,000						$ (200,878)						$ (200,878)
Construction	$ 1,127,000						$ (963,360)						$ (963,360)
Operational (Annual)	$ 72,961	$ 90,474	$ 108,001	$ 131,399	$ 159,867	$ 194,503	$ (277,658)	$ (283,000)	$ (277,674)	$ (277,635)	$ (277,645)	$ (277,703)	$ (1,671,316)
Reporting (Annual)	$ 37,289	$ 46,240	$ 55,197	$ 67,156	$ 81,706	$ 99,407	$ (141,906)	$ (144,638)	$ (141,913)	$ (141,895)	$ (141,901)	$ (141,929)	$ (854,182)
Recharge Revenue (Annual)	$ 630,000	$ 693,000	$ 803,250	$ 882,000	$ 976,500	$ 1,074,150	$ 2,397,509	$ 2,167,687	$ 2,065,180	$ 1,863,595	$ 1,695,912	$ 1,534,581	$ 11,724,463
									ComponentTotal Present Worth				$ 7,778,288
Component 3 -Vadose Zone Wells @ Butler													
Professional	$ 170,000		$ 550,000		$ 800,000		$ (145,316)		$ (317,625)		(312,080.00)		$ (775,021)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		(91,673.50)		$ (428,264)
Construction	$ 1,661,338		$ 5,319,710		$ 7,874,470		$ (1,420,112)		$ (3,072,133)		(3,071,830.75)		$ (7,564,075)
Operational(Annual)	$ 23,432	$ 28,512	$ 34,688	$ 42,200	$ 51,344	$ 62,472	$ (89,172)	$ (89,185)	$ (89,184)	$ (89,165)	$ (89,170)	$ (89,195)	$ (535,071)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 645,400	$ 709,940	$ 822,885	$ 903,560	$ 1,000,370	$ 1,100,407	$ 2,456,115	$ 2,220,675	$ 2,115,662	$ 1,909,149	$ 1,737,368	$ 1,571,113	$ 12,010,082
									Component Total Present Worth				$ 2,413,361
Component 4 - Vadose Zone Wells @ Area 4,5,6 &7													
	$ 170,000		$ 550,000		$ 1,030,000		$ (145,316)		$ (317,625)		$ (401,803)		$ (864,744)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		$ (91,674)		$ (428,264)
Construction	$ 1,661,338		$ 5,319,710		$ 10,335,242		$ (1,420,112)		$ (3,072,133)		$ (4,031,778)		$ (8,524,022)
Operational(Annual)	$ 23,432	$ 28,512	$ 34,688	$ 42,200	$ 83,434	$ 101,517	$ (89,172)	$ (89,185)	$ (89,184)	$ (89,165)	$ (144,902)	$ (144,942)	$ (646,549)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 745,400	$ 819,940	$ 950,385	$ 1,043,560	$ 1,655,400	$ 1,820,940	$ 2,836,672	$ 2,564,752	$ 2,443,468	$ 2,204,958	$ 2,874,975	$ 2,599,859	$ 15,524,684
									Component Total Present Worth				$ 4,766,815
Component 5 -Pipeline and Pump Station - No Gereration of Income Item													
Professional	$ 670,000	$ 260,000					$ (572,716)	$ (168,896)		$ -			$ (741,612)
Permitting	$ 20,000	$ 5,000					$ (17,096)	$ (3,248)		$ -			$ (20,344)
Construction	$ 6,700,800	$ 2,609,375					$ (5,727,844)	$ (1,695,050)		$ -			$ (7,422,894)
Operational(Annual)	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	$ (232,349)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (1,089,073)
Reporting (Annual)													$ -
Recharge Revenue(Annual)													$ -
									Component Total Present Worth				$ (9,273,923)
Component 6 - ASR Wells @ Area 1 & 3													
Professional					$ 350,000					$ -	$ (121,380)		$ (121,380)
Permitting					$ 235,000					$ -	$ (81,498)		$ (81,498)
Construction					$ 3,460,042					$ -	$ (1,199,943)		$ (1,199,943)
Operational(Annual)						$ 18,741					$ -	$ (26,758)	$ (26,758)
Reporting (Annual)						$ 34,358					$ -	$ (49,055)	$ (49,055)
Recharge Revenue(Annual)						$ 412,610					$ -	$ 589,107	$ 589,107
									Component Total Present Worth				$ (889,526)
													$ 4,954,235

PW Costs	$ -	$ (1,095,370)	$ (89,179)	$ (89,169)	$ (89,170)	$ (89,192)	$ (1,452,081)
PW Revenue			271610.9456	490197.2375	446090.2574	403402.3586	$ 1,611,301
AF/Year		2000	2000	2000	2000	2000	
MGD		1.785714286	1.785714286	1.785714286	1.785714286	1.785714286	
$/AF/Year		$ (109.54)	$ (8.92)	$ (8.92)	$ (8.92)	$ (8.92)	$ (145)
$/MGD		$ (613,407.46)	$ (49,940.10)	$ (49,934.87)	$ (49,935.43)	$ (49,947.49)	$ (813,165)
Rev./AF/Year			$ 27.16	$ 49.02	$ 44.61	$ 40.34	$ 161
PW Costs	$ (1,840,242)	$ (427,638)	$ (419,587)	$ (419,531)	$ (419,546)	$ (419,632)	$ (3,946,175)
PW Revenue	2397508.848	2167686.814	2065179.848	1863594.734	1695912.158	1534580.96	$ 11,724,463
AF/Year	3500	3500	3500	3500	3500	3500	
MGD	3.125	3.125	3.125	3.125	3.125	3.125	
$/AF/Year	$ (105.16)	$ (24.44)	$ (23.98)	$ (23.97)	$ (23.97)	$ (23.98)	$ (225)
$/MGD	$ (588,877.33)	$ (136,844.16)	$ (134,267.83)	$ (134,249.81)	$ (134,254.69)	$ (134,282.20)	$ (1,262,776)
Rev./AF/Year	$ 137.00	$ 123.87	$ 118.01	$ 106.49	$ 96.91	$ 87.69	$ 670
PW Costs	$ (1,904,524)	$ (138,235)	$ (3,663,704)	$ (138,208)	$ (3,613,800)	$ (138,250)	$ (9,596,720)
PW Revenue	2456114.62	2220674.713	2115662.022	1909149.272	1737367.788	1571113.137	$ 12,010,082
AF/Year	3227	3227	3227	3227	3227	3227	
MGD	2.88125	2.88125	2.88125	2.88125	2.88125	2.88125	
$/AF/Year	$ (118.04)	$ (8.57)	$ (227.07)	$ (8.57)	$ (223.97)	$ (8.57)	$ (595)
$/MGD	$ (661,006.16)	$ (47,977.30)	$ (1,271,567.56)	$ (47,968.12)	$ (1,254,247.21)	$ (47,982.53)	$ (3,330,749)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744
PW Costs	$ (1,904,524)	$ (138,235)	$ (3,663,704)	$ (138,208)	$ (4,719,201)	$ (193,996)	$ (10,757,869)
PW Revenue	2836671.58	2564751.985	2443468.347	2204957.96	2874974.896	2599858.739	$ 15,524,684
AF/Year	3727	3727	3727	3727	5340	5340	
MGD	3.327678571	3.327678571	3.327678571	3.327678571	4.767857143	4.767857143	
$/AF/Year	$ (102.20)	$ (7.42)	$ (196.60)	$ (7.42)	$ (176.75)	$ (7.27)	$ (498)
$/MGD	$ (572,328.12)	$ (41,540.85)	$ (1,100,978.94)	$ (41,532.90)	$ (989,795.06)	$ (40,688.38)	$ (2,786,864)
Rev./AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744
PW Costs	$ (6,550,005)	$ (2,073,574)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (9,273,923)
PW Revenue							$ -
AF/Year	10840	10840	10840	10840	10840	10840	
MGD	9.678571429	9.678571429	9.678571429	9.678571429	9.678571429	9.678571429	
$/AF/Year	$ (120.85)	$ (38.26)	$ (3.46)	$ (3.14)	$ (2.85)	$ (2.56)	$ (171)
$/MGD	$ (676,753.30)	$ (214,243.80)	$ (19,351.06)	$ (17,558.41)	$ (15,935.51)	$ (14,349.19)	$ (958,191)
Rev./AF/Year							$ -
PW Costs	$ -	$ -	$ -	$ -	$ (1,402,820.57)	$ (75,812.44)	$ (1,478,633)
PW Revenue					$ -	$ 589,106.57	$ 589,107
AF/Year					1,210.00	1,210.00	
MGD					1.08	1.08	
$/AF/Year					$ (231.87)	$ (12.53)	$ (244)
$/MGD					$ (1,298,478.54)	$ (70,173.50)	$ (1,368,652)
Rev./AF/Year					$ -	$ 97.37	$ 97
							$ (1,879)
							$ 2,417
							$ 539

Table 3. Butler Combination 1 Analysis

Peoria Butler Recharge Optimization Combination 1 Analysis - Utilize all technologies available

12-Sep-12

2012-2015	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00
$ 170.00	$ 200.00	$ 220.00	$ 255.00	$ 280.00	$ 310.00	$ 341.00

Utilized AF/Year

Component	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	Maximum Available AF/Year
Managed (Area 1)					1000	1500	11648
In Operation					32 acres	32 acres	32 acres
Infiltration Basins or Berms (Area 2)	7011	7011	7011	7011	7011	7011	7011
In Operation	48 acres	48 acres	48 acres	48 acres	48 acres	48 acres	48 acres
Vadose Zone - Butler (Area 3)	3227	3227	3227	3227	3227	3227	3227
In Operation	8 wells	8 wells	8 wells	8 wells	8 wells	8 wells	8 wells
Vadose Zone - (Areas 4,5,6&7)				1613	1613	1613	11863
In Operation				4 Wells	4 Wells	4 Wells	29 Wells
Pipeline and Pump Station	7011	7011	7011	8624	9624	10124	
In Operation	24-inch	24-inch	24-inch	24&18-inch	24&18-inch	24&18-inch	
ASR Wells (Area 3)			1210	1210	1210	1210	1210
In Operation			1 well	1 Well	1 Well	1 Well	1 Well
Provided Total	10238	10238	11448	13061	14061	14561	
AF/Year Projected Need	9139	9876	10904	12039	13293	14560	
GPM	5663	6120	6757	7460	8237	9022	
HP	168	182	201	222	245	268	
Annual Power Cost	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	

Programming Schedule — Gross Values as noted — Present Worth @ 4% with base year 2012

	2016-2020 (2 years)	2021-2025 (5 years)	2026-2030 (5 years)	2031-2035 (5 years)	2036-2040 (5 years)	2041-2045 (5 years)	2016-2020 (5 years)	2021-2025 (5 years)	2026-2030 (5 years)	2031-2035 (5 years)	2036-2040 (5 years)	2041-2045 (5 years)	Total Present Worth
Component 1 - Managed USF - Area 1													
Professional				$ 200,000						$ (84,400)			$ (84,400)
Permitting				$ 235,000						$ (99,170)			$ (99,170)
Construction				$ 2,003,174						$ (845,339)			$ (845,339)
Operational (Annual)					$ 25,672	$ 31,235			$ -	$ -	$ (44,585)	$ (44,596)	$ (89,181)
Reporting (Annual)					$ 25,672	$ 31,235			$ -	$ -	$ (44,585)	$ (44,596)	$ (89,181)
Recharge Revenue(Annual)			$ -	$ -	$ 128,429	$ 211,907			$ -	$ -	$ 223,045	$ 302,552	$ 525,597
									Component Total Present Worth				$ (681,675)
Component 2 - Infiltration Basins/Berms USF - Area 2													
Professional	$ 300,000						$ (256,440)						$ (256,440)
Permitting	$ 235,000						$ (200,878)						$ (200,878)
Construction	$ 2,254,000						$ (1,926,719)						$ (1,926,719)
Operational (Annual)	$ 127,549	$ 155,183	$ 188,804	$ 229,709	$ 279,476	$ 340,025	$ (485,397)	$ (485,409)	$ (485,421)	$ (485,357)	$ (485,373)	$ (485,473)	$ (2,912,428)
Reporting (Annual)	$ 65,188	$ 79,312	$ 55,197	$ 67,156	$ 61,130	$ 74,374	$ (248,077)	$ (248,086)	$ (141,913)	$ (141,895)	$ (106,166)	$ (106,188)	$ (992,326)
Recharge Revenue(Annual)	$ 1,261,980	$ 1,388,178	$ 1,609,025	$ 1,766,772	$ 1,956,069	$ 2,151,676	$ 4,802,553	$ 4,342,186	$ 4,136,850	$ 3,733,046	$ 3,397,154	$ 3,073,985	$ 23,485,775
									ComponentTotal Present Worth				$ 17,196,984
Component 3 - Vadose Zone Wells - Area 3 @ Butler													
Professional	$ 170,000		$ 550,000		$ 800,000		$ (145,316)		$ (317,625)		(312,080.00)		$ (775,021)
Permitting	$ 235,000		$ 235,000		$ 235,000		$ (200,878)		$ (135,713)		(91,673.50)		$ (428,264)
Construction	$ 1,661,338		$ 5,319,710		$ 7,874,470		$ (1,420,112)		$ (3,072,133)		(3,071,830.75)		$ (7,564,075)
Operational(Annual)	$ 23,432	$ 28,512	$ 34,688	$ 42,200	$ 51,344	$ 62,472	$ (89,172)	$ (89,185)	$ (89,184)	$ (89,165)	$ (89,170)	$ (89,195)	$ (535,071)
Reporting (Annual)	$ 12,888	$ 15,681	$ 19,078	$ 23,211	$ 28,240	$ 34,358	$ (49,046)	$ (49,050)	$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (294,289)
Recharge Revenue(Annual)	$ 645,400	$ 709,940	$ 822,885	$ 903,560	$ 1,000,370	$ 1,100,407	$ 2,456,115	$ 2,220,675	$ 2,115,662	$ 1,909,149	$ 1,737,368	$ 1,571,113	$ 12,010,082
									Component Total Present Worth				$ 2,413,361
Component 4 - Vadose Zone Wells @ Area 4,5,6 &7													
				$ 170,000		$ 250,000	$ -		$ -	$ (80,682)	$ -	(80,175.00)	$ (160,857)
Permitting				$ 235,000		$ 235,000	$ -		$ -	$ (111,531)	$ -	(75,364.50)	$ (186,896)
Construction				$ 1,618,060		$ 2,395,124	$ -		$ -	$ (767,931)	$ -	(768,116.27)	$ (1,536,048)
Operational(Annual)				$ 21,100	$ 25,672	$ 31,236	$ -	$ -	$ -	$ (44,583)	$ (44,585)	$ (44,597)	$ (133,765)
Reporting (Annual)				$ 23,211	$ 28,240	$ 34,358	$ -	$ -	$ -	$ (49,043)	$ (49,045)	$ (49,055)	$ (147,143)
Recharge Revenue(Annual)	$ -	$ -	$ -	$ 451,640	$ 500,030	$ 550,033	$ -	$ -	$ -	$ 954,279	$ 868,415	$ 785,313	$ 2,608,007
									Component Total Present Worth				$ 443,298
Component 5 -Pipeline and Pump Station - No Gereration of Income Item													
Professional	$ 670,000			$ 390,000			$ (572,716)			$ (185,094)			$ (757,810)
Permitting	$ 20,000			$ 5,000			$ (17,096)			$ (2,373)			$ (19,469)
Construction	$ 6,700,800			$ 3,862,512			$ (5,727,844)			$ (1,833,148)			$ (7,560,992)
Operational(Annual)	$ 61,055	$ 65,979	$ 72,847	$ 80,429	$ 88,807	$ 97,271	$ (232,349)	$ (206,380)	$ (187,291)	$ (169,940)	$ (154,233)	$ (138,880)	$ (1,089,073)
Reporting (Annual)													$ -
Recharge Revenue(Annual)													$ -
									Component Total Present Worth				$ (9,427,344)
Component 6 - ASR Wells @ Area 1 & 3 -													
Professional		$ 200,000						$ (124,920)		$ -			$ (124,920)
Permitting		$ 235,000						$ (146,781)		$ -			$ (146,781)
Construction		$ 1,921,239						$ (1,200,006)		$ -			$ (1,200,006)
Operational(Annual)			$ 10,406	$ 12,661	$ 15,403	$ 18,741			$ (26,754)	$ (26,752)	$ (26,751)	$ (26,758)	$ (107,014)
Reporting (Annual)			$ 19,078	$ 23,211	$ 28,240	$ 34,358			$ (49,050)	$ (49,043)	$ (49,045)	$ (49,055)	$ (196,193)
Recharge Revenue(Annual)			$ 308,550	$ 338,800	$ 375,100	$ 412,610			$ 793,291	$ 715,857	$ 651,446	$ 589,107	$ 2,749,701
									Component Total Present Worth				$ 974,786
													$ 10,919,411

	2016-2020	2021-2025	2026-2030	2031-2035	2036-2040	2041-2045	
PW Costs	$ -	$ -	$ -	$ (1,028,909)	$ (89,170)	$ (89,192)	$ (1,207,272)
PW Revenue			$ -	$ -	$ 223,045.13	$ 302,551.77	$ 525,596.90
AF/Year				1500	1000	1500	
MGD				1.339285714	0.892857143	1.339285714	
$/AF/Year				$ (137.19)	$ (17.83)	$ (11.89)	$ (166.91)
$/MGD				$ (768,252.37)	$ (99,870.87)	$ (66,596.65)	$ (934,719.89)
Rev. /AF/Year					$ 44.61	$ 40.34	$ 84.95
PW Costs	$ (3,117,511)	$ (733,495)	$ (627,334)	$ (627,252)	$ (591,539)	$ (591,661)	$ (6,288,791)
PW Revenue	$ 4,802,552.72	$ 4,342,186.36	$ 4,136,850.26	$ 3,733,046.48	$ 3,397,154.33	$ 3,073,984.89	$ 23,485,775
AF/Year	7011	7011	7011	7011	7011	7011	
MGD	6.259821429	6.259821429	6.259821429	6.259821429	6.259821429	6.259821429	
$/AF/Year	$ (88.93)	$ (20.92)	$ (17.90)	$ (17.89)	$ (16.87)	$ (16.88)	$ (179)
$/MGD	$ (498,019.20)	$ (117,174.99)	$ (100,215.94)	$ (100,202.82)	$ (94,497.75)	$ (94,517.20)	$ (1,004,628)
Rev. /AF/Year	$ 137.00	$ 123.87	$ 118.01	$ 106.49	$ 96.91	$ 87.69	$ 670
PW Costs	$ (1,904,524)	$ (138,235)	$ (3,663,704)	$ (138,208)	$ (3,613,800)	$ (138,250)	$ (9,596,720)
PW Revenue	$ 2,456,114.62	$ 2,220,674.71	$ 2,115,662.02	$ 1,909,149.27	$ 1,737,367.79	$ 1,571,113.14	$ 12,010,082
AF/Year	3227	3227	3227	3227	3227	3227	
MGD	2.88125	2.88125	2.88125	2.88125	2.88125	2.88125	
$/AF/Year	$ (118.04)	$ (8.57)	$ (227.07)	$ (8.57)	$ (223.97)	$ (8.57)	$ (595)
$/MGD	$ (661,006.16)	$ (47,977.30)	$ (1,271,567.56)	$ (47,968.12)	$ (1,254,247.21)	$ (47,982.53)	$ (3,330,749)
Rev. /AF/Year	$ 152.22	$ 137.63	$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 744
PW Costs	$ -	$ -	$ -	$ (1,053,770)	$ (93,630)	$ (1,017,308)	$ (2,164,708)
PW Revenue	$ -	$ -	$ -	$ 954,278.83	$ 868,414.70	$ 785,313.14	$ 2,608,007
AF/Year				1613	1613	1613	
MGD				1.440178571	1.440178571	1.440178571	
$/AF/Year				$ (130.66)	$ (11.61)	$ (126.14)	$ (268)
$/MGD				$ (731,694)	$ (65,013)	$ (706,376)	$ (1,503,083)
Rev. /AF/Year				$ 118.32	$ 107.68	$ 97.37	$ 323
PW Costs	$ (6,550,005)	$ (206,380)	$ (187,291)	$ (2,190,555)	$ (154,233)	$ (138,880)	$ (9,427,344)
PW Revenue							$ -
AF/Year	10124	10124	10124	10124	10124	10124	
MGD	9.039285714	9.039285714	9.039285714	9.039285714	9.039285714	9.039285714	
$/AF/Year	$ (129.40)	$ (4.08)	$ (3.70)	$ (43.27)	$ (3.05)	$ (2.74)	$ (186)
$/MGD	$ (724,615.35)	$ (22,831.44)	$ (20,719.63)	$ (242,337.23)	$ (17,062.52)	$ (15,364.01)	$ (1,042,930)
Rev. /AF/Year							$ -
PW Costs	0	$ (1,471,706.88)	$ (75,804.25)	$ (75,794.64)	$ (75,795.90)	$ (75,812.44)	$ (1,774,914)
PW Revenue			$ 793,291.31	$ 715,857.02	$ 651,445.62	$ 589,106.57	$ 2,749,701
AF/Year		1210	1210	1210	1210	1210	
MGD		1.080357143	1.080357143	1.080357143	1.080357143	1.080357143	
$/AF/Year		$ (243.26)	$ (12.53)	$ (12.53)	$ (12.53)	$ (12.53)	$ (293)
$/MGD		$ (1,362,241.08)	$ (70,165.92)	$ (70,157.02)	$ (70,158.19)	$ (70,173.50)	$ (1,642,896)
Rev. /AF/Year			$ 131.12	$ 118.32	$ 107.68	$ 97.37	$ 454
							$ (1,689)
							$ 2,277
							$ 588

Table 2. Cost Development

Butler Recharge Base Optimization Costs

Component	Unit Cost	Units
Infiltration Basins/Berms	$ 42,698.00	48 acres
Managed	$ 23,479.00	36 acres
Vadose Zone Wells		
Area 3	$ 192,000.00	8 - 16 wells
Areas 4,5,6, & 7	$ 192,000.00	1 - 29 wells
ASR Wells	$ 1,200,000.00	1 - 2 wells
Pump Station	$ 1,500,000.00	1
Future Pump Add.	$ 150,000.00	1
Pipeline		
24-inch	132	19,700 feet
18-inch	103	7500 feet

Table 1. Butler Wastewater Projections Report

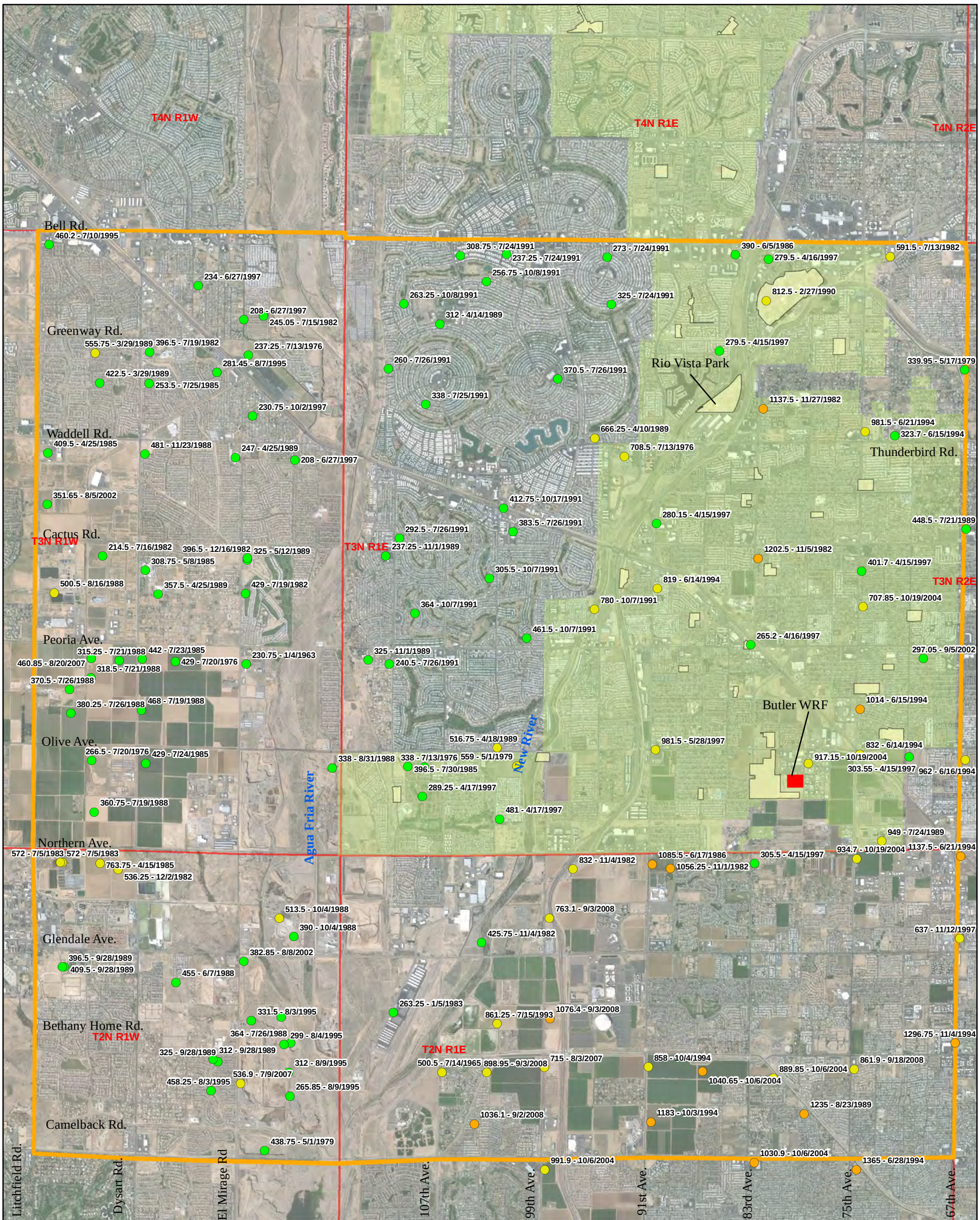
Year	MGD	MGD	MGD	AF/Year	AF/Day	
	City Values Butler	City Values Butler plus Beardsley	2% Growth			
2011	7.3	7.3	7.3	8176	22.4	
2012	7.3	7.51	7.51	8411	23.0	Current
2013	7.31	7.52	7.52	8422	23.1	
2014	7.34	7.57	7.57	8478	23.2	
2015	7.42	7.68	7.68	8602	23.6	Start of Economic
2016	7.46	7.77	7.77	8702	23.8	Analysis
2017	7.5	7.86	7.86	8803	24.1	
2018	7.54	7.98	7.98	8938	24.5	Period 1
2019	7.54	8.07	8.07	9038	24.8	
2020	7.54	8.16	8.16	9139	25.0	
2021	7.54	8.25	8.25	9240	25.3	
2022	7.54	8.31	8.31	9307	25.5	
2023			8.48	9493	26.0	Period 2
2024			8.65	9683	26.5	
2025			8.82	9877	27.1	
2026			9.00	10074	27.6	
2027			9.17	10276	28.2	
2028			9.36	10481	28.7	Period 3
2029			9.55	10691	29.3	
2030			9.74	10905	29.9	
2031			9.93	11123	30.5	
2032			10.13	11345	31.1	
2033			10.33	11572	31.7	Period 4
2034			10.54	11804	32.3	
2035			10.75	12040	33.0	
2036			10.96	12281	33.6	
2037			11.18	12526	34.3	
2038			11.41	12777	35.0	Period 5
2039			11.64	13032	35.7	
2040			11.87	13293	36.4	
2041			12.11	13559	37.1	
2042			12.35	13830	37.9	
2043			12.60	14107	38.6	Period 6
2044			12.85	14389	39.4	
2045			13.10	14677	40.2	End of
2046			13.37	14970	41.0	Economic Analysis
2047			13.63	15269	41.8	
2048			13.91	15575	42.7	
2049			14.18	15886	43.5	
2050			14.47	16204	44.4	
2051			14.76	16528	45.3	
2052			15.05	16859	46.2	

Table 8. Evaluation of Alternatives Matrix

	Peoria -Butler Recharge Optimization Study September 7, 2012	Benefits to the City	Low Potential Environmental Concern	Low Level of Treatment Required	Aquifer unit impacted	Minimum Distance From Water Source	Minimal Regulatory Constraints	Minimal Area Property Requirements	Major Property Purchase (Ownership)	Low Capital Costs	Low Operational Costs	Recharge Credits	Minimal Constr. Impacts to Residents	Overall Feasibility		Score	Rank
	Weighting Factors	5	5	5	5	5	10	5	10	10	10	20	5	5		100	
	Column	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
Recharge Optimization Options																	
Area	Components																
1	New River & Rio Vista Park	5	2	5	4	1	3	1	1	1	3	2	5	3		250	7
	Managed Recharge in river bed (50 A) (25A Permitted)																
	Coupled with Wildlife Preserve along the length																
	New Transmission Line 18" (6,700')																
2	New River - Olive to Peoria	4	3	4	4	4	4	3	5	4	3	4	5	3		390	2
	Infiltration Basins or Berms in river bed (50 A)																
	New Transmission Line 36" (13,500')																
3	Butler Reclamation site	3	3	2	4	5	5	5	5	5	4	5	5	4		445	1
	Vadose Zone Wells (8) ≈ (24 A)																
4	New River - Peoria to Cactus MCFCD	3	3	2	4	4	4	5	4	2	4	5	5	4		390	2
	Vadose Zone Wells (12) ≈ (21 A)																
	New Transmission Line 24" (3,900')																
5	New River - North of Cactus MCFCD	3	3	2	4	3	4	5	4	2	4	5	5	4		385	3
	Vadose Zone Wells (5) ≈ (15 A)																
	New Transmission Line 24" (2,500')																
	Grand Avenue Crossing																
6	New River - North of Cactus MCFCD	3	3	2	4	2	4	5	4	2	4	5	5	4		380	4
	Vadose Zone Wells (7) ≈ (36 A)																
	New Transmission Line 24" (2,500')																
7	New River - North of Cactus MCFCD	3	3	2	4	2	4	5	4	2	4	5	5	4		380	4
	Vadose Zone Wells (5) ≈ (36 A)																
	New Transmission Line 24" (2,500') from #6																
8	Glendale Recharge Facility	1	5	4	4	5	3	5	5	5	3	3	4	4		380	4
	Maintenance Cost in lieu of NAUSP 20% Ownership																
9	Recovery for Park Irrigation	4	5	5	1	3	4	5	5	3	4	0	5	4		320	6
	Use of existing wells near parks																
10	Aquifer Storage & Recovery Wells (Area 1 and Area 2)	5	5	1	3	3	3	4	4	2	1	5	5	5		355	5
Total	Scores																

Notes:

1. Options for Area 1 and Area 2 are completely independent. Pipe quantity is identified separately for each alternative
2. Options for Area 3 is completely independent of any other area
3. Options for Area 4 must have either Area 1 or Area 2 in place
4. Option for Area 5 must have Area 4 in place or modify pipe quantity
5. Option for Area 6 must have Area 4 and Area 5 in place or modify pipe quantity
6. Option for Area 7 is completely independent for all other areas



Legend

Calculated TDS

- 0 - 500
- 500 - 1000
- 1000 - 1500

- City Parks
- Butler WRF
- Study Area
- Peoria Corporate Limits

0 0.5 1 2 Miles

N

HydroSystems Inc.

Calculated TDS Concentrations for the Study Area
Peoria RSO Report

Figure 22

Path\ R:\12-642\Recharge Optimization Report\Figures\Peoria RSO Report Figure 22 TDS Map

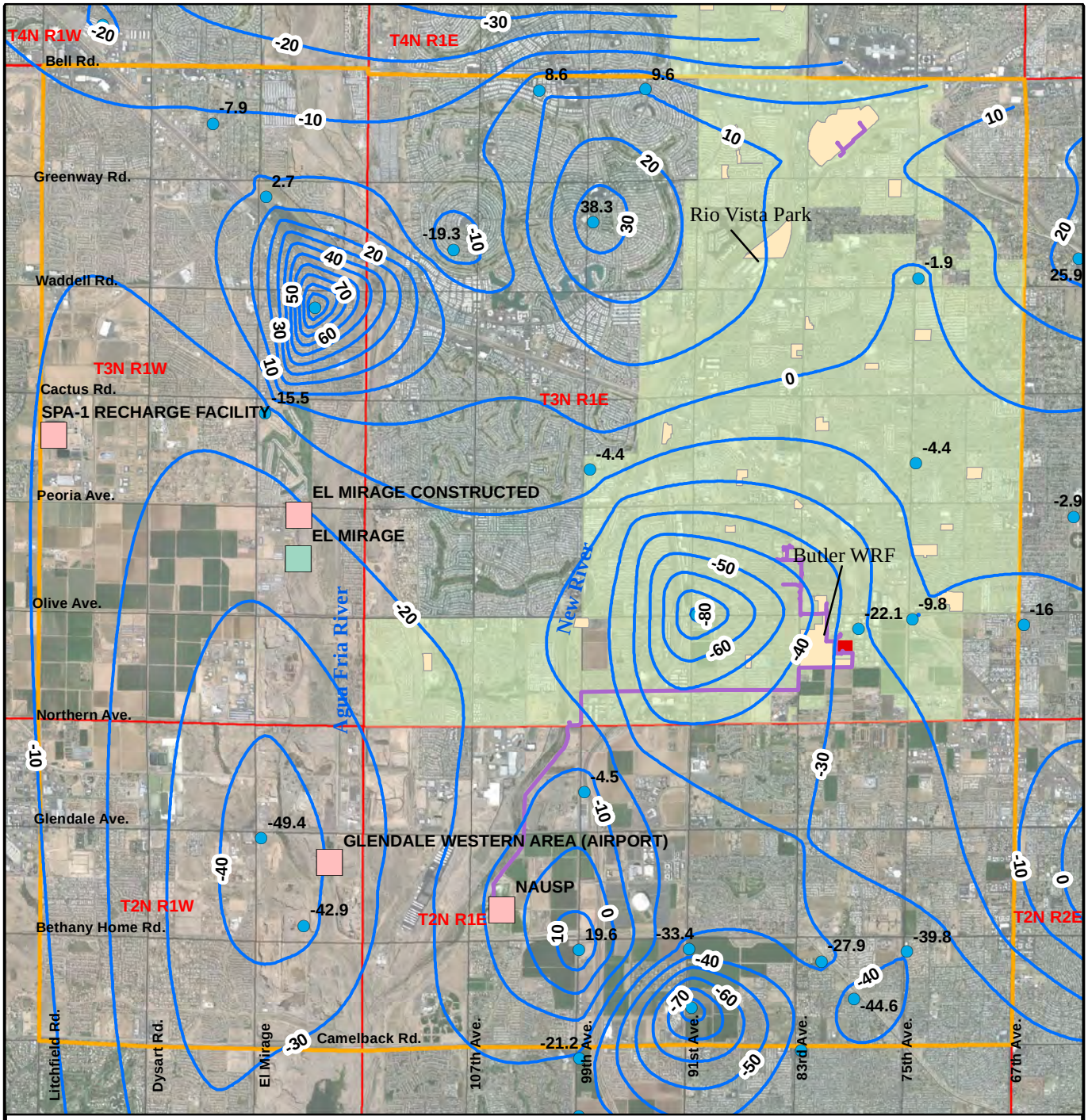


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

- Constructed Recharge Facility
- Managed Recharge Facility
- Water Level Change (ft)
- Change in Water Level Contours
- Butler WRF
- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

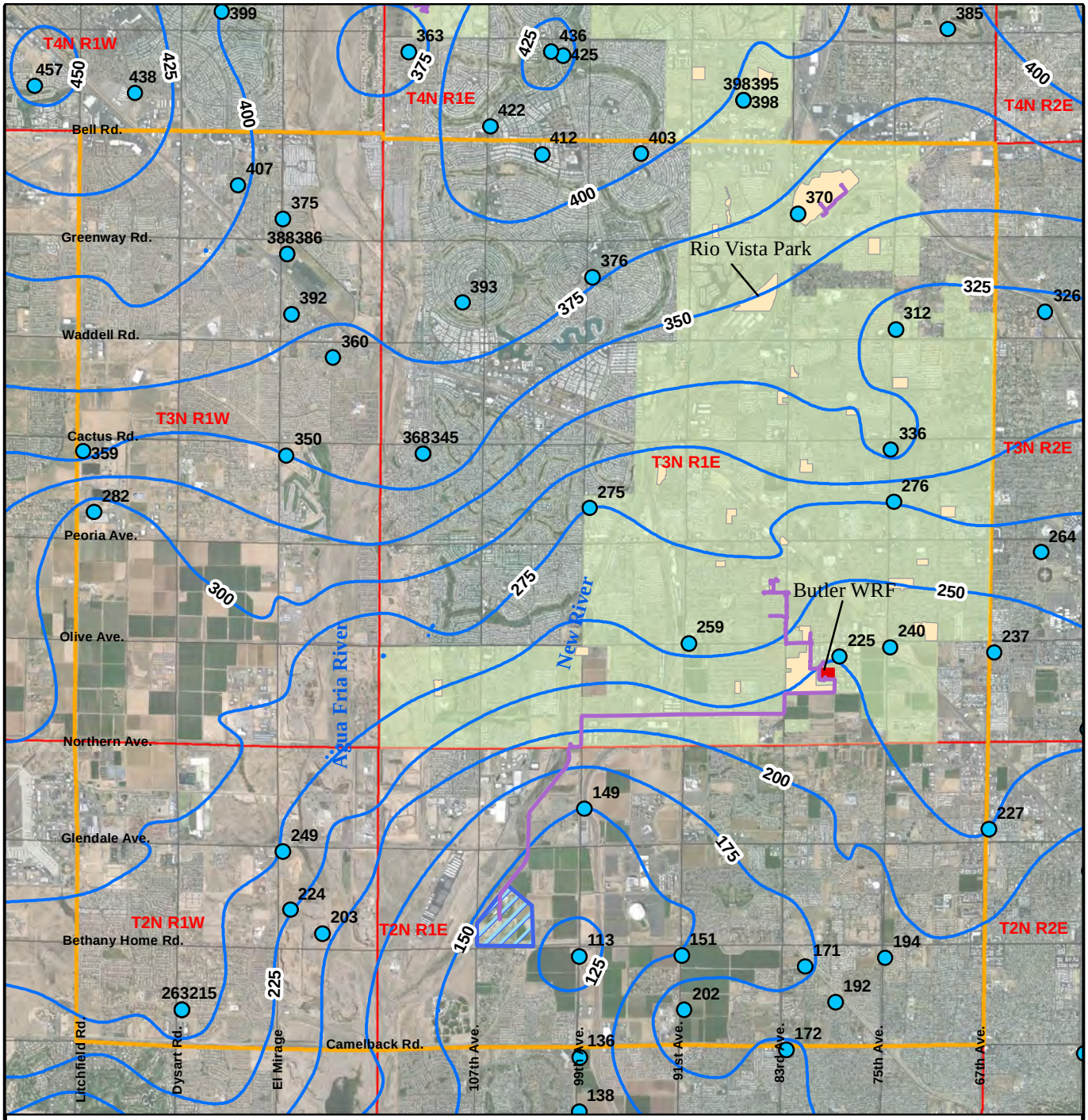
N

HydroSystems Inc.

1997 - 2009 Water Level Change Map
Peoria RSO Report

Figure 21

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 21 WL Change Map.mxd 10/24/2012



HydroSystems Inc.

2009 Depth to Water Map
Peoria RSO Report

Figure 20

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 20 DTW Map.mxd 10/24/2012

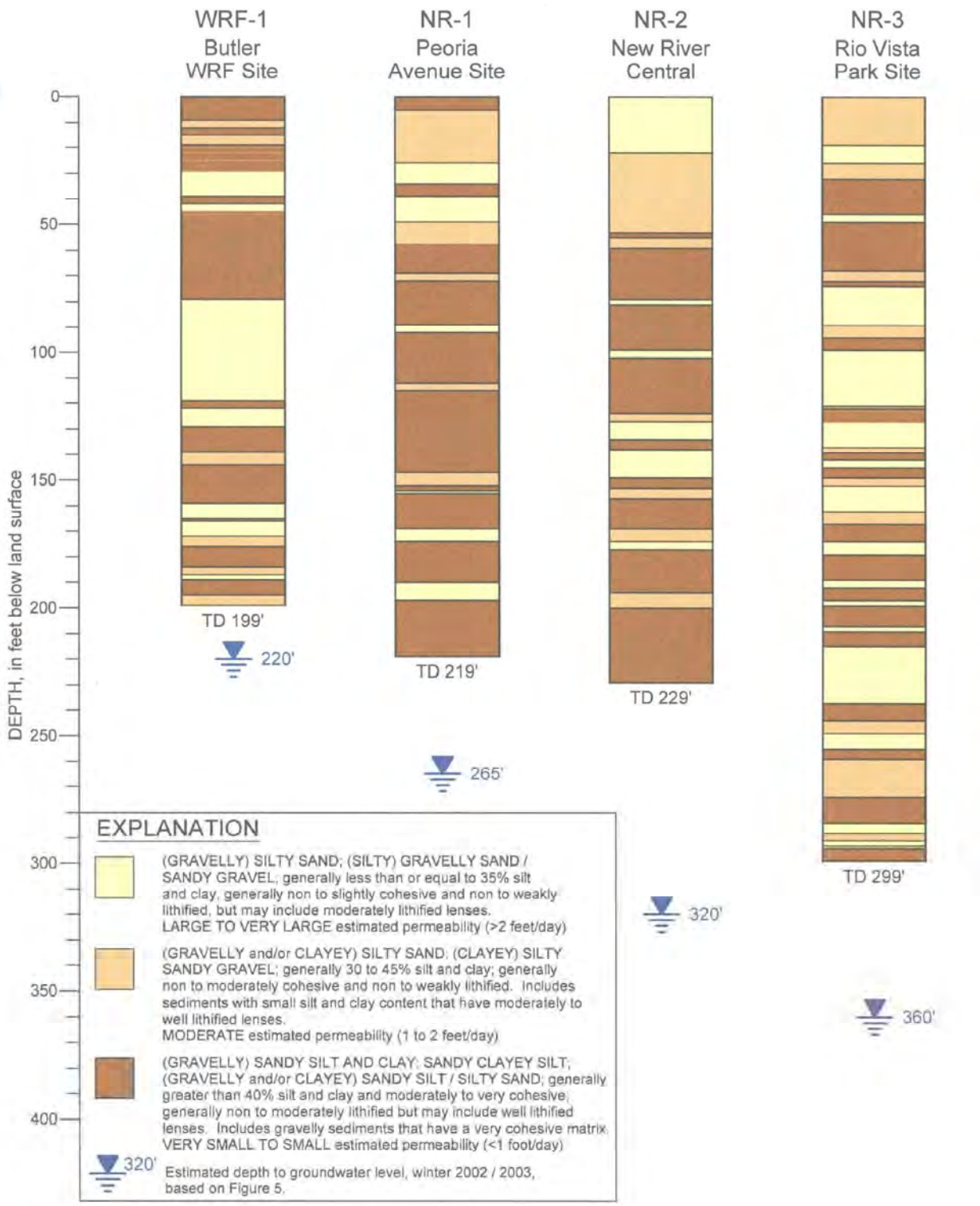


FIGURE 17 . GRAPHIC LOGS FOR PHASE 1 DEEP EXPLORATION BOREHOLES

819.18\Borehole graphic logs_Phase1-long explan_rev\27April2006

ERROL L. MONTGOMERY & ASSOCIATES, INC.

HydroSystems Inc.

Cross Section For Errol Montgomery Soil Borings Along New River Peoria RSO Report

Figure 19

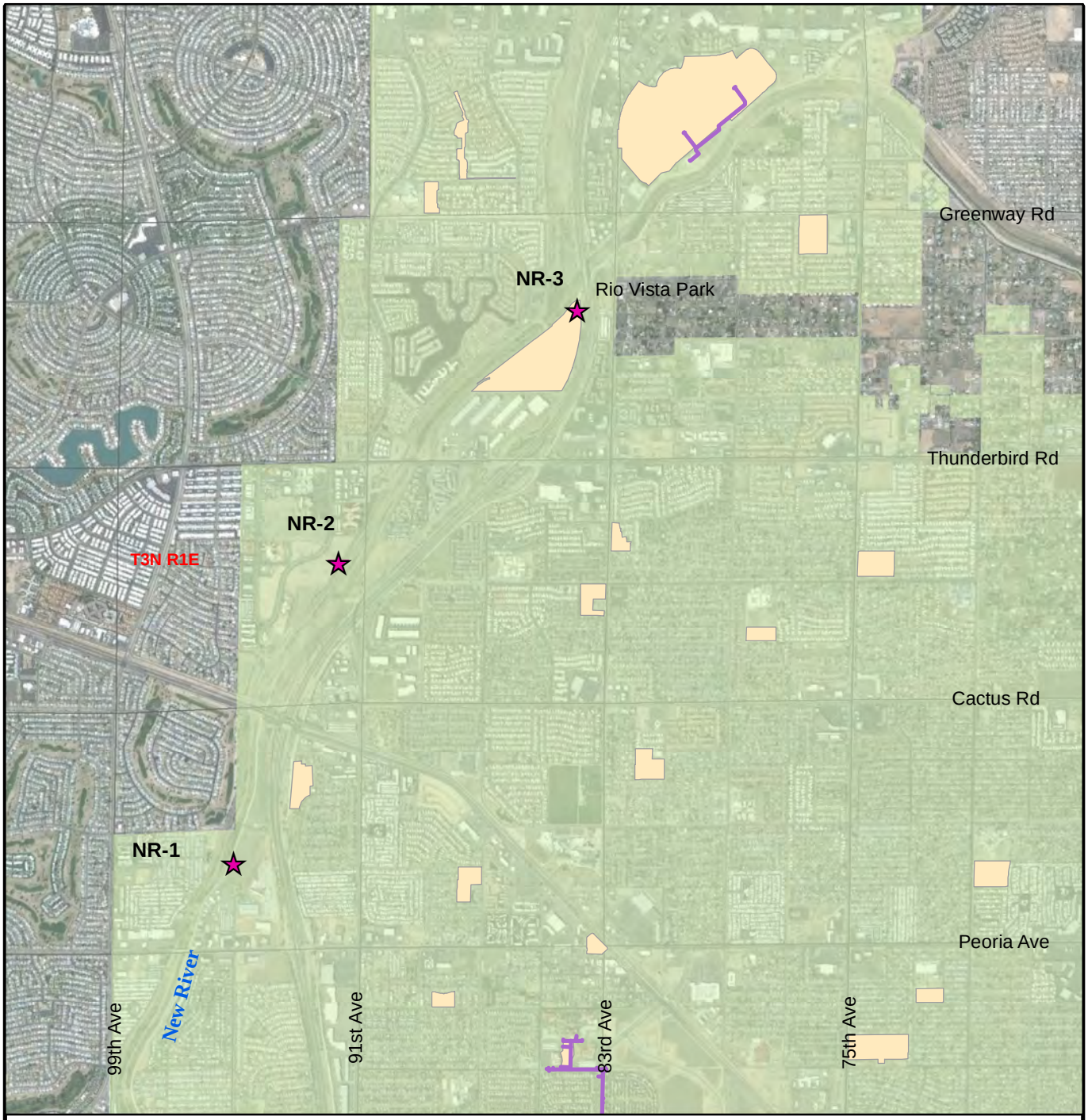


Image Sources: GoogleEarthPro

0 0.5 1 2 Miles

Legend

- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area
- Montgomery Soil Borings

N

HydroSystems Inc.

Location of Errol Montgomery Soil Borings Along New River Peoria RSO Report

Figure 18

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 18 Montgomery Borings New River.mxd 10/24/2012

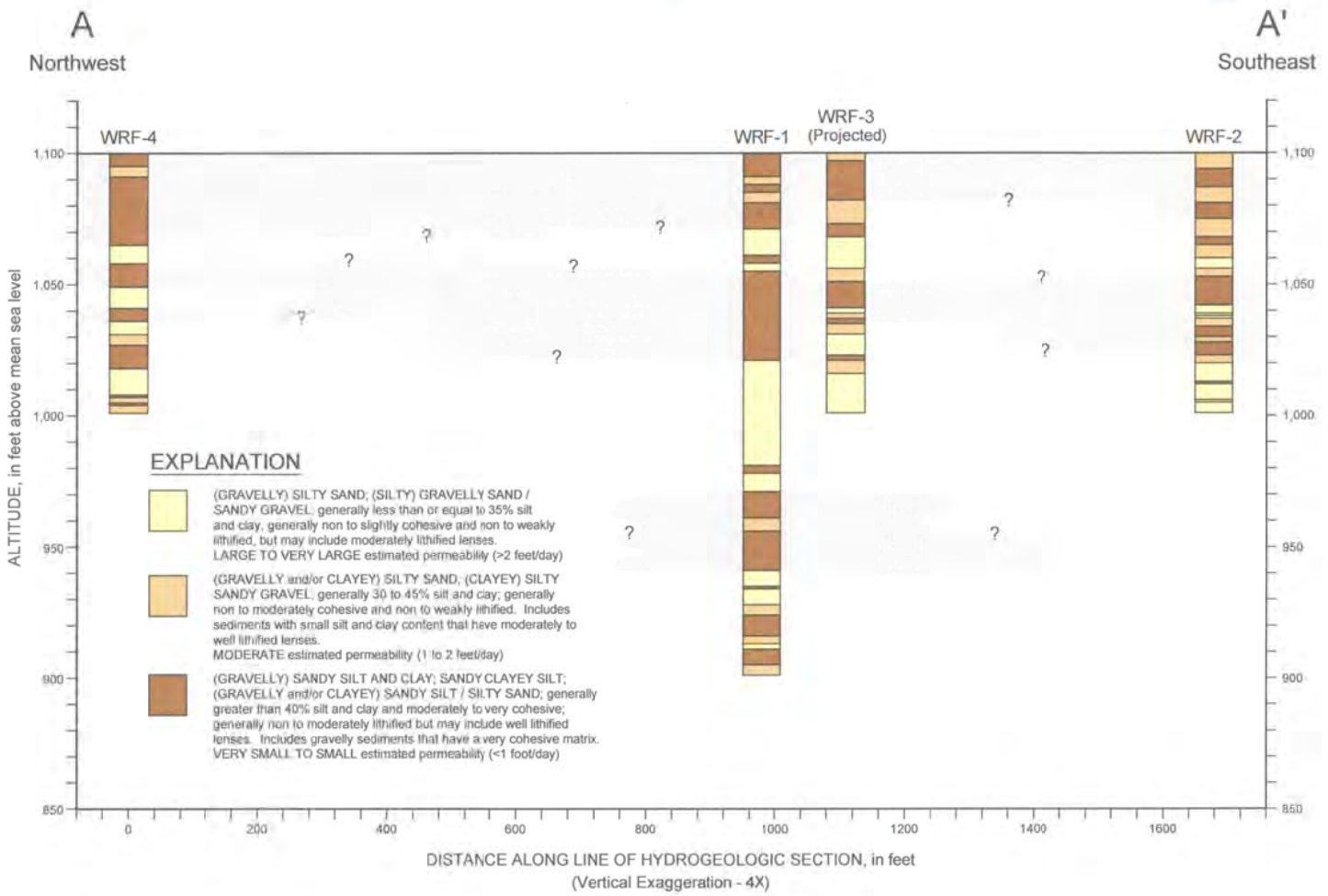


FIGURE 18. HYDROGEOLOGIC SECTION A-A' FOR BUTLER WRF SITE

819 12\Butler XS_rev\21Aug2006

ERROL L. MONTGOMERY & ASSOCIATES, INC

HydroSystems Inc.

Cross Section for Errol Montgomery Soil Borings
Butler WRF
Peoria RSO Report

Figure 17

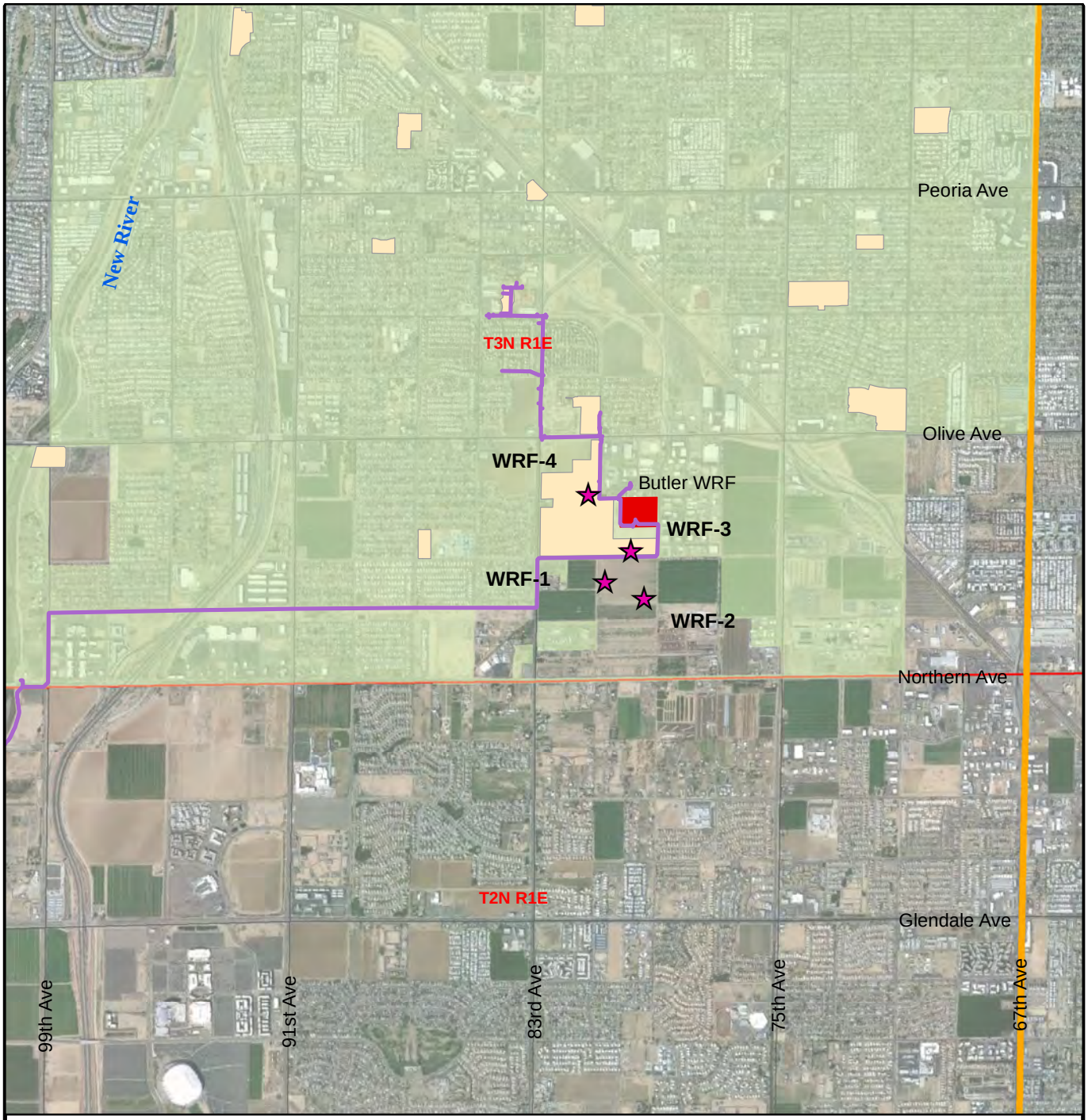


Image Sources: GoogleEarthPro

0 0.5 1 2 Miles

Legend

- Butler WRF
- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area
- Montgomery Soil Borings

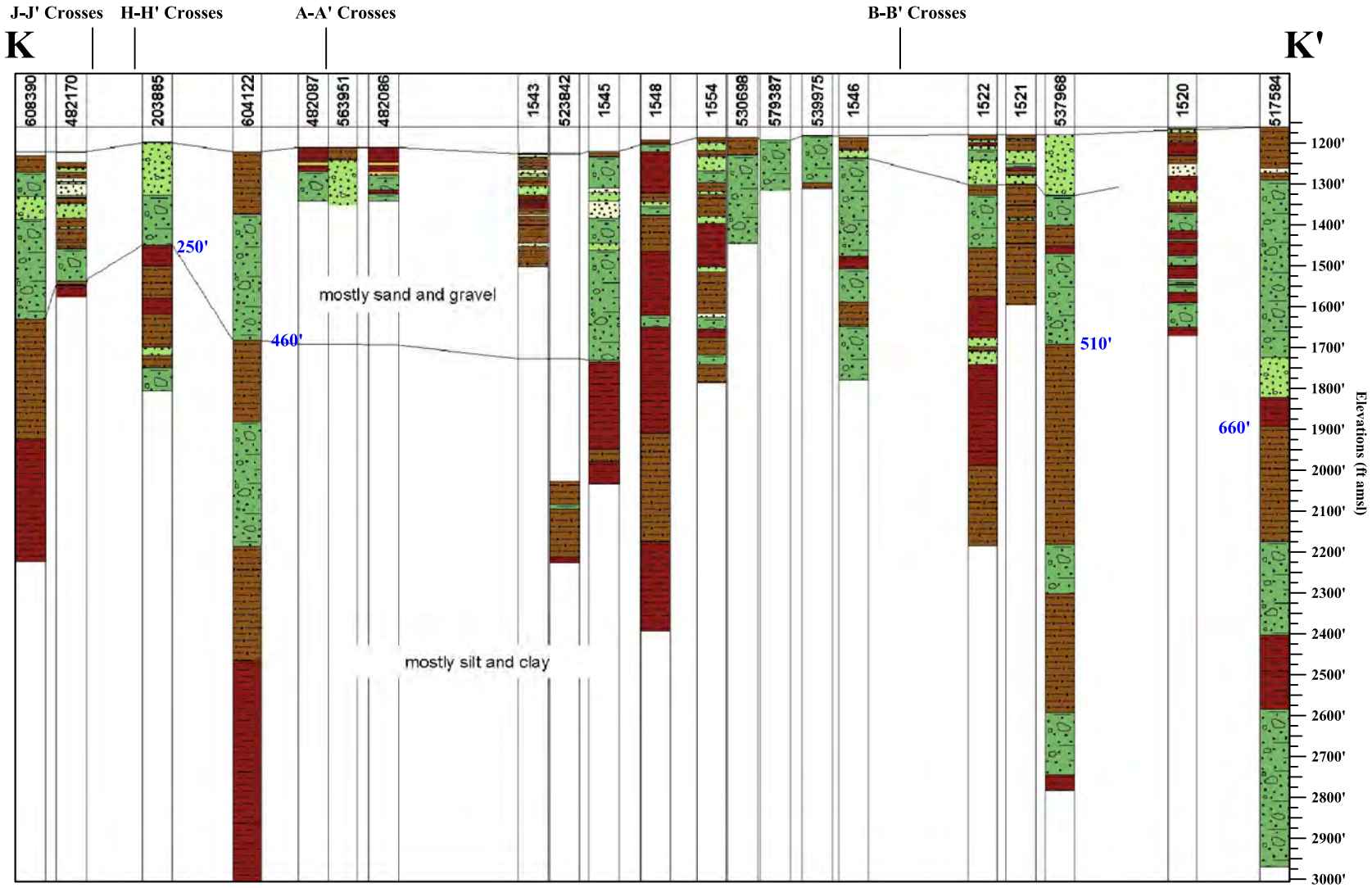
N

HydroSystems Inc.

Location of Errol Montgomery Soil Borings Butler WRF Peoria RSO Report

Figure 16

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 16 Montgomery Borings Butler.mxd 10/24/2012

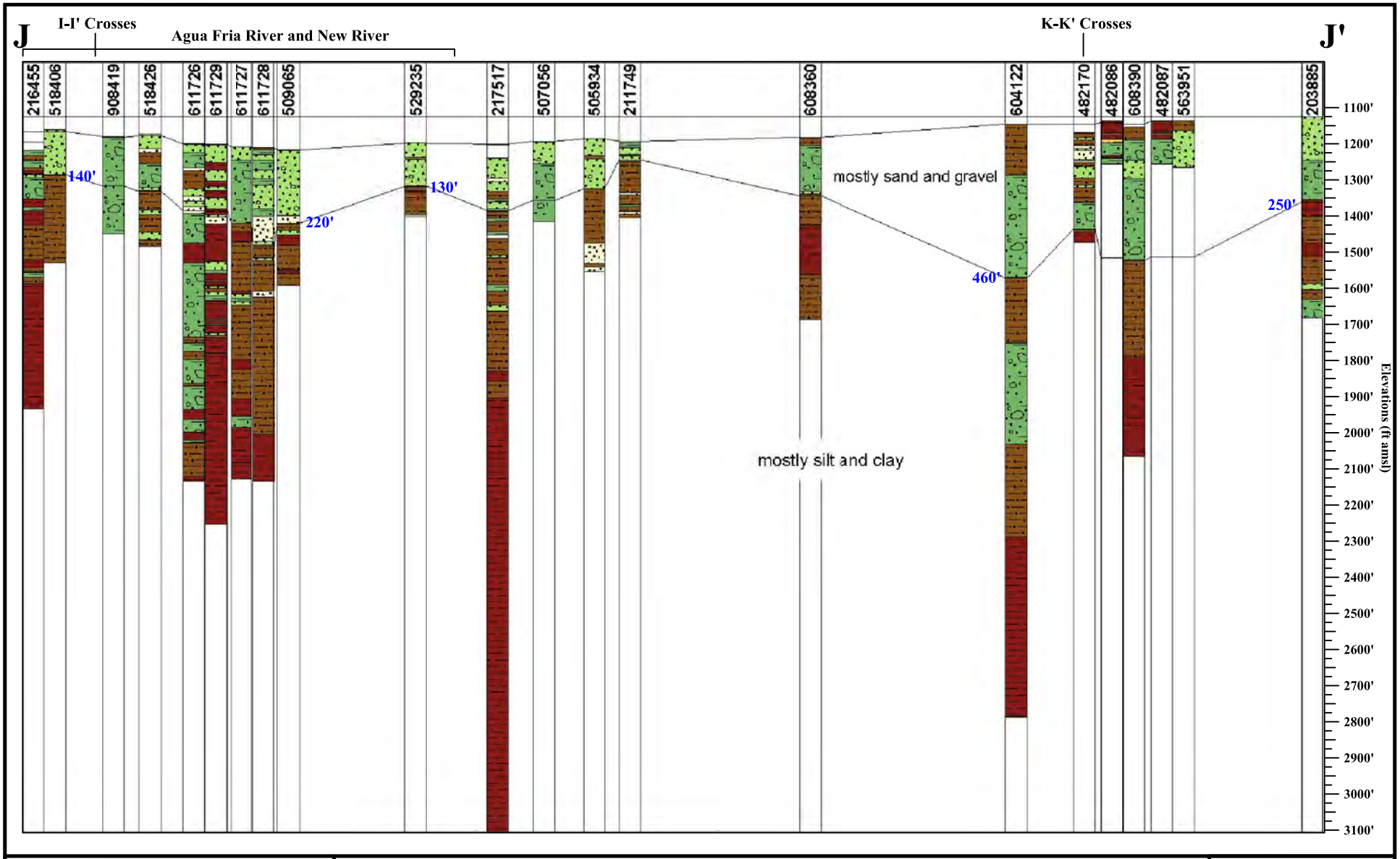


HydroSystems Inc.

Cross-Section K-K'
Peoria RSO Report

Figure 15

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:55:11 AM, Adobe PDF



HydroSystems Inc.

Cross-Section J-J'
Peoria RSO Report

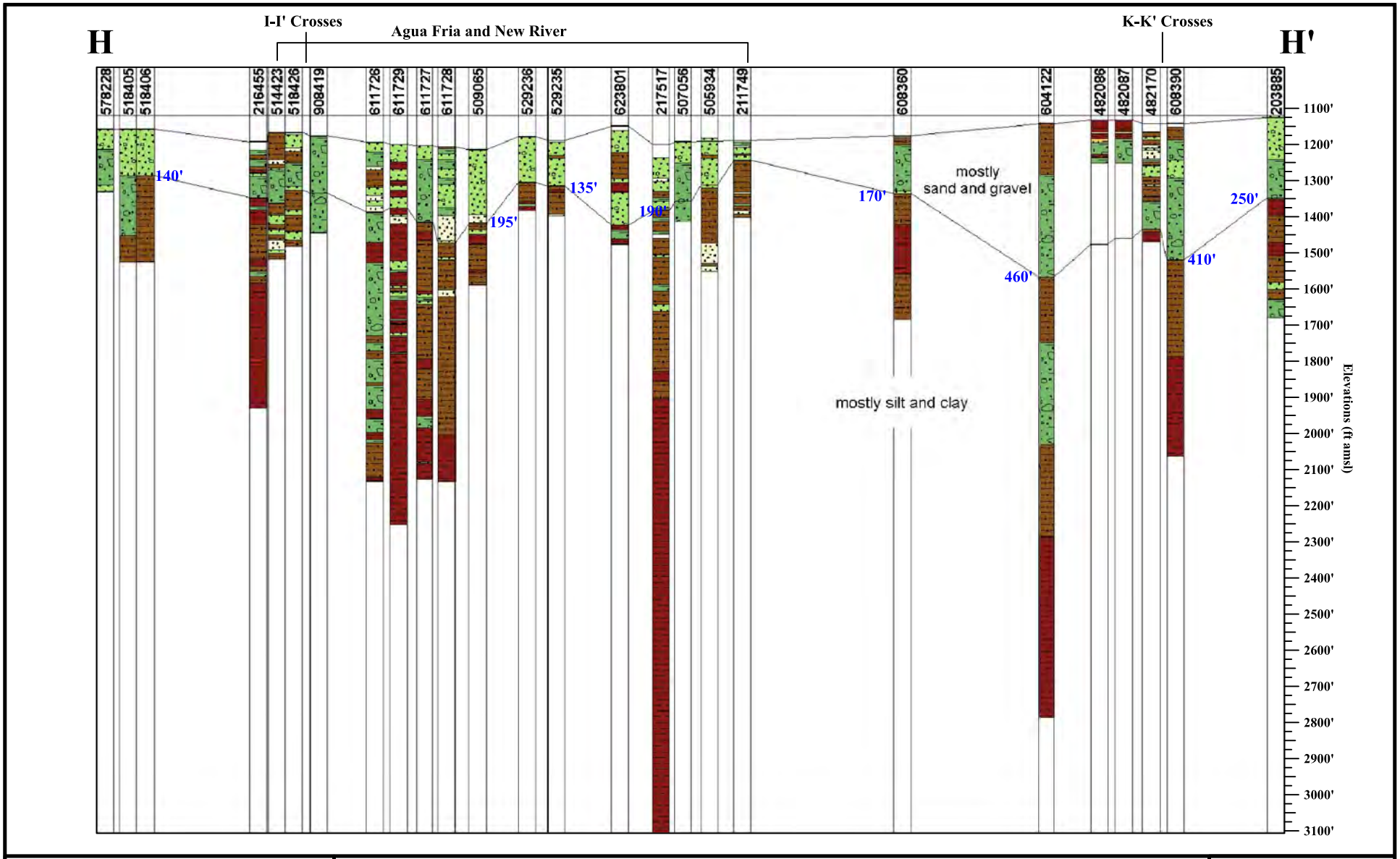
Figure 14

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:54:43 AM, Adobe PDF

HydroSystems Inc.

Cross-Section I-I'
Peoria RSO Report

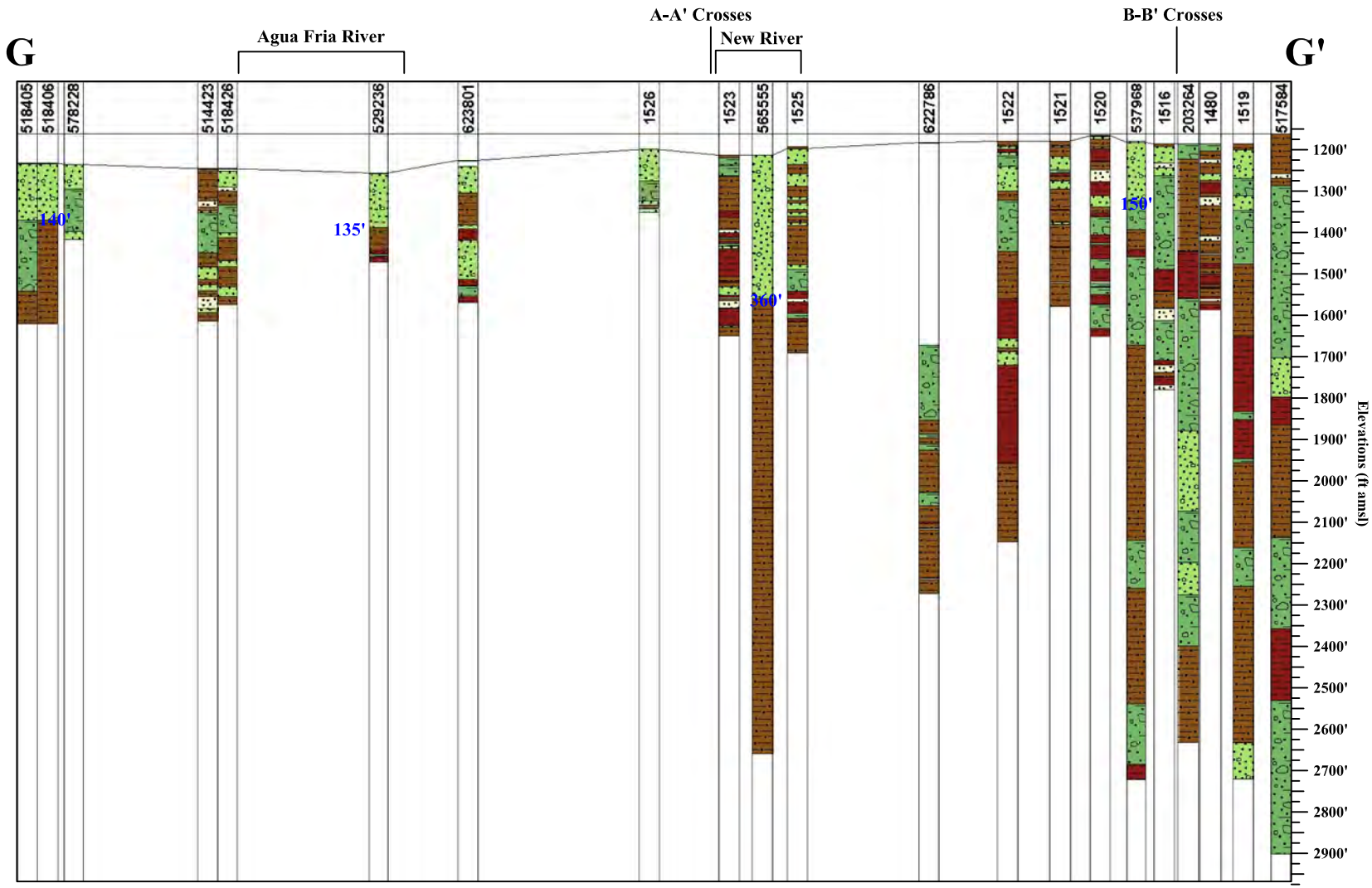
Figure 13



HydroSystems Inc.

Cross-Section H-H'
Peoria RSO Report

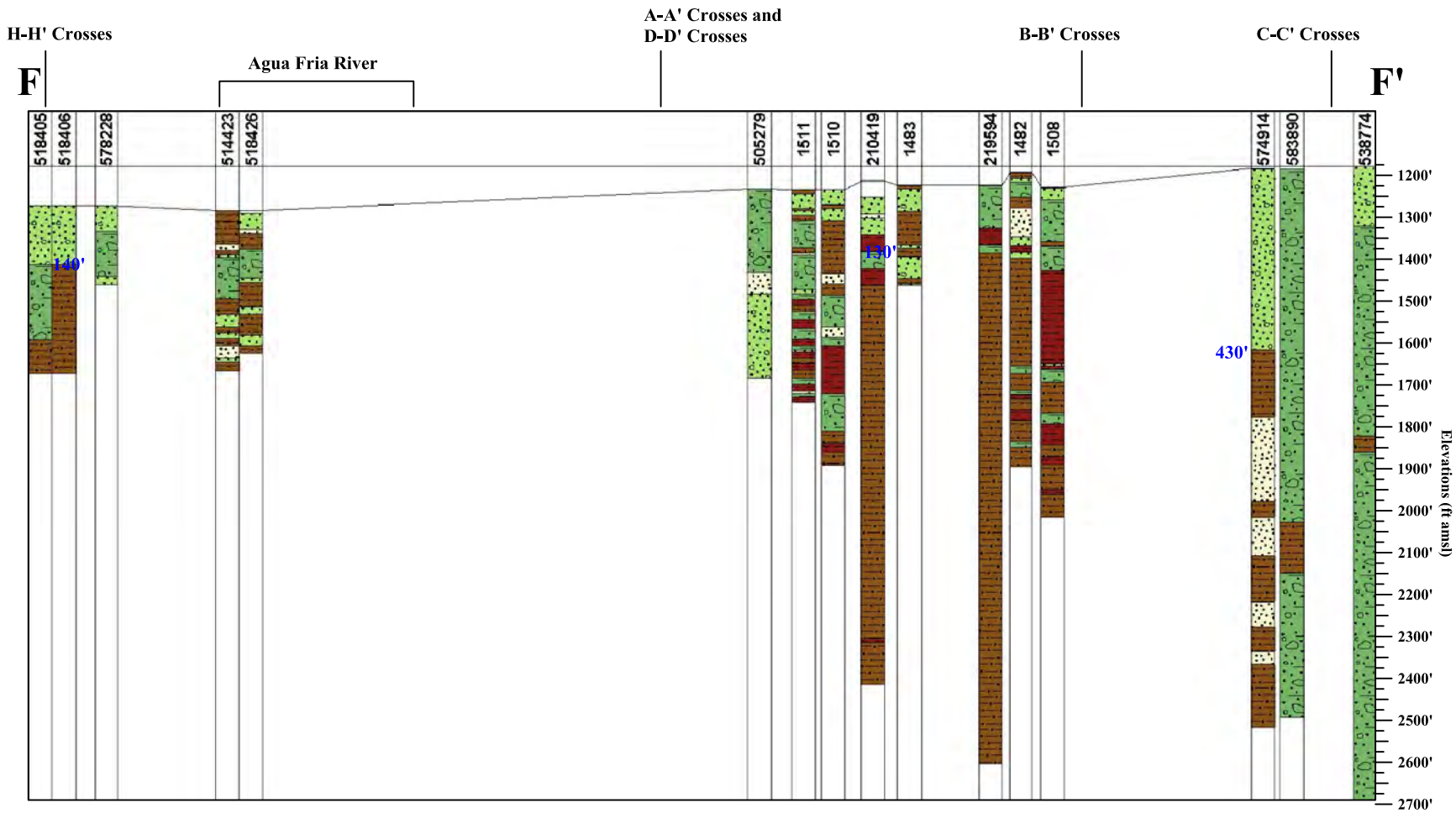
Figure 12



HydroSystems Inc.

Cross-Section G-G'
Peoria RSO Report

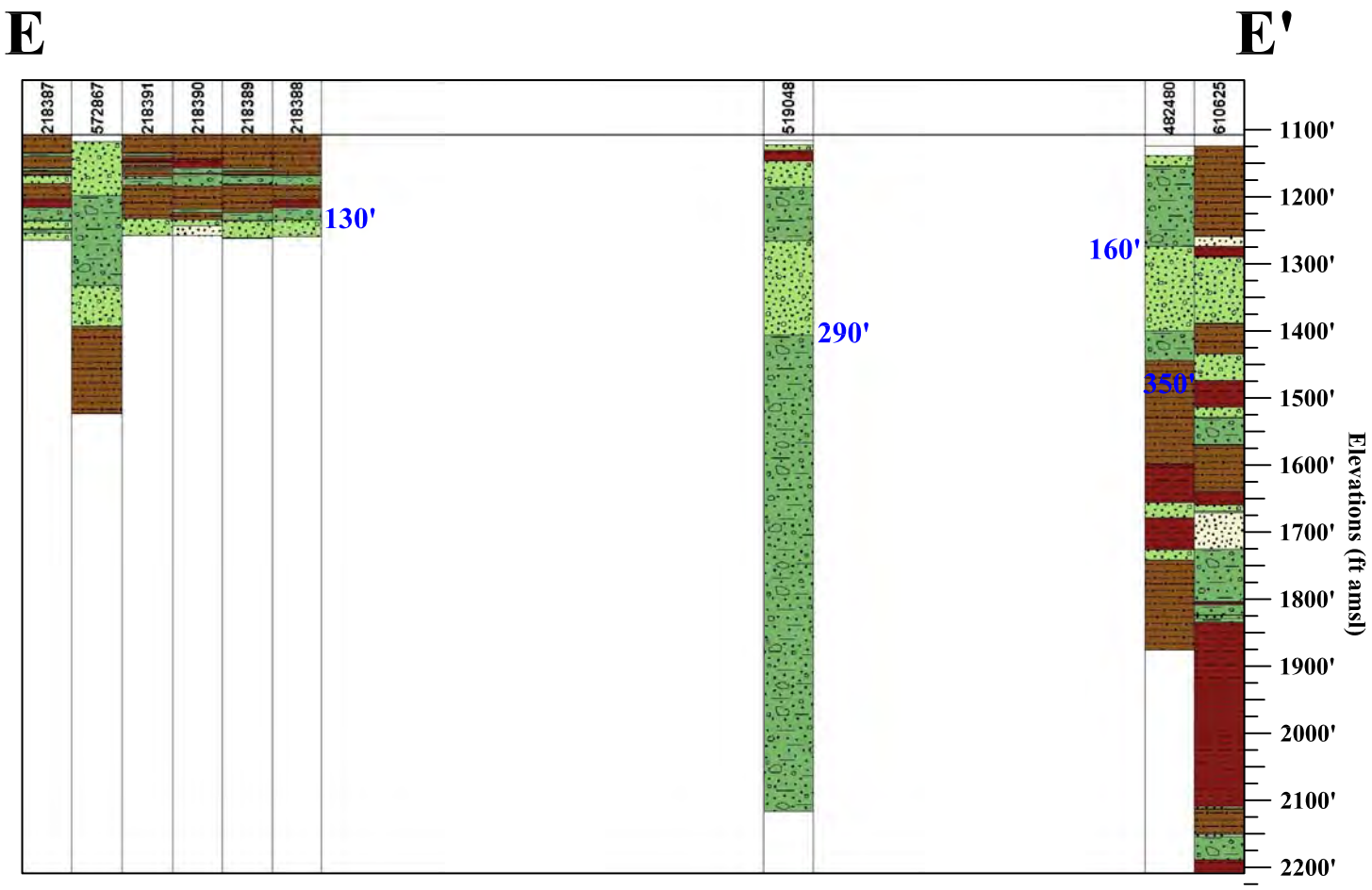
Figure 11



HydroSystems Inc.

Cross-Section F-F'
Peoria RSO Report

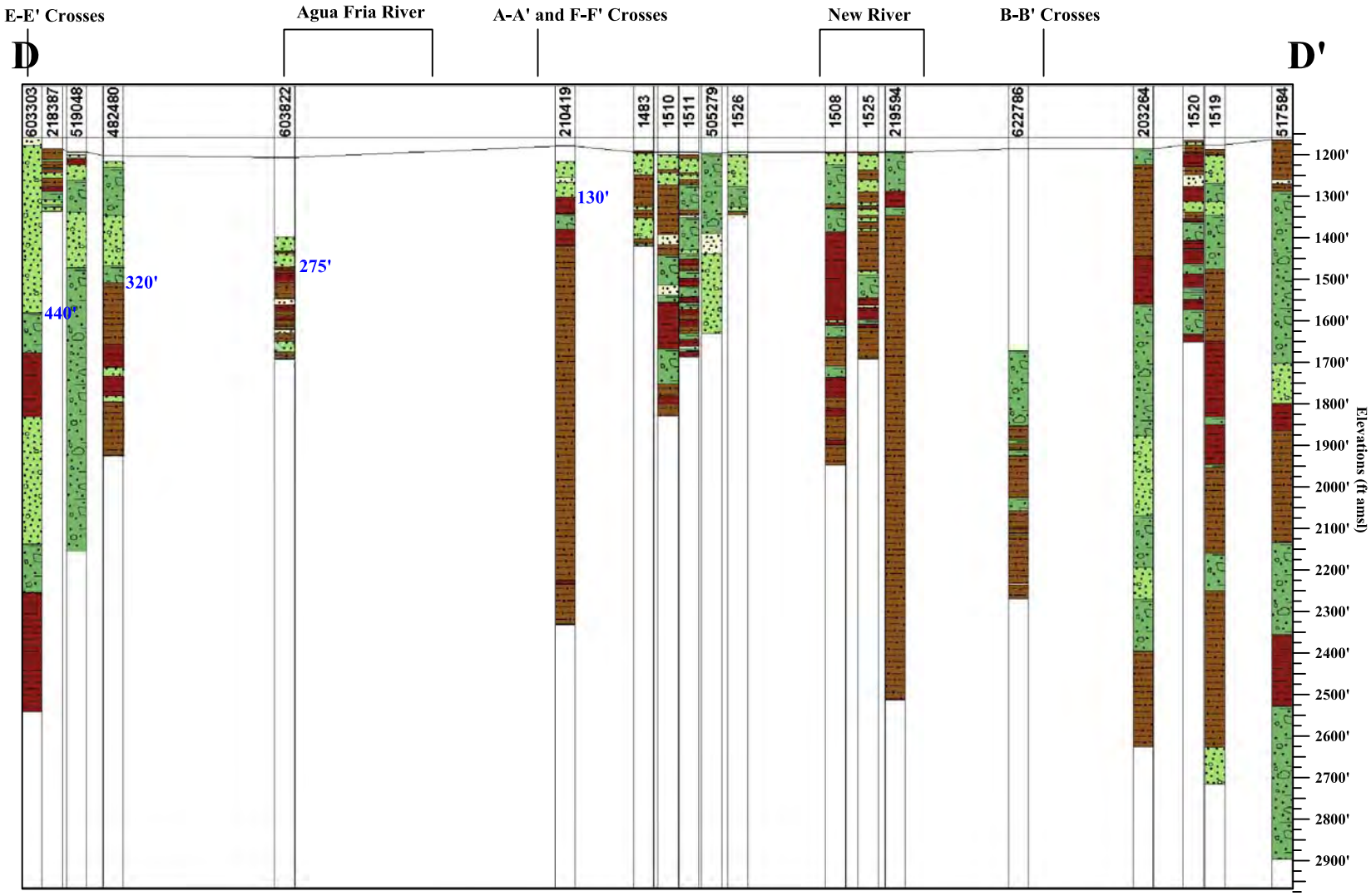
Figure 10



HydroSystems Inc.

Cross-Section E-E'
Peoria RSO Report

Figure 9

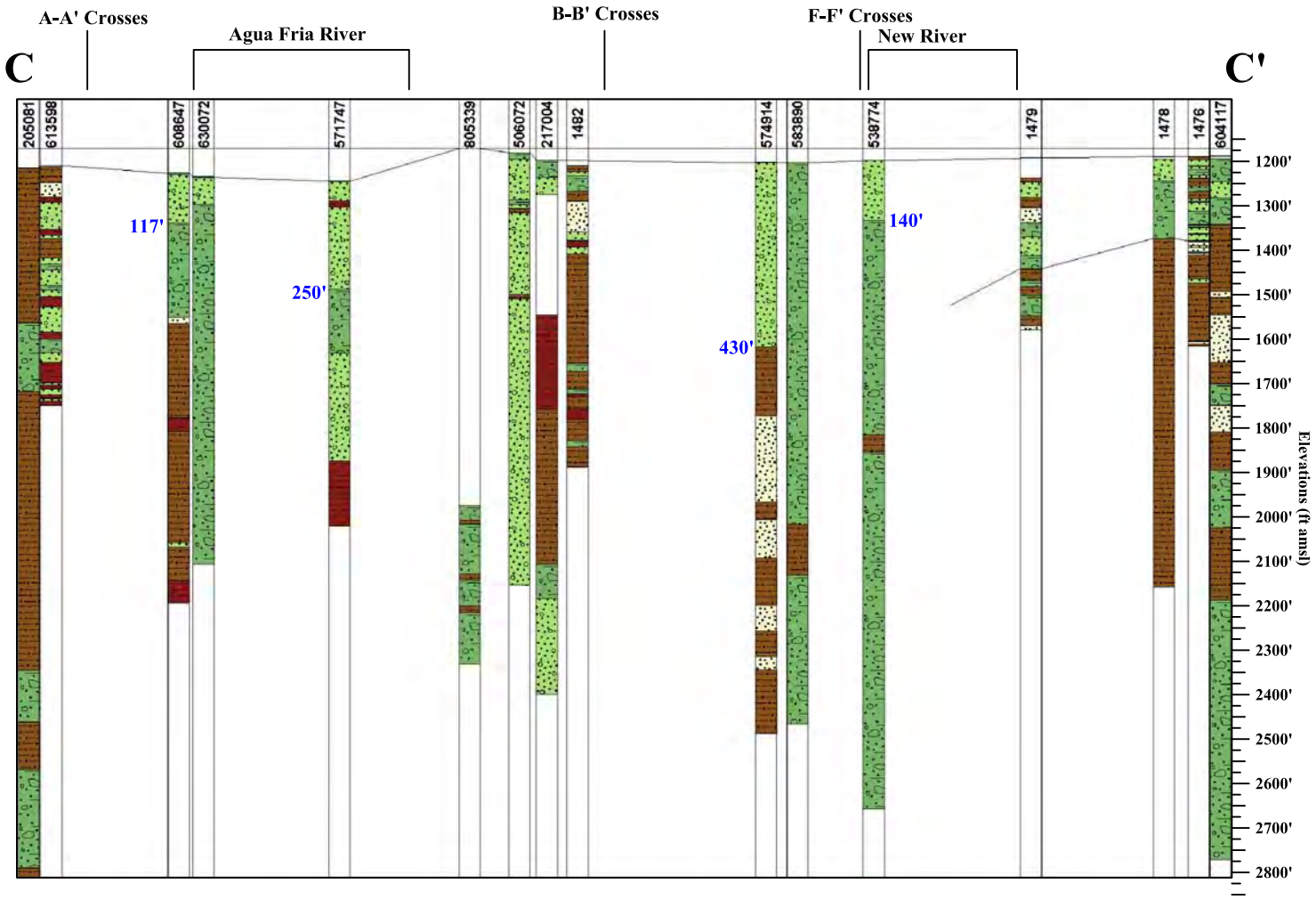


HydroSystems Inc.

Cross-Section D-D'
Peoria RSO Report

Figure 8

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:52:02 AM, Adobe PDF

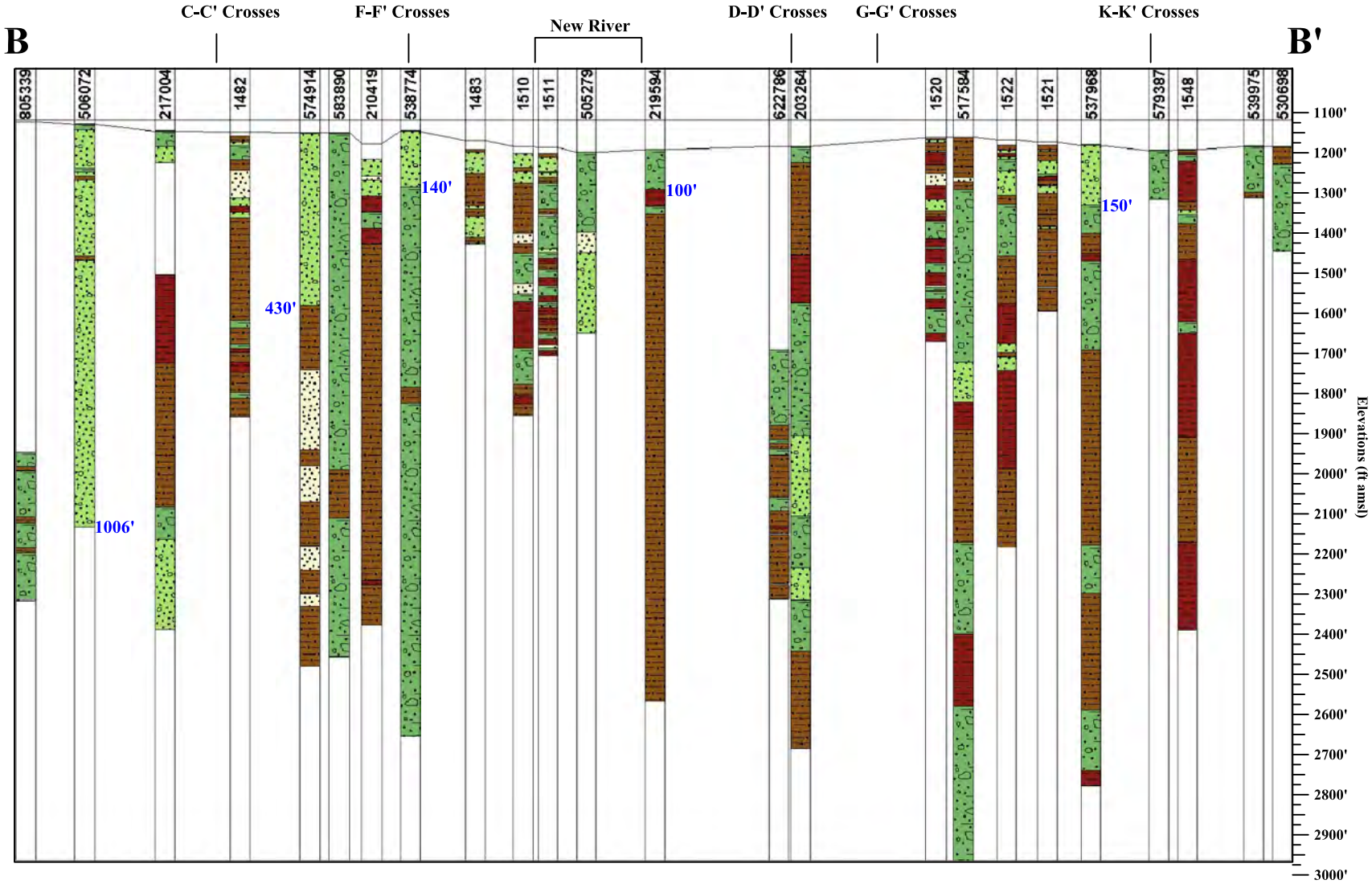


HydroSystems Inc.

Cross-Section C-C'
Peoria RSO Report

Figure 7

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:51:33 AM, Adobe PDF

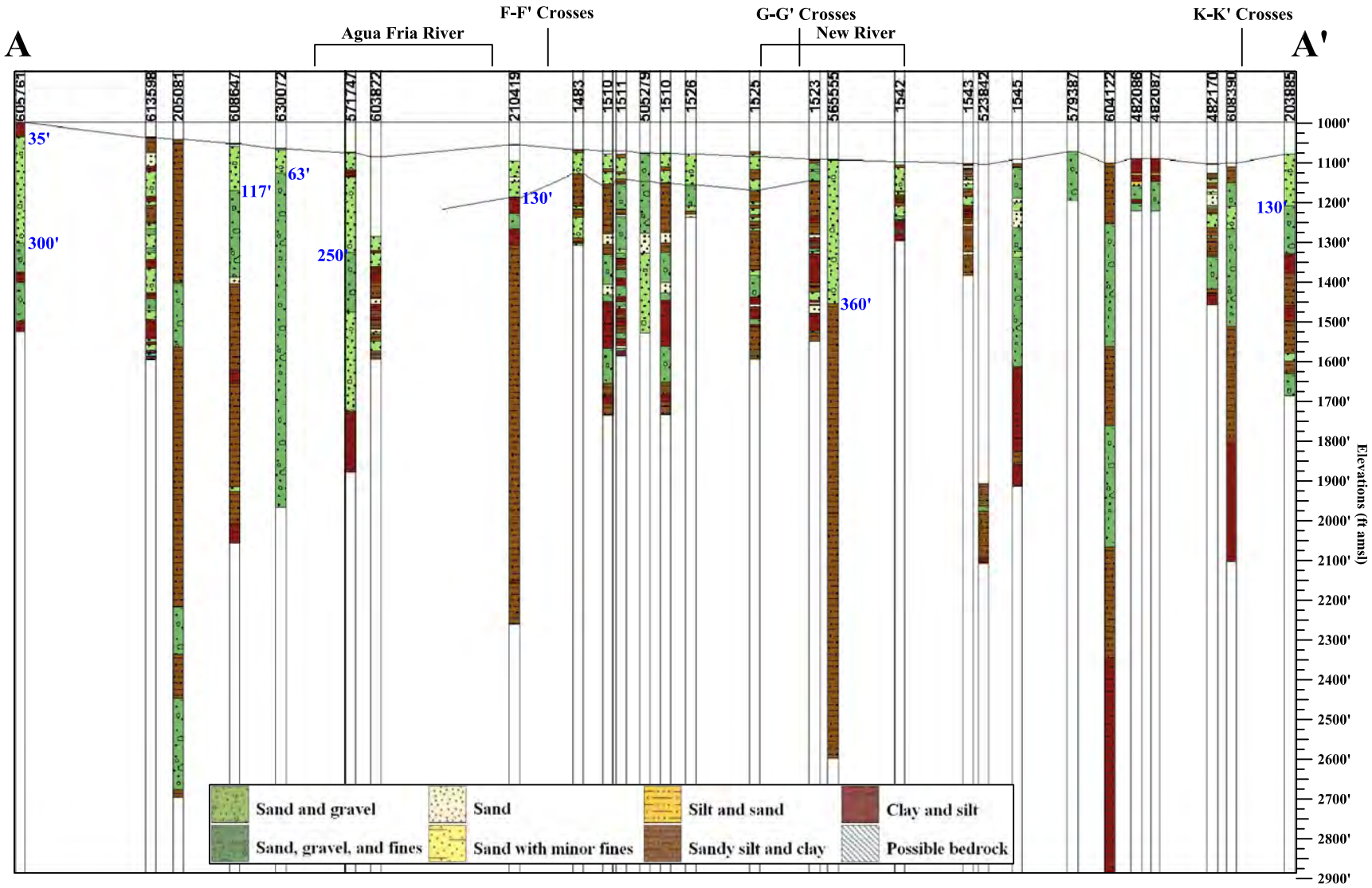


HydroSystems Inc.

Cross-Section B-B'
Peoria RSO Report

Figure 6

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:50:58 AM, Adobe PDF



HydroSystems Inc.

Cross-Section A-A'
Peoria RSO Report

Figure 5

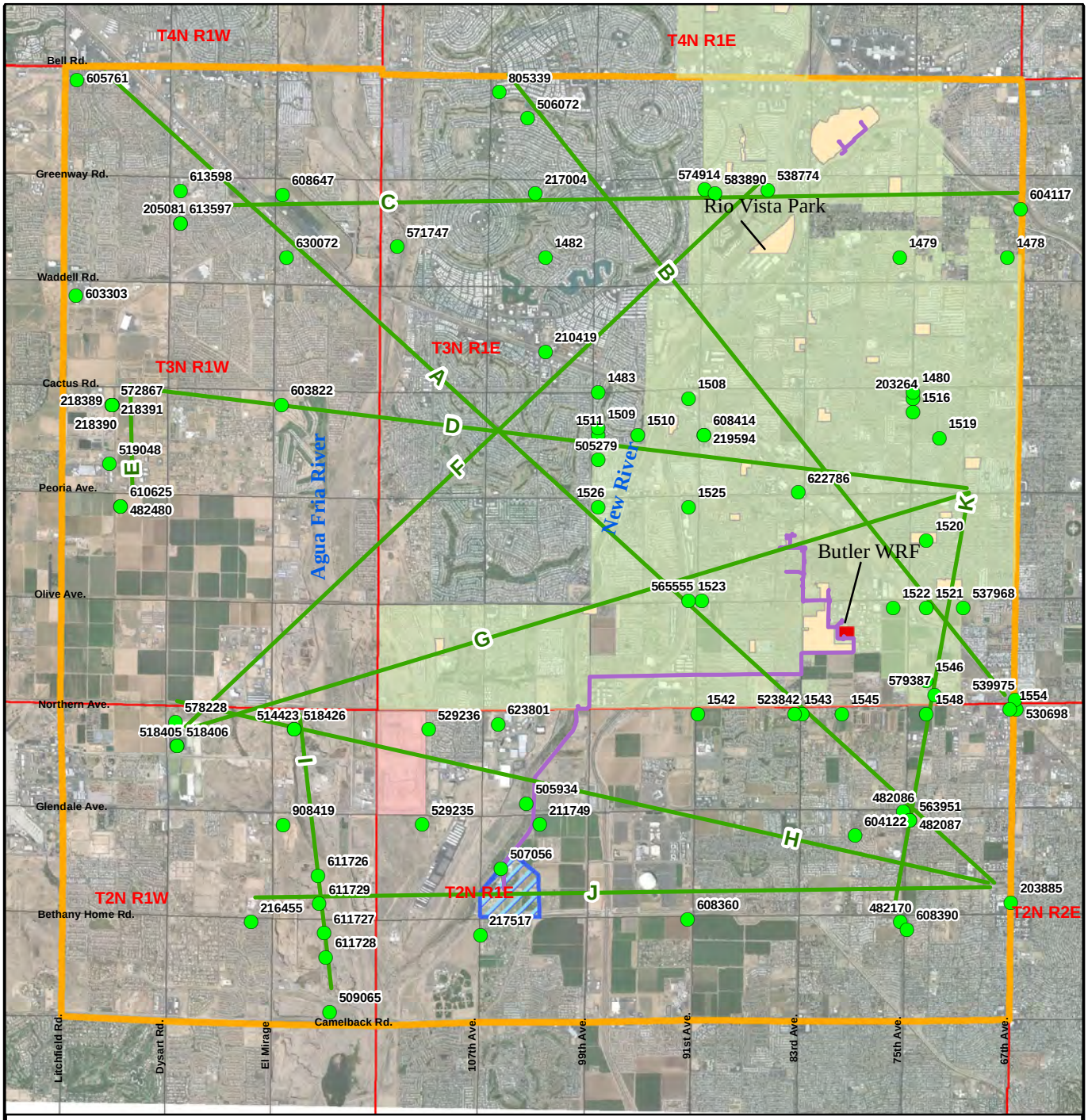


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

- Well 55 or 35 with Lith Logs
- Geologic Cross-Sections
- Butler WRF
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

N

HydroSystems Inc.

Cross-Section Location Map
Peoria RSO Report

Figure 4

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 4 X-scn Map.mxd 10/24/2012

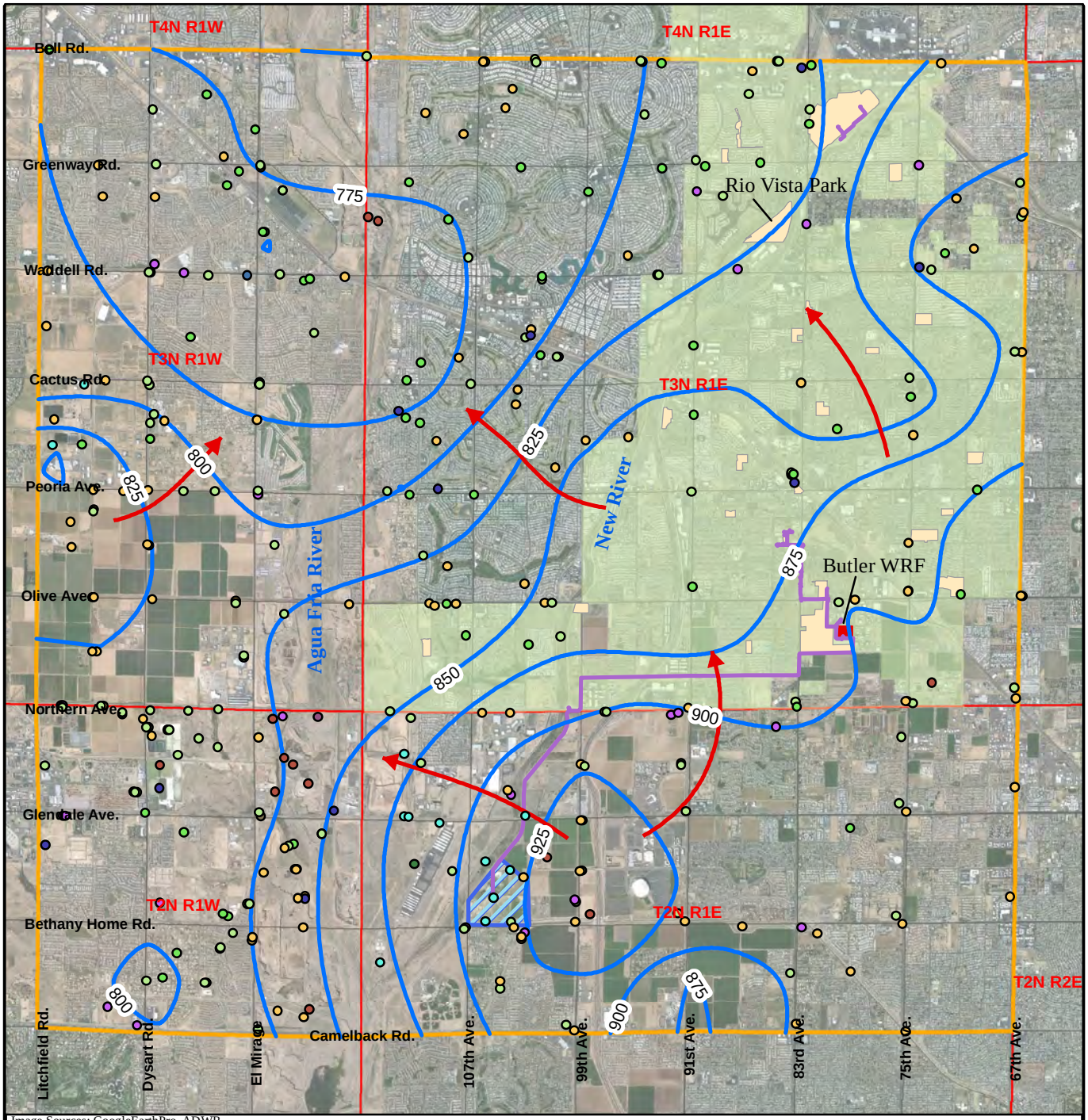


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

Water Use

- COMMERCIAL
- DOMESTIC
- INDUSTRIAL
- INSTITUTION
- IRRIGATION
- OBSERVATION
- OTHER
- PUBLIC SUPPLY
- RECREATION
- UNDETERMINED
- UNUSED
- Estimated Groundwater Flow Direction
- Water Level Elevation Contour
- Butler WRF
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

N

HydroSystems Inc.

Map Showing ADWR GWSI Well Locations and 2009 Water Level Elevations Peoria RSO Report

Figure 3

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 3 GWSI Well Location & WL Elev Map.mxd 10/24/2012

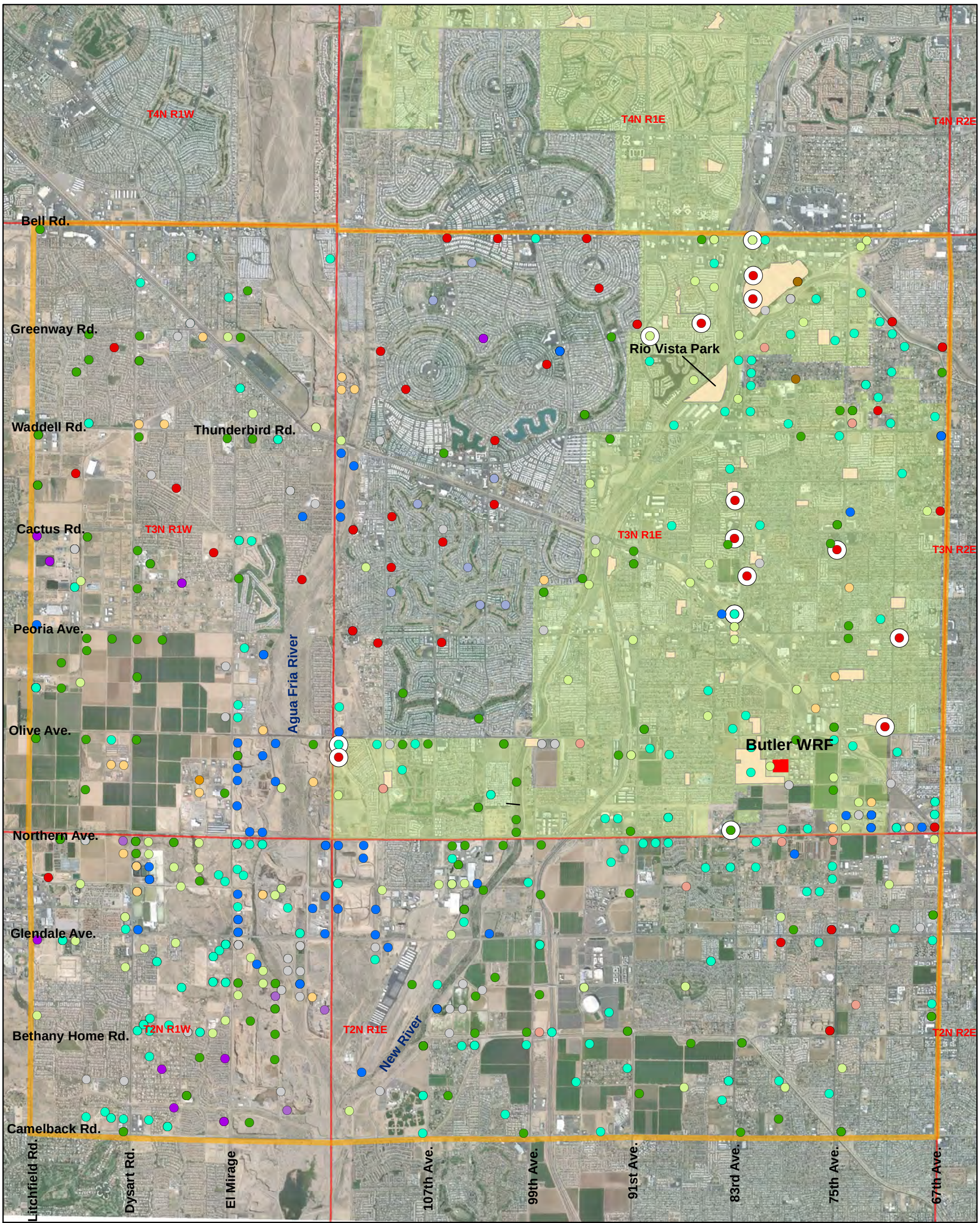


Image Source: GoogleEarthPro, ADWR

Legend

Well Type

Other	Irrigation	Recharge
Commercial	Mining	Recreation
Dewatering	Monitoring	Stock
Domestic	Municipal	Utility (Water Co)
Industrial	None	Peoria Wells Registered as Municipal

City Parks
Butler WRF
Peoria Corporate Limits
Study Area

0 0.5 1 2 Miles

N

HydroSystems Inc.

ADWR 55 Well Location Map
Peoria RSO Report

Figure 2

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 2 55 Well Loc Map.mxd 10/24/2012

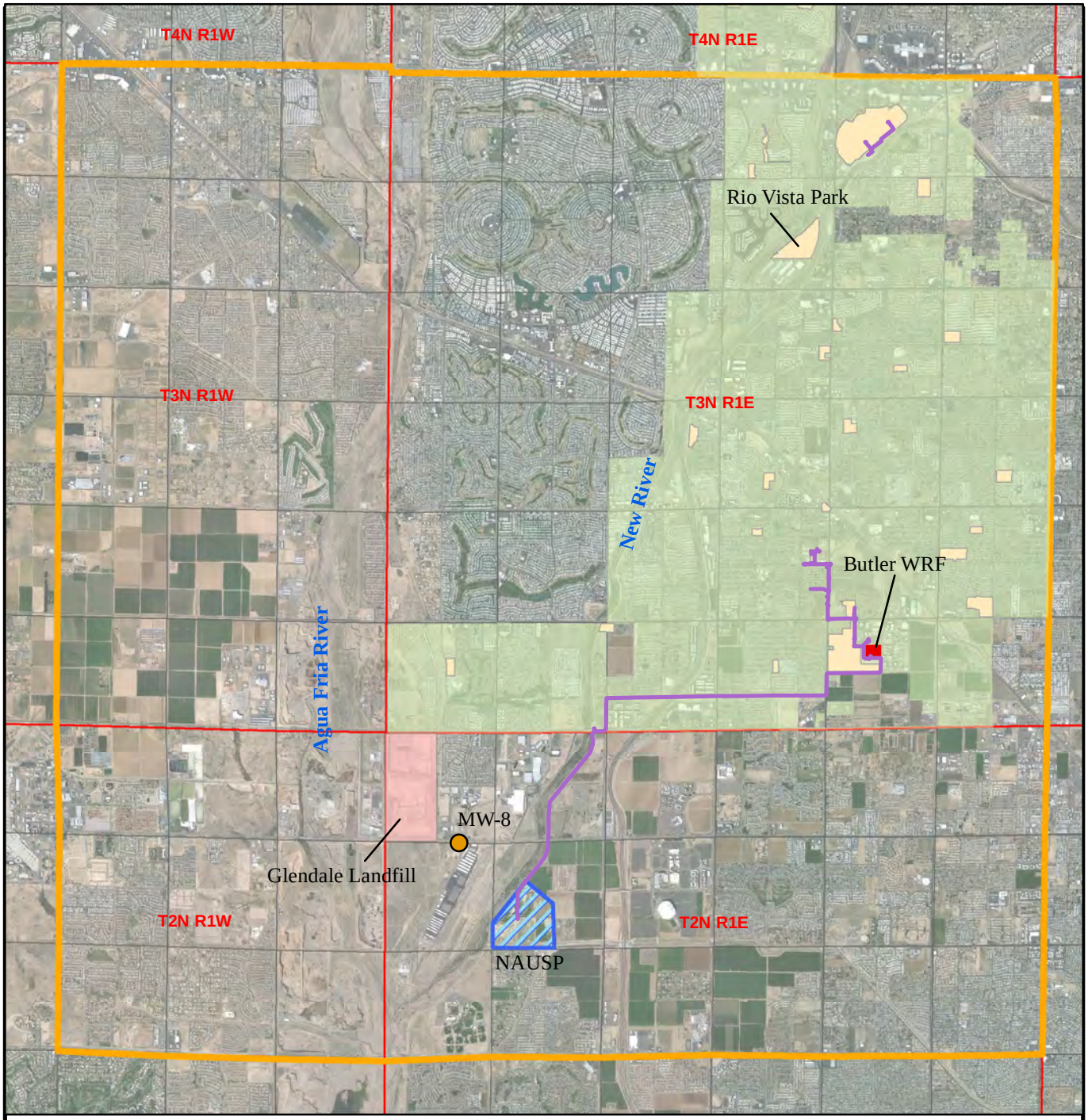


Image Source: GoogleEarthPro

0 1 2 4 Miles

Legend

- Monitor Well 8
- Butler Drive WRF
- Glendale Landfill
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

N

HydroSystems Inc.

Study Area Map
Peoria RSO Report

Figure 1

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 1 Study Area Map.mxd 10/24/2012

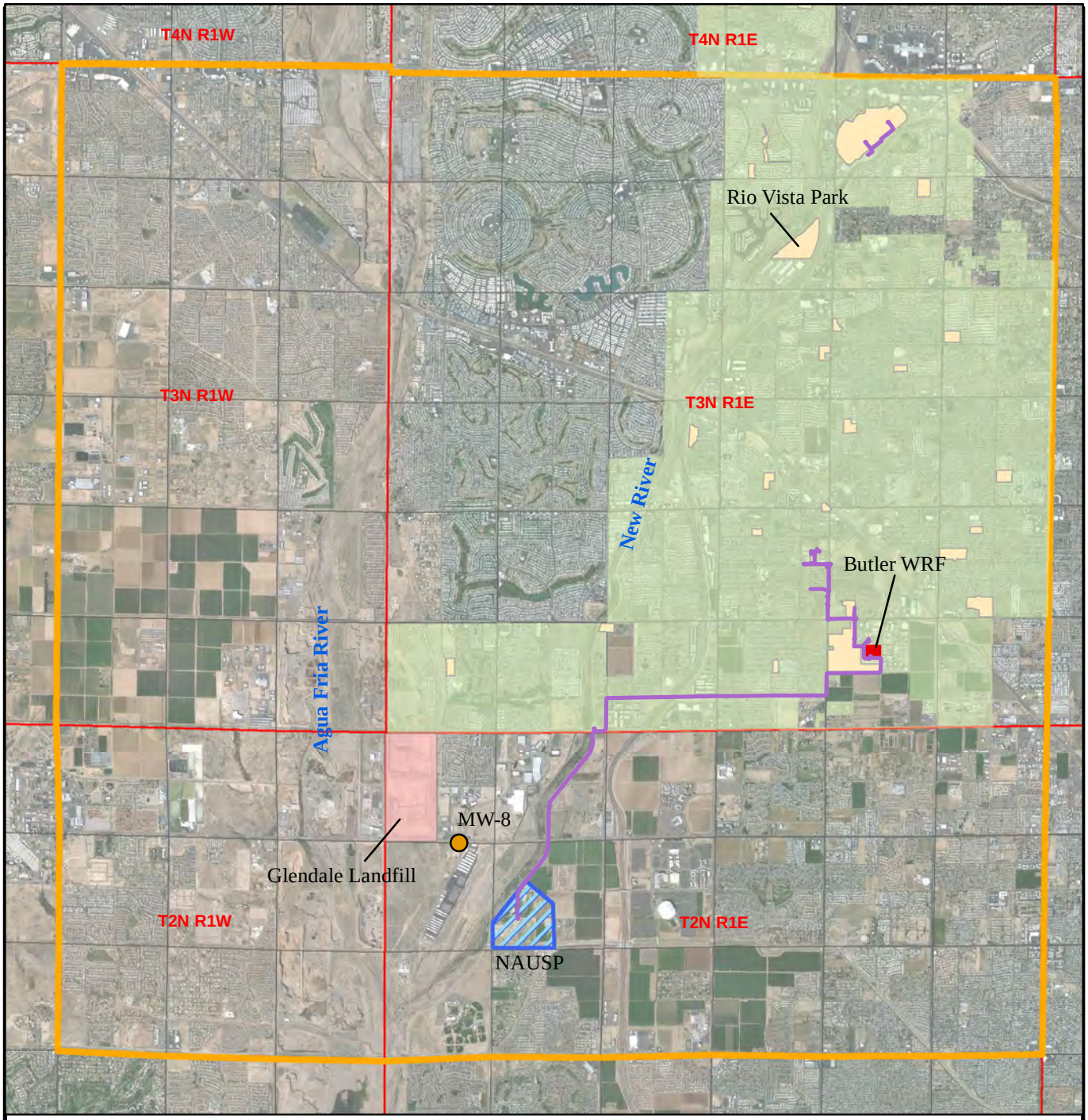


Image Source: GoogleEarthPro

0 1 2 4 Miles

Legend

- Monitor Well 8
- Butler Drive WRF
- Glendale Landfill
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

N

HydroSystems Inc.

Study Area Map
Peoria RSO Report

Figure 1

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 1 Study Area Map.mxd 10/24/2012

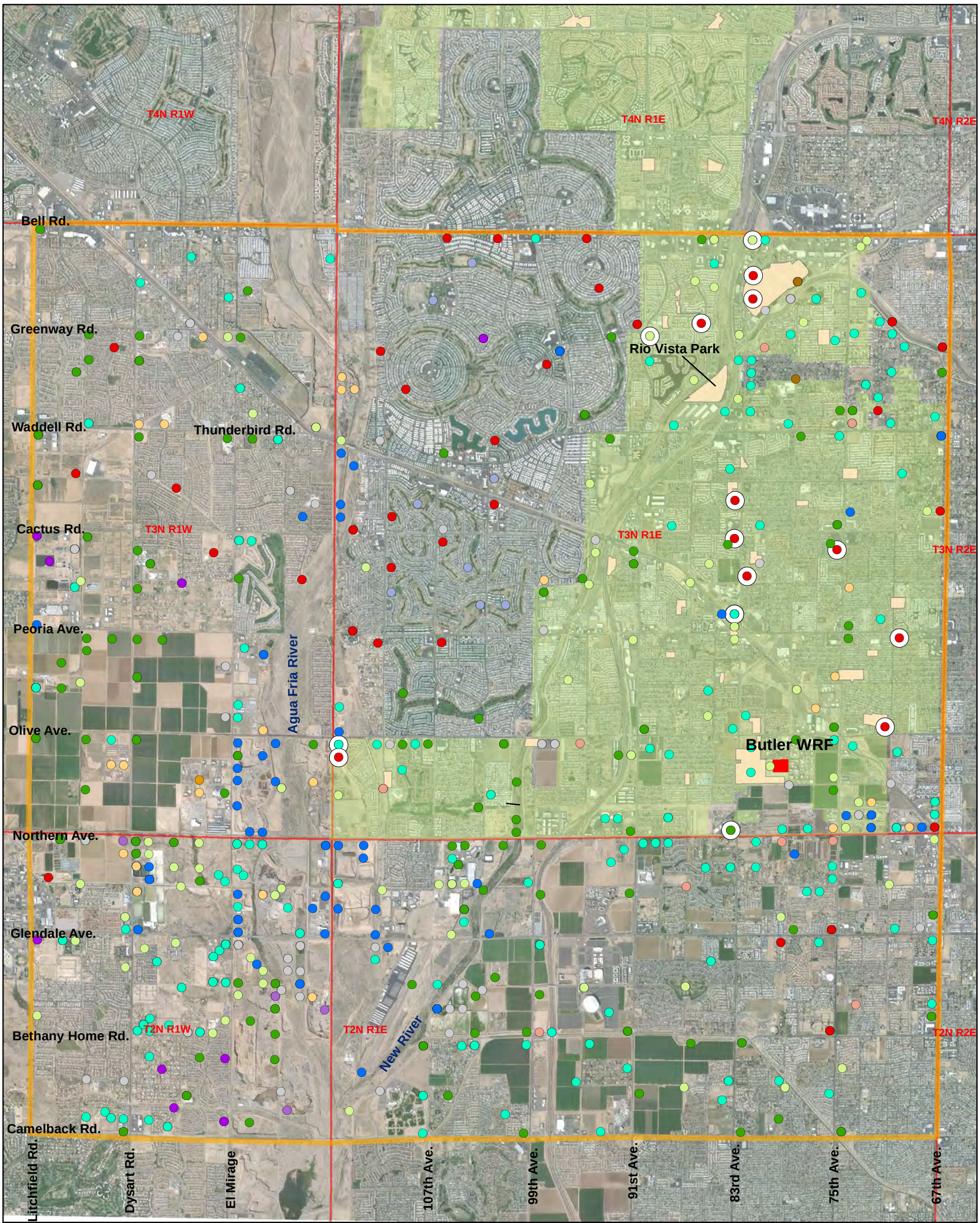


Image Source: GoogleEarthPro, ADWR

Legend

Well Type

Other	Irrigation	Recharge
Commercial	Mining	Recreation
Dewatering	Monitoring	Stock
Domestic	Municipal	Utility (Water Co)
Industrial	None	Peoria Wells Registered as Municipal

City Parks
Butler WRF
Peoria Corporate Limits
Study Area

0 0.5 1 2 Miles

N

HydroSystems Inc.

ADWR 55 Well Location Map
Peoria RSO Report

Figure 2

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 2 55 Well Loc Map.mxd 10/24/2012

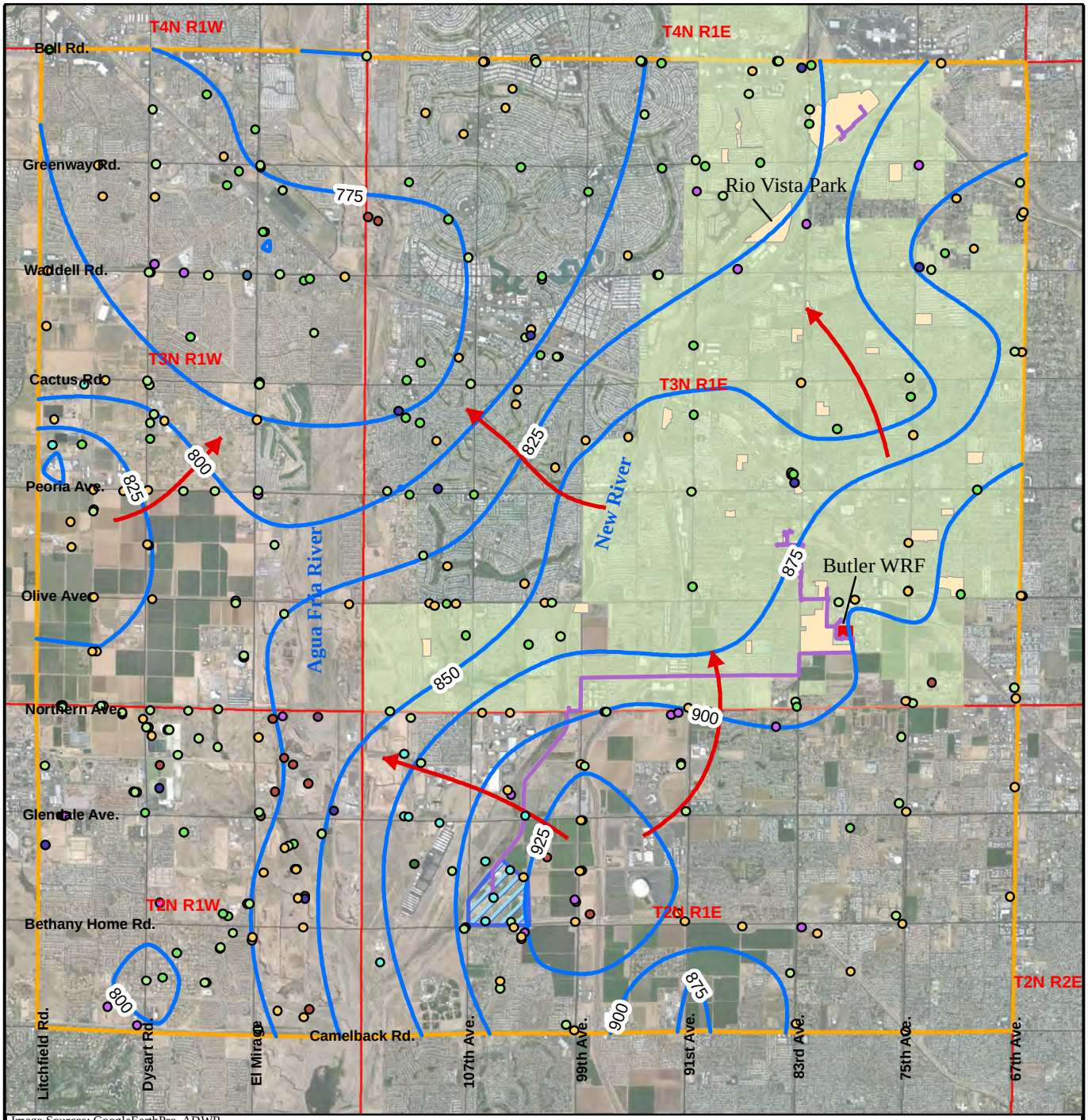


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

Water Use

- COMMERCIAL
- DOMESTIC
- INDUSTRIAL
- INSTITUTION
- IRRIGATION
- OBSERVATION
- OTHER
- PUBLIC SUPPLY
- RECREATION
- UNDETERMINED
- UNUSED
- Estimated Groundwater Flow Direction
- Water Level Elevation Contour
- Butler WRF
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

N

HydroSystems Inc.

Map Showing ADWR GWSI Well Locations and 2009 Water Level Elevations Peoria RSO Report

Figure 3

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 3 GWSI Well Location & WL Elev Map.mxd 10/24/2012

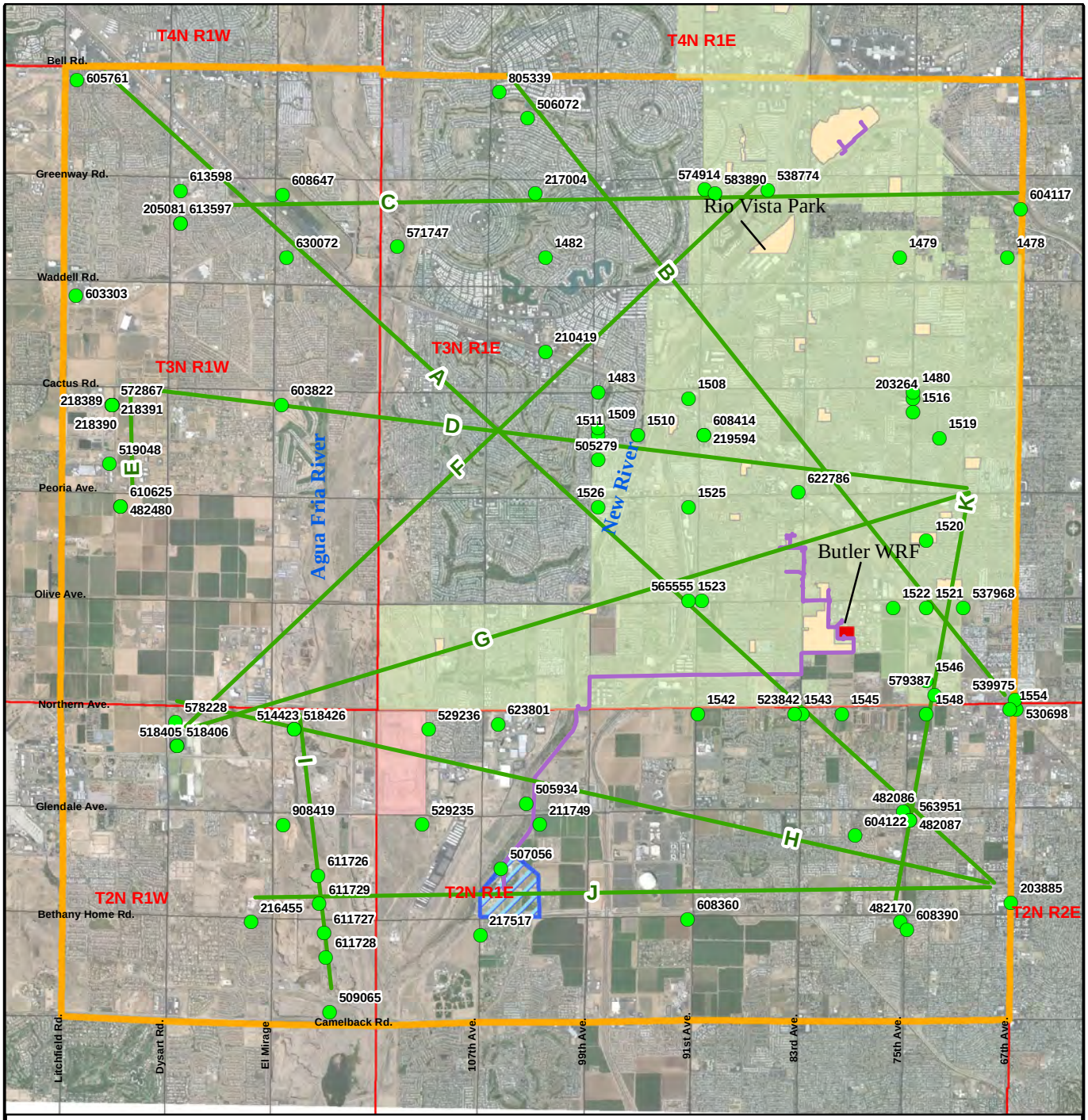


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

- Well 55 or 35 with Lith Logs
- Geologic Cross-Sections
- Butler WRF
- City Parks
- NAUSP
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

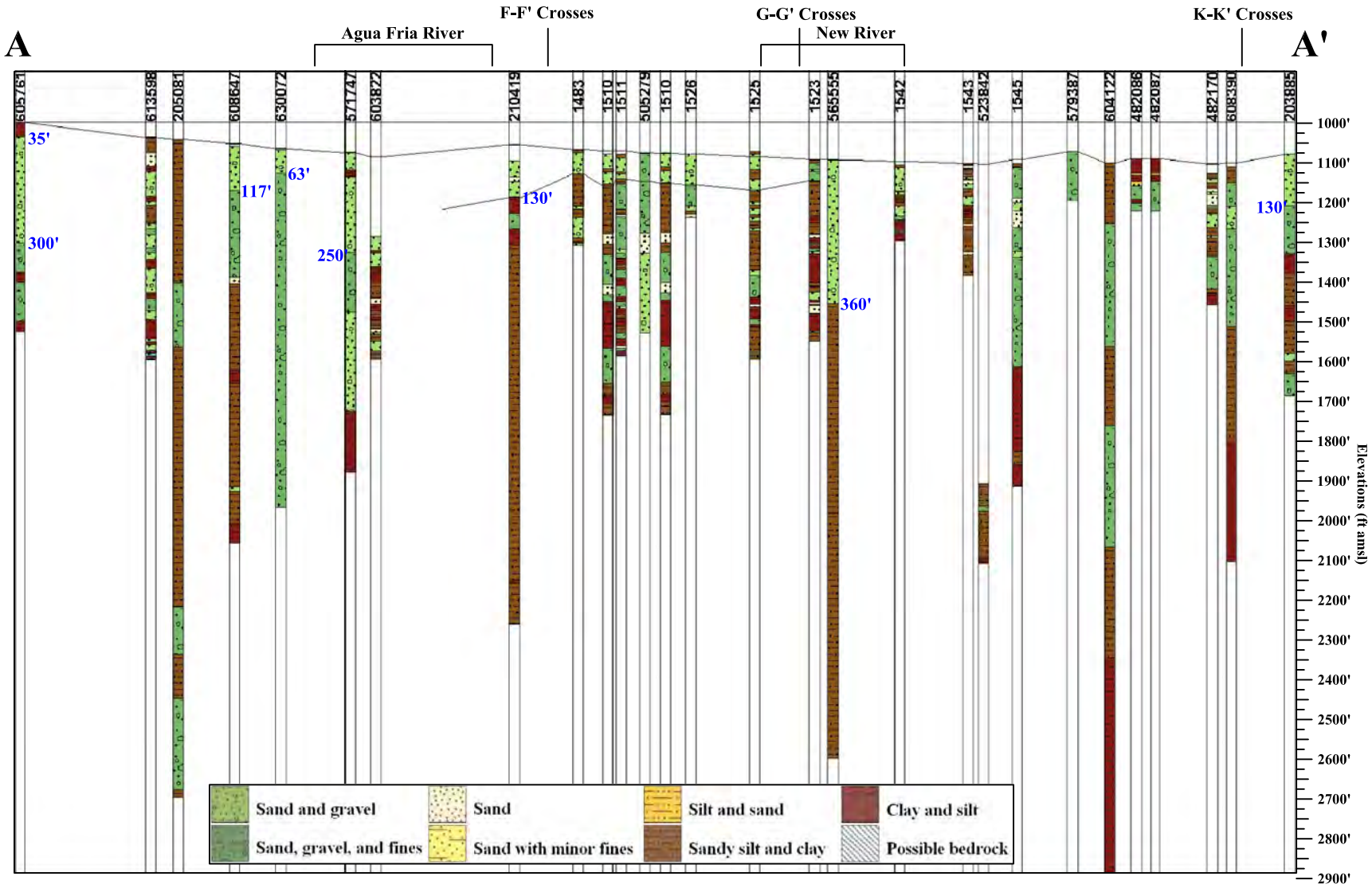
N

HydroSystems Inc.

Cross-Section Location Map
Peoria RSO Report

Figure 4

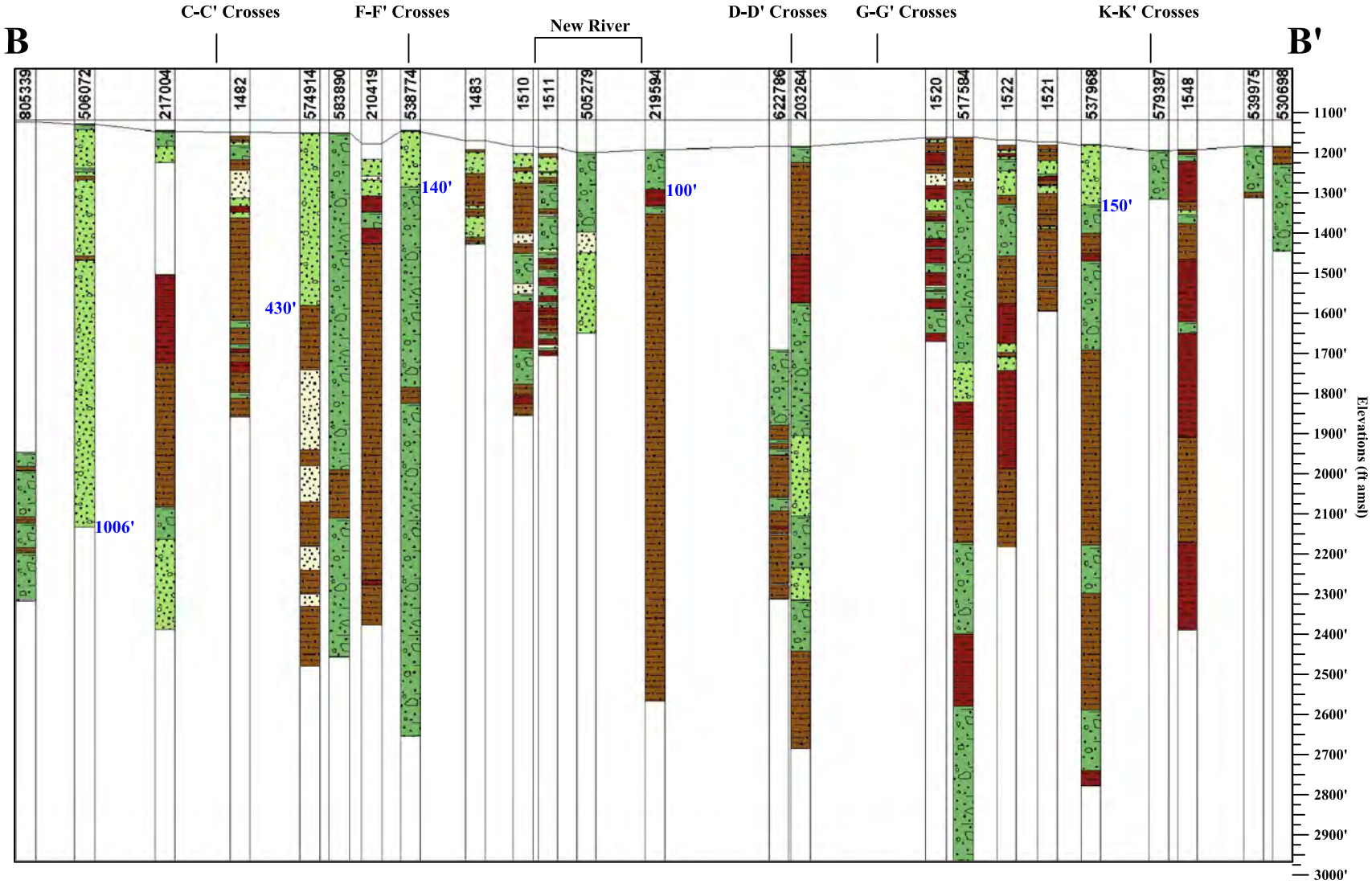
R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 4 X-scn Map.mxd 10/24/2012



HydroSystems Inc.

Cross-Section A-A'
Peoria RSO Report

Figure 5

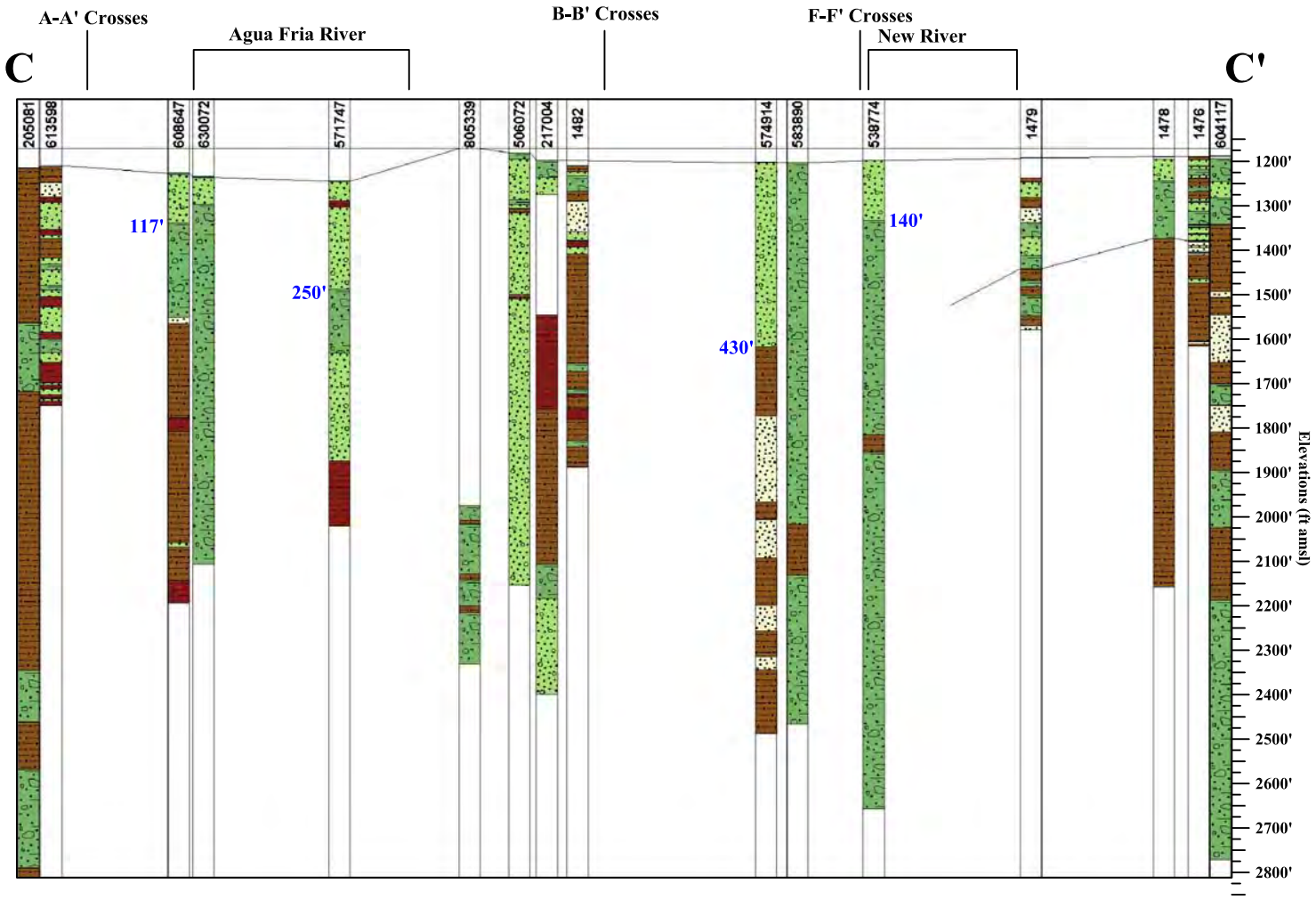


HydroSystems Inc.

Cross-Section B-B'
Peoria RSO Report

Figure 6

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:50:58 AM, Adobe PDF

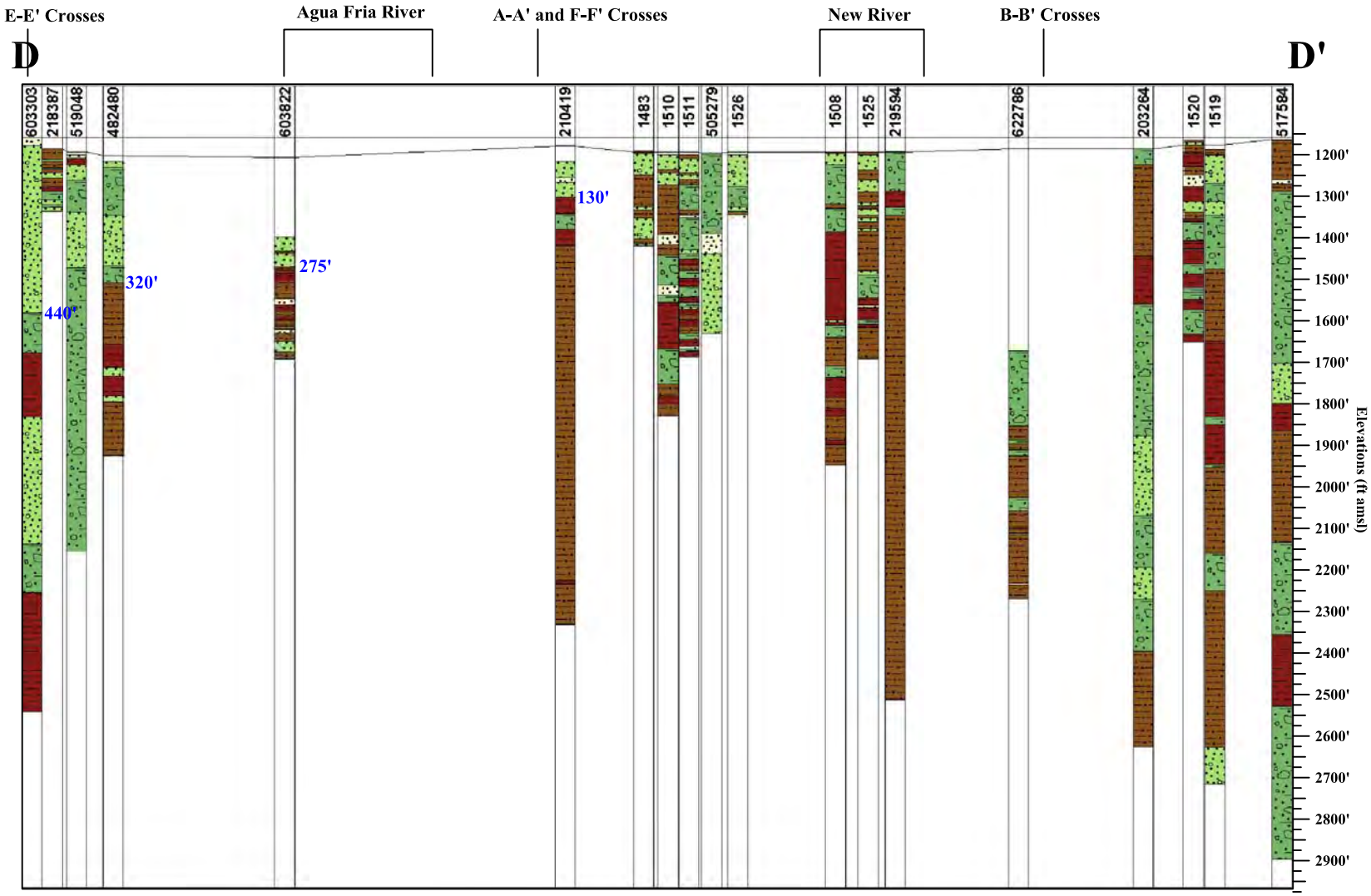


HydroSystems Inc.

Cross-Section C-C'
Peoria RSO Report

Figure 7

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:51:33 AM, Adobe PDF

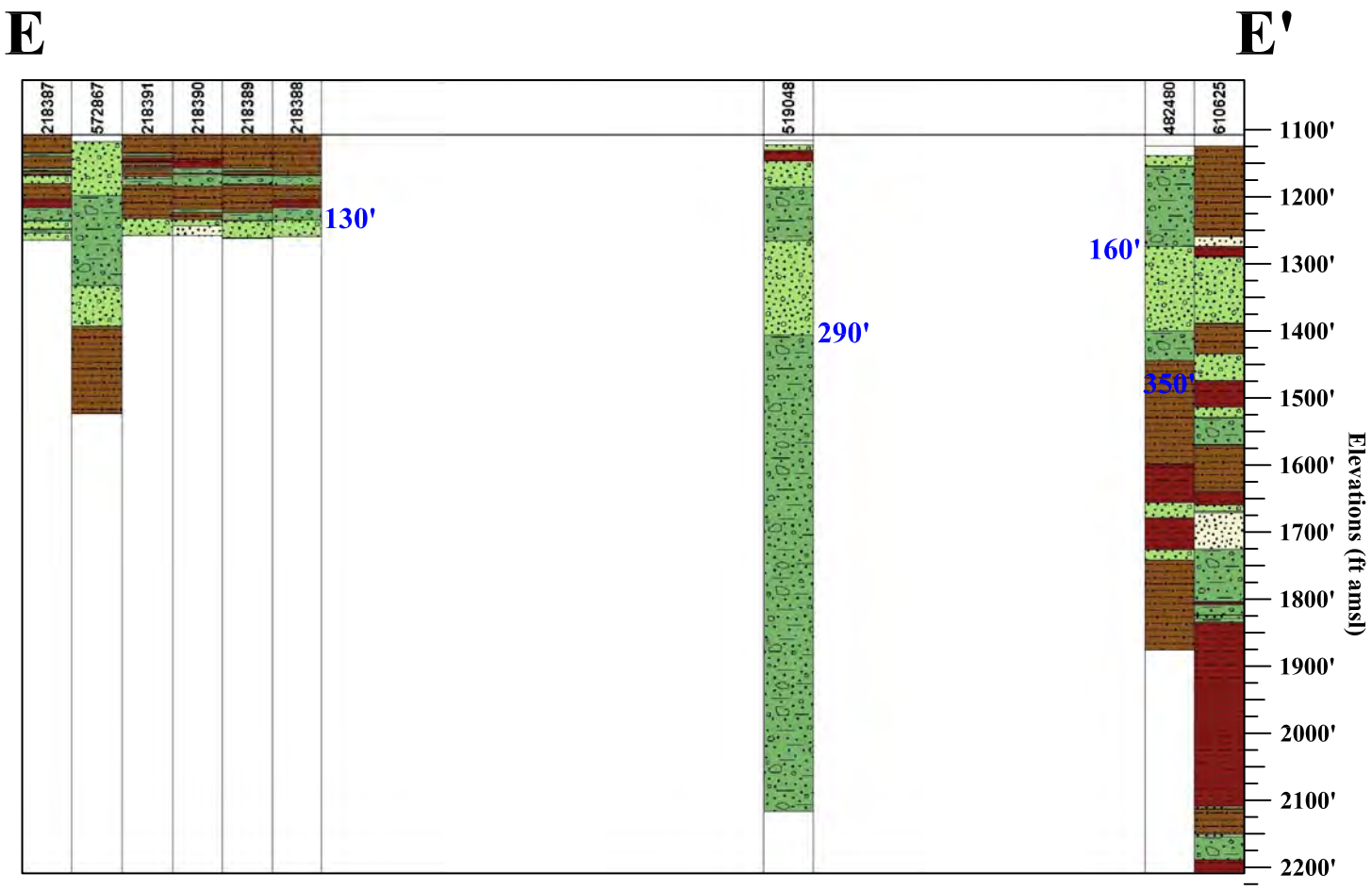


HydroSystems Inc.

Cross-Section D-D'
Peoria RSO Report

Figure 8

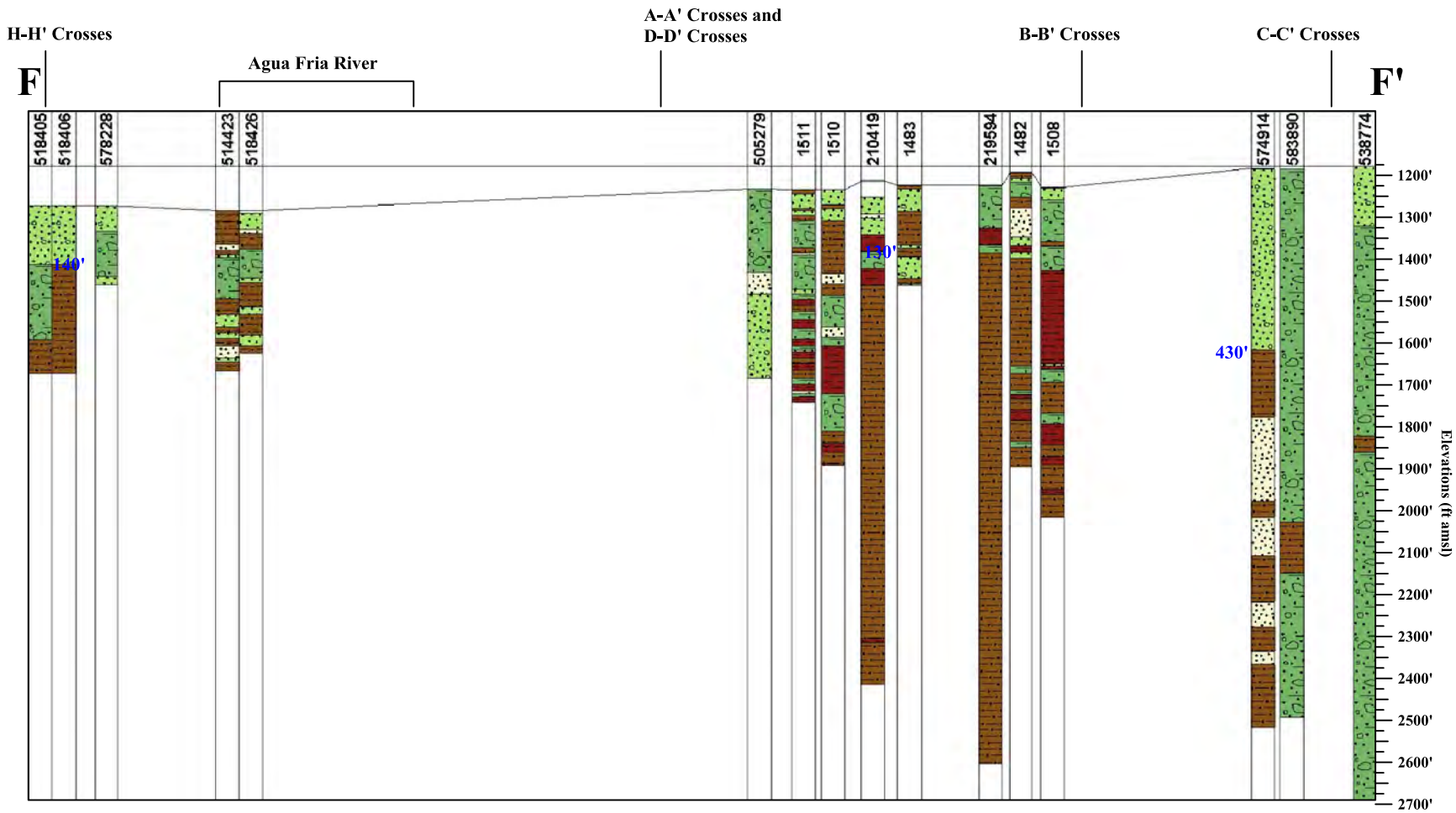
R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:52:02 AM, Adobe PDF



HydroSystems Inc.

Cross-Section E-E'
Peoria RSO Report

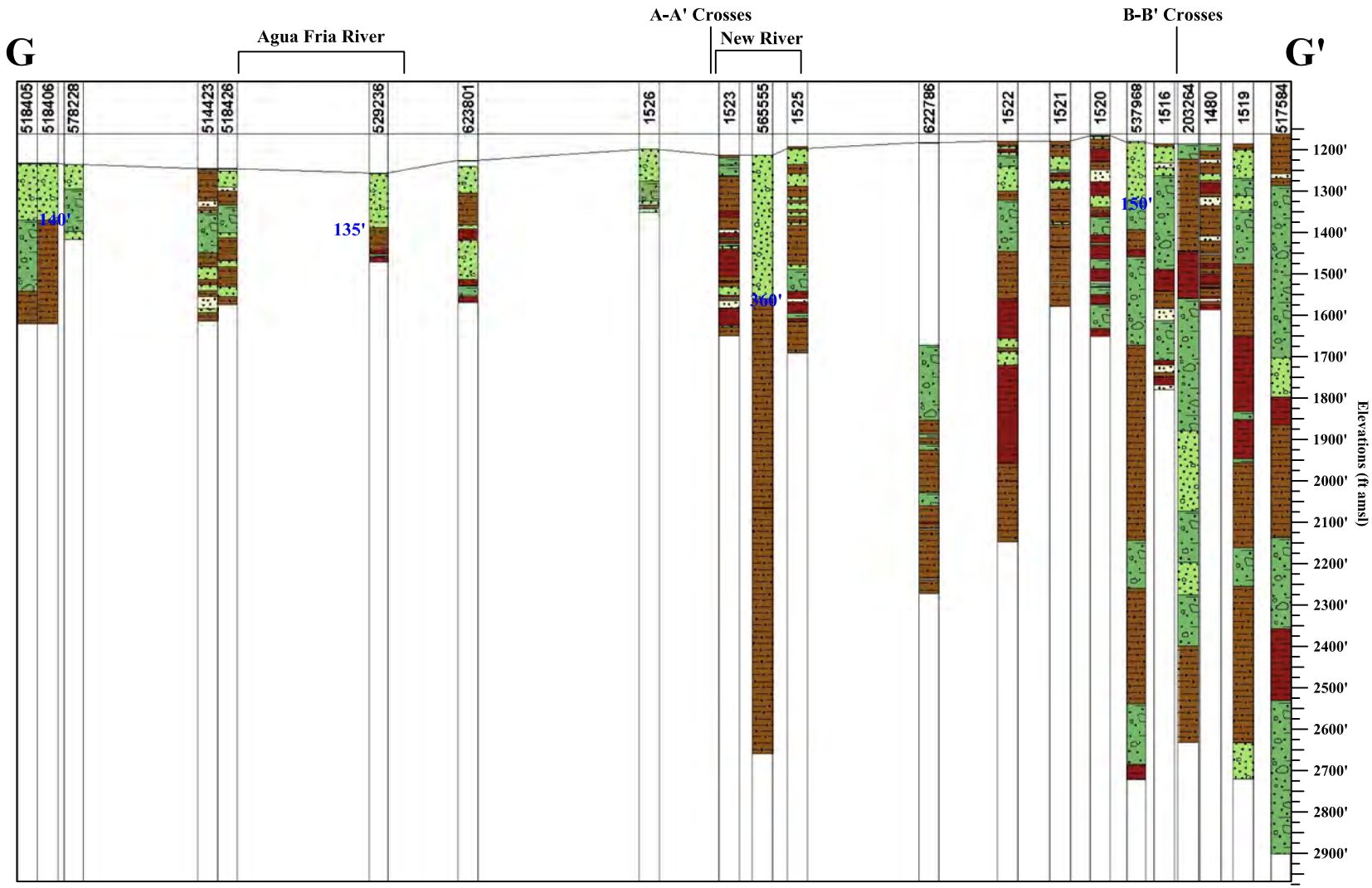
Figure 9



HydroSystems Inc.

Cross-Section F-F'
Peoria RSO Report

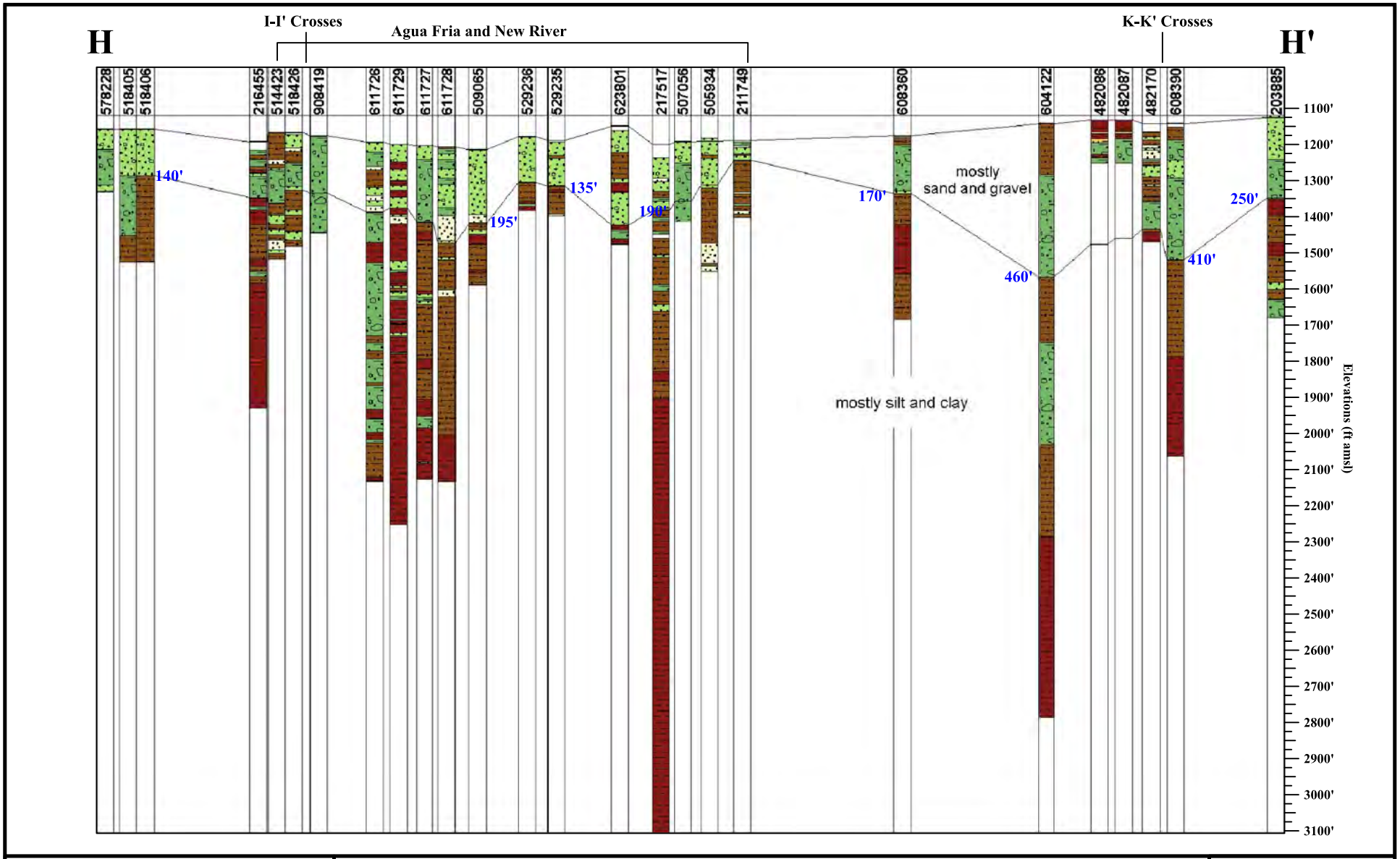
Figure 10



HydroSystems Inc.

Cross-Section G-G'
Peoria RSO Report

Figure 11



HydroSystems Inc.

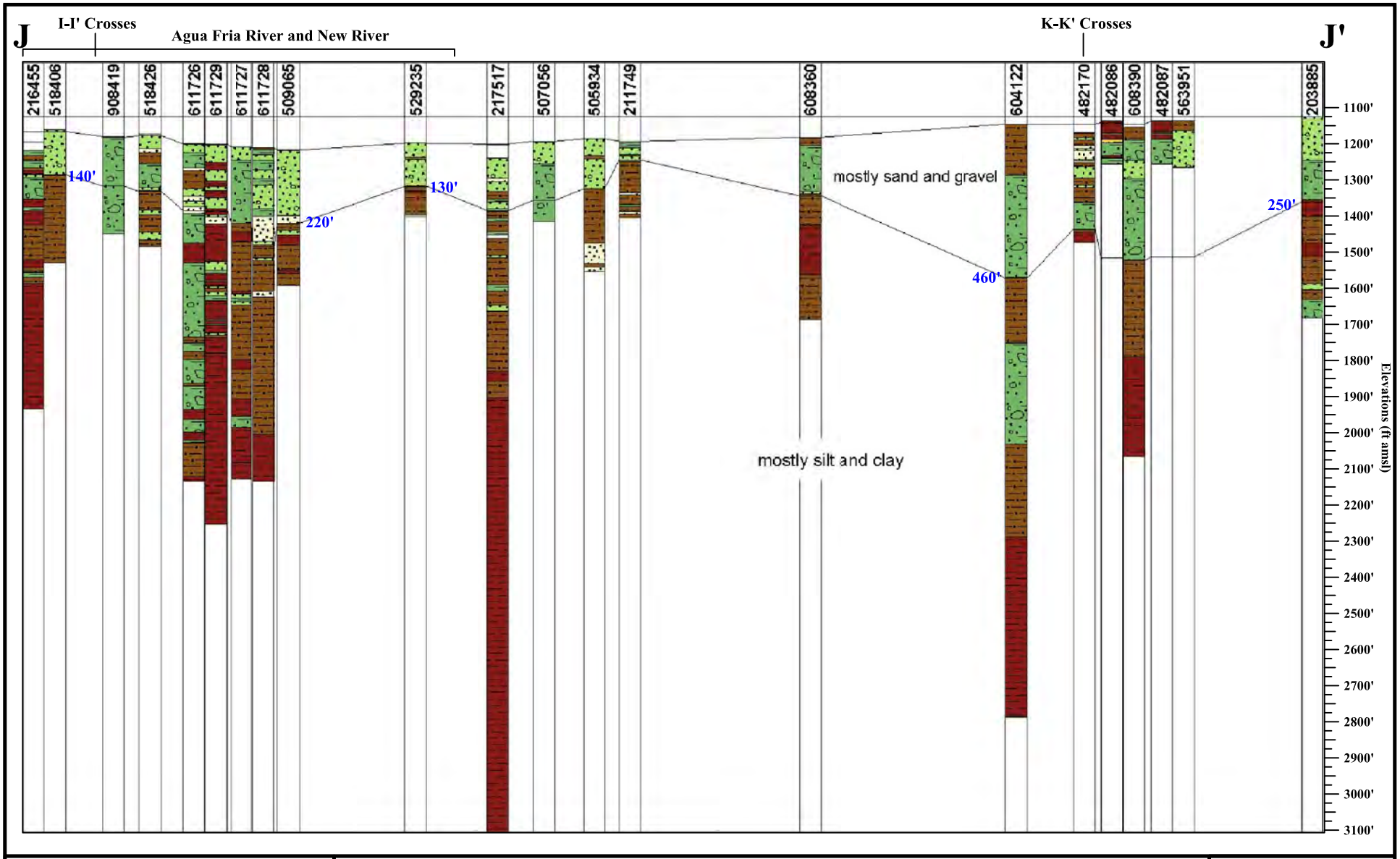
Cross-Section H-H'
Peoria RSO Report

Figure 12

HydroSystems Inc.

Cross-Section I-I'
Peoria RSO Report

Figure 13

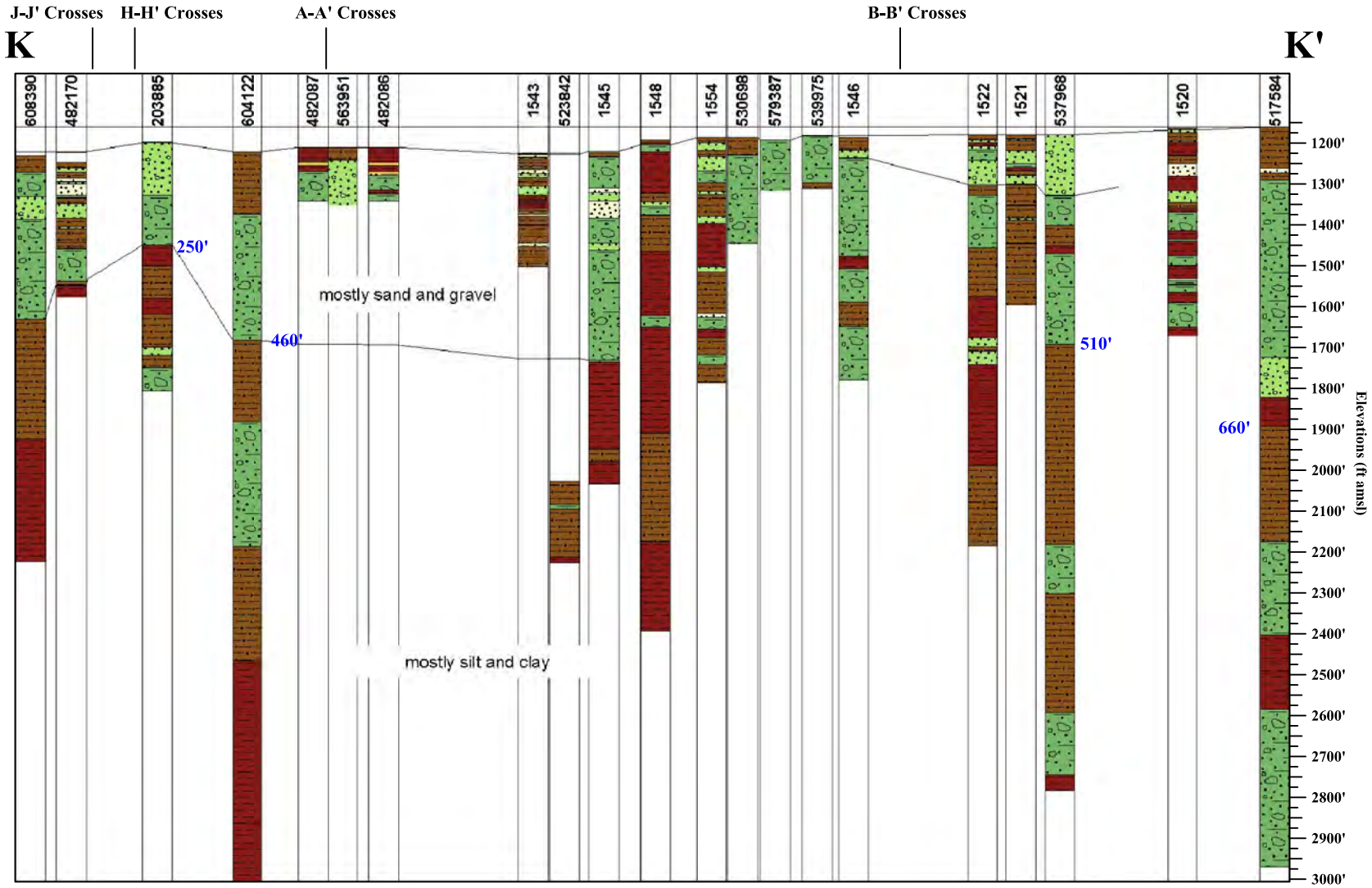


HydroSystems Inc.

Cross-Section J-J'
Peoria RSO Report

Figure 14

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:54:43 AM, Adobe PDF



HydroSystems Inc.

Cross-Section K-K'
Peoria RSO Report

Figure 15

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 5-15.dwg, 10/9/2012 10:55:11 AM, Adobe PDF

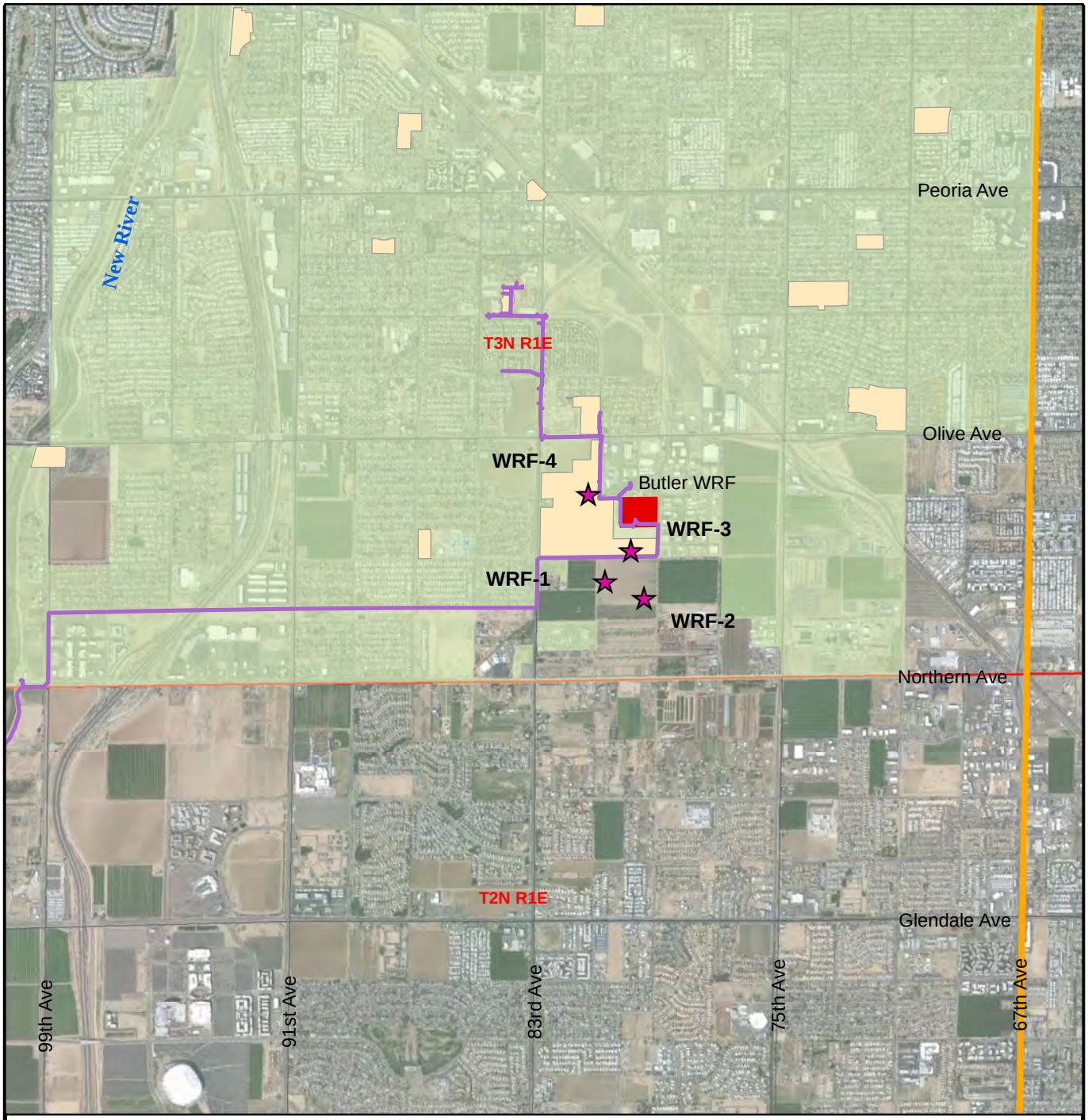


Image Sources: GoogleEarthPro

0 0.5 1 2 Miles

Legend

- Butler WRF
- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area
- Montgomery Soil Borings

N

HydroSystems Inc.

Location of Errol Montgomery Soil Borings Butler WRF Peoria RSO Report

Figure 16

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 16 Montgomery Borings Butler.mxd 10/24/2012

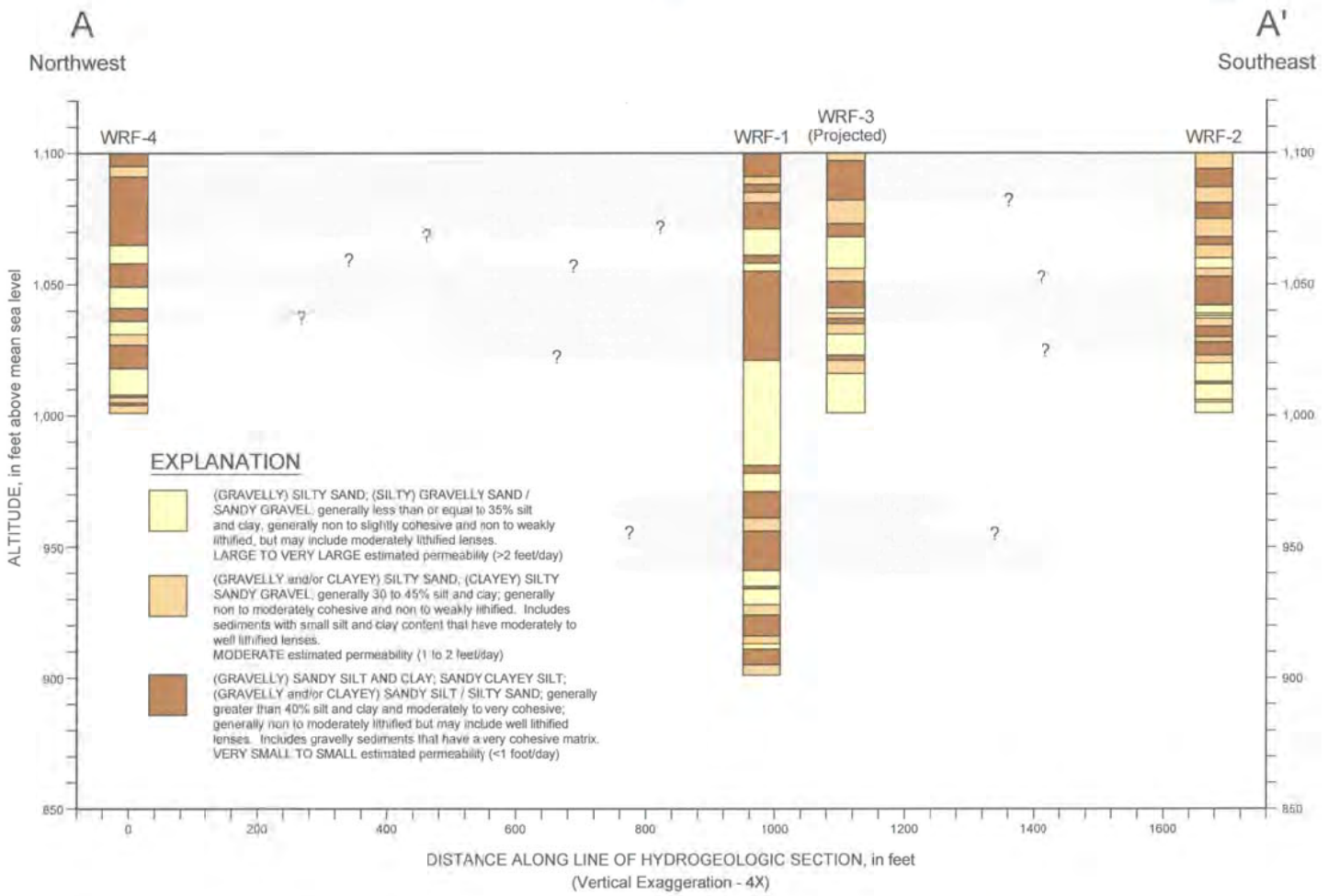


FIGURE 18. HYDROGEOLOGIC SECTION A-A' FOR BUTLER WRF SITE

819 12\Butler XS_rev\21Aug2006

ERROL L. MONTGOMERY & ASSOCIATES, INC

HydroSystems Inc.

Cross Section for Errol Montgomery Soil Borings
Butler WRF
Peoria RSO Report

Figure 17

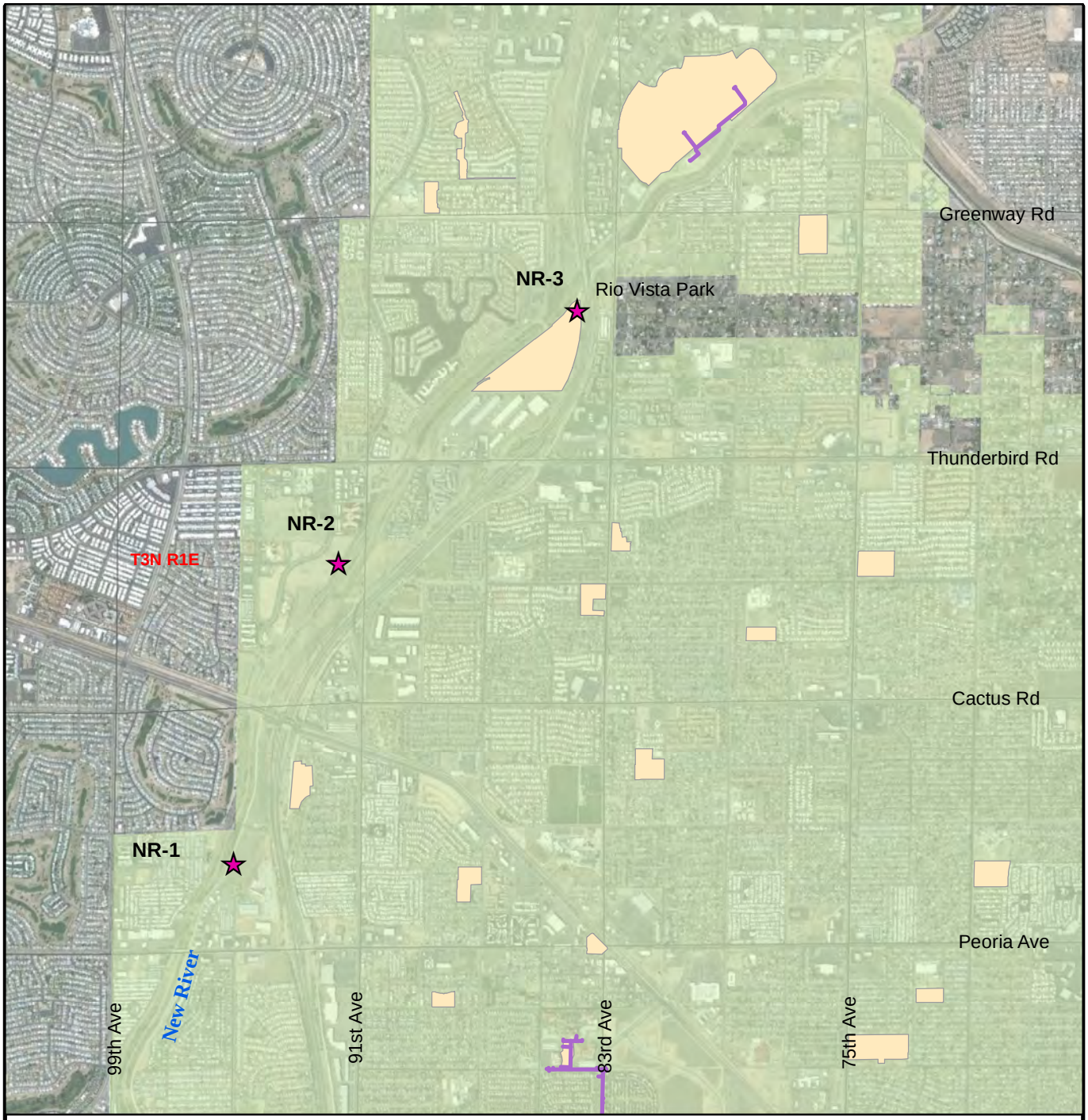


Image Sources: GoogleEarthPro

0 0.5 1 2 Miles

Legend

- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area
- Montgomery Soil Borings

N

HydroSystems Inc.

Location of Errol Montgomery Soil Borings Along New River Peoria RSO Report

Figure 18

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 18 Montgomery Borings New River.mxd 10/24/2012

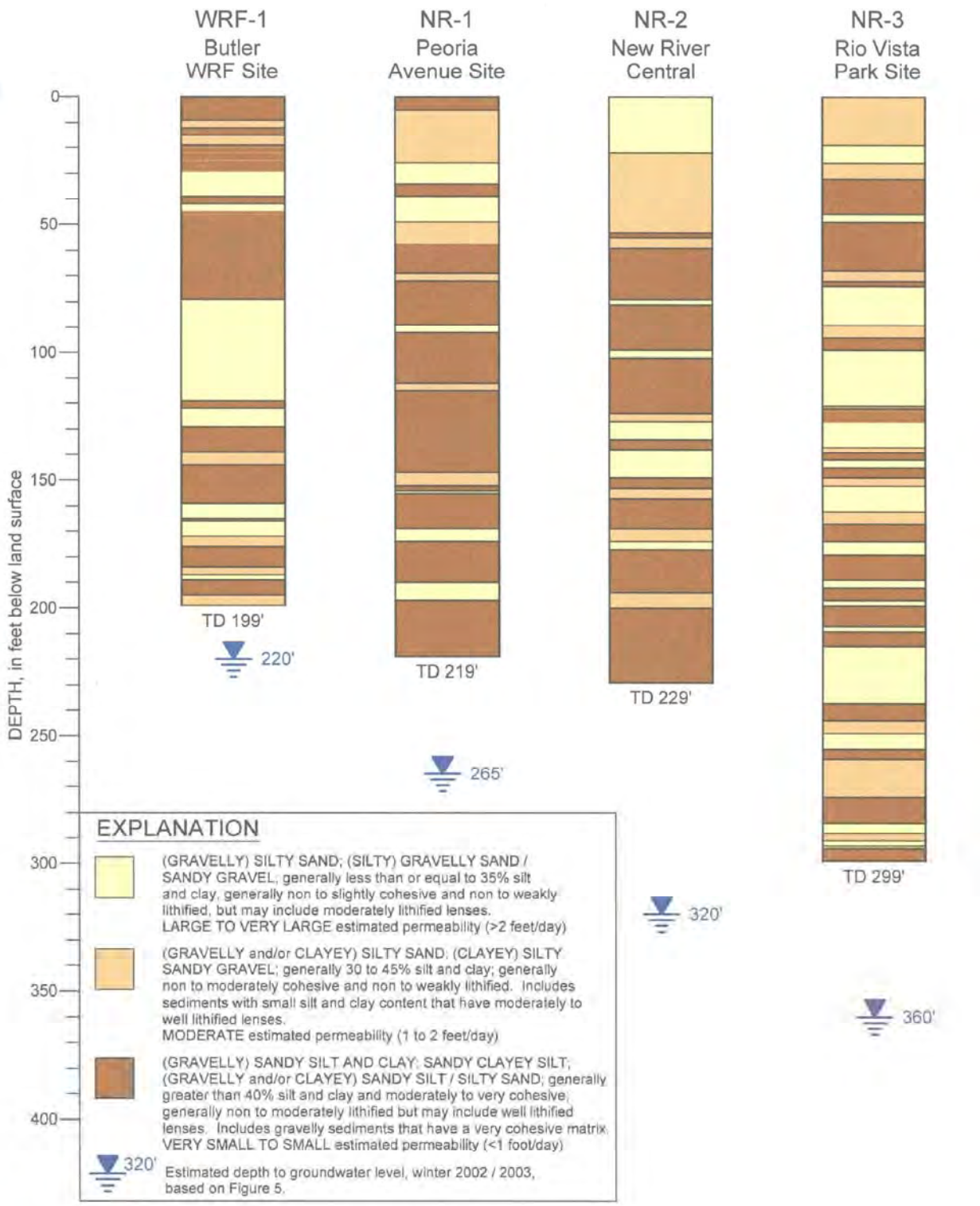


FIGURE 17 . GRAPHIC LOGS FOR PHASE 1 DEEP EXPLORATION BOREHOLES

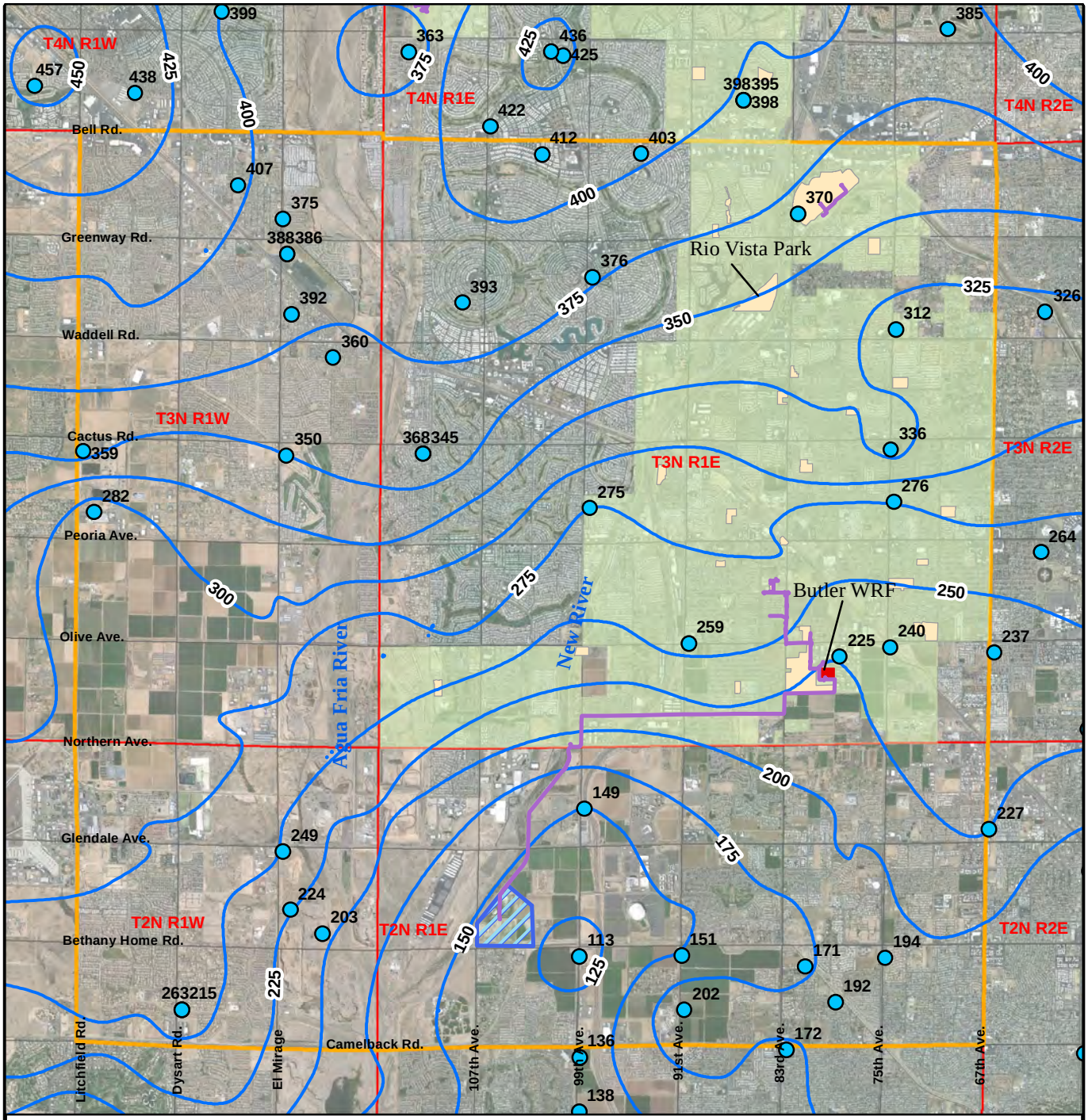
819.18\Borehole graphic logs_Phase1-long explan_rev\27April2006

ERROL L. MONTGOMERY & ASSOCIATES, INC.

HydroSystems Inc.

Cross Section For Errol Montgomery Soil Borings Along New River Peoria RSO Report

Figure 19



HydroSystems Inc.

2009 Depth to Water Map
Peoria RSO Report

Figure 20

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 20 DTW Map.mxd 10/24/2012

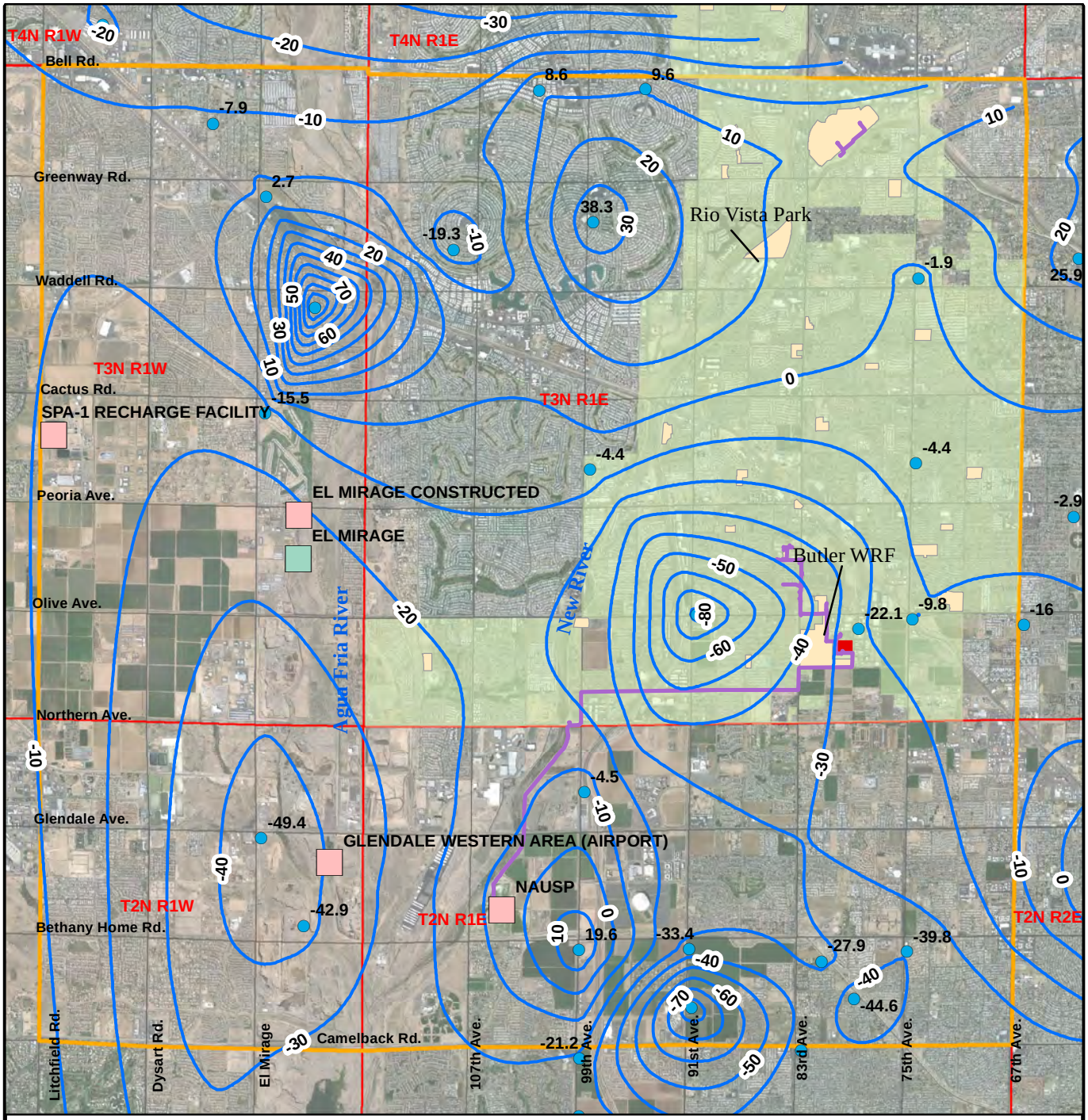


Image Sources: GoogleEarthPro, ADWR

0 1 2 4 Miles

Legend

- Constructed Recharge Facility
- Managed Recharge Facility
- Water Level Change (ft)
- Change in Water Level Contours
- Butler WRF
- City Parks
- Reuse Distribution Pipes
- Peoria Corporate Limits
- Study Area

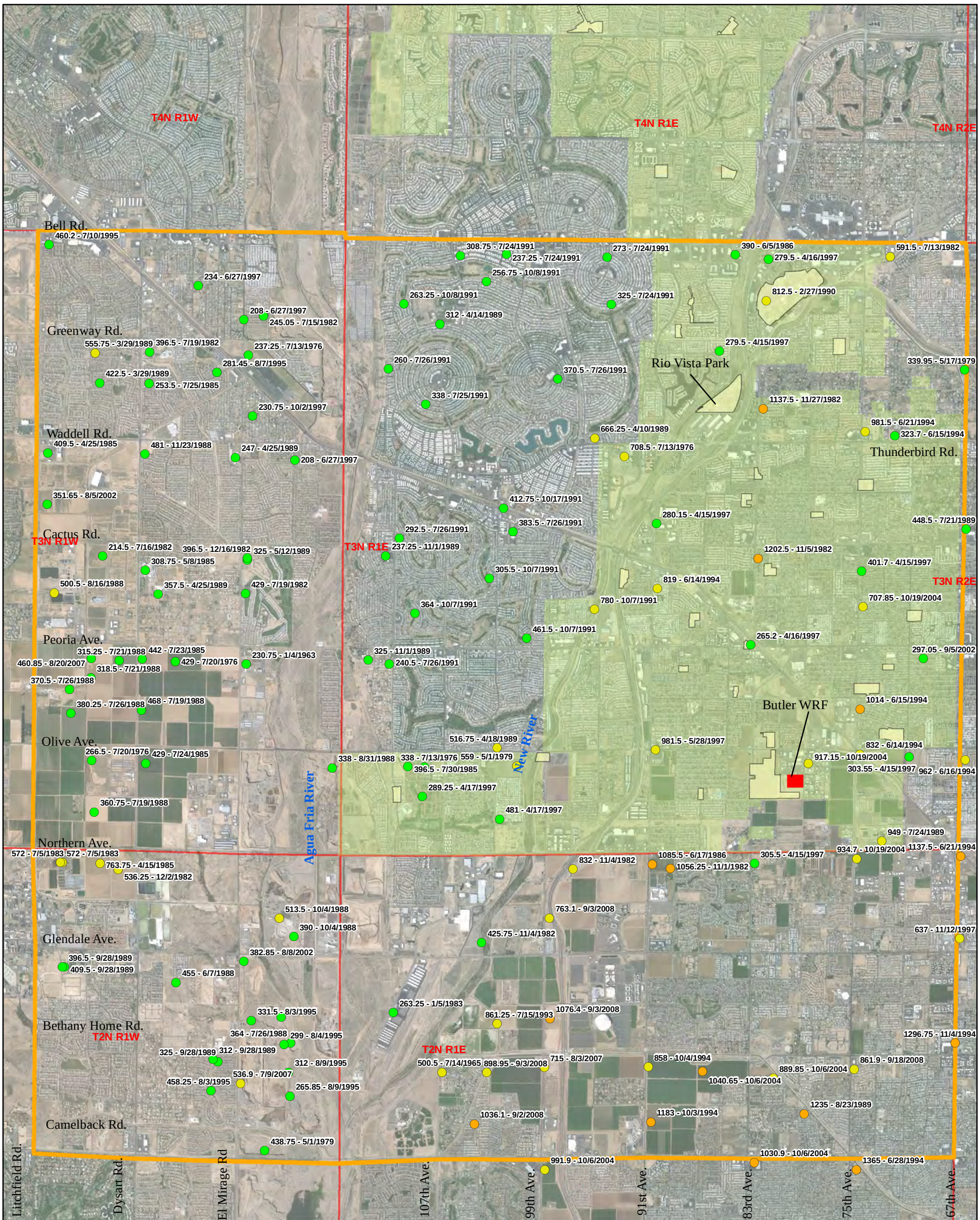
N

HydroSystems Inc.

1997 - 2009 Water Level Change Map
Peoria RSO Report

Figure 21

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 21 WL Change Map.mxd 10/24/2012



Legend

Calculated TDS

- 0 - 500
- 500 - 1000
- 1000 - 1500

- City Parks
- Butler WRF
- Study Area
- Peoria Corporate Limits

0 0.5 1 2 Miles

N

HydroSystems Inc.

Calculated TDS Concentrations for the Study Area
Peoria RSO Report

Figure 22

Path\ R:\12-642\Recharge Optimization Report\Figures\Peoria RSO Report Figure 22 TDS Map

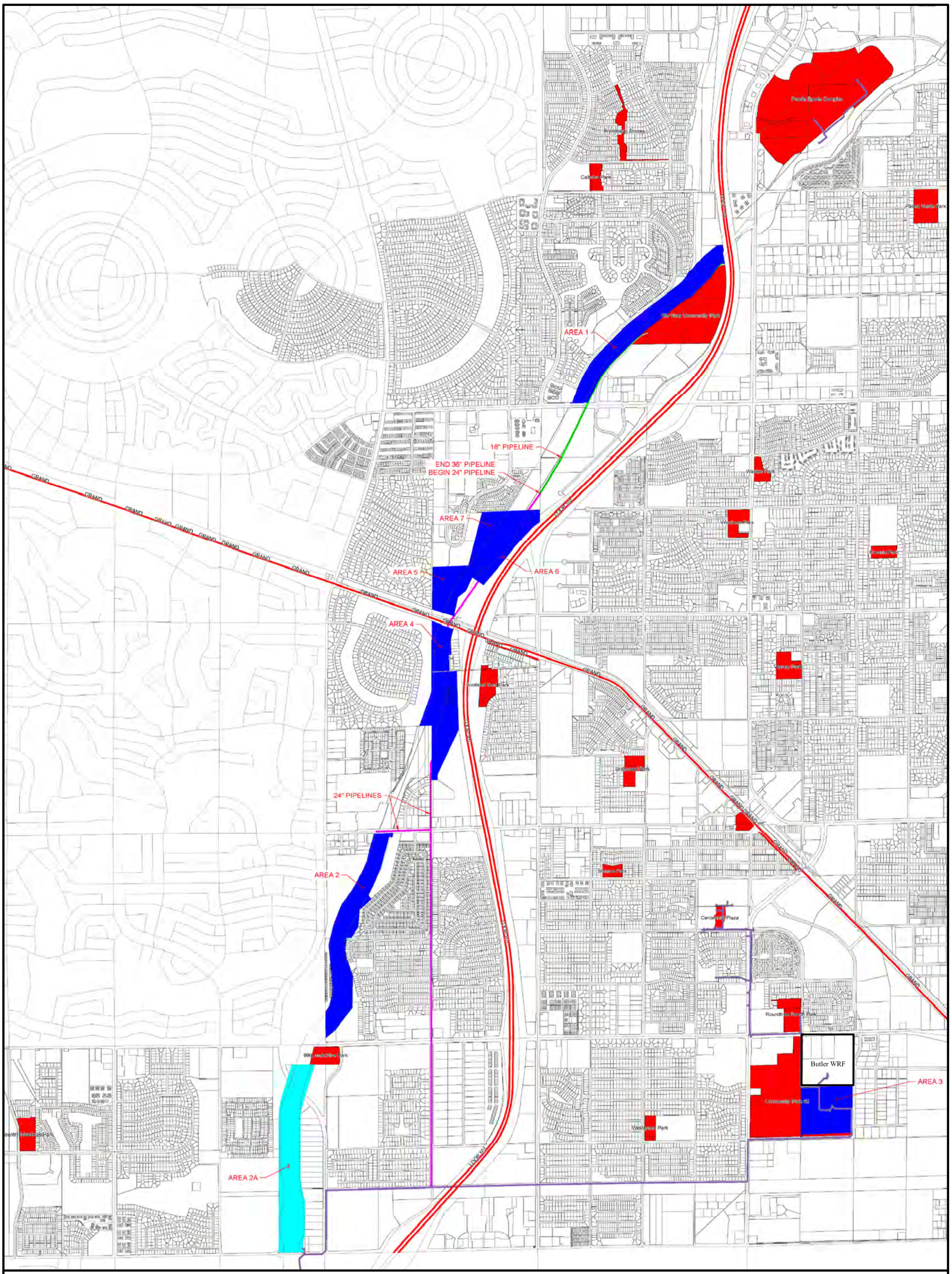


Image Source: Burns & McDonnel

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Private Land

PARKS

N

Burns & McDonnell SINCE 1898

HSI HydroSystems Inc.

Targeted Recharge Locations
Peoria RSO Report

Figure 23

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 23 Recharge Location Map.dwg, 10/29/2012 1:42:48 PM, Adobe PDF (temporary).pc3

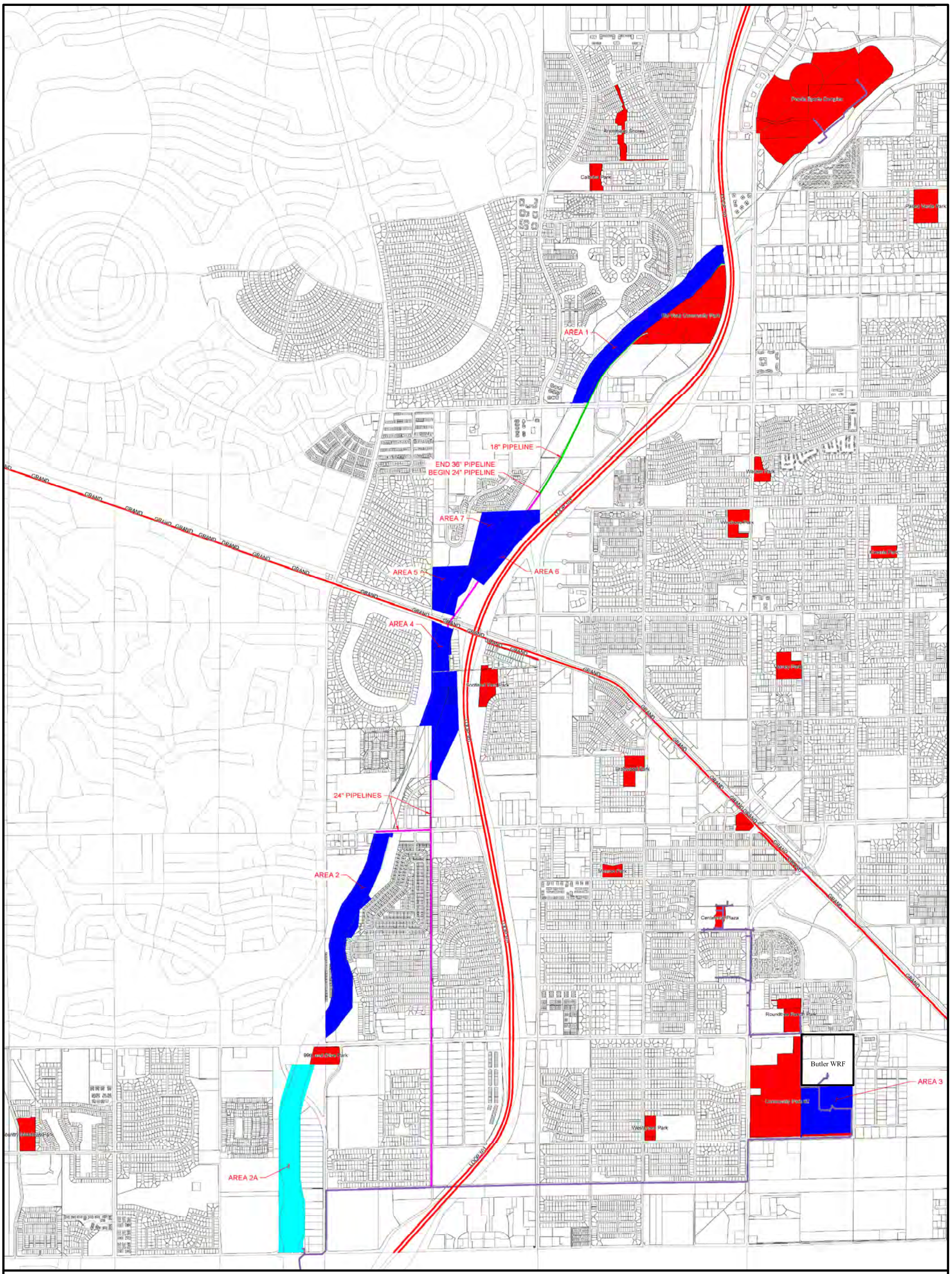


Image Source: Burns & McDonnel

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

Private Land

PARKS

N

Burns & McDonnell SINCE 1898

HSI HydroSystems Inc.

Targeted Recharge Locations
Peoria RSO Report

Figure 23

R:\12-642 Peoria Recharge Phase 1\Recharge Optimization Report\Figure Workspace\Peoria RSO Report Figure 23 Recharge Location Map.dwg, 10/29/2012 1:42:48 PM, Adobe PDF (temporary).pc3

Stream Flows

Historic surface flow records were obtained for New River and Agua Fria. In general, flows in New River seem to have more of an immediate impact on the depth to water in the monitoring wells than the flows in the Agua Fria. Because of this, the New River records were examined much more thoroughly than the Agua Fria records. Although the MCFCD New River gage shows that the stretch of New River nearest the facility is lined, the river flows provide insight to area-wide storm events that would recharge the aquifers by percolating through the soil.

Yearly flow totals measured at the New River gage at Glendale Ave between January 2000 and June 20, 2012 were:

2012	318.169	acre-feet
2011	253.989	acre-feet
2010	13,251.434	acre-feet
2009	23,372.302	acre-feet
2008	11,538.661	acre-feet
2007*	10,224.162	acre-feet
2006*	580.245	acre-feet
2005	25,354.300	acre-feet
2004	10,608.680	acre-feet
2003	6,974.668	acre-feet
2002	2,449.084	acre-feet
2001	2,221.820	acre-feet
2000	7,344.014	acre feet

* New River measurements were not made during August 24, 2006 and March 03, 2007.

It is worth noting that the peak discharge measured in New River between startup and June 21, 2012 occurred in 2010. It measured 2,275 cfs, which is between a 2-yr storm (1,613 cfs) and a 5-year storm (5,930 cfs).

Groundwater Levels

From a contour map that was based on 2006 depth to water information, it estimated that the flow direction at the NAUSP is to the northwest. Just south of the NAUSP, near the Glendale Municipal Airport, the flow direction appears to be to the west. Annual production maps, which show the annual production total for each well that reported, were created for 2006-2011. This visual presentation showed where production occurred in the vicinity of the NAUSP. MW-1, MW-2, MW-3, POC-1, MW-5 (POC-2), MW-8, and PZ-6 all have production wells within 1 to 1-1/2 mile of each of them. No significant production occurs nearby MW-4. These maps do not offer information that makes it possible to relate the impact of the production on the monitoring wells for the NASUP. NAUSP

monitoring well hydrographs reveal that local production appears to impact the depth to water under the NAUSP on a regional basis – a general rise or decrease of the water table. The monitoring well hydrographs are smooth and not "spiky". The historic production records would be of more value to the NAUSP operations in a NAUSP operational model where the totals would be disaggregated into monthly or daily totals.

Soils

A map that shows the location of soil samples that were collected in 2004 from the sediment beneath the then proposed NAUSP basins is shown in Figure 1. These samples were collected for SRP using a geoprobe. Because these basins were graded after these samples were collected, HydroSystems (HSI) staff used these samples to estimate the composition of the sediment immediately under the current basins. The sediment is either fine sand or a medium to fine sand with occasional gravel. Based on this map, it appears that the basins with the best percolation rates may be 2 and 6 and portions of 2 and 5.

Recharge Rates/Volumes

The following observations were made by comparing and/or attempting to compare NAUSP monitoring well hydrographs to the daily and monthly wetted acreage by basin, NAUSP monthly recharge totals, and flows in New River during the October 2006 through 2009 time period. In a few cases, 2010 and 2011 monthly wetted acreage by basin were consulted to assist with an understanding. Following these observations are a list of recommendations that were compiled as the NAUSP data were reviewed. Conclusions listed below should be refined with future monitoring.

a) Depth to water fluctuations in the hydrographs suggest that MW-1 (POC-4), MW-2, MW-3 (POC-3), and POC-1 respond more readily to the recharge at the NAUSP than do MW-4, MW-5 (POC-2), MW-8, PZ-6, and RID-70. The monitor wells that do not respond as readily are all further away from the facility and it is likely that the daily, weekly, and monthly increases and decreases in recharge not observed in these wells. These wells show a more regional response to the recharge facility.
b) The hydrographs for MW-2 and MW-3 (POC-3) show more of the mound effect than the other hydrographs.
c) Historic stream flows in New River between March 7, 2007 and December 31, 2009 suggest that the depths to water in the monitoring wells nearest the river are affected by stream flows. These monitoring wells include MW-1 (POC-4), MW-2, MW-3 (POC-3), MW-4, MW-5 (POC-2), and POC-1. It is estimated that the following stream flow events impacted depth to water in the listed wells; of course, some stream flow events were more noticeable than others. Note that depth to water increases were only estimated for two events. Because there are so many variables changing at the same time, these estimates should be confirmed or refuted through an NAUSP operational model that focuses on surface water, the vadose zone, and the shallowest groundwater.
    i) Mid-Aug-07: MW-1 (POC-4); MW-2; MW-3 (POC-3); MW-4; POC-1
    ii) (possibly) End of Nov-07 & early Dec-07 : MW-1 (POC-4), MW-4, POC-1
    iii) Jan-08 & Feb-08: MW-1 (POC-4) ~ 5 ft; MW-2 ~ 1 ft; MW-3 (POC-3) ~ 3 ft; MW-4 ~3 ft; MW-5 (POC-2) ~5 ft; POC-1 ~10 ft
    iv) Jul-08: MW-1 (POC-4); MW-2; MW-4; MW-5 (POC-2); POC-1
    v) Feb-09 through Apr-09: MW-1 (POC-4) ~ 10 ft; MW-2 ~ 10 ft; MW-3 (POC-3) ~ 10 ft; MW-4 ~ 5-10 ft ; MW-5 (POC-2) ~5-10 ft; POC-1 ~ 15 ft

vi) (possibly) Aug-09: MW-1 (POC-4); POC-1

d) Fluctuations in depth to water in MW-8, PZ-6, RID-70 associated with stream flow in New River are not obvious.
e) It is roughly estimated that a response to the NAUSP startup took two weeks for MW-2 and MW-3 (POC-3) and four weeks for MW-1 (POC-4) and POC-1. These estimates were made without the knowledge of what the New River flows were at that time as New River measurements were not made between August 24, 2006 and March 07, 2007. It is not readily apparent how long it took initial recharge to affect depth to water at MW-4, MW-5 (POC-2), MW-8, PZ-6, and RID-70.

A comparison of monthly total recharge and total wetted acreage to the monthly infiltration rate does not review any obvious trends in basin performance. There is no daily or monthly consistency in which basins were filled and how full they were, thus it is not readily apparent whether certain basins percolate better or worse.

Water Quality

The 2007 quarterly water quality sample results for the delivery weirs 1, 2, and 3 were compared an April 2012 quarterly sample of treated effluent from the Butler Plant. These data do not show any obvious reason why one source of water would percolate faster than the other.

Overall Impacts

Net depth to water changes measured in the outer monitoring wells between October 2006 (facility startup) and end of May 2012 are:

f) a 55 ft increase at MW-4 (168 ft bls to 113 ft bls);
g) a 61 ft increase at MW-8 (178 ft bls to 117 ft bls);
h) a 41 ft increase at PZ-6 (150 ft bls to 109 ft bls); and,
i) a 43 ft increase at MW-5 (POC-2) (129 ft bls to 86 ft bls).
j) A 10 ft increase at RID-70 (132 ft bls to 122 ft bls) occurred between January 2007 to November 2011.

It is likely that these increases are mostly attributable to a regional increase associated with NAUSP recharge; however, these increases were not adjusted to consider changes in production during this time. The period of recharge considered for all but RID-70 is 67 months, and the period for RID-70 is 59 months.

Operational Issues

The basins appear to be operated with no daily or monthly consistency in which basins were filled and how full they were. With so many variables and so little “control”, it is hard to discern cause and effect relationships between the daily and monthly wetted acreage totals for each basin, monthly recharge totals, and the monitoring well hydrographs by looking at graphs and tabular data. Factors such as New River flow, storm events, local production, and to a lesser extent Agua Fria flow likely impact the depth to water in the monitoring wells. An NAUSP operational model would be a more effective tool to determine cause and effective relationships.

Recommendations

1. Add more control to the recharge effort. Consider completely filling (and keeping full) a set number of basins, perhaps three to four at a time, for a set period of time, perhaps two to three months. Then change the filled basins by dropping one basin and replacing it with a different basin not already test. For instance, start with basins 2, 1, 6, and 5. Three months later drop basin 2 and add basin 4. Do this systematically until each basin has been isolated once. During this testing time period, estimate monthly recharge per basin and continue making daily depth to water measurements in the monitoring wells. Impacts due to river flow, local storm events, and significant changes in production will need to be considered.
2. Measurement basin fullness rather than estimate it.
3. Develop an NAUSP operational model that integrates surface water, the vadose zone, and the shallowest groundwater to assist staff in understanding NAUSP's real-world operational constraints and freedoms. This is necessary to properly address the recharge associated with streamflow, the NAUSP, and rainfall, as well as consider the vadose zone soils underlying the NAUSP. At a minimum, the operations model should include: daily basin recharge, daily monitoring well depth to water measurements, local production volumes (preferably disaggregated to daily or monthly totals), daily New River and Agua Fria flows, local rainfall, daily evaporation, and local lithologic information. An operations model will take time to construct and test; however, an operations model can be used to assess and test the 4-dimensional relationships between monitoring well water levels, NAUSP recharge, river flows, storm events, and production. If the basins are operated as suggested in the first recommendation, these data will be especially important to the operational model. An operations model can be used as a predictive tool. It will make it possible to run the NAUSP as efficiently, economically, and safely as possible.

   In lieu of an operations model, graphs can be used to assist with monitoring NAUSP recharge efforts; however, the graphs that we obtained are insufficient. More robust graphs need to be created. Although it will take less time to create graphs as compared to an operations model, it will still take time to prepare them and to update and review them on a regular basis. The down-side to using graphs to manage a facility like NAUSP is that there is a risk that the reviewer will miss important relationship that an operations model will reveal. These relationships may result in cost savings and increased safety in operation. Furthermore, graphs are not the correct tool to estimate impacts from potential scenarios.
4. If graphs will be used to manage the NAUSP, the following graphs should be created to assist with monitoring basin performance: by monitoring well, a yearly plot showing daily recharge by basin (as individual line graphs), total daily recharge (recharge from all of the basins as one line), annotated flow information from New River (daily or event volumetric totals), and the alert level (a line).
5. Model (using a surface water, vadose zone, and uppermost groundwater model) how a 100-year flood in the Agua Fria and/or New River, or a series of "wet winters" would impact the depth to water under the NAUSP. The alert level at MW-1 (POC-4) is 10 ft bls. Since the NAUSP has been in operation, the depth to water in MW-1 (POC-4) has been as shallow as 44 ft bls. The NAUSP has not yet recharged the full permitted volume, nor for continuous years. Is there enough space to accommodate the rest of the planned recharge? Is there enough space to accommodate the rest of the planned recharge with percolated storm flow added to it? Determine whether any alert levels should be changed (lowered) to protect public safety.

Consider whether it would be beneficial to install several production wells southeast of the facility to draw down the mound under the NAUSP.

<u>* Tasks not completed due to budget constraint</u>

1. Create monitoring well hydrographs with 2010 and 2011 depth to water measurements.
2. Compare daily operation and New River flows to 2010 and 2010 hydrographs.
3. Thoroughly compare daily operation data to monitoring well hydrographs.
4. Compare the water quality of water going into NAUSP from Weirs 1, 2, 3, City of Glendale Effluent Weir, City of Peoria Effluent Weir, and the Drain/Overflow Weir.
5. Thoroughly review historic surface flow records for the Agua Fria to get a better understanding of their impact on the NAUSP monitoring wells.
6. Consider if and how the operation of the New River Dam and the Adobe Dam affect the New River in the vicinity of the NAUSP recharge facility.
7. Consider how the operation of the Lake Pleasant dam affects the Agua Fria in the vicinity of the NAUSP recharge facility.
8. Identify the exact location of PZ-6.
9. Identify the perforated intervals for: PZ-6, MW-8, (final perforated interval) MW-5 (POC-2).
10. Obtain depth to water information for RID-70 for October 2006 to mid-January 2007 and January 2012 to end of May 2012.
11. Extend the production we generated to show RID-70 and the production wells in the vicinity of RID-70.
12. Adjust the estimate net increases in depth to water measured during the startup of the NAUSP and end of May 2012 to consider the net change in depth to water due to production during this same time.
13. Estimate the aquifer parameters that can be estimated using the facility data.
14. Review the modeling summary for submitted with the NAUSP USF and APP.

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 01DDA	333230112121001	01/01/73	208		S	923	R
A-02-01 01DDA	333230112121001	04/01/73	205.8		S	925.2	R
A-02-01 01DDA	333230112121001	02/20/62	216.8		U	914.2	R
A-02-01 01DDA	333230112121001	02/15/63	215.6		B	915.4	V
A-02-01 01DDA	333230112121001	01/18/72	209.6		B	921.4	V
A-02-01 01DDA	333230112121001	04/18/77	266		S	865	R
A-02-01 01DDA	333230112121001	02/01/78	224		S	907	R
A-02-01 01DDA	333230112121001	01/01/79	225		S	906	R
A-02-01 01DDA	333230112121001	04/11/79	217		S	914	R
A-02-01 01DDA	333230112121001	05/16/79	216		S	915	R
A-02-01 01DDA	333230112121001	12/20/79	213		S	918	R
A-02-01 01DDA	333230112121001	05/12/80	207		S	924	R
A-02-01 01DDA	333230112121001	01/01/81	200		S	931	R
A-02-01 01DDA	333230112121001	12/02/82	196		A	935	V
A-02-01 01DDA	333230112121001	12/10/84	197.7		A	933.3	V
A-02-01 01DDA	333230112121001	06/19/86	223.1	P	A	908	V
A-02-01 01DDA	333230112121001	11/11/91	188.3		A	942.7	V
A-02-01 01DDA	333230112121001	08/15/89	228.1	P	A	903	V
A-02-01 01DDA	333230112121001	11/27/02	238.6		A	892.4	V
A-02-01 01DDA	333230112121001	02/04/09	226.6		A	904.4	V
A-02-01 02DDD1	333222112131501	07/28/50	80			1034.2	R
A-02-01 02DDD1	333222112131501	12/21/28	16		D	1098.2	R
A-02-01 02DDD1	333222112131501	12/27/45	59		U	1055.2	
A-02-01 02DDD1	333222112131501	10/22/48	73		U	1041.2	
A-02-01 02DDD1	333222112131501	02/20/62	212.61		U	901.59	
A-02-01 02DDD1	333222112131501	12/26/62	194.01		U	920.19	
A-02-01 02DDD1	333222112131501	09/28/82		W	A		
A-02-01 02DDD2	333222112131601	01/23/63	205			909	R
A-02-01 02DDD2	333222112131601	02/20/63	211.7		S	902.3	R
A-02-01 02DDD2	333222112131601	02/01/78	216		S	898	R
A-02-01 02DDD2	333222112131601	01/01/79	210		S	904	R
A-02-01 02DDD2	333222112131601	12/20/79	204		S	910	R
A-02-01 02DDD2	333222112131601	05/12/80	189		S	925	
A-02-01 02DDD2	333222112131601	01/01/81	189		S	925	
A-02-01 02DDD2	333222112131601	11/11/97	168.8		A	945	V
A-02-01 03AAC	333258112142601	02/13/62	218.45		U	879.55	S
A-02-01 03BBA	333305112150501	12/07/82	140.8		A	955.2	V
A-02-01 03BBA	333305112150501	11/04/91	149.4		A	946.6	V
A-02-01 03BBA	333305112150501	10/31/97	149.3	P	A	947	V
A-02-01 04BBA2	333304112160401	12/27/62	156.12		A	927.88	S
A-02-01 04BBA2	333304112160401	01/18/72	159		B	925	V
A-02-01 04BBA2	333304112160401	12/17/76	174.3		U	909.7	
A-02-01 04BBA2	333304112160401	12/01/82	152.2		A	931.8	V
A-02-01 04BBA2	333304112160401	12/14/84	134		A	950	V
A-02-01 04BBA2	333304112160401	11/04/91		W	A		
A-02-01 04CBB2	333238112161601	12/27/62	158.98		U	917.02	*
A-02-01 04CBB2	333238112161601	01/18/72	156		B	920	V
A-02-01 04CBB2	333238112161601	12/01/82	147.8		A	928.2	V
A-02-01 04CBB2	333238112161601	12/14/84	124.3		A	951.7	V
A-02-01 04CBB2	333238112161601	06/09/87	153.3	P	A	923	V
A-02-01 04CBB2	333238112161601	11/04/91	134.6		A	941.4	V
A-02-01 04CBB2	333238112161601	07/15/93	176.7	P	A	899	V
A-02-01 04CBB2	333238112161601	11/18/97	144.7		A	931	V
A-02-01 04CBB2	333238112161601	11/20/02	173.5		A	902.5	V
A-02-01 04CBB2	333238112161601	09/10/04	184.2		A	891.8	V
A-02-01 04CBB2	333238112161601	01/13/05	179.3		A	896.7	V
A-02-01 04CBB2	333238112161601	12/20/05	177.7		A	898.3	V
A-02-01 04CBB2	333238112161601	03/06/07	178		A	898	V
A-02-01 04CBB2	333238112161601	12/13/07	170.8		A	905.2	V
A-02-01 04CBB2	333238112161601	12/09/09	149.2		A	926.8	V
A-02-01 04CBB2	333238112161601	12/07/10	150.8		A	925.2	V
A-02-01 04DAA	333240112152001	02/13/62	217.1		U	869.9	

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 04DAA	333240112152001	12/28/62	162.28		U	924.72	
A-02-01 04DAA	333240112152001	12/01/82	133.38		A	953.62	S
A-02-01 04DAA	333240112152001	12/12/84	119.7		A	967.3	V
A-02-01 04DAA	333240112152001	11/04/91		W	A		
A-02-01 04DDD	333217112151701	01/10/56	120.82		U	956.18	S
A-02-01 04DDD	333217112151701	02/06/57	131.82		U	945.18	S
A-02-01 04DDD	333217112151701	01/10/58	139.87		U	937.13	S
A-02-01 04DDD	333217112151701	01/08/59	158.3		U	918.7	S
A-02-01 04DDD	333217112151701	11/24/66	171.15		U	905.85	S
A-02-01 04DDD	333217112151701	02/10/67	164.2		U	912.8	S
A-02-01 04DDD	333217112151701	01/11/68	160.08		U	916.92	S
A-02-01 05BAB	333303112165801	01/19/72	202		B	889	V
A-02-01 05BAB	333303112165801	12/17/76	218.8		U	872.2	
A-02-01 05BAB	333303112165801	08/28/62	258.1	P	U	832.9	V
A-02-01 05BBB	333303112171401	08/27/62	253.7	P	U	842.3	V
A-02-01 05CAC	333226112165901	12/01/82	155.9		A	906.1	V
A-02-01 06ACC	333237112175001	11/20/91	185.2		A	887	V
A-02-01 06ACC	333237112175001	11/05/97	190		A	882	V
A-02-01 06BAA	333300112175501	12/13/62	204.31		U	858.69	S
A-02-01 06BAA	333300112175501	12/27/62	183.06		U	879.94	S
A-02-01 06BBA	333303112180701	01/19/72	210		U	853	V
A-02-01 06BBA	333303112180701	12/02/82	189.7		A	873.3	V
A-02-01 06BDD	333243112175801	04/14/03	189.6		A	874.4	V
A-02-01 06CDD	333213112175801	04/14/03	157.5		A	890.5	V
A-02-01 07ADC	333147112173001	02/18/54	133.38		U	922.62	S
A-02-01 07ADC	333147112173001	02/01/62	248.99		U	807.01	S
A-02-01 07ADC	333147112173001	02/13/62	190.65		U	865.35	S
A-02-01 07ADC	333147112173001	12/26/62	182.93		U	873.07	S
A-02-01 07ADC	333147112173001	12/02/82	158.1		A	897.9	S
A-02-01 07ADC	333147112173001	12/12/84	131.6		A	924.4	V
A-02-01 07ADC	333147112173001	11/04/91		W	A		
A-02-01 08CAA	333145112165001	01/17/72	182		B	870	V
A-02-01 08CAA	333145112165001	12/16/76	185.5		U	866.5	
A-02-01 08CAA	333145112165001	12/01/82	144.3		A	907.7	V
A-02-01 08CAA	333145112165001	12/14/84	118.2		A	933.8	V
A-02-01 08CAA	333145112165001	08/25/89	169	P	A	883	V
A-02-01 08CAA	333145112165001	12/11/89	126.3		A	925.7	V
A-02-01 08CAA	333145112165001	11/04/91	132.7		A	919.3	V
A-02-01 08CAA	333145112165001	07/15/93	128.8	P	A	923	V
A-02-01 08CAA	333145112165001	11/18/97	135.7		A	916	V
A-02-01 08CAA	333145112165001	11/20/02	172.39		A	879.61	V
A-02-01 08CAA	333145112165001	12/10/08	83.4	X	A	968.6	V
A-02-01 08CDD2	333123112165501	01/17/72	182		B	864	V
A-02-01 08CDD2	333123112165501	11/04/82	148.5		A	897.5	V
A-02-01 08CDD2	333123112165501	12/14/84	116.5		A	929.5	V
A-02-01 08CDD2	333123112165501	06/10/87	140.2	P	A	906	V
A-02-01 08CDD2	333123112165501	08/25/89	159.8	P	A	886	V
A-02-01 08CDD2	333123112165501	12/11/89	124.6		A	921.4	V
A-02-01 08CDD2	333123112165501	11/04/91	130.5		A	915.5	V
A-02-01 08CDD2	333123112165501	11/18/97	132.6		A	913	V
A-02-01 08CDD2	333123112165501	11/20/02	174		A	872	V
A-02-01 08CDD2	333123112165501	12/10/08	85.5	X	A	960.5	V
A-02-01 08DDA1	333133112161901	04/04/46	55.25		U	1004.75	S
A-02-01 08DDA1	333133112161901	06/04/46	57.4		U	1002.6	S
A-02-01 08DDA1	333133112161901	07/29/46	57.35		U	1002.65	S
A-02-01 08DDA1	333133112161901	10/18/46	60.5		U	999.5	S
A-02-01 08DDA1	333133112161901	12/18/46	56.3		U	1003.7	S
A-02-01 08DDA1	333133112161901	03/25/47	58.8		U	1001.2	S
A-02-01 08DDD	333126112162201	02/20/62	193.3		U	862.7	S
A-02-01 08DDD	333126112162201	04/01/73	174		S	882	R
A-02-01 08DDD	333126112162201	02/15/63	183.7		B	872.3	V
A-02-01 08DDD	333126112162201	02/01/78	198		S	858	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 08DDD	333126112162201	12/21/78	177		S	879	R
A-02-01 08DDD	333126112162201	12/26/78	179		S	877	R
A-02-01 08DDD	333126112162201	01/02/79	177		S	879	R
A-02-01 08DDD	333126112162201	01/09/79	177		S	879	R
A-02-01 08DDD	333126112162201	01/16/79	177		S	879	R
A-02-01 08DDD	333126112162201	01/23/79	177		S	879	R
A-02-01 08DDD	333126112162201	01/30/79	177		S	879	R
A-02-01 08DDD	333126112162201	02/13/79	177		S	879	R
A-02-01 08DDD	333126112162201	02/20/79	177		S	879	R
A-02-01 08DDD	333126112162201	02/27/79	177		S	879	R
A-02-01 08DDD	333126112162201	03/06/79	177		S	879	R
A-02-01 08DDD	333126112162201	03/13/79	176		S	880	R
A-02-01 08DDD	333126112162201	03/29/79	176		S	880	R
A-02-01 08DDD	333126112162201	04/03/79	177		S	879	R
A-02-01 08DDD	333126112162201	04/10/79	176		S	880	R
A-02-01 08DDD	333126112162201	04/11/79	176		S	880	R
A-02-01 08DDD	333126112162201	04/17/79	177		S	879	R
A-02-01 08DDD	333126112162201	04/24/79	176		S	880	R
A-02-01 08DDD	333126112162201	05/01/79	177		S	879	R
A-02-01 08DDD	333126112162201	05/08/79	176		S	880	R
A-02-01 08DDD	333126112162201	05/15/79	176		S	880	R
A-02-01 08DDD	333126112162201	05/16/79	177		S	879	R
A-02-01 08DDD	333126112162201	05/22/79	177		S	879	R
A-02-01 08DDD	333126112162201	05/29/79	176		S	880	R
A-02-01 08DDD	333126112162201	06/05/79	176		S	880	R
A-02-01 08DDD	333126112162201	12/20/79	161		S	895	R
A-02-01 08DDD	333126112162201	02/19/80	159		S	897	R
A-02-01 08DDD	333126112162201	02/26/80	156		S	900	R
A-02-01 08DDD	333126112162201	03/07/80	155		S	901	R
A-02-01 08DDD	333126112162201	03/11/80	155		S	901	R
A-02-01 08DDD	333126112162201	03/19/80	153		S	903	R
A-02-01 08DDD	333126112162201	04/02/80	151		S	905	R
A-02-01 08DDD	333126112162201	04/09/80	177		S	879	R
A-02-01 08DDD	333126112162201	04/16/80	151		S	905	R
A-02-01 08DDD	333126112162201	04/23/80	154		S	902	R
A-02-01 08DDD	333126112162201	04/30/80	196		S	860	R
A-02-01 08DDD	333126112162201	05/12/80	151		S	905	R
A-02-01 08DDD	333126112162201	01/01/81	136		S	920	R
A-02-01 08DDD	333126112162201	07/25/89	240.8	P	A	815.2	V
A-02-01 08DDD	333126112162201	11/05/91	130		A	926	V
A-02-01 08DDD	333126112162201	11/11/97	132.9		A	923.1	V
A-02-01 08DDD	333126112162201	11/30/98	110.2		A	945.8	V
A-02-01 08DDD	333126112162201	11/01/99	126.9		A	929.1	V
A-02-01 08DDD	333126112162201	11/21/00	136.1		A	919.9	V
A-02-01 08DDD	333126112162201	10/26/01		O	A		
A-02-01 08DDD	333126112162201	12/23/02	181.6		A	874.4	V
A-02-01 08DDD	333126112162201	01/06/04	196.3		A	859.7	V
A-02-01 08DDD	333126112162201	12/22/04	188.2		A	867.8	V
A-02-01 08DDD	333126112162201	12/29/05	177.1		A	878.9	V
A-02-01 08DDD	333126112162201	01/18/07	172.4		A	883.6	V
A-02-01 08DDD	333126112162201	01/08/08	185.9		A	870.1	V
A-02-01 08DDD	333126112162201	12/02/08	124.2		A	931.8	V
A-02-01 08DDD	333126112162201	12/15/09	113.3		A	942.7	V
A-02-01 08DDD	333126112162201	12/01/10	102.6		A	953.4	V
A-02-01 09CBB2	333148112161701	09/30/51	102			958	R
A-02-01 09CBB2	333148112161701	01/18/72	172		B	888	V
A-02-01 09CBB2	333148112161701	06/09/87	138.5	P	A	922	V
A-02-01 09CBB2	333148112161701	08/25/89	163	P	A	897	V
A-02-01 09CBB2	333148112161701	12/11/89	117.6		A	942.4	V
A-02-01 09CBB2	333148112161701	11/04/91	127.2		A	932.8	V
A-02-01 09CBB2	333148112161701	07/15/93	149.4	P	A	911	V
A-02-01 09CBB2	333148112161701	11/18/97	127.6		A	932	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 09CBB2	333148112161701	11/20/02	170.1		A	889.9	V
A-02-01 09CBB2	333148112161701	12/10/08	121		A	939	V
A-02-01 09DDD1	333128112152101	02/21/62	185.6			880.6	R
A-02-01 09DDD2	333128112152001	02/21/62	185.6		S	880.4	R
A-02-01 09DDD2	333128112152001	12/26/62	196.48		S	869.52	R
A-02-01 09DDD2	333128112152001	01/19/72	169		S	897	R
A-02-01 09DDD2	333128112152001	01/01/73	166		S	900	R
A-02-01 09DDD2	333128112152001	04/01/73	161.8		S	904.2	R
A-02-01 09DDD2	333128112152001	12/16/76	169.3		S	896.7	R
A-02-01 09DDD2	333128112152001	02/01/78	183		S	883	R
A-02-01 09DDD2	333128112152001	01/01/79	161		S	905	R
A-02-01 09DDD2	333128112152001	04/11/79	158		S	908	R
A-02-01 09DDD2	333128112152001	05/16/79	155		S	911	R
A-02-01 09DDD2	333128112152001	12/20/79	146		S	920	R
A-02-01 09DDD2	333128112152001	05/12/80	141		S	925	R
A-02-01 09DDD2	333128112152001	01/01/81	122		S	944	R
A-02-01 09DDD2	333128112152001	12/06/82	124.8		A	941.2	V
A-02-01 09DDD2	333128112152001	12/14/84	112.3		A	953.7	V
A-02-01 09DDD2	333128112152001	07/24/89	156.8	P	A	909	V
A-02-01 09DDD2	333128112152001	11/05/91	120		A	946	V
A-02-01 09DDD2	333128112152001	10/04/94	151.7	P	A	914	V
A-02-01 09DDD2	333128112152001	12/11/97	117.5		A	949	V
A-02-01 09DDD2	333128112152001	12/23/02	165.1		A	900.9	V
A-02-01 09DDD2	333128112152001	02/19/09	150.9	C	A	915.1	V
A-02-01 11BAA	333209112134201	08/22/90	231.4	P	A	873	V
A-02-01 11BAA	333209112134201	11/20/91	180.4		A	923.6	V
A-02-01 11BAA	333209112134201	11/05/97	156.8		A	947	V
A-02-01 11DDD1	333128112131601	07/08/50	85			1018.8	R
A-02-01 11DDD1	333128112131601	12/27/45	59		U	1044.8	
A-02-01 11DDD1	333128112131601	02/20/62	201.84		U	901.96	
A-02-01 11DDD2	333128112131701	12/20/62	207.55		U	896.45	
A-02-01 11DDD2	333128112131701	12/20/62	208		S	896	
A-02-01 11DDD2	333128112131701	04/01/73	196.5		U	907.5	
A-02-01 11DDD2	333128112131701	02/15/63	209.3		B	894.7	V
A-02-01 11DDD2	333128112131701	02/01/78	204		S	900	
A-02-01 11DDD2	333128112131701	01/01/79	184		S	920	
A-02-01 11DDD2	333128112131701	04/11/79	189		S	915	
A-02-01 11DDD2	333128112131701	05/16/79	191		S	913	
A-02-01 11DDD2	333128112131701	12/20/79	190		S	914	
A-02-01 11DDD2	333128112131701	05/12/80	170		S	934	
A-02-01 11DDD2	333128112131701	01/01/81	170		S	934	
A-02-01 11DDD2	333128112131701	12/02/82	167.3		A	936.7	V
A-02-01 11DDD2	333128112131701	08/08/89	242.7	P	A	861	V
A-02-01 11DDD2	333128112131701	11/11/97	154.2		A	950	V
A-02-01 11DDD2	333128112131701	11/20/02	193.8		A	910.2	V
A-02-01 11DDD2	333128112131701	02/18/09	194		A	910	V
A-02-01 12DDA	333138112121101	12/27/45	64		U	1062	S
A-02-01 12DDA	333138112121101	02/20/62	211.52		U	914.48	S
A-02-01 12DDA	333138112121101	01/01/73	208		S	918	R
A-02-01 12DDA	333138112121101	04/01/73	204		S	922	R
A-02-01 12DDA	333138112121101	02/15/63	216		B	910	V
A-02-01 12DDA	333138112121101	01/19/72	204		B	922	V
A-02-01 12DDA	333138112121101	11/15/76	213		S	913	R
A-02-01 12DDA	333138112121101	02/01/78	197		S	929	R
A-02-01 12DDA	333138112121101	02/17/78	250.8		S	875.2	R
A-02-01 12DDA	333138112121101	01/01/79	219		S	907	R
A-02-01 12DDA	333138112121101	04/11/79	213		S	913	R
A-02-01 12DDA	333138112121101	05/16/79	216		S	910	R
A-02-01 12DDA	333138112121101	12/20/79	207		S	919	R
A-02-01 12DDA	333138112121101	05/12/80	203		S	923	R
A-02-01 12DDA	333138112121101	01/01/81	202		S	924	R
A-02-01 12DDA	333138112121101	12/02/82	190.3		A	935.7	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 12DDA	333138112121101	12/10/84	180.2		A	945.8	V
A-02-01 12DDA	333138112121101	07/02/86	201	P	A	925	V
A-02-01 12DDA	333138112121101	11/11/91	177.7		A	948.3	V
A-02-01 12DDA	333138112121101	07/19/89	199.2	P	A	926.8	V
A-02-01 12DDA	333138112121101	10/04/94	213	P	A	913	V
A-02-01 12DDA	333138112121101	11/11/97	164.8		A	961.2	V
A-02-01 13CCC2	333037112130801	02/20/29	189.54		U	905.46	S
A-02-01 13CCC2	333037112130801	02/20/62	222.75		U	872.25	S
A-02-01 13CCC2	333037112130801	01/01/73	211		S	884	R
A-02-01 13CCC2	333037112130801	04/01/73	206.5		S	888.5	R
A-02-01 13CCC2	333037112130801	02/15/63	263.7		B	831.3	V
A-02-01 13CCC2	333037112130801	01/01/79	192		S	903	R
A-02-01 13CCC2	333037112130801	04/11/79	197		S	898	R
A-02-01 13CCC2	333037112130801	05/16/79	196		S	899	R
A-02-01 13CCC2	333037112130801	12/20/79	194		S	901	R
A-02-01 13CCC2	333037112130801	05/12/80	184		S	911	R
A-02-01 13CCC2	333037112130801	01/01/81	174		S	921	R
A-02-01 13CCC2	333037112130801	12/02/82	182.1		A	912.9	V
A-02-01 13CCC2	333037112130801	12/10/84	173.4		A	921.6	V
A-02-01 13CCC2	333037112130801	11/06/91	181.2		A	913.8	V
A-02-01 13CCC2	333037112130801	06/28/94	216.4	P	A	879	V
A-02-01 13CCC2	333037112130801	11/11/97	156.2	V	A	939	V
A-02-01 13CCC2	333037112130801	11/21/02	202.89		A	892.11	V
A-02-01 14ACC	333059112134201	01/01/73	292		S	798	R
A-02-01 14ACC	333059112134201	04/01/73	184		S	906	R
A-02-01 14ACC	333059112134201	02/01/78	194		S	896	R
A-02-01 14ACC	333059112134201	01/01/79	183		S	907	R
A-02-01 14ACC	333059112134201	04/11/79	181		S	909	R
A-02-01 14ACC	333059112134201	05/16/79	180		S	910	R
A-02-01 14ACC	333059112134201	12/20/79	172		S	918	R
A-02-01 14ACC	333059112134201	05/12/80	165		S	925	R
A-02-01 14ACC	333059112134201	01/01/81	154		S	936	R
A-02-01 14ACC	333059112134201	08/13/86	232.9	P	A	857	V
A-02-01 14ACC	333059112134201	08/23/89	230.2	P	A	860	V
A-02-01 14ACC	333059112134201	11/05/91	157.4		A	932.6	V
A-02-01 14ACC	333059112134201	11/14/97	147.3		A	943	V
A-02-01 14ACC	333059112134201	11/25/02	195.8		A	894.2	V
A-02-01 14ACC	333059112134201	02/04/09	191.9		A	898.1	V
A-02-01 14BBA	333122112140901	02/20/62	197.45		U	887.55	S
A-02-01 14BBA	333122112140901	12/26/62	199.37		U	885.63	S
A-02-01 14BBA	333122112140901	01/18/72	186		B	899	R
A-02-01 14BBA	333122112140901	01/01/73	183		S	902	R
A-02-01 14BBA	333122112140901	04/01/73	175.8		S	909.2	R
A-02-01 14BBA	333122112140901	06/09/77	241		S	844	R
A-02-01 14BBA	333122112140901	02/01/78	192		S	893	R
A-02-01 14BBA	333122112140901	01/01/79	178		S	907	R
A-02-01 14BBA	333122112140901	04/11/79	176		S	909	R
A-02-01 14BBA	333122112140901	05/16/79	174		S	911	R
A-02-01 14BBA	333122112140901	12/20/79	173		S	912	R
A-02-01 14BBA	333122112140901	05/12/80	165		S	920	R
A-02-01 14BBA	333122112140901	01/01/81	152		S	933	R
A-02-01 14BBA	333122112140901	09/28/82	154.5		A	930.5	V
A-02-01 14BBA	333122112140901	12/02/82	143.7		A	941.3	V
A-02-01 14BBA	333122112140901	12/10/84	138.5		A	946.5	V
A-02-01 14BBA	333122112140901	12/12/85	129.5		A	955.5	V
A-02-01 14BBA	333122112140901	06/05/86	128.3		A	956.7	V
A-02-01 14BBA	333122112140901	12/01/86	128.4		A	956.6	V
A-02-01 14BBA	333122112140901	11/05/91	147.2		A	937.8	V
A-02-01 14BBA	333122112140901	06/04/87	123.9		A	961.1	V
A-02-01 14BBA	333122112140901	12/18/87	119.7		A	965.3	V
A-02-01 14BBA	333122112140901	06/08/88	119.3		A	965.7	V
A-02-01 14BBA	333122112140901	12/06/88	157.4	P	A	927.6	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 14BBA	333122112140901	08/23/89	206.4	P	A	878.6	V
A-02-01 14BBA	333122112140901	01/22/91	150.3	R	A	934.7	V
A-02-01 14BBA	333122112140901	12/02/92	136.3		S	948.7	V
A-02-01 14BBA	333122112140901	12/01/93	126.7		S	958.3	V
A-02-01 14BBA	333122112140901	12/14/94	130.8		A	954.2	V
A-02-01 14BBA	333122112140901	11/15/95	133.2		A	951.8	V
A-02-01 14BBA	333122112140901	11/04/96	133.1		A	951.9	V
A-02-01 14BBA	333122112140901	11/14/97	143		A	942	V
A-02-01 14BBA	333122112140901	11/30/98	183.1	P	A	901.9	V
A-02-01 14BBA	333122112140901	11/12/99	207.4	P	A	877.6	V
A-02-01 14BBA	333122112140901	11/21/00	210.1	P	A	874.9	V
A-02-01 14BBA	333122112140901	10/26/01	222.9	P	A	862.1	V
A-02-01 14BBA	333122112140901	11/25/02	189.69		A	895.31	V
A-02-01 14BBA	333122112140901	12/15/03	194.6		A	890.4	V
A-02-01 14BBA	333122112140901	12/22/04		O			V
A-02-01 14BBA	333122112140901	12/29/05	185.7		A	899.3	V
A-02-01 14BBA	333122112140901	01/08/08	183		A	902	V
A-02-01 14BBA	333122112140901	12/02/08	175.9		A	909.1	V
A-02-01 14BBA	333122112140901	12/15/09	170.9		A	914.1	V
A-02-01 14BBA	333122112140901	12/01/10	160.7		A	924.3	V
A-02-01 14BBB	333122112141001	03/21/46	45.39		U	1039.61	S
A-02-01 14BBB	333122112141001	01/18/72	186		B	899	V
A-02-01 14CCC	333035112140901	01/01/73	289		S	788	R
A-02-01 14CCC	333035112140901	04/01/73	188.5		S	888.5	R
A-02-01 14CCC	333035112140901	02/01/78	301		S	776	R
A-02-01 14CCC	333035112140901	01/01/79	175		S	902	R
A-02-01 14CCC	333035112140901	04/11/79	177		S	900	R
A-02-01 14CCC	333035112140901	05/16/79	178		S	899	R
A-02-01 14CCC	333035112140901	12/20/79	165		S	912	R
A-02-01 14CCC	333035112140901	05/12/80	156		S	921	R
A-02-01 14CCC	333035112140901	01/01/81	153		S	924	R
A-02-01 14CCC	333035112140901	11/06/91	141.9		A	935.1	V
A-02-01 14CCC	333035112140901	11/11/97	137.9		A	939	V
A-02-01 14CCC	333035112140901	11/21/02	184.89		A	892.11	V
A-02-01 14CCC	333035112140901	02/04/09	171.8	V	A	905.2	V
A-02-01 15ABB	333122112144401	02/20/62	196.4		U	876.6	S
A-02-01 15ABB	333122112144401	12/26/62	180.82		U	892.18	S
A-02-01 15ABB	333122112144401	01/01/73	169		S	904	R
A-02-01 15ABB	333122112144401	04/01/73	168		S	905	R
A-02-01 15ABB	333122112144401	01/19/72	171		B	902	V
A-02-01 15ABB	333122112144401	02/01/78	173		S	900	R
A-02-01 15ABB	333122112144401	01/01/79	165		S	908	R
A-02-01 15ABB	333122112144401	04/11/79	164		S	909	R
A-02-01 15ABB	333122112144401	05/16/79	160		S	913	R
A-02-01 15ABB	333122112144401	05/12/80	149		S	924	R
A-02-01 15ABB	333122112144401	01/01/81	135		S	938	R
A-02-01 15ABB	333122112144401	12/10/84	120.4		A	952.6	V
A-02-01 15ABB	333122112144401	08/21/89	185.1	P	A	887.9	V
A-02-01 15ABB	333122112144401	11/06/91	129.9		A	943.1	V
A-02-01 15ABB	333122112144401	06/15/94	182	P	A	891	V
A-02-01 15ABB	333122112144401	11/11/97	125.6		A	947.4	V
A-02-01 15CBB	333053112151201	04/10/46	44.6		U	1016.4	V
A-02-01 15CBB	333053112151201	10/05/46	46.9		U	1014.1	V
A-02-01 15CBB	333053112151201	02/27/47	44.9		U	1016.1	V
A-02-01 15CBB	333053112151201	10/28/47	62.3		U	998.7	V
A-02-01 15CBB	333053112151201	03/03/48	70.2		U	990.8	V
A-02-01 15CBB	333053112151201	10/21/48	72.4		U	988.6	V
A-02-01 15CBB	333053112151201	01/01/73	171		S	890	R
A-02-01 15CBB	333053112151201	04/01/73	215		S	846	R
A-02-01 15CBB	333053112151201	02/01/78	183		S	878	R
A-02-01 15CBB	333053112151201	01/01/79	161		S	900	R
A-02-01 15CBB	333053112151201	04/11/79	160		S	901	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 15CBB	333053112151201	05/16/79	159		S	902	R
A-02-01 15CBB	333053112151201	12/20/79	145		S	916	R
A-02-01 15CBB	333053112151201	05/12/80	141		S	920	R
A-02-01 15CBB	333053112151201	01/01/81	128		S	933	R
A-02-01 15CBB	333053112151201	01/09/85	111.7		A	949.3	V
A-02-01 15CBB	333053112151201	11/05/91	118		A	943	V
A-02-01 15CBB	333053112151201	10/03/94	136.9	P	A	924	V
A-02-01 15CBB	333053112151201	11/18/97	113		A	948	V
A-02-01 15CBB	333053112151201	11/20/02	161.69		A	899.31	V
A-02-01 15CBB	333053112151201	02/04/09	201.9		A	859.1	V
A-02-01 17ABB	333115112165001	02/13/62	186.4		U	862.6	S
A-02-01 17ABB	333115112165001	12/26/62	187.82		U	861.18	S
A-02-01 17BAA1	333116112165001	02/19/81	145.5		U	903.5	
A-02-01 17BAA1	333116112165001	01/11/82	150.8		U	898.2	V
A-02-01 17BAA1	333116112165001	12/01/82	141.4		A	907.6	V
A-02-01 17BAA1	333116112165001	12/14/84	118.9		A	930.1	V
A-02-01 17BAA1	333116112165001	11/04/91	131.2		A	917.8	V
A-02-01 17BAA1	333116112165001	12/08/83	121.1		A	928	S
A-02-01 17BAA1	333116112165001	09/09/76	259.4	P	U	789.6	V
A-02-01 17CAB1	333051112170201	05/01/46	88			955	R
A-02-01 17CAB2	333054112170301	01/18/72	183		B	860	V
A-02-01 17CAB2	333054112170301	12/01/82	141.6		A	901.4	V
A-02-01 17CAB2	333054112170301	12/16/76	190		U	853	V
A-02-01 17CAB2	333054112170301	12/14/84	115.2		A	927.8	V
A-02-01 17CAB2	333054112170301	06/10/87	141.6	P	A	901	V
A-02-01 17CAB2	333054112170301	08/25/89	152.6	P	A	890	V
A-02-01 17CAB2	333054112170301	12/11/89	121.8		A	921.2	V
A-02-01 17CAB2	333054112170301	11/04/91	129.7		A	913.3	V
A-02-01 17CAB2	333054112170301	07/13/93	129.6	P	A	913	V
A-02-01 17CAB2	333054112170301	11/18/97	130		A	913	V
A-02-01 17CAB2	333054112170301	11/20/02	171.6		A	871.4	V
A-02-01 17CAB2	333054112170301	12/10/08	106.9		A	936.1	V
A-02-01 17DDD1	333034112162401	12/27/45	53.5			990.3	R
A-02-01 17DDD2	333034112162501	01/09/63	188.98		S	855.02	R
A-02-01 17DDD2	333034112162501	01/01/73	180		S	864	R
A-02-01 17DDD2	333034112162501	04/01/73	166.2		S	877.8	R
A-02-01 17DDD2	333034112162501	02/15/63	192.5		B	851.5	V
A-02-01 17DDD2	333034112162501	02/01/78	184		S	860	R
A-02-01 17DDD2	333034112162501	12/21/78	169		S	875	R
A-02-01 17DDD2	333034112162501	12/26/78	168		S	876	R
A-02-01 17DDD2	333034112162501	01/01/79	169		S	875	R
A-02-01 17DDD2	333034112162501	01/02/79	168		S	876	R
A-02-01 17DDD2	333034112162501	01/09/79	166		S	878	R
A-02-01 17DDD2	333034112162501	01/16/79	167		S	877	R
A-02-01 17DDD2	333034112162501	01/23/79	166		S	878	R
A-02-01 17DDD2	333034112162501	01/30/79	165		S	879	R
A-02-01 17DDD2	333034112162501	02/13/79	164		S	880	R
A-02-01 17DDD2	333034112162501	02/20/79	164		S	880	R
A-02-01 17DDD2	333034112162501	02/27/79	164		S	880	R
A-02-01 17DDD2	333034112162501	03/06/79	164		S	880	R
A-02-01 17DDD2	333034112162501	03/13/79	164		S	880	R
A-02-01 17DDD2	333034112162501	03/20/79	161		S	883	R
A-02-01 17DDD2	333034112162501	03/29/79	160		S	884	R
A-02-01 17DDD2	333034112162501	04/03/79	161		S	883	R
A-02-01 17DDD2	333034112162501	04/10/79	160		S	884	R
A-02-01 17DDD2	333034112162501	04/11/79	160		S	884	R
A-02-01 17DDD2	333034112162501	04/17/79	159		S	885	R
A-02-01 17DDD2	333034112162501	04/24/79	160		S	884	R
A-02-01 17DDD2	333034112162501	05/01/79	160		S	884	R
A-02-01 17DDD2	333034112162501	05/08/79	159		S	885	R
A-02-01 17DDD2	333034112162501	05/15/79	158		S	886	R
A-02-01 17DDD2	333034112162501	05/16/79	158		S	886	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-02-01 17DDD2	333034112162501	05/22/79	158		S	886	R
A-02-01 17DDD2	333034112162501	05/29/79	159		S	885	R
A-02-01 17DDD2	333034112162501	06/05/79	158		S	886	R
A-02-01 17DDD2	333034112162501	12/20/79	145		S	899	R
A-02-01 17DDD2	333034112162501	02/19/80	140		S	904	R
A-02-01 17DDD2	333034112162501	02/26/80	139		S	905	R
A-02-01 17DDD2	333034112162501	03/07/80	140		S	904	R
A-02-01 17DDD2	333034112162501	03/11/80	138		S	906	R
A-02-01 17DDD2	333034112162501	03/19/80	137		S	907	R
A-02-01 17DDD2	333034112162501	04/02/80	136		S	908	R
A-02-01 17DDD2	333034112162501	04/09/80	135		S	909	R
A-02-01 17DDD2	333034112162501	04/16/80	135		S	909	R
A-02-01 17DDD2	333034112162501	04/23/80	136		S	908	R
A-02-01 17DDD2	333034112162501	04/30/80	135		S	909	R
A-02-01 17DDD2	333034112162501	05/12/80	135		S	909	R
A-02-01 17DDD2	333034112162501	01/01/81	121		S	923	R
A-02-01 17DDD2	333034112162501	07/01/86	139.7	P	A	904	V
A-02-01 17DDD2	333034112162501	07/24/89	140.8	P	A	903	V
A-02-01 17DDD2	333034112162501	11/05/91	119.6		A	924.4	V
A-02-01 17DDD2	333034112162501	06/27/94	138	P	A	906	V
A-02-01 17DDD2	333034112162501	11/14/97	114.3		A	930	V
A-02-01 17DDD2	333034112162501	11/19/02	165.19		A	878.81	V
A-02-01 17DDD2	333034112162501	02/19/09	135.5		A	908.5	V
A-02-01 18AAA1	333120112172301	02/06/57	137.84		U	903.16	S
A-02-01 18AAA1	333120112172301	01/20/58	150.72		U	890.28	S
A-02-01 18AAA1	333120112172301	02/02/60	148.04		U	892.96	S
A-02-01 18AAA1	333120112172301	02/16/61	163.52		U	877.48	S
A-02-01 18AAA1	333120112172301	02/02/62	171.59		U	869.41	S
A-02-01 18AAA1	333120112172301	12/26/62	179.76		U	861.24	S
A-02-01 18AAA1	333120112172301	02/13/64	187.1		U	853.9	S
A-02-01 18AAA1	333120112172301	12/07/64	191.8		U	849.2	S
A-02-01 18AAA1	333120112172301	01/24/66	189.87		U	851.13	S
A-02-01 18AAA1	333120112172301	01/17/67	188.31		U	852.69	S
A-02-01 18AAA1	333120112172301	01/31/69	182.2		U	858.8	
A-02-01 18AAA1	333120112172301	01/28/70	188.7		U	852.3	
A-02-01 18AAA1	333120112172301	01/17/72	187.8		U	853.2	
A-02-01 18AAA1	333120112172301	01/22/73	179.7		U	861.3	
A-02-01 18AAA1	333120112172301	01/12/74	166.2		U	874.8	
A-02-01 18AAA1	333120112172301	12/21/76	187.3		U	853.7	T
A-02-01 18AAA1	333120112172301	01/24/79	170.2		U	870.8	T
A-02-01 18AAA1	333120112172301	01/09/85	115		A	926	V
A-02-01 18AAA1	333120112172301	11/04/91	132.2		A	908.8	V
A-02-01 18AAA1	333120112172301	10/23/97	139.7		A	901	V
A-02-01 18AAA1	333120112172301	08/29/62	303.65	P	U	737.35	
A-03-01 01BBA	333817112125601	11/29/82	388.7		A	823.3	V
A-03-01 01BBA	333817112125601	12/06/84	375.1		A	836.9	V
A-03-01 01BBA	333817112125601	11/15/91	383.8		A	828.2	V
A-03-01 01CDC	333730112123801	01/01/72	332		S	875	R
A-03-01 01CDC	333730112123801	01/01/73	332		S	875	R
A-03-01 01CDC	333730112123801	04/01/73	334.8		S	872.2	R
A-03-01 01CDC	333730112123801	05/12/80	368		S	839	R
A-03-01 01CDC	333730112123801	01/01/81	368		S	839	R
A-03-01 01CDC	333730112123801	11/29/82	365.4		A	841.6	V
A-03-01 01CDC	333730112123801	12/12/84	351.5		A	855.5	V
A-03-01 01CDC	333730112123801	02/27/90	415	P	A	792	V
A-03-01 01CDC	333730112123801	12/02/02	412.6		A	794.4	V
A-03-01 01CDC	333730112123801	12/17/08	381.8		A	825.2	V
A-03-01 02BBB	333815112141001	04/16/97	464	P	A	741	V
A-03-01 02BBB	333815112141001	11/20/97	413.1		A	792	V
A-03-01 02BBB	333815112141001	12/08/98	396.3		A	809	V
A-03-01 02BBB	333815112141001	12/11/02	399		A	806	V
A-03-01 02BCC	333754112141101	11/29/82	343		A	848	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 02BCC	333754112141101	12/06/84	335.6		A	855.4	V
A-03-01 02BCC	333754112141101	02/27/90	409.7	P	A	781.3	V
A-03-01 02BCC	333754112141101	12/03/91	364.3		A	826.7	V
A-03-01 02CBB	333746112141201	11/03/99	409.1		A	780.9	V
A-03-01 02CBB	333746112141201	11/08/00	411.8		A	778.2	V
A-03-01 02CBB	333746112141201	12/21/04	380.9		A	809.1	V
A-03-01 02CBB	333746112141201	12/23/05	382.3		A	807.7	V
A-03-01 02CBB	333746112141201	12/27/06	386.7		A	803.3	V
A-03-01 02CBB	333746112141201	12/13/07	374.5		A	815.5	V
A-03-01 02CBB	333746112141201	12/19/08	368.6		A	821.4	V
A-03-01 02CBB	333746112141201	12/11/09	370.1		A	819.9	V
A-03-01 03ABA1	333817112142901	02/16/54	195.5		U	1008.5	S
A-03-01 03ABA1	333817112142901	11/29/82		W	A		
A-03-01 03ABA2	333817112143001	11/29/82	369.8		A	834.2	V
A-03-01 03ABA2	333817112143001	06/05/86	446	P	A	758	V
A-03-01 03ABA2	333817112143001	11/15/91	388		A	816	V
A-03-01 03ABB	333812112144401	08/24/62	419	P	U	782	V
A-03-01 03BDA	333801112144601	10/28/82		W	A		
A-03-01 03DCC	333727112143701	11/09/97		O	A		
A-03-01 03DCC	333727112143701	12/19/08		O	A		V
A-03-01 04BAA1	333816112154701	01/01/24	84.4		O	1117.6	R
A-03-01 04BAA1	333816112154701	01/01/25	94.1		O	1107.9	R
A-03-01 04BAA1	333816112154701	01/01/26	90.7		O	1111.3	R
A-03-01 04BAA1	333816112154701	01/29/27	87.3		O	1114.7	R
A-03-01 04BAA1	333816112154701	02/11/28	88.1		O	1113.9	R
A-03-01 04BAA1	333816112154701	02/06/29	92.9		O	1109.1	R
A-03-01 04BAA1	333816112154701	12/02/30	98.5		O	1103.5	R
A-03-01 04BAA1	333816112154701	11/18/31	97.5		O	1104.5	R
A-03-01 04BAA1	333816112154701	10/21/32	97.3		O	1104.7	R
A-03-01 04BAA1	333816112154701	10/26/33	95.3		O	1106.7	R
A-03-01 04BAA1	333816112154701	01/23/35	98.4		O	1103.6	R
A-03-01 04BAA1	333816112154701	12/13/35	99.2		O	1102.8	R
A-03-01 04BAA1	333816112154701	10/01/36	103		O	1099	R
A-03-01 04BAA1	333816112154701	02/01/39	111.8		O	1090.2	R
A-03-01 04BAA1	333816112154701	02/01/40	111.4		O	1090.6	R
A-03-01 04BAA1	333816112154701	02/01/41	112.9		O	1089.1	R
A-03-01 04BAA1	333816112154701	11/01/46	132.6		O	1069.4	R
A-03-01 04BAA1	333816112154701	02/17/49	159.12		U	1042.88	S
A-03-01 04BAA1	333816112154701	12/20/50	196.13	R	U	1006	S
A-03-01 04BAA1	333816112154701	11/14/51		W	U		
A-03-01 04BAA2	333817112154801	11/19/52	213.52		U	988.48	S
A-03-01 04BAA2	333817112154801	11/16/53	224.89		U	977.11	S
A-03-01 04BAA2	333817112154801	02/03/54	255.78		U	946.22	S
A-03-01 04BAA2	333817112154801	02/02/55	256.79		U	945.21	S
A-03-01 04BAA2	333817112154801	02/28/56	247.32		U	954.68	S
A-03-01 04BAA2	333817112154801	01/23/57	255.5		U	946.5	S
A-03-01 04BAA2	333817112154801	01/23/58	263.97		U	938.03	S
A-03-01 04BAA2	333817112154801	02/04/60	282.38		U	919.62	S
A-03-01 04BAA2	333817112154801	01/22/62	286.05		U	915.95	S
A-03-01 04BAA2	333817112154801	01/08/63	319.8		U	882.2	
A-03-01 04BAA2	333817112154801	01/26/65	325.58		U	876.42	S
A-03-01 04BAA2	333817112154801	12/31/65	329.46		U	872.54	S
A-03-01 04BAA2	333817112154801	01/24/66	327.7		U	874.3	S
A-03-01 04BAA2	333817112154801	01/17/68	331.74		U	870.26	S
A-03-01 04BAA2	333817112154801	03/17/69	338.8		U	863.2	
A-03-01 04BAA2	333817112154801	01/27/70	342		U	860	
A-03-01 04BAA2	333817112154801	01/26/71	346.7		U	855.3	
A-03-01 04BAA2	333817112154801	01/17/72	366		U	836	
A-03-01 04BAA2	333817112154801	01/26/73	341.3		U	860.7	
A-03-01 04BAA2	333817112154801	01/10/74	343.3		U	858.7	
A-03-01 04BAA2	333817112154801	12/11/86	388	S	A	814	V
A-03-01 04BAA2	333817112154801	12/16/87	387.3		A	814.7	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 04BAA2	333817112154801	06/06/88	390.4	S	A	811.6	V
A-03-01 04BAA2	333817112154801	12/05/88	393.3	S	A	808.7	V
A-03-01 04BAA2	333817112154801	11/28/89	394.2		A	807.8	V
A-03-01 04BAA2	333817112154801	11/18/92	404.1		A	797.9	V
A-03-01 04BAA2	333817112154801	11/19/93	403.9	S	A	798.1	V
A-03-01 04BAA2	333817112154801	11/23/94	405.5	S	A	796.5	V
A-03-01 04BAA2	333817112154801	12/21/95	407.9	S	A	794.1	V
A-03-01 04BAA2	333817112154801	12/04/96	409.9	S	A	792.1	V
A-03-01 04BAA2	333817112154801	12/03/97	412.2	S	A	789.8	V
A-03-01 04BAA2	333817112154801	12/10/98	413.3	S	A	788.7	V
A-03-01 04BAA2	333817112154801	11/04/99	419.4	S	A	782.6	V
A-03-01 04BAA2	333817112154801	11/08/00	420.5	S	A	781.5	V
A-03-01 04BAA2	333817112154801	01/13/03	410.85		A	791.15	V
A-03-01 04BAA2	333817112154801	08/10/62	407.1	P	U	794.9	S
A-03-01 04BAA2	333817112154801	01/08/04	417.7		A	784.3	V
A-03-01 04BAA2	333817112154801	01/04/05	411.9		A	790.1	V
A-03-01 04BAA2	333817112154801	01/06/06	409.9		B	792.1	V
A-03-01 04BAA2	333817112154801	12/28/06	409.4		A	792.6	V
A-03-01 04BAA2	333817112154801	12/13/07	409.2		A	792.8	V
A-03-01 04BAA2	333817112154801	04/10/04	410.4		A	791.6	V
A-03-01 04BAA2	333817112154801	12/22/09	402.6		A	799.4	V
A-03-01 04BAA3	333816112154801	12/05/85	480	P	A	723	V
A-03-01 04BAA3	333816112154801	06/04/86	495.3	P	A	708	V
A-03-01 04BAA3	333816112154801	06/03/87	491.9	P	A	711	V
A-03-01 04BAA3	333816112154801	12/05/97	415.4		A	788	V
A-03-01 04BAA3	333816112154801	01/13/03	0	O	A	0	V
A-03-01 04DBB	333751112154501	12/14/82	364.6		A	827.4	V
A-03-01 04DBB	333751112154501	12/18/84	360.5		A	831.5	V
A-03-01 04DBB	333751112154501	12/03/91	388.8		A	803.2	V
A-03-01 04DBB	333751112154501	12/01/97	394.4		A	798	V
A-03-01 04DBB	333751112154501	06/19/02	409.2		A	782.8	V
A-03-01 04DBB	333751112154501	03/26/03	395.45		A	796.55	V
A-03-01 04DBB	333751112154501	01/08/03	396.42		A	795.58	V
A-03-01 04DBB	333751112154501	05/22/03	397.62		A	794.38	V
A-03-01 04DBB	333751112154501	09/26/03	400.8		A	791.2	V
A-03-01 04DBB	333751112154501	02/24/04	396.35		A	795.65	V
A-03-01 04DBB	333751112154501	05/25/04	398.45		A	793.55	V
A-03-01 04DBB	333751112154501	09/23/04	400.8		A	791.2	V
A-03-01 04DBB	333751112154501	03/24/05	392.18		A	799.82	V
A-03-01 04DBB	333751112154501	08/10/62	388	P	U	804	V
A-03-01 04DBB	333751112154501	06/17/05	397.77		A	794.23	V
A-03-01 04DBB	333751112154501	08/19/05	396.13		A	795.87	V
A-03-01 04DBB	333751112154501	11/21/05	391.45		A	800.55	V
A-03-01 04DBB	333751112154501	02/15/06	392.91		A	799.09	V
A-03-01 04DBB	333751112154501	05/11/06	391.73		A	800.27	V
A-03-01 04DBB	333751112154501	08/11/06	397.11		A	794.89	V
A-03-01 04DBB	333751112154501	11/20/06	394.79		A	797.21	V
A-03-01 04DBB	333751112154501	03/07/07	391.13		A	800.87	V
A-03-01 04DBB	333751112154501	05/01/07	394.13		A	797.87	V
A-03-01 04DBB	333751112154501	06/22/07	398.25		A	793.75	T
A-03-01 04DBB	333751112154501	06/28/07	398.74		A	793.26	T
A-03-01 04DBB	333751112154501	08/10/07	396.74		A	795.26	T
A-03-01 04DBB	333751112154501	12/23/08	389		A	803	V
A-03-01 04DDD1	333728112151601	12/14/82	344.5		A	830.5	V
A-03-01 04DDD1	333728112151601	11/27/91	381.2		A	793.8	V
A-03-01 04DDD1	333728112151601	12/02/97	390.8		A	784	V
A-03-01 04DDD1	333728112151601	01/24/03	0	W	A	0	V
A-03-01 04DDD2	333729112151501	01/09/03	382.04		A	792.96	V
A-03-01 04DDD2	333729112151501	12/23/08	370.7		A	804.3	V
A-03-01 05ABB1	333815112164801	12/31/48	167.73		U	1034.27	T
A-03-01 05ABB2	333816112164801	02/16/54	215.85		U	986.15	S
A-03-01 05ABB2	333816112164801	02/28/58	236.23		U	965.77	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 05ABB2	333816112164801	02/08/63	314.4		U	887.6	V
A-03-01 05ABB2	333816112164801	12/14/82	383.7		A	818.3	V
A-03-01 05ABB2	333816112164801	12/18/84	380.4		A	821.6	V
A-03-01 05ABB2	333816112164801	12/03/91	414.4		A	787.6	V
A-03-01 05ABB2	333816112164801	12/01/97	421		A	781	V
A-03-01 05ABB2	333816112164801	01/06/03	425.89		A	776.11	V
A-03-01 05ABB2	333816112164801	02/17/09	412.4		A	789.6	V
A-03-01 05BBB1	333815112171801	02/28/56	242.2		U	965	S
A-03-01 05BBB2	333816112171801	12/03/97	426.2		A	782	V
A-03-01 05BBB2	333816112171801	01/10/03	436.5		A	771.5	V
A-03-01 05BBB2	333816112171801	12/23/08	425.2		A	782.8	V
A-03-01 05BCD	333753112170501	01/22/62	304.28		U	890.82	A
A-03-01 05BDB	333802112170101	10/08/91	464.9	P	A	733.1	V
A-03-01 06DAD	333740112172901	12/03/82	376.5		A	811.5	V
A-03-01 06DAD	333740112172901	12/11/84	367		A	821	V
A-03-01 06DAD	333740112172901	12/03/91	401.5		A	786.5	V
A-03-01 06DBB	333750112175101	02/01/52	198		U	993	S
A-03-01 06DBB	333750112175101	01/04/63	307.5		U	883.5	
A-03-01 07BAD	333718112175901	03/23/69	306.4		U	859.6	S
A-03-01 07BAD	333718112175901	12/01/97	379.9		A	786	V
A-03-01 07BAD	333718112175901	01/06/03	435.29		A	730.71	V
A-03-01 07BAD	333718112175901	12/23/08	385.1		A	780.9	V
A-03-01 07BCC1	333700112182301	11/05/82	312	C	A	821	V
A-03-01 07DBA	333659112173801	01/01/62	352			815	R
A-03-01 07DBA	333659112173801	01/08/63	271.5		U	895.5	
A-03-01 07DBA	333659112173801	07/25/91	434	P	A	733	V
A-03-01 07DBA	333659112173801	12/03/97	373.9		A	793	V
A-03-01 07DBA	333659112173801	08/14/62	374.28	P	U	792.72	
A-03-01 07DBA	333659112173801	02/16/09	393.2	V	A	773.8	V
A-03-01 07DDA	333641112172501	11/04/47	130.28		U	1029.78	S
A-03-01 07DDA	333641112172501	03/04/48	130.55		U	1029.51	S
A-03-01 07DDA	333641112172501	10/01/48	139.75		U	1020.31	S
A-03-01 07DDA	333641112172501	12/31/48	132.64		U	1027.42	S
A-03-01 07DDA	333641112172501	02/17/49	130.19		U	1029.87	S
A-03-01 07DDA	333641112172501	11/03/49	141.48		U	1018.58	S
A-03-01 07DDA	333641112172501	03/20/50	142.94		U	1017.12	S
A-03-01 07DDA	333641112172501	12/20/50	148.44		U	1011.62	S
A-03-01 07DDA	333641112172501	02/13/51	145.39		U	1014.67	S
A-03-01 07DDA	333641112172501	01/28/52	149.86		U	1010.2	S
A-03-01 07DDA	333641112172501	11/19/52	161.71		U	998.35	S
A-03-01 07DDA	333641112172501	02/20/53	157.59		U	1002.47	S
A-03-01 07DDA	333641112172501	11/16/53	182.47		U	977.59	S
A-03-01 07DDA	333641112172501	02/03/54	182.93		U	977.13	S
A-03-01 07DDA	333641112172501	02/02/55		W	U		
A-03-01 07DDA	333641112172501	04/01/26	71.3		O	1088.76	R
A-03-01 07DDA	333641112172501	04/01/27	61.7		O	1098.36	R
A-03-01 07DDA	333641112172501	04/01/28	79.7		O	1080.36	R
A-03-01 07DDA	333641112172501	04/01/29	69.5		O	1090.56	R
A-03-01 07DDA	333641112172501	04/01/30	76.9		O	1083.16	R
A-03-01 07DDA	333641112172501	04/01/31	80.8		O	1079.26	R
A-03-01 07DDA	333641112172501	04/01/32	82.1		O	1077.96	R
A-03-01 07DDA	333641112172501	04/01/33	83.4		O	1076.66	R
A-03-01 07DDA	333641112172501	04/01/34	79.7		O	1080.36	R
A-03-01 07DDA	333641112172501	04/01/35	82.6		O	1077.46	R
A-03-01 07DDA	333641112172501	04/01/36	86.5		O	1073.56	R
A-03-01 07DDA	333641112172501	04/01/39	95.6		O	1064.46	R
A-03-01 07DDA	333641112172501	04/01/40	100.1		O	1059.96	R
A-03-01 07DDA	333641112172501	04/01/41	100		O	1060.06	R
A-03-01 07DDA	333641112172501	03/10/42	114.5		U	1045.56	S
A-03-01 07DDA	333641112172501	10/19/44	111.4		U	1048.66	S
A-03-01 07DDA	333641112172501	01/17/46	111.62		U	1048.44	S
A-03-01 07DDA	333641112172501	04/09/46	120.12		U	1039.94	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 07DDA	333641112172501	06/26/46	122.34		U	1037.72	S
A-03-01 07DDA	333641112172501	10/16/46	123.52		U	1036.54	S
A-03-01 07DDA	333641112172501	12/30/46	118.59		U	1041.47	S
A-03-01 07DDA	333641112172501	02/10/47	129.6		U	1030.46	S
A-03-01 08BAA	333725112165701	12/31/48	154		U	1027	S
A-03-01 08BAA	333725112165701	12/18/84	354.7		A	826.3	V
A-03-01 08BAA	333725112165701	12/01/97	389.9		A	791	V
A-03-01 08BAA	333725112165701	01/09/03	404.7		A	776.3	V
A-03-01 08BAA	333725112165701	12/23/08	388.8		A	792.2	V
A-03-01 09ABA	333725112152701	02/01/71	320			860	R
A-03-01 09BBC	333713112161601	01/08/63	280.9		U	894.1	
A-03-01 09BBC	333713112161601	12/14/82	335		A	840	V
A-03-01 09BBC	333713112161601	12/01/97	414.6		A	760	V
A-03-01 09BBC	333713112161601	01/09/03	378.64		A	796.36	V
A-03-01 09BBC	333713112161601	02/17/09	376.3		A	798.7	V
A-03-01 10BBB	333727112150901	01/08/63	273.9		U	900.1	
A-03-01 10BBB	333727112150901	04/16/97	453.4	P	A	721	V
A-03-01 10BBB	333727112150901	12/11/02	386.6		A	787.4	V
A-03-01 11CBB	333659112141201	11/30/82	288.2	P	A	887.8	V
A-03-01 11CBB	333659112141201	12/17/84	276		A	900	V
A-03-01 11DDA	333648112131001	04/10/35	77.1		U	1114.44	S
A-03-01 11DDA	333648112131001	09/09/35	76.8		U	1114.74	S
A-03-01 11DDA	333648112131001	10/08/35	76.9		U	1114.64	S
A-03-01 11DDA	333648112131001	03/05/36	77.4		U	1114.14	S
A-03-01 11DDA	333648112131001	09/23/36	76.6		U	1114.94	S
A-03-01 11DDA	333648112131001	04/01/37	77.9		U	1113.64	S
A-03-01 11DDA	333648112131001	10/25/37	76.4		U	1115.14	S
A-03-01 11DDA	333648112131001	03/30/38	78		U	1113.54	S
A-03-01 11DDA	333648112131001	10/25/38	76.3		U	1115.24	S
A-03-01 11DDA	333648112131001	04/06/39	79.7		U	1111.84	S
A-03-01 11DDA	333648112131001	10/11/39	78.3		U	1113.24	S
A-03-01 11DDA	333648112131001	03/25/40	81.3		U	1110.24	S
A-03-01 11DDA	333648112131001	11/27/40	85.6		U	1105.94	S
A-03-01 11DDA	333648112131001	03/28/41	86.4		U	1105.14	S
A-03-01 11DDA	333648112131001	10/24/41	82.5		U	1109.04	S
A-03-01 11DDA	333648112131001	03/10/42	83		U	1108.54	S
A-03-01 11DDA	333648112131001	11/12/42	86		U	1105.54	S
A-03-01 11DDA	333648112131001	12/15/43	93		U	1098.54	S
A-03-01 11DDA	333648112131001	03/24/44	96.6		U	1094.94	S
A-03-01 11DDA	333648112131001	10/23/44	104.5		U	1087.04	S
A-03-01 11DDA	333648112131001	04/10/45	109.6		U	1081.94	S
A-03-01 11DDA	333648112131001	10/20/48	131		U	1060.54	S
A-03-01 11DDA	333648112131001	01/03/63	207.4		U	984.14	S
A-03-01 11DDA	333648112131001	01/01/73	275		S	916.54	R
A-03-01 11DDA	333648112131001	04/01/73	274.1		S	917.44	R
A-03-01 11DDA	333648112131001	02/14/63	256.1		B	935.44	V
A-03-01 11DDA	333648112131001	11/30/82	284		A	907.54	V
A-03-01 11DDA	333648112131001	02/01/78	290		S	901.54	R
A-03-01 11DDA	333648112131001	01/01/79	300		S	891.54	R
A-03-01 11DDA	333648112131001	04/11/79	291		S	900.54	R
A-03-01 11DDA	333648112131001	05/16/79	286		S	905.54	R
A-03-01 11DDA	333648112131001	11/20/79	294		S	897.54	R
A-03-01 11DDA	333648112131001	05/12/80	296		S	895.54	R
A-03-01 11DDA	333648112131001	01/01/81	295		S	896.54	R
A-03-01 11DDA	333648112131001	12/17/84	278.5		A	913.04	V
A-03-01 11DDA	333648112131001	12/12/85	278.8		A	912.74	V
A-03-01 11DDA	333648112131001	06/05/86	276.7		A	914.84	V
A-03-01 11DDA	333648112131001	12/01/86	336.9	P	A	854.64	V
A-03-01 11DDA	333648112131001	06/04/87	282.4		A	909.14	V
A-03-01 11DDA	333648112131001	12/21/87	284.6		A	906.94	V
A-03-01 11DDA	333648112131001	06/07/88	285.9		A	905.64	V
A-03-01 11DDA	333648112131001	12/06/88	286.3		A	905.24	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 11DDA	333648112131001	07/26/89	351	P	A	840.54	V
A-03-01 11DDA	333648112131001	01/22/91	397.5	P	A	794.04	V
A-03-01 11DDA	333648112131001	11/06/91	299.4		A	892.14	V
A-03-01 11DDA	333648112131001	12/02/92	301.5		A	890.04	V
A-03-01 11DDA	333648112131001	12/01/93	300.8		A	890.74	V
A-03-01 11DDA	333648112131001	06/21/94	391.8	P	A	799.74	V
A-03-01 11DDA	333648112131001	12/14/94	302.4		A	889.14	V
A-03-01 11DDA	333648112131001	11/15/95	302.4		A	889.14	V
A-03-01 11DDA	333648112131001	11/04/96	305.1		A	886.44	V
A-03-01 11DDA	333648112131001	11/11/97	310.4		A	881.14	V
A-03-01 11DDA	333648112131001	11/30/98	310		A	881.54	V
A-03-01 11DDA	333648112131001	11/02/99	313.7		A	877.84	V
A-03-01 11DDA	333648112131001	10/26/01	316.7		A	874.84	V
A-03-01 11DDA	333648112131001	11/20/02	322.5		A	869.04	V
A-03-01 11DDA	333648112131001	12/29/03	322.5		A	869.04	V
A-03-01 11DDA	333648112131001	12/22/04	322.3		A	869.24	V
A-03-01 11DDA	333648112131001	12/29/05	327		A	864.54	V
A-03-01 11DDA	333648112131001	01/03/07	327.2		A	864.34	V
A-03-01 11DDA	333648112131001	01/08/08	322.3		A	869.24	V
A-03-01 11DDA	333648112131001	12/02/08	315.3		A	876.24	V
A-03-01 11DDA	333648112131001	12/18/09	312.3		A	879.24	V
A-03-01 11DDA	333648112131001	12/01/10	309.6		A	881.94	V
A-03-01 12AAD	333705112121001	02/21/62	174.41		U	1015.59	
A-03-01 12AAD	333705112121001	11/06/97	364.3		A	825.7	V
A-03-01 12AAD	333705112121001	01/15/09		W	A		V
A-03-01 12ADD1	333704112120901	01/08/41	87		U	1126.54	R
A-03-01 12ADD1	333704112120901	10/01/40	80		U	1133.54	R
A-03-01 12ADD1	333704112120901	10/21/45	118		U	1095.54	R
A-03-01 12ADD1	333704112120901	12/18/48	142		U	1071.54	
A-03-01 12ADD1	333704112120901	02/21/62	196.5		U	1017.04	
A-03-01 12ADD2	333705112120901	04/11/79	381			832	R
A-03-01 12ADD2	333705112120901	05/16/79	388		S	825	
A-03-01 12ADD2	333705112120901	12/17/84	368.3		A	844.7	V
A-03-01 12ADD2	333705112120901	07/26/89	469.5	P	A	744	V
A-03-01 12ADD2	333705112120901	06/14/94	471.4	P	A	742	V
A-03-01 12CDB	333646112125301	11/06/91	361.8		A	832.2	V
A-03-01 12CDB	333646112125301	08/10/89	439.8	P	A	754	V
A-03-01 12CDB	333646112125301	08/10/89	438	P	A	756	V
A-03-01 12CDB	333646112125301	06/15/94	462.8	P	A	731	V
A-03-01 12CDB	333646112125301	11/11/97	379.1		A	815	V
A-03-01 12CDB	333646112125301	12/11/02	354.2		A	839.8	V
A-03-01 12CDB	333646112125301	11/20/02	370.7		A	823.3	V
A-03-01 13DDA1	333559112121201	01/14/41	64.5		U	1125.5	S
A-03-01 13DDA1	333559112121201	03/04/41	64.4		U	1125.6	S
A-03-01 13DDA1	333559112121201	10/24/41	60.1		U	1129.9	S
A-03-01 13DDA1	333559112121201	03/04/42	61.9		U	1128.1	S
A-03-01 13DDA1	333559112121201	02/11/43	78		U	1112	S
A-03-01 13DDA1	333559112121201	12/15/43	87.3		U	1102.7	S
A-03-01 13DDA1	333559112121201	12/27/44	90.5		U	1099.5	S
A-03-01 13DDA1	333559112121201	02/28/44	86.9		U	1103.1	S
A-03-01 13DDA1	333559112121201	02/21/62	237.9		U	952.1	S
A-03-01 13DDA2	333559112121301	01/01/73	276		S	912	R
A-03-01 13DDA2	333559112121301	04/01/73	295.9		S	892.1	R
A-03-01 13DDA2	333559112121301	02/14/63	274		B	914	V
A-03-01 13DDA2	333559112121301	02/01/78	291		S	897	R
A-03-01 13DDA2	333559112121301	07/21/89	424.1	P	A	764	V
A-03-01 14DDD	333546112131201	02/06/57	152.26		U	1015.74	S
A-03-01 14DDD	333546112131201	01/10/58	174.36		U	993.64	S
A-03-01 14DDD	333546112131201	02/15/61	193.1		U	974.9	S
A-03-01 14DDD	333546112131201	02/02/62	200.1		U	967.9	S
A-03-01 14DDD	333546112131201	01/03/63	219.56		U	948.44	S
A-03-01 14DDD	333546112131201	01/11/68	218.49		U	949.51	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 14DDD	333546112131201	01/01/73	243		S	925	
A-03-01 14DDD	333546112131201	04/01/73	242.1		S	925.9	
A-03-01 14DDD	333546112131201	02/13/64	224.1		U	943.9	V
A-03-01 14DDD	333546112131201	02/03/66	224.8		U	943.2	V
A-03-01 14DDD	333546112131201	01/27/69	216.79		U	951.21	V
A-03-01 14DDD	333546112131201	02/08/72	216		U	952	V
A-03-01 14DDD	333546112131201	01/18/73	233.5		B	934.5	
A-03-01 14DDD	333546112131201	01/12/74	226.1		U	941.9	V
A-03-01 14DDD	333546112131201	11/30/82	222.9		A	945.1	V
A-03-01 14DDD	333546112131201	02/05/76	246.7		U	921.3	V
A-03-01 14DDD	333546112131201	12/22/76	251.5		U	916.5	V
A-03-01 14DDD	333546112131201	02/17/78	262.8		U	905.2	V
A-03-01 14DDD	333546112131201	01/23/79	250.1		U	917.9	V
A-03-01 14DDD	333546112131201	12/20/79	245		U	923	V
A-03-01 14DDD	333546112131201	11/22/76	250.7		U	917.3	V
A-03-01 14DDD	333546112131201	12/17/84	228		A	940	V
A-03-01 14DDD	333546112131201	11/18/91	257.3		A	910.7	V
A-03-01 14DDD	333546112131201	07/08/98	266.3		A	901.7	V
A-03-01 14DDD	333546112131201	02/04/09	335.6		A	832.4	V
A-03-01 16ABA2	333634112153601	02/15/52	122.94		U	1031.06	S
A-03-01 16ABA2	333634112153601	02/16/54	158.89		U	995.11	
A-03-01 16ABA2	333634112153601	01/14/63	225.7		B	928.3	V
A-03-01 16ABA2	333634112153601	12/20/76	284.8		U	869.2	
A-03-01 16ABA2	333634112153601	12/06/82	277.6		A	876.4	V
A-03-01 16ABA2	333634112153601	12/12/84	270.3		A	883.7	V
A-03-01 16ABA2	333634112153601	11/07/91		W	A		
A-03-01 16DAA	333603112151701	12/03/91	329.5		A	812.5	V
A-03-01 16DAA	333603112151701	04/15/97	296	P	A	846	V
A-03-01 16DAA	333603112151701	11/20/97	349		A	793	V
A-03-01 16DAA	333603112151701	12/11/02	312		A	830	V
A-03-01 17ABB1	333631112164301	12/12/19	62			1097	R
A-03-01 17ABB2	333631112164201	02/15/62	197.84		U	961.16	S
A-03-01 17ABB2	333631112164201	01/08/63	246.3		U	912.7	V
A-03-01 17ABB2	333631112164201	01/14/63	248.8		B	910.2	V
A-03-01 17ABB2	333631112164201	12/14/82	313.3		A	845.7	V
A-03-01 17ABB2	333631112164201	12/18/84	309.7		A	849.3	V
A-03-01 17ABB2	333631112164201	12/27/91	324.2		A	834.8	V
A-03-01 17ABB2	333631112164201	12/02/97	344.4		A	815	V
A-03-01 17ABB2	333631112164201	01/06/03	359.1		A	799.9	V
A-03-01 17ACC	333607112164901	10/07/91	358.1	P	A	789.9	V
A-03-01 17ACC	333607112164901	12/09/97	288.1		A	859.9	V
A-03-01 17CAA	333603112165201	01/01/46	120			1527	R
A-03-01 17DBB	333604112164901	02/17/66	249.38		U	898.62	S
A-03-01 17DBC	333556112164601	12/14/82	363.1		A	781.9	V
A-03-01 17DBC	333556112164601	12/18/84	282.4		A	862.6	V
A-03-01 17DBC	333556112164601	12/02/97	314.7		A	830	V
A-03-01 17DBC	333556112164601	01/10/03	0	O	A	0	V
A-03-01 17DBC	333556112164601	12/19/08		O	A		V
A-03-01 17DDB1	333554112163401	02/23/18	46.7			1097.3	R
A-03-01 17DDB2	333554112163301	11/14/58	193		O	951	R
A-03-01 17DDB2	333554112163301	10/02/63	208.67		U	935.33	S
A-03-01 18CDD1	333541112175901	01/06/03	382.2	S	A	754.8	V
A-03-01 18CDD1	333541112175901	01/04/05	346.9		A	790.1	V
A-03-01 18CDD1	333541112175901	12/20/05	356.6		A	780.4	V
A-03-01 18CDD1	333541112175901	12/28/06	366.4	S	A	770.6	V
A-03-01 18CDD1	333541112175901	12/28/06	355.6			781.4	V
A-03-01 18CDD1	333541112175901	12/13/07	349.4		A	787.6	V
A-03-01 18CDD1	333541112175901	12/23/08	345.8		A	791.2	V
A-03-01 18CDD1	333541112175901	12/23/09	344.6		A	792.4	V
A-03-01 18CDD1	333541112175901	12/21/09	368.2	S	A	768.8	V
A-03-01 18CDD2	333542112175901	01/14/03	357.95		A	779.05	V
A-03-01 18CDD2	333542112175901	12/19/08	348.1		A	788.9	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 18DCB	333603112174801	12/02/97	337.2		A	805	V
A-03-01 18DCB	333603112174801	01/09/03	357.79		A	784.21	V
A-03-01 18DCB	333603112174801	12/19/08	348.1		A	793.9	V
A-03-01 19ACB	333522112175101	02/05/62	201.04		U	931.96	S
A-03-01 19ACB	333522112175101	01/02/63	231.95		U	901.05	S
A-03-01 19ACB	333522112175101	12/14/82	289.4		A	843.6	V
A-03-01 19ACB	333522112175101	12/18/84	283.4		A	849.6	V
A-03-01 19ACB	333522112175101	11/07/91	313.3		A	819.7	V
A-03-01 19ACB	333522112175101	12/01/97	320.1		A	813	V
A-03-01 19ACB	333522112175101	01/10/03	339.2		A	793.8	V
A-03-01 19ACB	333522112175101	12/19/08	332.3		A	800.7	V
A-03-01 19CCD	333447112182201	11/01/89	363.6	P	A	759	V
A-03-01 19CCD	333447112182201	12/03/97	312.3		A	811	V
A-03-01 19CCD	333447112182201	01/06/03	325.89		A	797.11	V
A-03-01 19DBA	333513112174201	10/07/91	355.6	P	A	773.4	V
A-03-01 19DBA	333513112174201	12/05/97	311.3		A	817.7	V
A-03-01 20BBB	333539112172001	12/02/97	262		A	872.67	V
A-03-01 20BBB	333539112172001	01/08/03	321.64		A	813.03	V
A-03-01 20BBB	333539112172001	11/08/07	327.95		A	806.72	T
A-03-01 20BBB	333539112172001	12/07/07	323.58		A	811.09	T
A-03-01 20BBB	333539112172001	10/03/07	329.16		A	805.51	T
A-03-01 20BBB	333539112172001	09/06/07	330.28		A	804.39	T
A-03-01 20BBB	333539112172001	05/07/08	323.14		A	811.53	T
A-03-01 20BBB	333539112172001	02/06/08	320.21		A	814.46	T
A-03-01 20BBB	333539112172001	09/02/08	325.34		A	809.33	T
A-03-01 20BBB	333539112172001	11/13/08	322.81		A	811.86	T
A-03-01 20BBB	333539112172001	05/06/09	318.91		A	815.76	T
A-03-01 20BBB	333539112172001	12/08/09	318.66		A	816.01	T
A-03-01 20BBB	333539112172001	07/30/10	318.96		A	815.71	T
A-03-01 20BBB	333539112172001	06/23/10	317.62		A	817.05	T
A-03-01 21ADA	333527112152101	02/21/62	212.72		U	921.28	S
A-03-01 21ADA	333527112152101	01/03/63	182.49		U	951.51	S
A-03-01 21ADA	333527112152101	01/01/73	215		S	919	R
A-03-01 21ADA	333527112152101	04/01/73	199		S	935	R
A-03-01 21ADA	333527112152101	02/01/78	305		S	829	R
A-03-01 21ADA	333527112152101	01/01/79	235		S	899	R
A-03-01 21ADA	333527112152101	04/11/79	243		S	891	R
A-03-01 21ADA	333527112152101	05/16/79	245		S	889	R
A-03-01 21ADA	333527112152101	12/20/79	244		S	890	R
A-03-01 21ADA	333527112152101	05/12/80	239		S	895	R
A-03-01 21ADA	333527112152101	01/01/81	227		S	907	R
A-03-01 21ADA	333527112152101	11/14/91	248.9		A	885.1	V
A-03-01 21ADA	333527112152101	12/09/97	256.9		A	877.1	V
A-03-01 21BDD	333516112155401	12/05/97	257.8		A	866	V
A-03-01 21CBB	333513112161701	04/02/68	209.5		U	917.5	S
A-03-01 21CBB	333513112161701	12/15/82	234.7		A	892.3	V
A-03-01 21CBB	333513112161701	12/12/84	227.1		A	899.9	V
A-03-01 21CBB	333513112161701	06/24/85	278.6		A	848.4	V
A-03-01 21CBB	333513112161701	12/10/85	225.1		A	901.9	V
A-03-01 21CBB	333513112161701	02/25/86	223.4		A	903.6	V
A-03-01 21CBB	333513112161701	06/04/86	239.2		A	887.8	V
A-03-01 21CBB	333513112161701	12/05/86	231.7		A	895.3	V
A-03-01 21CBB	333513112161701	06/02/87	244.2		A	882.8	V
A-03-01 21CBB	333513112161701	12/14/87	235.8		A	891.2	V
A-03-01 21CBB	333513112161701	06/01/88	248.3		A	878.7	V
A-03-01 21CBB	333513112161701	12/05/88	234.3		A	892.7	V
A-03-01 21CBB	333513112161701	11/27/89	241		A	886	V
A-03-01 21CBB	333513112161701	11/26/90	245.9		A	881.1	V
A-03-01 21CBB	333513112161701	12/03/91	249.5		A	877.5	V
A-03-01 21CBB	333513112161701	11/20/92	247.9		A	879.1	V
A-03-01 21CBB	333513112161701	11/24/93	246.3		A	880.7	V
A-03-01 21CBB	333513112161701	12/21/94	246.7		A	880.3	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 21CBB	333513112161701	11/21/95	249.4		A	877.6	V
A-03-01 21CBB	333513112161701	10/28/96	267		A	860	V
A-03-01 21CBB	333513112161701	10/21/97	270.2		A	856.8	V
A-03-01 21CBB	333513112161701	12/01/98	260.3		A	866.7	V
A-03-01 21CBB	333513112161701	02/15/00	266.3		A	860.7	V
A-03-01 21CBB	333513112161701	12/18/00	268.7		A	858.3	V
A-03-01 21CBB	333513112161701	12/11/02	267.6		A	859.4	V
A-03-01 21CBB	333513112161701	01/02/04	281.4		A	845.6	V
A-03-01 21CBB	333513112161701	01/06/06	283.7		A	843.3	V
A-03-01 21CBB	333513112161701	11/09/06	284.8		A	842.2	V
A-03-01 21CBB	333513112161701	12/23/09	274.6		A	852.4	V
A-03-01 21CBB	333513112161701	02/07/08	279.5		A	847.5	V
A-03-01 22DDA1	333500112141901	01/03/63	196.43		U	943.57	S
A-03-01 22DDA2	333500112141801	05/01/57	169			971	R
A-03-01 22DDA2	333500112141801	12/11/02	0	O	A	0	V
A-03-01 22DDA3	333459112141901	12/03/91	228.1		A	912.9	V
A-03-01 22DDA3	333459112141901	12/04/97	229.7		A	911.3	V
A-03-01 22DDA3	333459112141901	12/23/08		O	A		V
A-03-01 23AAD	333536112131201	12/06/91		O	A		*
A-03-01 23AAD	333536112131201	04/15/97	321.2	P	A	844	V
A-03-01 23AAD	333536112131201	11/09/97		O	A		V
A-03-01 23AAD	333536112131201	12/11/02	328.29		A	836.71	V
A-03-01 23AAD	333536112131201	12/23/08	306.2		A	858.8	V
A-03-01 23BDC	333521112135301	05/01/57	177.2		U	972.8	S
A-03-01 24CBB	333517112130701	10/01/57	150		S	1013	R
A-03-01 24CBB	333517112130701	12/20/79	243		S	920	R
A-03-01 24CBB	333517112130701	05/12/80	294		S	869	R
A-03-01 24CBB	333517112130701	01/01/81	294		S	869	R
A-03-01 24CBB	333517112130701	11/30/82	240		A	923	V
A-03-01 24CBB	333517112130701	07/24/89	340.8	P	A	822	V
A-03-01 24CBB	333517112130701	07/24/89	327.6	P	A	835	V
A-03-01 24CBB	333517112130701	11/06/91	272		A	891	V
A-03-01 24CBB	333517112130701	10/04/94	355.4	P	A	808	V
A-03-01 24CBB	333517112130701	11/11/97	271.1		A	892	V
A-03-01 24CBB	333517112130701	11/27/02	291.1		A	871.9	V
A-03-01 24CBB	333517112130701	09/16/04	401	P	A	762	V
A-03-01 24CBB	333517112130701	12/22/04	284		A	879	V
A-03-01 24CBB	333517112130701	12/29/05	283.3		A	879.7	V
A-03-01 24CBB	333517112130701	01/18/07	279.5		A	883.5	V
A-03-01 24CBB	333517112130701	01/08/08	288.1		A	874.9	V
A-03-01 24CBB	333517112130701	12/02/08	279.1		A	883.9	V
A-03-01 24CBB	333517112130701	12/15/09	275.5		A	887.5	V
A-03-01 24CBB	333517112130701	12/01/10	271.1		A	891.9	V
A-03-01 25ABB	333452112123301	02/26/90	458.3	P	A	705	V
A-03-01 25ABB	333452112123301	12/06/91	306.6		A	856.4	V
A-03-01 25ABB	333452112123301	04/17/97	455.6	P	A	707	V
A-03-01 25ABB	333452112123301	11/20/97	329.1		A	834	V
A-03-01 25ABB	333452112123301	12/23/08	275.9		A	887.1	V
A-03-01 25CDD	333401112124001	04/15/97	690	P	A	455	V
A-03-01 25CDD	333401112124001	11/09/97	369.7		A	775	V
A-03-01 25CDD	333401112124001	12/11/02	301.29		A	843.71	V
A-03-01 25CDD	333401112124001	12/23/08	257.1		A	887.9	V
A-03-01 26ADD	333427112131201	02/14/63	215.8		B	928.2	V
A-03-01 26ADD	333427112131201	04/11/79	236		S	908	R
A-03-01 26ADD	333427112131201	05/12/80	225		S	919	R
A-03-01 26ADD	333427112131201	01/01/81	225		S	919	R
A-03-01 26ADD	333427112131201	09/28/82	212.2		A	931.8	V
A-03-01 26ADD	333427112131201	11/30/82	206.3		A	937.7	V
A-03-01 26ADD	333427112131201	12/17/84	206		A	938	V
A-03-01 26ADD	333427112131201	08/15/86	312.3	P	A	832	V
A-03-01 26ADD	333427112131201	11/14/91	237.9		A	906.1	V
A-03-01 26ADD	333427112131201	06/15/94	290.9	P	A	853	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 26ADD	333427112131201	11/11/97	233.1		A	911	V
A-03-01 26ADD	333427112131201	11/20/02	262.1		A	881.9	V
A-03-01 26DDD1	333404112131101	02/21/62	212.48		U	924.32	S
A-03-01 26DDD1	333404112131101	01/09/63	205.19		U	931.61	
A-03-01 26DDD1	333404112131101	02/14/63	205.3		B	931.5	V
A-03-01 26DDD2	333404112131301	04/07/68	211.7		S	925.3	R
A-03-01 26DDD2	333404112131301	01/01/73	231		S	906	R
A-03-01 26DDD2	333404112131301	04/01/73	227.5		S	909.5	R
A-03-01 26DDD2	333404112131301	02/01/78	245		S	892	R
A-03-01 26DDD2	333404112131301	01/01/79	233		S	904	R
A-03-01 26DDD2	333404112131301	04/11/79	237		S	900	R
A-03-01 26DDD2	333404112131301	05/16/79	238		S	899	R
A-03-01 26DDD2	333404112131301	12/20/79	242		S	895	R
A-03-01 26DDD2	333404112131301	05/12/80	243		S	894	
A-03-01 26DDD2	333404112131301	01/01/81	230		S	907	
A-03-01 26DDD2	333404112131301	07/19/89	404.5	P	A	733	V
A-03-01 26DDD2	333404112131301	06/14/94	384.8	P	A	752	V
A-03-01 26DDD2	333404112131301	11/11/97	230.1	V	A	907	V
A-03-01 26DDD2	333404112131301	11/20/02	257.79		A	879.21	V
A-03-01 26DDD2	333404112131301	02/04/09	239.9		A	897.1	V
A-03-01 27CCC	333401112151101	02/21/62	188.96		U	922.23	S
A-03-01 27CCC	333401112151101	01/03/63	158.3		S	952.89	R
A-03-01 27CCC	333401112151101	01/01/73	166		S	945.19	R
A-03-01 27CCC	333401112151101	04/01/73	164		S	947.19	R
A-03-01 27CCC	333401112151101	02/01/78	178		S	933.19	R
A-03-01 27CCC	333401112151101	12/18/78	183		S	928.19	R
A-03-01 27CCC	333401112151101	12/21/78	184		S	927.19	R
A-03-01 27CCC	333401112151101	12/26/78	184		S	927.19	R
A-03-01 27CCC	333401112151101	01/02/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	01/09/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	01/16/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	01/23/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	01/30/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	02/13/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	02/20/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	02/27/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	03/06/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	03/13/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	03/20/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	03/29/79	184		S	927.19	R
A-03-01 27CCC	333401112151101	04/03/79	183		S	928.19	R
A-03-01 27CCC	333401112151101	04/10/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	04/11/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	04/17/79	182		S	929.19	R
A-03-01 27CCC	333401112151101	04/24/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	05/01/79	180		S	931.19	R
A-03-01 27CCC	333401112151101	05/08/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	05/15/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	05/16/79	180		S	931.19	R
A-03-01 27CCC	333401112151101	05/22/79	180		S	931.19	R
A-03-01 27CCC	333401112151101	05/29/79	179		S	932.19	R
A-03-01 27CCC	333401112151101	06/05/79	180		S	931.19	R
A-03-01 27CCC	333401112151101	12/20/79	166		S	945.19	R
A-03-01 27CCC	333401112151101	02/19/80	176		S	935.19	R
A-03-01 27CCC	333401112151101	02/26/80	174		S	937.19	R
A-03-01 27CCC	333401112151101	03/07/80	174		S	937.19	R
A-03-01 27CCC	333401112151101	03/11/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	03/19/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	04/02/80	174		S	937.19	R
A-03-01 27CCC	333401112151101	04/09/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	04/16/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	04/23/80	171		S	940.19	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 27CCC	333401112151101	04/30/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	05/12/80	173		S	938.19	R
A-03-01 27CCC	333401112151101	01/01/81	161		S	950.19	R
A-03-01 27CCC	333401112151101	07/27/89	201.1	P	A	910.09	V
A-03-01 27CCC	333401112151101	11/05/91	173.2		A	937.99	V
A-03-01 27CCC	333401112151101	11/11/97	174.4		A	936.79	V
A-03-01 27CCC	333401112151101	02/19/09	258.6		A	852.59	V
A-03-01 27DAA	333422112141701	04/10/35	33.9		U	1097.07	S
A-03-01 27DAA	333422112141701	09/06/35	33.2		U	1097.77	S
A-03-01 27DAA	333422112141701	10/07/35	32.5		U	1098.47	S
A-03-01 27DAA	333422112141701	03/04/36	35.9		U	1095.07	S
A-03-01 27DAA	333422112141701	09/23/36	37.3		U	1093.67	S
A-03-01 27DAA	333422112141701	03/26/37	38		U	1092.97	S
A-03-01 27DAA	333422112141701	10/23/37	31.2		U	1099.77	S
A-03-01 27DAA	333422112141701	03/30/38	36.3		U	1094.67	S
A-03-01 27DAA	333422112141701	10/22/38	33.7		U	1097.27	S
A-03-01 27DAA	333422112141701	04/05/39	37.4		U	1093.57	S
A-03-01 27DAA	333422112141701	10/11/39	38.2		U	1092.77	S
A-03-01 27DAA	333422112141701	02/22/40		D	U		
A-03-01 28AAA	333450112151601	01/03/63	152.12		U	967.88	S
A-03-01 28AAA	333450112151601	12/06/82	164.2		A	955.8	V
A-03-01 28AAA	333450112151601	12/12/84	162.8	C	A	957	V
A-03-01 28AAA	333450112151601	11/07/91		O	A		
A-03-01 29BBB	333448112171901	02/15/62	217.49		U	903.51	S
A-03-01 29BBB	333448112171901	01/02/63	191.8		U	929.2	S
A-03-01 29BBB	333448112171901	01/09/03	291.64		A	829.36	V
A-03-01 29BBB	333448112171901	12/19/08	302.2		A	818.8	V
A-03-01 29CDA	333405112165101	01/03/66	185		D	920	R
A-03-01 30BAA	333447112175601	12/14/82	284.2		A	845.8	V
A-03-01 30BAA	333447112175601	12/18/84	274.2		A	855.8	V
A-03-01 30BAA	333447112175601	07/26/91	432.7	P	A	697	V
A-03-01 30BAA	333447112175601	11/26/91	303.8		A	826.2	V
A-03-01 30BAA	333447112175601	12/01/97	299.2		A	831	V
A-03-01 30BAA	333447112175601	01/09/03	325.85		A	804.15	V
A-03-01 30BAA	333447112175601	12/19/08	319.9		A	810.1	V
A-03-01 30DAC	333413112173501	07/01/68	266.34		U	852.66	S
A-03-01 30DBB	333418112174901	02/12/20	48			1074	R
A-03-01 31AAB1	333355112173501	01/18/72	259		B	856	V
A-03-01 31AAB1	333355112173501	12/17/76	286.8		U	828.2	
A-03-01 31AAB1	333355112173501	01/09/85	234.3		A	880.7	V
A-03-01 31AAB1	333355112173501	07/20/62	396.76	P	U	718.24	
A-03-01 31AAB1	333355112173501	07/13/76	390	P	U	725	V
A-03-01 31ABA	333354112174201	02/15/62	210.3		U	904.7	S
A-03-01 31ABA	333354112174201	01/14/63	222		B	893	V
A-03-01 31ABA	333354112174201	01/18/72	259		B	856	V
A-03-01 31ABB	333355112174501	12/07/82	256.4		A	858.6	V
A-03-01 31ABB	333355112174501	01/09/85	236.2		A	878.8	V
A-03-01 31ABB	333355112174501	09/15/71	375	P	U	740	
A-03-01 31ACA	333339112173601	12/11/02	276.5		A	831.5	V
A-03-01 31ACA	333339112173601	12/23/08		O	A		V
A-03-01 32ABA1	333356112163501	11/05/82	183.8		A	918.2	V
A-03-01 32ABA1	333356112163501	12/12/84	168.6		A	933.4	V
A-03-01 32ABA2	333356112163901	02/19/54	97.17		U	1004.83	S
A-03-01 32ABA2	333356112163901	02/06/57	115.4		U	986.6	S
A-03-01 32ABA2	333356112163901	01/10/58	122.86		U	979.14	S
A-03-01 32ABA2	333356112163901	01/07/59	132.41		U	969.59	S
A-03-01 32ABA2	333356112163901	02/02/60	127.21		U	974.79	S
A-03-01 32ABA2	333356112163901	02/15/61	152.25		U	949.75	S
A-03-01 32ABA2	333356112163901	02/02/62	153.79		U	948.21	S
A-03-01 32ABA2	333356112163901	12/28/62	163.5		U	938.5	S
A-03-01 32ABA2	333356112163901	02/13/64	169.06		U	932.94	S
A-03-01 32ABA2	333356112163901	12/07/64	175.74		U	926.26	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 32ABA2	333356112163901	01/24/66	168.37		U	933.63	S
A-03-01 32ABA2	333356112163901	01/23/67	171.71		U	930.29	S
A-03-01 32ABA2	333356112163901	01/27/69	167.1		U	934.9	
A-03-01 32ABA2	333356112163901	01/28/70	174.8		U	927.2	
A-03-01 32ABA2	333356112163901	02/10/71	188.7		U	913.3	
A-03-01 32ABA2	333356112163901	01/18/72	183		U	919	
A-03-01 32ABA2	333356112163901	01/22/73	180.2		U	921.8	
A-03-01 32ABA2	333356112163901	01/12/74	185.4		U	916.6	
A-03-01 32ABA2	333356112163901	12/21/76	198		U	904	T
A-03-01 32ABA2	333356112163901	02/17/78	212.2		U	889.8	T
A-03-01 32ABA2	333356112163901	01/24/79	198		U	904	T
A-03-01 32ABA2	333356112163901	01/10/80	198.5		U	903.5	
A-03-01 32ABA2	333356112163901	01/21/81	191.9		U	910.1	
A-03-01 32ABA2	333356112163901	01/11/82	188.8		U	913.2	V
A-03-01 32ABA2	333356112163901	12/01/82	190.9		A	911.1	V
A-03-01 32ABA2	333356112163901	12/12/84	174.9		A	927.1	V
A-03-01 32ABA2	333356112163901	11/06/91	204.7		A	897.3	V
A-03-01 32ABA2	333356112163901	12/08/83	177.5		A	925	V
A-03-01 32DBB	333330112164801	02/26/90	297.1	P	A	794.9	V
A-03-01 32DBB	333330112164801	01/10/91	311.2	P	A	780.8	V
A-03-01 32DBB	333330112164801	11/26/91	209		A	883	V
A-03-01 32DBB	333330112164801	04/17/97	302	P	A	790	V
A-03-01 32DBB	333330112164801	12/04/97	234.9		A	857.1	V
A-03-01 32DBB	333330112164801	12/11/02	226.4		A	865.6	V
A-03-01 32DBB	333330112164801	12/21/04	233.4		A	858.6	V
A-03-01 32DBB	333330112164801	12/23/05	233.3		A	858.7	V
A-03-01 32DBB	333330112164801	12/27/06	230.2		A	861.8	V
A-03-01 32DBB	333330112164801	12/13/07	230.1		A	861.9	V
A-03-01 32DBB	333330112164801	12/31/08		O	A		V
A-03-01 32DBB	333330112164801	12/11/09		P			V
A-03-01 33DDD	333307112151701	02/21/62	186.83		U	908.67	S
A-03-01 33DDD	333307112151701	01/01/73	164		S	931.5	R
A-03-01 33DDD	333307112151701	04/01/73	162.9		S	932.6	R
A-03-01 33DDD	333307112151701	02/15/63	164.1		B	931.4	V
A-03-01 33DDD	333307112151701	01/18/72	158.2		B	937.3	V
A-03-01 33DDD	333307112151701	02/01/78	174		S	921.5	R
A-03-01 33DDD	333307112151701	12/18/78	174		S	921.5	R
A-03-01 33DDD	333307112151701	12/21/78	178		S	917.5	R
A-03-01 33DDD	333307112151701	12/26/78	176		S	919.5	R
A-03-01 33DDD	333307112151701	01/01/79	178		S	917.5	R
A-03-01 33DDD	333307112151701	01/02/79	177		S	918.5	R
A-03-01 33DDD	333307112151701	01/09/79	174		S	921.5	R
A-03-01 33DDD	333307112151701	01/16/79	175		S	920.5	R
A-03-01 33DDD	333307112151701	01/23/79	173		S	922.5	R
A-03-01 33DDD	333307112151701	01/30/79	174		S	921.5	R
A-03-01 33DDD	333307112151701	02/13/79	173		S	922.5	R
A-03-01 33DDD	333307112151701	02/27/79	174		S	921.5	R
A-03-01 33DDD	333307112151701	03/06/79	173		S	922.5	R
A-03-01 33DDD	333307112151701	03/13/79	174		S	921.5	R
A-03-01 33DDD	333307112151701	03/20/79	174		S	921.5	R
A-03-01 33DDD	333307112151701	03/29/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	04/03/79	169		S	926.5	R
A-03-01 33DDD	333307112151701	04/10/79	168		S	927.5	R
A-03-01 33DDD	333307112151701	04/11/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	04/17/79	169		S	926.5	R
A-03-01 33DDD	333307112151701	04/24/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	05/01/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	05/08/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	05/15/79	171		S	924.5	R
A-03-01 33DDD	333307112151701	05/16/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	05/22/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	05/29/79	170		S	925.5	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 33DDD	333307112151701	06/05/79	170		S	925.5	R
A-03-01 33DDD	333307112151701	12/20/79	166		S	929.5	R
A-03-01 33DDD	333307112151701	02/19/80	165		S	930.5	R
A-03-01 33DDD	333307112151701	02/26/80	164		S	931.5	R
A-03-01 33DDD	333307112151701	03/07/80	164		S	931.5	R
A-03-01 33DDD	333307112151701	03/11/80	163		S	932.5	R
A-03-01 33DDD	333307112151701	03/19/80	163		S	932.5	R
A-03-01 33DDD	333307112151701	04/02/80	161		S	934.5	R
A-03-01 33DDD	333307112151701	04/09/80	160		S	935.5	R
A-03-01 33DDD	333307112151701	04/16/80	162		S	933.5	R
A-03-01 33DDD	333307112151701	04/23/80	164		S	931.5	R
A-03-01 33DDD	333307112151701	04/30/80	165		S	930.5	R
A-03-01 33DDD	333307112151701	05/12/80	165		S	930.5	R
A-03-01 33DDD	333307112151701	01/01/81	149		S	946.5	R
A-03-01 33DDD	333307112151701	11/12/91	150.5		A	945	V
A-03-01 33DDD	333307112151701	11/11/97	153.4		A	942	V
A-03-01 33DDD	333307112151701	11/20/02	180.19		A	915.31	V
A-03-01 34DDD2	333310112151301	12/28/62	167.46		U	932.54	S
A-03-01 34DDD2	333310112151301	01/21/72	163		B	937	V
A-03-01 34DDD2	333310112151301	11/30/82	144.3		A	955.7	V
A-03-01 34DDD2	333310112151301	12/17/76	172.3		U	927.7	V
A-03-01 34DDD2	333310112151301	12/17/84	134.4		A	965.6	V
A-03-01 34DDD2	333310112151301	11/26/91	184.1		A	915.9	V
A-03-01 34DDD2	333310112151301	11/09/97	176.7		A	923	V
A-03-01 34DDD2	333310112151301	04/15/97		O	A		V
A-03-01 34DDD2	333310112151301	12/23/08		O	A		V
A-03-01 35ABB	333358112134201	01/03/63	204.94		U	923.06	S
A-03-01 35ABB	333358112134201	02/09/72	216		S	912	R
A-03-01 35ABB	333358112134201	01/01/73	205		S	923	R
A-03-01 35ABB	333358112134201	04/01/73	204.6		S	923.4	R
A-03-01 35ABB	333358112134201	01/16/74	204.2		U	923.8	V
A-03-01 35ABB	333358112134201	11/30/82	186.94		A	941.06	V
A-03-01 35ABB	333358112134201	02/01/78	226		S	902	R
A-03-01 35ABB	333358112134201	01/01/79	227		S	901	R
A-03-01 35ABB	333358112134201	04/11/79	217		S	911	R
A-03-01 35ABB	333358112134201	05/16/79	222		S	906	R
A-03-01 35ABB	333358112134201	12/20/79	216		S	912	R
A-03-01 35ABB	333358112134201	05/12/80	215		S	913	R
A-03-01 35ABB	333358112134201	01/01/81	201		S	927	R
A-03-01 35ABB	333358112134201	12/17/84	182		A	946	V
A-03-01 35ABB	333358112134201	12/12/85	187.6		A	940.4	V
A-03-01 35ABB	333358112134201	06/05/86	185.9		A	942.1	V
A-03-01 35ABB	333358112134201	12/01/86	194.2		A	933.8	V
A-03-01 35ABB	333358112134201	06/04/87	183.5		A	944.5	V
A-03-01 35ABB	333358112134201	12/18/87	183.6		A	944.4	V
A-03-01 35ABB	333358112134201	07/27/89	293.3	P	A	834.7	V
A-03-01 35ABB	333358112134201	01/22/91	274.5	P	A	853.5	V
A-03-01 35ABB	333358112134201	11/05/91	208.4		A	919.6	V
A-03-01 35ABB	333358112134201	12/02/92	192.9		A	935.1	V
A-03-01 35ABB	333358112134201	12/01/93	192.1		A	935.9	V
A-03-01 35ABB	333358112134201	12/14/94	197.8		A	930.2	V
A-03-01 35ABB	333358112134201	11/15/95	198.1		A	929.9	V
A-03-01 35ABB	333358112134201	11/04/96	198		A	930	V
A-03-01 35ABB	333358112134201	11/11/97	203.2		A	924.8	V
A-03-01 35ABB	333358112134201	11/30/98	204.5		A	923.5	V
A-03-01 35ABB	333358112134201	11/02/99	218.9		A	909.1	V
A-03-01 35ABB	333358112134201	11/21/00	226		A	902	V
A-03-01 35ABB	333358112134201	10/26/01	229.4		A	898.6	V
A-03-01 35ABB	333358112134201	11/20/02	226		A	902	V
A-03-01 35ABB	333358112134201	12/15/03	235.3		A	892.7	V
A-03-01 35ABB	333358112134201	12/22/04	230		A	898	V
A-03-01 35ABB	333358112134201	12/29/05	228		A	900	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 35ABB	333358112134201	02/15/07	228.1		A	899.9	V
A-03-01 35ABB	333358112134201	01/08/08	230		A	898	V
A-03-01 35ABB	333358112134201	12/02/08	231.3		A	896.7	V
A-03-01 35ABB	333358112134201	12/15/09	225.3		A	902.7	V
A-03-01 35BAB	333358112134101	03/20/46	54.47		U	1073.53	S
A-03-01 35BAB	333358112134101	04/04/46	54.87		U	1073.13	S
A-03-01 35BAB	333358112134101	06/10/46	56.29		U	1071.71	S
A-03-01 35BAB	333358112134101	07/29/46	60.72	P	U	1067.28	S
A-03-01 35BAB	333358112134101	10/28/46	56.75		U	1071.25	S
A-03-01 35BAB	333358112134101	12/18/46	66.23	P	U	1061.77	S
A-03-01 35BAB	333358112134101	03/25/47	60.85		U	1067.15	S
A-03-01 35BAB	333358112134101	08/27/47	62.13		U	1065.87	S
A-03-01 35BAB	333358112134101	11/19/47	66.78	R	U	1061.22	S
A-03-01 35BAB	333358112134101	03/23/48	67.63	R	U	1060.37	S
A-03-01 35BAB	333358112134101	10/01/48	75.94	R	U	1052.06	S
A-03-01 35BAB	333358112134101	02/21/49	72.1		U	1055.9	S
A-03-01 35BAB	333358112134101	10/27/49	77.56		U	1050.44	S
A-03-01 35BAB	333358112134101	03/08/50	79.86		U	1048.14	S
A-03-01 35BAB	333358112134101	12/12/50	86.57		U	1041.43	S
A-03-01 35BAB	333358112134101	02/15/51	87.39		U	1040.61	S
A-03-01 35BAB	333358112134101	11/05/51	94.5		U	1033.5	S
A-03-01 35BAB	333358112134101	01/23/52	94.89		U	1033.11	S
A-03-01 35BAB	333358112134101	02/03/53	103.25		U	1024.75	S
A-03-01 35BAB	333358112134101	10/28/53	120.53		U	1007.47	S
A-03-01 35BAB	333358112134101	02/19/54	114.3	R	U	1013.7	S
A-03-01 35BAB	333358112134101	05/13/54	116.38		U	1011.62	S
A-03-01 35BAB	333358112134101	08/04/54	122.93		U	1005.07	S
A-03-01 35BAB	333358112134101	11/18/54	118.71		U	1009.29	S
A-03-01 35BAB	333358112134101	02/24/55	120.29		U	1007.71	S
A-03-01 35BAB	333358112134101	05/12/55	125.75		U	1002.25	S
A-03-01 35BAB	333358112134101	08/01/55	127.56		U	1000.44	S
A-03-01 35BAB	333358112134101	11/21/55	127.17	R	U	1000.83	S
A-03-01 35BAB	333358112134101	01/10/56	126.92		U	1001.08	S
A-03-01 35BAB	333358112134101	05/04/56	131.1	S	U	996.9	S
A-03-01 35BAB	333358112134101	08/01/56	133.86		U	994.14	S
A-03-01 35BAB	333358112134101	10/31/56	134.38		U	993.62	S
A-03-01 35BAB	333358112134101	02/06/57	134.4		U	993.6	S
A-03-01 35BAB	333358112134101	01/10/58	145.18		U	982.82	S
A-03-01 35BAB	333358112134101	01/07/59	153.05		U	974.95	S
A-03-01 35BAB	333358112134101	02/02/60	166.62		U	961.38	S
A-03-01 35BAB	333358112134101	02/15/61	170.14		U	957.86	S
A-03-01 35BAB	333358112134101	02/02/62	174.79		U	953.21	S
A-03-01 35BAB	333358112134101	01/31/63	180.1	S	U	947.9	S
A-03-01 35BAB	333358112134101	02/13/64	180.32		U	947.68	S
A-03-01 35BAB	333358112134101	12/07/64	185.75		U	942.25	S
A-03-01 35BAB	333358112134101	02/03/66	181.15		U	946.85	S
A-03-01 35BAB	333358112134101	02/17/67	166.97		U	961.03	S
A-03-01 35BAB	333358112134101	01/11/68	169.74		U	958.26	S
A-03-01 35BAB	333358112134101	01/27/69	186.8		U	941.2	
A-03-01 35BAB	333358112134101	02/09/72	216		U	912	
A-03-01 35BAB	333358112134101	01/22/73	208		U	920	
A-03-01 35DDD	333311112131201	04/01/73	203.5		S	922.5	R
A-03-01 35DDD	333311112131201	11/30/82	191.1		A	934.9	V
A-03-01 35DDD	333311112131201	05/12/80	220		S	906	R
A-03-01 35DDD	333311112131201	12/17/84	184.2		A	941.8	V
A-03-01 35DDD	333311112131201	08/15/86	279.4	P	A	846.6	V
A-03-01 35DDD	333311112131201	07/20/89	283.4	P	A	842.6	V
A-03-01 35DDD	333311112131201	11/06/91	192.1		A	933.9	V
A-03-01 35DDD	333311112131201	11/11/97	188.6		A	937.4	V
A-03-01 36CCA	333320112125701	07/24/89	276.3	P	A	855.7	V
A-03-01 36CCA	333320112125701	12/21/89	284.1	P	A	847.9	V
A-03-01 36CCA	333320112125701	11/21/91	207.8	R	A	924.2	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
A-03-01 36CCA	333320112125701	12/09/97	188.4		A	943.6	V
A-03-01 36CCC	333310112130801	09/23/25	20			1109.7	R
A-03-01 36CCC	333310112130801	12/27/45	63.5		S	1066.2	R
A-03-01 36CCC	333310112130801	10/22/48	82		S	1047.7	R
A-03-01 36DDA	333318112121001	12/21/45	70		U	1073.1	S
A-03-01 36DDD	333313112120901	01/01/73	214		S	926	R
A-03-01 36DDD	333313112120901	04/01/73	208.1		S	931.9	R
A-03-01 36DDD	333313112120901	02/14/63	219.5		B	920.5	V
A-03-01 36DDD	333313112120901	12/01/82	205.9		A	934.1	V
A-03-01 36DDD	333313112120901	02/01/78	201		S	939	R
A-03-01 36DDD	333313112120901	01/01/79	199		S	941	R
A-03-01 36DDD	333313112120901	04/11/79	193		S	947	R
A-03-01 36DDD	333313112120901	12/20/79	221		S	919	R
A-03-01 36DDD	333313112120901	05/12/80	224		S	916	R
A-03-01 36DDD	333313112120901	01/01/81	215		S	925	R
A-03-01 36DDD	333313112120901	12/17/84	198.9		A	941.1	V
A-03-01 36DDD	333313112120901	07/25/89	240.8	P	A	899.2	V
A-03-02 30CCC1	333402112120601	05/28/29	27			1128.4	R
A-03-02 30CCC2	333402112120701	01/01/73	223		S	932	R
A-03-02 30CCC2	333402112120701	04/01/73	214.3		S	940.7	R
A-03-02 30CCC2	333402112120701	12/01/82	214.7		A	940.3	V
A-03-02 30CCC2	333402112120701	02/01/78	229		S	926	R
A-03-02 30CCC2	333402112120701	01/01/79	292		S	863	R
A-03-02 30CCC2	333402112120701	04/11/79	282		S	873	R
A-03-02 30CCC2	333402112120701	05/16/79	272		S	883	R
A-03-02 30CCC2	333402112120701	12/20/79	280		S	875	R
A-03-02 30CCC2	333402112120701	05/12/80	268		S	887	R
A-03-02 30CCC2	333402112120701	01/01/81	215		S	940	R
A-03-02 30CCC2	333402112120701	12/17/84	210.4		A	944.6	V
A-03-02 30CCC2	333402112120701	07/26/89	305.5	P	A	850	V
A-03-02 30CCC2	333402112120701	11/11/91	222.7		A	932.3	V
A-03-02 30CCC2	333402112120701	06/16/94	284.4	P	A	871	V
A-03-02 30CCC2	333402112120701	11/12/97	221.4	V	A	934	V
A-03-02 30CCC2	333402112120701	01/13/03	242.39		A	912.61	V
A-03-02 30CCC2	333402112120701	02/03/09	237.4		A	917.6	V
A-2-1 05DCC	333214112165001	07/25/06	173.25		A	878.75	V
A-2-1 06CDD	333213112175501	07/25/06	149.6		C	876.4	V
A-2-1 07ABC	333210112173801	07/25/06	178.3		A	874.7	V
A-2-1 08BCC	333152112171101	07/25/06	173.3		A	876.7	V
A-2-1 08CBD	333135112170601	07/25/06	172.6		C	876.4	V
A-2-1 08CCD	333123112171101	07/25/06	168.1		A	879.9	V
A-2-1 18BCA	333103112181101	07/25/06	129.5		A	896.5	V
A-2-1 8BDC	333148112165701	07/25/06	175.4		A	876.6	V
B-02-01 01BDC1	333240112190701	12/02/82	206.3	S	A	856.7	V
B-02-01 01BDC1	333240112190701	12/20/84	203.6		A	859.4	V
B-02-01 01BDC1	333240112190701	11/04/91	258.7	P	A	804.3	V
B-02-01 01BDC2	333237112190201	10/04/88	233.4	P	A	826.6	V
B-02-01 01BDC2	333237112190201	11/04/91	232.9	R	A	827.1	V
B-02-01 01CCC2	333213112192001	11/30/82	218		O	851	V
B-02-01 01CCC2	333213112192001	01/09/85	200.9		A	868.1	V
B-02-01 01CCC2	333213112192001	11/05/91	211.9		A	857.1	V
B-02-01 01CCC2	333213112192001	10/21/97	200		A	869	V
B-02-01 01CCC2	333213112192001	11/25/02	253.3		A	815.7	V
B-02-01 01CCC2	333213112192001	12/30/03	244.6		A	824.4	V
B-02-01 01CCC2	333213112192001	01/10/05	247.9		A	821.1	V
B-02-01 01CCC2	333213112192001	12/20/05	259		A	810	V
B-02-01 01CCC2	333213112192001	12/22/06	259.8		A	809.2	V
B-02-01 01CCC2	333213112192001	12/12/07	256.4		A	812.6	V
B-02-01 01CCC2	333213112192001	12/04/08	255.4		A	813.6	V
B-02-01 01CCC2	333213112192001	12/09/09	249.4		A	819.6	S
B-02-01 01CCC3	333212112192003	10/21/97	222.8		A	842.2	V
B-02-01 01DDC	333215112183801		235			816	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-02-01 02ABA	333303112194501	03/01/46	106			974	R
B-02-01 02ABA	333303112194501	10/25/61	243.35		U	836.65	T
B-02-01 02ABA	333303112194501	11/21/61	239.12		U	840.88	T
B-02-01 02ABA	333303112194501	03/26/62	233.93		U	846.07	T
B-02-01 02ABA	333303112194501	12/14/62	248.13		U	831.87	T
B-02-01 02ABA	333303112194501	12/16/63	255.53		U	824.47	T
B-02-01 02ABA	333303112194501	12/24/64	258.84		U	821.16	T
B-02-01 02ABA	333303112194501	12/21/65	258.25		U	821.75	T
B-02-01 02ABA	333303112194501	12/22/66	263.64		U	816.36	T
B-02-01 02ABA	333303112194501	12/26/67	273.38		U	806.62	T
B-02-01 02ABA	333303112194501	12/23/68	279.52		U	800.48	T
B-02-01 02ABA	333303112194501	12/26/69	286.1		U	793.9	T
B-02-01 02ABA	333303112194501	12/22/70	290.19		U	789.81	T
B-02-01 02ABA	333303112194501	12/17/71	294.9		U	785.1	T
B-02-01 02ABA	333303112194501	12/15/72	302.15		U	777.85	T
B-02-01 02ABA	333303112194501	12/31/73	303.15		U	776.85	T
B-02-01 02ABA	333303112194501	12/20/74	315.45		U	764.55	T
B-02-01 02ABA	333303112194501	01/17/75	314.2		U	765.8	T
B-02-01 02ABA	333303112194501	02/17/76	319.7		U	760.3	T
B-02-01 02ABA	333303112194501	12/16/76	328.6		U	751.4	T
B-02-01 02ABA	333303112194501	03/07/78	328.4		U	751.6	T
B-02-01 02ABA	333303112194501	01/30/79	314.6		U	765.4	
B-02-01 02ABA	333303112194501	01/16/80	315		U	765	
B-02-01 02ABA	333303112194501	01/27/81	258.1		U	821.9	
B-02-01 02ABA	333303112194501	01/12/82	267.5		A	812.5	V
B-02-01 02ABA	333303112194501	01/09/85		W	A		
B-02-01 02ACA	333245112194501	12/01/60	224		U	849	S
B-02-01 02BAA	333302112200201	12/02/82	340.3		A	739.7	V
B-02-01 02BAA	333302112200201	12/20/84	327.3	C	A	752.7	V
B-02-01 02BBB	333302112202401	11/01/50	148			939	R
B-02-01 02BBC1	333254112202601	04/01/46	103			984	R
B-02-01 02BBC2	333254112202501	12/30/60	253.4		U	833.6	
B-02-01 02BBC2	333254112202501	07/18/62	298	P	U	789	
B-02-01 02BBD1	333253112201401	11/01/36	102			984	R
B-02-01 02BBD2	333253112201301	07/18/62	360	P	U	726	V
B-02-01 02BCB	333250112202301	10/01/73	365			723	R
B-02-01 02BDA	333249112195601	01/17/46	87.78	P	U	977.22	S
B-02-01 02BDA	333249112195601	04/09/46	94.62	S	U	970.38	S
B-02-01 02BDA	333249112195601	06/27/47	75.61	S	U	989.39	S
B-02-01 02BDA	333249112195601	10/16/46	96.5	S	U	968.5	S
B-02-01 02BDA	333249112195601	12/31/46	95.55		U	969.45	S
B-02-01 02BDA	333249112195601	03/17/47	95.01		U	969.99	S
B-02-01 02BDA	333249112195601	11/04/47	109.72	S	U	955.28	S
B-02-01 02BDA	333249112195601	03/05/48	96.93		U	968.07	S
B-02-01 02BDA	333249112195601	10/06/48	127.4	S	U	937.6	S
B-02-01 02BDA	333249112195601	02/18/49	115.46	S	U	949.54	S
B-02-01 02BDA	333249112195601	12/13/49	119.69		U	945.31	S
B-02-01 02BDA	333249112195601	03/21/50	131.49	S	U	933.51	S
B-02-01 02BDA	333249112195601	12/20/50	144.89	S	U	920.11	S
B-02-01 02BDA	333249112195601	02/13/51	139.39		U	925.61	S
B-02-01 02BDA	333249112195601	11/15/51	141.14	S	U	923.86	S
B-02-01 02BDA	333249112195601	01/29/52	135.95		U	929.05	S
B-02-01 02BDA	333249112195601	11/20/52	152.53		U	912.47	S
B-02-01 02BDA	333249112195601	02/25/53	146.6		U	918.4	S
B-02-01 02BDA	333249112195601	11/17/53	163.08	S	U	901.92	S
B-02-01 02BDA	333249112195601	02/05/54	159.31	S	U	905.69	S
B-02-01 02BDA	333249112195601	03/06/56	160		U	905	S
B-02-01 02BDC	333241112200801	05/01/46	100			986	R
B-02-01 03AAD	333258112202801	05/22/74	327.6		U	760.4	S
B-02-01 03ABB2	333304112205101	02/26/62	297.4		U	795.6	
B-02-01 03ABB2	333304112205101	12/27/62	270.26		U	822.74	
B-02-01 03ABB2	333304112205101	12/02/82	377.9		A	715.1	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-02-01 03ABB2	333304112205101	12/20/84	358		A	735	V
B-02-01 03ABB2	333304112205101	11/04/91	550.2	P	A	542.8	V
B-02-01 03ABB2	333304112205101	09/17/62	284	P	U	809	S
B-02-01 03BBA1	333303112211401	10/12/54	200.1		U	895.9	S
B-02-01 03DDA1	333223112203101	04/01/59	225			859	R
B-02-01 03DDA2	333223112203201	04/01/59	220			864	R
B-02-01 03DDD	333213112202601	12/29/60	249.8		U	834.2	
B-02-01 03DDD	333213112202601	02/26/62	271.9		U	812.1	
B-02-01 03DDD	333213112202601	12/27/62	274.99		U	809.01	
B-02-01 03DDD	333213112202601	01/06/72	264.7		B	819.3	S
B-02-01 03DDD	333213112202601	12/03/82	328		A	756	V
B-02-01 03DDD	333213112202601	01/09/85	323.3		A	760.7	V
B-02-01 10BBA1	333211112211201	10/20/46	97		U	988	S
B-02-01 10BBA1	333211112211201	02/10/54	172.53	R	U	912.47	S
B-02-01 10BBA1	333211112211201	02/14/55	185.38		U	899.62	S
B-02-01 10BBA1	333211112211201	02/14/56	197.42		U	887.58	S
B-02-01 10BBA1	333211112211201	01/25/57	206.17		U	878.83	S
B-02-01 10BBA1	333211112211201	01/21/58	215.55		U	869.45	S
B-02-01 10BBA1	333211112211201	01/20/59	238.57		U	846.43	S
B-02-01 10BBA1	333211112211201	10/08/59	241.62		U	843.38	S
B-02-01 10BBA1	333211112211201	02/09/60	235.8		U	849.2	S
B-02-01 10BBA1	333211112211201	12/29/60	249.5		U	835.5	S
B-02-01 10BBA1	333211112211201	02/26/62	272.51		U	812.49	S
B-02-01 10BBA1	333211112211201	01/11/63	267.2	S	U	817.8	S
B-02-01 10BBA1	333211112211201	01/06/65	283.89		U	801.11	S
B-02-01 10BBA1	333211112211201	01/29/66	290.4		U	794.6	S
B-02-01 10BBA2	333211112211301	05/01/68	317		U	766	S
B-02-01 11CCB	333130112201701	01/19/68	301.95		U	814.05	S
B-02-01 11DDA1	333130112192701	01/01/46	73			971	R
B-02-01 11DDA2	333130112192601	12/01/36	79			965	R
B-02-01 12ABC2	333203112184501	09/08/00	160.1		A	890.9	V
B-02-01 12ABC2	333203112184501	11/26/02	84.5		A	966.5	V
B-02-01 12BAC	333159112190401	09/29/88	179.24		A	860.76	V
B-02-01 12BAC	333159112190401	11/04/91	128.9		A	911.1	V
B-02-01 12BAC	333159112190401	10/31/97	141.2		A	899	V
B-02-01 12BAC	333159112190401	11/25/02	251.89		A	788.11	V
B-02-01 12BCC	333151112191801	06/15/87	452.8	P	A	602	V
B-02-01 12BCC	333151112191801	11/05/91	200.3		A	854.7	V
B-02-01 12BCC	333151112191801	08/03/95	462.5	P	A	593	V
B-02-01 12BCC	333151112191801	10/31/97	324.1	P	A	731	V
B-02-01 12BCC	333151112191801	02/03/09	224.1		A	830.9	V
B-02-01 12BDD1	333147112185901	01/01/45	63			983	R
B-02-01 12BDD1	333147112185901	01/01/46	74.6		U	971.4	
B-02-01 12BDD3	333148112185901	01/06/72	237	S	B	809	V
B-02-01 12BDD3	333148112185901	12/07/82	169		A	877	V
B-02-01 12BDD3	333148112185901	12/20/84	152.1		A	893.9	V
B-02-01 12BDD3	333148112185901	11/11/91	167.7		A	878.3	V
B-02-01 12BDD3	333148112185901	08/04/95	253.3	P	A	793	V
B-02-01 12BDD3	333148112185901	10/31/97	175.4		A	871	V
B-02-01 12BDD3	333148112185901	01/28/03	202.5	S	A	843.5	V
B-02-01 12CAD	333136112185801	12/29/60	192.05		U	848.95	S
B-02-01 12CAD	333157112190601	12/27/62	212.6		U	833.4	
B-02-01 12CAD	333136112185801	12/23/76	247.8		U	793.2	S
B-02-01 12CAD	333136112185801	12/20/84	138.5		A	902.5	V
B-02-01 12CAD	333136112185801	08/29/85	291.4	P	A	749.6	V
B-02-01 12CAD	333136112185801	11/04/91	168.5		A	872.5	V
B-02-01 12CAD	333136112185801	08/06/92	261.4	P	A	779.6	V
B-02-01 12CAD	333136112185801	10/31/97	160.1		A	880.9	V
B-02-01 12CAD	333136112185801	02/19/09	203		A	838	V
B-02-01 12CCA2	333134112185401	01/06/72	231	S	B	809	V
B-02-01 12CDD	333113112190701	12/07/82	157.5		A	878.5	V
B-02-01 12CDD	333113112190701	12/14/84	137		A	899	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-02-01 12CDD	333113112190701	11/04/91	157.2		A	878.8	V
B-02-01 12CDD	333113112190701	08/09/95	294.3	P	A	742	V
B-02-01 12CDD	333113112190701	10/31/97	156.8		A	879	V
B-02-01 13BAD	333059112190801	01/09/85	132.2		A	900.8	V
B-02-01 13BAD	333059112190801	11/04/91	155.4		A	877.6	V
B-02-01 13BAD	333059112190801	08/09/95	275.1	P	A	758	V
B-02-01 13BAD	333059112190801	10/31/97	153.5		A	880	V
B-02-01 13BAD	333059112190801	01/28/03	187.8		A	845.2	V
B-02-01 13CCA	333039112190901	11/18/54	119.33		U	907.67	S
B-02-01 13CCA	333039112190901	08/01/55	132.45		U	894.55	S
B-02-01 13CCA	333039112190901	02/14/56	125.36		U	901.64	S
B-02-01 13CCA	333039112190901	05/04/56	131.48		U	895.52	S
B-02-01 13CCA	333039112190901	02/26/62	174.45		U	852.55	
B-02-01 13CCA	333039112190901	12/30/60	162.78		U	864.22	S
B-02-01 13CCA	333039112190901	01/31/62	174.13		U	852.87	S
B-02-01 13CCA	333039112190901	12/27/62	181.72		U	845.28	S
B-02-01 13CCA	333039112190901	01/29/66	193.28		U	833.72	S
B-02-01 13CCA	333039112190901	01/06/72	213		B	814	V
B-02-01 13CCA	333039112190901	10/31/97	139.7		A	887	V
B-02-01 14AAA	333114112192401	01/06/72	239		B	798	V
B-02-01 14AAB	333116112193501	01/01/17	22.5			1024.5	R
B-02-01 14AAD	333110112192601	05/09/64	183		D	852	R
B-02-01 14AAD	333110112192601	10/23/97	162.8		A	872	V
B-02-01 14AAD	333110112192601	10/31/97	163.1		A	872	V
B-02-01 14ABD1	333109112194201	07/01/17	25.1			1017.9	R
B-02-01 14ABD2	333109112194301	12/03/82	210.3		A	833.7	V
B-02-01 14ABD2	333109112194301	12/20/84	187.8		A	856.2	V
B-02-01 14ABD2	333109112194301	06/16/87	334.5	P	A	710	V
B-02-01 14ABD2	333109112194301	11/05/91	243.6		A	800.4	V
B-02-01 14ABD2	333109112194301	08/07/92	408	P	A	636	V
B-02-01 14ABD2	333109112194301	08/03/95	368.6	P	A	675	V
B-02-01 14ABD2	333109112194301	10/31/97	191.2		A	853	V
B-02-01 14ABD2	333109112194301	12/13/02	228.89		A	815.11	V
B-02-01 14CBB	333052112202401	07/11/62	156.62		U	900.38	S
B-02-01 14CBB	333052112202401	12/29/60	144.17		U	912.83	S
B-02-01 14CBB	333052112202401	08/02/61	147.9		U	909.1	S
B-02-01 14CBB	333052112202401	12/18/61	151.05		U	905.95	S
B-02-01 14CBB	333052112202401	06/12/62	156.79		U	900.21	S
B-02-01 14CBB	333052112202401	08/09/62	157.37		U	899.63	S
B-02-01 14CBB	333052112202401	09/07/62	158.23		U	898.77	S
B-02-01 14CBB	333052112202401	10/05/62	160		U	897	S
B-02-01 14CBB	333052112202401	11/05/62	159.74		U	897.26	S
B-02-01 14CBB	333052112202401	12/04/62	160.54		U	896.46	S
B-02-01 14CBB	333052112202401	01/04/63	161.2		U	895.8	S
B-02-01 14CBB	333052112202401	02/05/63	161.95		U	895.05	S
B-02-01 14CBB	333052112202401	03/05/63	162.79		U	894.21	S
B-02-01 14CBB	333052112202401	04/02/63	163.38		U	893.62	S
B-02-01 14CBB	333052112202401	05/01/63	163.89		U	893.11	S
B-02-01 14CBB	333052112202401	06/04/63	164.73		U	892.27	S
B-02-01 14CBB	333052112202401	07/01/63	165.73		U	891.27	S
B-02-01 14CBB	333052112202401	07/31/63	166.1		U	890.9	S
B-02-01 14CBB	333052112202401	08/28/63	166.54		U	890.46	S
B-02-01 14CBB	333052112202401	09/25/63	168.37		U	888.63	S
B-02-01 14CBB	333052112202401	10/23/63	167.72		U	889.28	S
B-02-01 14CBB	333052112202401	11/19/63	168.34		U	888.66	S
B-02-01 14CBB	333052112202401	12/06/63	168.77		U	888.23	S
B-02-01 14CBB	333052112202401	12/16/63	168.89		U	888.11	S
B-02-01 14CBB	333052112202401	12/23/63	169.13		U	887.87	S
B-02-01 14CBB	333052112202401	01/13/64	169.43		U	887.57	S
B-02-01 14CBB	333052112202401	02/11/64	169.97		U	887.03	S
B-02-01 14CBB	333052112202401	03/11/64	170.8		U	886.2	V
B-02-01 14CBB	333052112202401	03/11/64	170.58		U	886.42	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-02-01 14CBB	333052112202401	04/07/64	171.13		U	885.87	S
B-02-01 14CBB	333052112202401	05/07/64	171.62		U	885.38	S
B-02-01 14CBB	333052112202401	06/05/64	172.05		U	884.95	S
B-02-01 14CBB	333052112202401	07/02/64	172.53		U	884.47	S
B-02-01 14CBB	333052112202401	07/31/64	173.04		U	883.96	S
B-02-01 14CBB	333052112202401	08/31/64	173.57		U	883.43	S
B-02-01 14CBB	333052112202401	09/30/64	174.04		U	882.96	S
B-02-01 14CBB	333052112202401	10/29/64	174.58		U	882.42	S
B-02-01 14CBB	333052112202401	11/25/64	174.85		U	882.15	S
B-02-01 14CBB	333052112202401	12/24/64	175.24		U	881.76	S
B-02-01 14CBB	333052112202401	01/21/65	175.68		U	881.32	S
B-02-01 14CBB	333052112202401	02/22/65	176.05		U	880.95	S
B-02-01 14CBB	333052112202401	03/22/65	176.56		U	880.44	S
B-02-01 14CBB	333052112202401	04/23/65	177.03		U	879.97	S
B-02-01 14CBB	333052112202401	05/20/65	177.45		U	879.55	S
B-02-01 14CBB	333052112202401	06/21/65	177.93		U	879.07	S
B-02-01 14CBB	333052112202401	07/21/65	178.27		U	878.73	S
B-02-01 14CBB	333052112202401	08/20/65	178.73		U	878.27	S
B-02-01 14CBB	333052112202401	09/21/65	179.17		U	877.83	S
B-02-01 14CBB	333052112202401	10/22/65	179.48		U	877.52	S
B-02-01 14CBB	333052112202401	11/21/65	179.83		U	877.17	S
B-02-01 14CBB	333052112202401	12/21/65	180.08		U	876.92	S
B-02-01 14CBB	333052112202401	01/21/66	180.45		U	876.55	S
B-02-01 14CBB	333052112202401	02/22/66	180.67		U	876.33	S
B-02-01 14CBB	333052112202401	04/21/66	181.28		U	875.72	S
B-02-01 14CBB	333052112202401	05/21/66	181.72		U	875.28	S
B-02-01 14CBB	333052112202401	06/21/66	182		U	875	S
B-02-01 14CBB	333052112202401	07/28/66	182.33		U	874.67	S
B-02-01 14CBB	333052112202401	08/17/66	182.62		U	874.38	S
B-02-01 14CBB	333052112202401	09/21/66	182.96		U	874.04	S
B-02-01 14CBB	333052112202401	10/25/66	183.27		U	873.73	S
B-02-01 14CBB	333052112202401	11/23/66	183.42		U	873.58	S
B-02-01 14CBB	333052112202401	12/22/66	183.86		U	873.14	S
B-02-01 14CBB	333052112202401	01/19/67	183.95		U	873.05	S
B-02-01 14CBB	333052112202401	02/23/67	184.2		U	872.8	S
B-02-01 14CBB	333052112202401	03/22/67	184.32		U	872.68	S
B-02-01 14CBB	333052112202401	04/20/67	184.73		U	872.27	S
B-02-01 14CBB	333052112202401	05/22/67	185.05		U	871.95	S
B-02-01 14CBB	333052112202401	06/22/67	185.35		U	871.65	S
B-02-01 14CBB	333052112202401	07/24/67	185.68		U	871.32	S
B-02-01 14CBB	333052112202401	08/24/67	186		U	871	S
B-02-01 14CBB	333052112202401	09/25/67	186.15		U	870.85	S
B-02-01 14CBB	333052112202401	10/25/67	186.42		U	870.58	S
B-02-01 14CBB	333052112202401	11/27/67	186.63		U	870.37	S
B-02-01 14CBB	333052112202401	12/26/67	186.09		U	870.91	V
B-02-01 14CBB	333052112202401	01/26/68	186.86		U	870.14	S
B-02-01 14CBB	333052112202401	02/26/68	187.17		U	869.83	S
B-02-01 14CBB	333052112202401	03/26/68	187.4		U	869.6	S
B-02-01 14CBB	333052112202401	04/24/68	187.84		U	869.16	S
B-02-01 14CBB	333052112202401	05/27/68	183		U	874	S
B-02-01 14CBB	333052112202401	06/28/68	188.35		U	868.65	S
B-02-01 14CBB	333052112202401	07/24/68	188.2		U	868.8	S
B-02-01 14CBB	333052112202401	08/27/68	188.77		U	868.23	S
B-02-01 14CBB	333052112202401	09/25/68	188.9		U	868.1	S
B-02-01 14CBB	333052112202401	10/24/68	139.05		U	917.95	S
B-02-01 14CBB	333052112202401	11/29/68	189.45		U	867.55	S
B-02-01 14CBB	333052112202401	12/23/68	188.85		U	868.15	S
B-02-01 14CBB	333052112202401	01/24/69	190.83		U	866.17	S
B-02-01 14CBB	333052112202401	02/25/69	192.4		U	864.6	S
B-02-01 14CBB	333052112202401	03/25/69	191.6		U	865.4	S
B-02-01 14CBB	333052112202401	04/25/69	190.1		U	866.9	S
B-02-01 14CBB	333052112202401	05/26/69	190.4		U	866.6	S

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-02-01 14CBB	333052112202401	06/25/69	191.2		U	865.8	S
B-02-01 14CBB	333052112202401	07/25/69	190.82		U	866.18	S
B-02-01 14CBB	333052112202401	08/22/69	190.79		U	866.21	S
B-02-01 14CBB	333052112202401	09/24/69	190.85		U	866.15	S
B-02-01 14CBB	333052112202401	12/26/69	186.9		U	870.1	S
B-02-01 14CBB	333052112202401	01/26/69	190.75		U	866.25	S
B-02-01 14CBB	333052112202401	02/26/70	190.45		U	866.55	S
B-02-01 14CBB	333052112202401	03/26/70	192		U	865	S
B-02-01 14CBB	333052112202401	05/26/70	192.7		U	864.3	S
B-02-01 14CBB	333052112202401	06/24/70	192.6		U	864.4	S
B-02-01 14CBB	333052112202401	01/27/71	192.65		U	864.35	S
B-02-01 14CBB	333052112202401	01/06/72	195.8		R	861.2	
B-02-01 14CBB	333052112202401	01/25/73	196.8		U	860.2	V
B-02-01 14CBB	333052112202401	01/10/74	198.7		U	858.3	V
B-02-01 14CBB	333052112202401	02/21/75	199.5		U	857.5	V
B-02-01 14CBB	333052112202401	02/03/76	200.4		U	856.6	S
B-02-01 14CBB	333052112202401	12/16/76	205.6		U	851.4	S
B-02-01 14CBB	333052112202401	03/07/78	214.9		U	842.1	V
B-02-01 14CBB	333052112202401	01/25/79	211.7		U	845.3	V
B-02-01 14CBB	333052112202401	01/16/80	218.8		U	838.2	V
B-02-01 14CBB	333052112202401	01/27/81	215.5		U	841.5	V
B-02-01 14CBB	333052112202401	01/11/82	211.6		A	845.4	V
B-02-01 14CBB	333052112202401	12/07/82	207.7		A	849.3	V
B-02-01 14CBB	333052112202401	12/20/84	201.4		A	855.6	V
B-02-01 14CBB	333052112202401	06/24/85	200.3		A	856.7	V
B-02-01 14CBB	333052112202401	12/10/85	200.6		A	856.4	V
B-02-01 14CBB	333052112202401	06/04/86	199.7		A	857.3	V
B-02-01 14CBB	333052112202401	12/05/86	202.1		A	854.9	V
B-02-01 14CBB	333052112202401	06/01/87	204.9		A	852.1	V
B-02-01 14CBB	333052112202401	12/14/87	202.2		A	854.8	V
B-02-01 14CBB	333052112202401	05/31/88	200.4		A	856.6	V
B-02-01 14CBB	333052112202401	12/08/88	200.9		A	856.1	V
B-02-01 14CBB	333052112202401	11/27/89	201.7		A	855.3	V
B-02-01 14CBB	333052112202401	11/28/90	203.7		A	853.3	V
B-02-01 14CBB	333052112202401	11/05/91	203.3		A	853.7	V
B-02-01 14CBB	333052112202401	11/24/92	202.1		A	854.9	V
B-02-01 14CBB	333052112202401	11/18/93	196.8		A	860.2	V
B-02-01 14CBB	333052112202401	12/21/94	195.2		A	861.8	V
B-02-01 14CBB	333052112202401	11/22/95	197.6		A	859.4	V
B-02-01 14CBB	333052112202401	10/29/96	198.1		A	858.9	V
B-02-01 14CBB	333052112202401	12/06/83	205.8		A	851.2	V
B-02-01 14CBB	333052112202401	04/14/98	195.1		A	861.9	V
B-02-01 14CBB	333052112202401	11/30/98	196.4		A	860.6	V
B-02-01 14CBB	333052112202401	11/01/99	198.5		A	858.5	V
B-02-01 14CBB	333052112202401	11/09/00	198.8		A	858.2	V
B-02-01 14CBB	333052112202401	10/29/01	200.9		A	856.1	V
B-02-01 14CBB	333052112202401	12/13/02	205.1		A	851.9	V
B-02-01 14CBB	333052112202401	12/22/03	208.3		A	848.7	V
B-02-01 14CBB	333052112202401	09/09/02	202.4		A	854.6	V
B-02-01 14CBB	333052112202401	12/23/04	211.2		A	845.8	V
B-02-01 14CBB	333052112202401	12/20/05	212.2		A	844.8	V
B-02-01 14CBB	333052112202401	12/22/06	212.9		A	844.1	V
B-02-01 14CBB	333052112202401	12/11/07	216.2		A	840.8	V
B-02-01 14CBB	333052112202401	01/13/09	215.2		A	841.8	V
B-02-01 14CBB	333052112202401	12/08/09	263.3		A	793.7	V
B-02-01 14DBB1	333052112195001	01/01/17	30.3			1013.7	R
B-02-01 14DBB2	333052112195101	12/29/60	227.9		U	816.1	S
B-02-01 14DBB2	333052112195101	01/06/72	271		B	773	V
B-03-01 01CBD	333743112191601	01/28/57	209		U	943	*
B-03-01 01CBD	333743112191601	02/08/60	238.7		U	913.3	*
B-03-01 01CBD	333743112191601	01/24/62	259.5		U	892.5	*
B-03-01 01CBD	333743112191601	01/07/63	275.3		U	876.7	*

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 01CBD	333743112191601	02/04/64	282.24		U	869.76	*
B-03-01 01CBD	333743112191601	01/23/65	290.89		U	861.11	*
B-03-01 01CBD	333743112191601	01/25/66	291.6		U	860.4	*
B-03-01 01CBD	333743112191601	01/25/67	296.7		U	855.3	*
B-03-01 01CBD	333743112191601	01/02/03	0	W	A	0	V
B-03-01 01CCB	333738112192601	02/18/52	171.6		U	989.4	*
B-03-01 01CCB	333738112192601	01/07/63	283.2		U	877.8	*
B-03-01 01CCB	333738112192601	01/23/65	303.59		U	857.41	*
B-03-01 01CCB	333738112192601	01/25/66	305.9		U	855.1	*
B-03-01 01CCB	333738112192601	01/25/67	311.42		U	849.58	*
B-03-01 01CCB	333738112192601	01/02/03	0	W	A	0	V
B-03-01 02ACC	333758112195701	11/02/89	396.3		A	778.7	V
B-03-01 02ACC	333758112195701	11/02/89	483.5	P	A	692	V
B-03-01 02ACC	333758112195701	10/23/97	398.6		A	776	V
B-03-01 02ACC	333758112195701	06/27/97	515.8	P	A	659	V
B-03-01 02ACC	333758112195701	12/06/02	395		A	780	V
B-03-01 02ACC	333758112195701	01/21/09	406.5		A	768.5	V
B-03-01 02DAD	333741112192801	11/02/89	394.8		A	767.2	V
B-03-01 02DAD	333741112192801	11/02/89	498.1	P	A	664	V
B-03-01 02DAD	333741112192801	11/07/91	396.1		A	765.9	V
B-03-01 02DAD	333741112192801	06/27/97	516.9	P	A	645	V
B-03-01 02DAD	333741112192801	01/22/09	375.1		A	786.9	V
B-03-01 02DCD	333728112194601	01/14/47	144			1018	R
B-03-01 03BBB	333817112212701	02/20/62	321.25		U	883.75	*
B-03-01 03BBB	333817112212701	10/21/82	432.3		A	772.7	V
B-03-01 03BBB	333817112212701	11/08/91	446.8		A	758.2	V
B-03-01 03BBB	333817112212701	07/10/95	507.4	P	A	698	V
B-03-01 03BBB	333817112212701	01/15/03	429.04		A	775.96	V
B-03-01 03BBB	333817112212701	12/17/08	444.7		A	760.3	V
B-03-01 10ABB	333723112205801	07/25/85	494.6	P	A	683.4	V
B-03-01 10ABB	333723112205801	05/08/85	454	P	A	724	V
B-03-01 10ACB	333708112205501	12/21/82	397.7		A	776.3	V
B-03-01 11BBB	333724112202401	01/09/63	304.3		B	863.7	V
B-03-01 11BBB	333724112202401	01/18/72	358		B	810	*
B-03-01 11BBB	333724112202401	01/17/77	326.5		U	841.5	*
B-03-01 11BBB	333724112202401	12/21/82	391.8	R	A	776	V
B-03-01 11BBB	333724112202401	01/09/85	325.4		A	842.6	V
B-03-01 11BBB	333724112202401	11/06/91	396.8	C	A	771	V
B-03-01 11BBB	333724112202401	10/21/97	364.4	C	A	804	V
B-03-01 11BBB	333724112202401	07/14/76	332.5	P	U	836	V
B-03-01 11BBB	333724112202401	12/13/02	388.89	C	A	779.11	V
B-03-01 11BCB	333708112202501	01/01/63	333		U	829	S
B-03-01 11BCB	333708112202501	07/14/76	476		U	686	V
B-03-01 12BBB1	333724112192501	01/07/63		D	U		
B-03-01 12BBB2	333723112192501	11/04/99	383.8		A	767.2	V
B-03-01 12BBB2	333723112192501	02/20/62	279.87		B	871.13	V
B-03-01 12BBB2	333723112192501	12/21/82	359.2		A	791.8	V
B-03-01 12BBB2	333723112192501	12/20/84	349.8		A	801.2	V
B-03-01 12BBB2	333723112192501	11/27/89	379.5		A	771.5	V
B-03-01 12BBB2	333723112192501	11/06/91	377.9		A	773.1	V
B-03-01 12BBB2	333723112192501	11/20/92	371.6		A	779.4	V
B-03-01 12BBB2	333723112192501	11/24/93	354		A	797	V
B-03-01 12BBB2	333723112192501	12/21/94	362.6		A	788.4	V
B-03-01 12BBB2	333723112192501	10/21/97	388.2		A	762.8	V
B-03-01 12BBB2	333723112192501	12/10/98	384.6		A	766.4	V
B-03-01 12BBB2	333723112192501	11/08/00	385.5		A	765.5	V
B-03-01 12BBB2	333723112192501	01/04/05	386.4		A	764.6	V
B-03-01 12BBB2	333723112192501	08/14/62	357	P	U	794	V
B-03-01 12BBB2	333723112192501	07/13/76	448.8	P	U	702.2	V
B-03-01 12BBB2	333723112192501	12/22/05	388.5		A	762.5	V
B-03-01 12BBB2	333723112192501	12/21/06	388		A	763	V
B-03-01 12BBB2	333723112192501	12/11/07	390.9		A	760.1	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 12BBB2	333723112192501	01/21/09	388.3		A	762.7	V
B-03-01 12BBB2	333723112192501	12/10/09	385.5		A	765.5	V
B-03-01 12CBB1	333652112192201	11/02/89	409.1	P	A	732	V
B-03-01 12CBB1	333652112192201	11/07/91	406.5		A	734.5	V
B-03-01 12CBB1	333652112192201	10/02/97	420.2	P	A	721	V
B-03-01 12CBB1	333652112192201	01/22/09	392.1		A	748.9	V
B-03-01 13BAA2	333630112185601	11/02/89	432.9	P	A	693.1	V
B-03-01 13BAA2	333630112185601	11/07/91	359.4		A	766.6	V
B-03-01 13BAA2	333630112185601	10/22/97	466.4		A	659.6	V
B-03-01 13BAA2	333630112185601	06/27/97	482.8	P	A	643.2	V
B-03-01 13BAA2	333630112185601	01/22/09	360.2		A	765.8	V
B-03-01 13BBA	333632112191301	02/14/52	197			932	R
B-03-01 13DBB	333604112185301	01/13/72	274		B	842	V
B-03-01 13DBB	333604112185301	12/21/82	283.6		A	832.4	V
B-03-01 13DBB	333604112185301	12/20/84	281.7		A	834.3	V
B-03-01 13DBB	333604112185301	11/06/91		W	A		*
B-03-01 13DBB	333604112185301	07/20/62	311	P	U	805	V
B-03-01 14AAA	333630112193001	12/16/82	364.5		A	773.5	V
B-03-01 14AAA	333630112193001	12/20/84	334.6		A	803.4	V
B-03-01 14AAA	333630112193001	11/06/91	369.3	R	A	769	V
B-03-01 14AAA	333630112193001	11/11/97	400.5		A	738	V
B-03-01 14AAA	333630112193001	01/30/03	417.1	V	A	720.9	V
B-03-01 14ABB	333631112195401	02/06/54	193.47		U	949.53	
B-03-01 14ABB	333631112195401	02/20/62	250.5		U	892.5	
B-03-01 14ABB	333631112195401	12/31/62	261.39		U	881.61	
B-03-01 14ABB	333631112195401	01/13/72	278		B	865	V
B-03-01 14BBB1	333632112202801	01/01/48	158			993	R
B-03-01 14BBB1	333632112202801	05/14/51	180.78		U	970.22	S
B-03-01 14BBB1	333632112202801	12/06/76		W	U		
B-03-01 14BBB2	333632112202701	07/20/62	336	P	U	815	
B-03-01 14CAA	333601112200401	01/21/09	361.7		A	771.3	V
B-03-01 15BBB3	333631112212501	12/16/82	395.8		A	772.2	V
B-03-01 15BBB3	333631112212501	12/20/84	377.7		A	790.3	V
B-03-01 15BBB3	333631112212501	11/06/91	414.1	S	A	754	V
B-03-01 15BBB3	333631112212501	12/18/97	432.7		A	735	V
B-03-01 15BBB3	333631112212501	12/17/02	411.89		A	756.11	V
B-03-01 15CBB3	333605112212801	01/26/62	313.41		U	847.59	S
B-03-01 15CBB3	333605112212801	10/12/61	334		U	827	
B-03-01 15CBB3	333605112212801	12/19/62	338.7		B	822.3	
B-03-01 15CBB3	333605112212801	01/21/65	339.49		U	821.51	
B-03-01 15CBB3	333605112212801	01/29/66	339		U	822	
B-03-01 15CBB3	333605112212801	01/10/74	375.8		U	785.2	
B-03-01 15CBB3	333605112212801	01/14/72	386		B	775	V
B-03-01 15CBB3	333605112212801	02/21/75	420		U	741	
B-03-01 15CBB3	333605112212801	02/03/76	415.5		U	745.5	
B-03-01 15CBB3	333605112212801	02/03/81	416.3		U	744.7	T
B-03-01 15CBB3	333605112212801	04/26/85	535.5	P	A	626	V
B-03-01 15CBB3	333605112212801	06/04/86	463.8	P	A	697	V
B-03-01 15CBB3	333605112212801	12/05/86		O	A		
B-03-01 15CBB3	333605112212801	06/02/87	462.6		A	698.4	V
B-03-01 15CBB3	333605112212801	12/15/87	544.1	P	A	617	V
B-03-01 15CBB3	333605112212801	11/06/91	422.6		A	738.4	V
B-03-01 15CBB3	333605112212801	11/24/92	512.9		A	648.1	V
B-03-01 15CBB3	333605112212801	11/23/93	382.6		A	778.4	V
B-03-01 15CBB3	333605112212801	12/22/94	403.4		A	757.6	V
B-03-01 15CBB3	333605112212801	11/21/95	408.8		A	752.2	V
B-03-01 15CBB3	333605112212801	10/20/97	431.7		A	729	V
B-03-01 15CBB3	333605112212801	11/30/98	436.5	S	A	725	V
B-03-01 15CBB3	333605112212801	03/09/00	419.2		A	742	V
B-03-01 15CBB3	333605112212801	11/06/00	393.6		A	767	V
B-03-01 15CBB3	333605112212801	12/06/02	396.7		A	764.3	V
B-03-01 15CBB3	333605112212801	12/30/03	395.3		A	765.7	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 15CBB3	333605112212801	12/20/04	374.2		A	786.8	V
B-03-01 15CBB3	333605112212801	08/08/62	405	P	U	756	V
B-03-01 15CBB3	333605112212801	12/19/05	393.3		A	767.7	V
B-03-01 15CBB3	333605112212801	11/09/06	407.2		A	753.8	V
B-03-01 15CBB3	333605112212801	12/27/07	385.5		A	775.5	V
B-03-01 22ABB	333540112205201	02/20/62	301.28		U	838.72	S
B-03-01 22ABB	333540112205201	12/31/62	315.62		U	824.38	S
B-03-01 22ABB	333540112205201	10/22/97	449.2		A	690.8	V
B-03-01 22BAD	333538112210401	11/12/02	331.5		A	808.5	V
B-03-01 22BCA	333521112212101	11/12/97	354.5		A	789	V
B-03-01 22CAA	333509112210501	03/03/99	451.2	P	A	680.8	V
B-03-01 22CBA	333509112212101	02/27/98	327.1		A	811	V
B-03-01 22CBA	333509112212101	11/12/02	301.1		A	836.9	V
B-03-01 22CBA	333509112212101	02/26/09	282.4		A	855.6	V
B-03-01 23BBB1	333540112202701	05/14/51	179.85		U	954.15	S
B-03-01 23BBB1	333540112202701	02/14/52	191.8		U	942.2	S
B-03-01 23BBB1	333540112202701	10/20/97	305.9		A	828	V
B-03-01 23BBB1	333540112202701	01/31/03	290		A	844	V
B-03-01 23BBC	333533112202601	12/16/82	363.5		A	768.5	V
B-03-01 23BBC	333533112202601	12/20/84	352.9		A	779.1	V
B-03-01 23BBC	333533112202601	11/06/91	379.9		A	752.1	V
B-03-01 23BBC	333533112202601	10/20/97	387.3		A	745	V
B-03-01 23BBC	333533112202601	01/31/03	0	W	A	0	V
B-03-01 23BCB	333520112202601	12/20/82		D	A		
B-03-01 23CBB	333512112202601	02/20/62	228.65		U	898.35	S
B-03-01 23CBB	333512112202601	12/31/62	303.04		U	823.96	S
B-03-01 23CBB	333512112202601	01/21/09		O	A		V
B-03-01 24BBB1	333540112192401	01/01/43	96			1022	R
B-03-01 24BBB2	333539112192401	03/01/49	121			997	R
B-03-01 24BBB3	333539112192301	11/02/99	343.7		A	774.3	V
B-03-01 24BBB3	333539112192301	01/17/77	316.2		U	801.8	
B-03-01 24BBB3	333539112192301	12/16/82	303.5		A	814.5	V
B-03-01 24BBB3	333539112192301	01/15/85	292.5		A	825.5	V
B-03-01 24BBB3	333539112192301	12/10/85	304.2		A	813.8	V
B-03-01 24BBB3	333539112192301	06/04/86	323.4		A	794.6	V
B-03-01 24BBB3	333539112192301	12/05/86	317.4		A	800.6	V
B-03-01 24BBB3	333539112192301	06/02/87	326.4		A	791.6	V
B-03-01 24BBB3	333539112192301	12/14/87	317.5		A	800.5	V
B-03-01 24BBB3	333539112192301	12/14/88	327.3		A	790.7	V
B-03-01 24BBB3	333539112192301	05/12/89	378.3	P	A	739.7	V
B-03-01 24BBB3	333539112192301	11/27/89	335.2		A	782.8	V
B-03-01 24BBB3	333539112192301	12/06/90	340.2		A	777.8	V
B-03-01 24BBB3	333539112192301	11/06/91	337.4		A	780.6	V
B-03-01 24BBB3	333539112192301	11/24/92	331.3		A	786.7	V
B-03-01 24BBB3	333539112192301	11/23/93	314		A	804	V
B-03-01 24BBB3	333539112192301	12/21/94	317.5		A	800.5	V
B-03-01 24BBB3	333539112192301	11/21/95	325.4		A	792.6	V
B-03-01 24BBB3	333539112192301	12/17/97	334.8		A	783.2	V
B-03-01 24BBB3	333539112192301	12/01/98	337.9		A	780.1	V
B-03-01 24BBB3	333539112192301	01/31/03	354.5		A	763.5	V
B-03-01 24BBB3	333539112192301	07/15/76	394	P	U	724	V
B-03-01 24BBB3	333539112192301	12/30/03	352.1		A	765.9	V
B-03-01 24BBB3	333539112192301	01/04/05	338.5		A	779.5	V
B-03-01 24BBB3	333539112192301	01/05/06	361.7	R	A	756.3	V
B-03-01 24BBB3	333539112192301	12/27/06	348.4		A	769.6	V
B-03-01 24BBB3	333539112192301	12/12/07	350		A	768	V
B-03-01 24BBB3	333539112192301	12/01/08	356.3		A	761.7	V
B-03-01 24BBB3	333539112192301	12/07/09	350.3		A	767.7	V
B-03-01 24BCB	333522112192501	01/13/72	283		B	829	V
B-03-01 24BCB	333522112192501	06/13/62	377	P	U	735	V
B-03-01 25BBB1	333447112192401	02/01/52	137			970	R
B-03-01 25BBB2	333448112192401	10/01/46	87			1020	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 25BBB3	333446112192401	01/13/72	291		B	816	V
B-03-01 25BBB3	333446112192401	12/08/82	279.5		A	827.5	V
B-03-01 25BBB3	333446112192401	12/18/84	274.4		A	832.6	V
B-03-01 25BBB3	333446112192401	11/06/91	311.2		A	795.8	V
B-03-01 25BBB3	333446112192401	07/20/62	381	P	U	726	V
B-03-01 26ABB	333447112194801	02/06/54	177.44		U	937.56	S
B-03-01 26ABB	333447112194801	12/31/62	281.31		U	833.69	S
B-03-01 26ABB	333447112194801	02/17/66	282.6		U	832.4	S
B-03-01 26ABB	333447112194801	01/30/67	287.6		U	827.4	S
B-03-01 26ABB	333447112194801	01/18/68	296.42		U	818.58	S
B-03-01 26ABB	333447112194801	02/16/70	317.6		U	797.4	
B-03-01 26ABB	333447112194801	01/27/71	312.7		U	802.3	
B-03-01 26ABB	333447112194801	01/13/72	362		U	753	S
B-03-01 26ABB	333447112194801	01/25/73	329.9		U	785.1	
B-03-01 26ABB	333447112194801	01/10/74	339.5		U	775.5	
B-03-01 26ABB	333447112194801	12/16/76	371.8		U	743.2	
B-03-01 26ABB	333447112194801	03/07/78	385.7		U	729.3	
B-03-01 26ABB	333447112194801	02/01/79	363.8		U	751.2	T
B-03-01 26ABB	333447112194801	01/16/80	354.3		U	760.7	
B-03-01 26ABB	333447112194801	01/29/81	329.9		U	785.1	
B-03-01 26ABB	333447112194801	12/18/84	336.9		A	778.1	V
B-03-01 26ABB	333447112194801	11/06/91	368.6		A	746.4	V
B-03-01 26ABB	333447112194801	10/27/97	362.8		A	752.2	V
B-03-01 26ABB	333447112194801	12/11/02	367.89		A	747.11	V
B-03-01 26ABB	333447112194801	07/20/62	411	P	U	704	V
B-03-01 26ACD	333422112191401	02/20/62	241.8		U	866.2	S
B-03-01 26ACD	333422112191401	12/31/62	278.39		U	829.61	S
B-03-01 26BAB	333447112200701	12/20/82	399.1		A	716.9	V
B-03-01 26BAB	333447112200701	12/18/84	384.9		A	731.1	V
B-03-01 26BAB	333447112200701	11/06/91	408.7		A	707.3	V
B-03-01 26BAB	333447112200701	10/27/97	411.6		A	704	V
B-03-01 26BAB	333447112200701	07/20/76	662	P	U	454	V
B-03-01 26BAB	333447112200701	12/11/02	407.79		A	708.21	V
B-03-01 26BBB	333447112202601	10/27/97	395.4		A	722	V
B-03-01 26BBB	333447112202601	12/12/02	399.89		A	717.11	V
B-03-01 26BBB	333447112202601	07/20/62	375.3	P	U	741.7	V
B-03-01 26CBB2	333420112202601	02/20/62	271.74		U	836.26	*
B-03-01 26CBB2	333420112202601	12/31/62	288.63		U	819.37	*
B-03-01 26CBB2	333420112202601	01/13/72	359		B	749	*
B-03-01 26CBB2	333420112202601	01/17/77	396.1		U	711.9	*
B-03-01 26CBB2	333420112202601	12/20/82	400.6		A	707.4	V
B-03-01 26CBB2	333420112202601	12/18/84	384.1		A	723.9	V
B-03-01 26CBB2	333420112202601	11/06/91	404.2		A	703.8	V
B-03-01 26CBB2	333420112202601	10/27/97	407.5		A	701	V
B-03-01 26CBB2	333420112202601	12/11/02	400.79		A	707.21	V
B-03-01 26CBB2	333420112202601	07/20/76	510.4	P	U	597.6	V
B-03-01 27ABB1	333447112205801	01/13/72	382		B	742	
B-03-01 27ABB1	333447112205801	01/16/61	284.19		U	839.81	S
B-03-01 27ABB1	333447112205801	12/31/62	304.96		B	819.04	T
B-03-01 27ABB1	333447112205801	08/23/62	401.78	P	U	722.22	V
B-03-01 27ABB1	333447112205801	10/27/97	430.7		A	693	V
B-03-01 27ABB1	333447112205801	12/11/02	414.5		A	709.5	V
B-03-01 27ABB2	333446112205801	07/23/85	551.3	P	A	573	V
B-03-01 27ABB2	333446112205801	11/06/91	419		A	705	V
B-03-01 27ABB2	333446112205801	10/27/97	429.9		A	694	V
B-03-01 27ABB2	333446112205801	12/11/02	414.39		A	709.61	V
B-03-01 27ABB2	333446112205801	07/20/76	525.8	P	U	598.2	V
B-03-01 27ABC2	333437112205701	01/18/77	402.3		U	720.7	*
B-03-01 27ABC2	333437112205701	07/23/85	604.3	P	A	519	V
B-03-01 27ABC2	333437112205701	11/06/91	412.8		A	710.2	V
B-03-01 27ABC2	333437112205701	10/27/97	425.3		A	698	V
B-03-01 27BDB	333432112211101	01/01/62	305			822	R

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 27CAA	333420112211001	07/26/88	628	P	A	487	V
B-03-01 27CAA	333420112211001	11/29/88	406.9		A	708.1	V
B-03-01 27CAA	333420112211001	11/06/91	407.8		A	707.2	V
B-03-01 27CAA	333420112211001	08/14/62	457.19	P	U	657.81	
B-03-01 34ABB2	333356112205701	08/08/62	358.19	P	U	748.81	V
B-03-01 34ABB2	333356112205701	07/20/76	513.2	P	U	593.8	V
B-03-01 34DBB1	333330112205801	01/28/57	224.07		U	875.93	S
B-03-01 34DBB1	333330112205801	01/21/58	237.34		U	862.66	S
B-03-01 34DBB1	333330112205801	01/20/59	244.57		U	855.43	S
B-03-01 34DBB1	333330112205801	11/04/99	298.1	S	A	801.9	V
B-03-01 34DBB1	333330112205801	02/09/60	236.5		U	863.5	
B-03-01 34DBB1	333330112205801	01/31/62	254.24		U	845.76	S
B-03-01 34DBB1	333330112205801	12/27/62	242.83		U	857.17	S
B-03-01 34DBB1	333330112205801	01/06/65	286.44		U	813.56	S
B-03-01 34DBB1	333330112205801	01/29/66	291.4		U	808.6	
B-03-01 34DBB1	333330112205801	01/30/67	296		U	804	
B-03-01 34DBB1	333330112205801	01/18/68	302.45		U	797.55	S
B-03-01 34DBB1	333330112205801	02/11/69	305.6		U	794.4	
B-03-01 34DBB1	333330112205801	02/16/70	308		U	792	
B-03-01 34DBB1	333330112205801	01/27/71	311		U	789	
B-03-01 34DBB1	333330112205801	01/13/72	311		U	789	
B-03-01 34DBB1	333330112205801	01/25/73	314.2		U	785.8	
B-03-01 34DBB1	333330112205801	01/10/74	317		U	783	
B-03-01 34DBB1	333330112205801	02/03/76	323.1		U	776.9	T
B-03-01 34DBB1	333330112205801	12/16/76	327.1		U	772.9	T
B-03-01 34DBB1	333330112205801	03/07/78	326.1		U	773.9	T
B-03-01 34DBB1	333330112205801	01/30/79	331.3		U	768.7	T
B-03-01 34DBB1	333330112205801	01/16/80	332.7		U	767.3	
B-03-01 34DBB1	333330112205801	02/03/81	334.1		U	765.9	
B-03-01 34DBB1	333330112205801	01/12/82	337.6		A	762.4	V
B-03-01 34DBB1	333330112205801	12/08/82	336.8		A	763.2	V
B-03-01 34DBB1	333330112205801	12/18/84	340.6		A	759.4	V
B-03-01 34DBB1	333330112205801	06/24/85	329.7	S	A	770.3	V
B-03-01 34DBB1	333330112205801	12/10/85	328.8		A	771.2	V
B-03-01 34DBB1	333330112205801	06/04/86	326.8		A	773.2	V
B-03-01 34DBB1	333330112205801	12/05/86	319.4		A	780.6	V
B-03-01 34DBB1	333330112205801	06/02/87	326.1	P	A	773.9	V
B-03-01 34DBB1	333330112205801	12/14/87	326.5		A	773.5	V
B-03-01 34DBB1	333330112205801	05/31/88	325.8		A	774.2	V
B-03-01 34DBB1	333330112205801	12/05/88	326		A	774	V
B-03-01 34DBB1	333330112205801	11/27/89	327.1		A	772.9	V
B-03-01 34DBB1	333330112205801	12/06/90	326.1		A	773.9	V
B-03-01 34DBB1	333330112205801	11/05/91	323.5		A	776.5	V
B-03-01 34DBB1	333330112205801	11/24/92	320.4		A	779.6	V
B-03-01 34DBB1	333330112205801	11/23/93	315.6		A	784.4	V
B-03-01 34DBB1	333330112205801	12/21/94	312	S	A	788	V
B-03-01 34DBB1	333330112205801	11/21/95	309.6		A	790.4	V
B-03-01 34DBB1	333330112205801	01/06/97	307.5		A	792.5	V
B-03-01 34DBB1	333330112205801	10/20/97	305.9		A	794.1	V
B-03-01 34DBB1	333330112205801	11/30/98	302.6		A	797.4	V
B-03-01 34DBB1	333330112205801	12/06/83	333		A	767	V
B-03-01 34DBB1	333330112205801	11/06/00	282.8		A	817.2	V
B-03-01 34DBB1	333330112205801	12/11/02	276.8		A	823.2	V
B-03-01 34DBB1	333330112205801	08/31/62	363	P	U	737	S
B-03-01 34DBB1	333330112205801	01/02/04	238		A	862	V
B-03-01 34DBB1	333330112205801	01/03/05	221.1		A	878.9	V
B-03-01 34DBB1	333330112205801	12/20/05	221.9		A	878.1	V
B-03-01 34DBB1	333330112205801	11/09/06	221.4		A	878.6	V
B-03-01 34DBB1	333330112205801	12/14/07	219.9		A	880.1	V
B-03-01 34DBB1	333330112205801	12/07/09		Z			V
B-03-01 35AAB	333354112193601	12/30/61	237.9		U	864.1	S
B-03-01 35AAB	333354112193601	01/13/72	315		B	787	V

Appendix E. GWSI Water Level Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Local ID	Site ID	Measurement Date	Depth to Water	WL Remark Code	WL Source	WL Elevation	WL Method
B-03-01 35BBB	333354112202301	12/08/82	393.1		A	708.9	V
B-03-01 35BBB	333354112202301	07/24/85	572.5	P	A	530	V
B-03-01 35BBB	333354112202301	11/06/91	392.4		A	709.6	V
B-03-01 35BBB	333354112202301	10/24/97	462.2		A	640	V
B-03-01 35BBB	333354112202301	12/11/02	387.2		A	714.8	V
B-03-01 36AAB	333354112183101	12/08/82	127.7		A	954.3	V
B-03-01 36AAB	333354112183101	01/09/85	213.5		A	868.5	V
B-03-01 36AAB	333354112183101	08/31/88	322.1	P	A	759.9	V
B-03-01 36AAB	333354112183101	11/29/88	223.2		A	858.8	V
B-03-01 36BBC	333355112193601	02/20/62	236		U	861	S
B-03-01 36BBC	333355112193601	12/28/62	249.76		U	847.24	S

Appendix D. GWSI Construction Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Site ID	Perf Top	Perf Bottom	Perf Dia	Perf Width	Perf Length	Perf Material Code	Perf Type Code
A-02-01 01DDA	333230112121001	210	630	20	0.62	4.5	S	P
A-02-01 02DDD1	333222112131501	50	190	20			*	P
A-02-01 02DDD1	333222112131501	195	375	15.25			*	P
A-02-01 02DDD2	333222112131601	350	600	20			S	P
A-02-01 02DDD2	333222112131601	600	1500	16			S	P
A-02-01 02DDD2	333222112131601	1483	1555	14			S	P
A-02-01 02DDD2	333222112131601	1540	1900	12			S	P
A-02-01 03BBA	333305112150501							
A-02-01 04ADD	333239112152001	55	280	18			*	P
A-02-01 04BBA1	333304112160301	50	205	18			*	P
A-02-01 04BBA2	333304112160401	140	780	20	0.63	4.5	S	P
A-02-01 04CBB1	333238112161501	50	215	18			*	P
A-02-01 04CBB2	333238112161601	140	786	20	0.63	4.5	S	P
A-02-01 04DAA	333240112152001	252	657	20			S	P
A-02-01 04DDD	333217112151701	145	784	20	0.63	4.2	*	P
A-02-01 05BAB	333303112165801	250	605	20			*	P
A-02-01 05BBB	333303112171401	125	325	20			*	P
A-02-01 05CDB	333224112165701	300	400	16	0.12	3	S	P
A-02-01 06BAA	333300112175501	80	310	20			S	P
A-02-01 06BDD	333243112175801	171	221	4	0.13	0	S	S
A-02-01 06CDD	333213112175801	171	221	4	0.13	0	S	S
A-02-01 08CAA	333145112165001	60	988	16			S	P
A-02-01 08CDD1	333123112165601	55	192	10			*	P
A-02-01 08CDD2	333123112165501	160	780	20			*	P
A-02-01 08DDD	333126112162201	195	590	20			*	P
A-02-01 09BBB1	333212112161601	50	190	18			*	P
A-02-01 09BBB2	333212112161701	145	776	20	0.63	3.5	*	P
A-02-01 09CBB1	333148112161601	50	190	18			*	P
A-02-01 09CBB2	333148112161701	150	780	20	0.63	4.5	S	P
A-02-01 09DDD1	333128112152101	60	192	18	0.5	4	S	P
A-02-01 09DDD2	333128112152001	150	538	20			S	P
A-02-01 11BAA	333209112134201	350	750	12	0.25	1.2	*	P
A-02-01 11DDD1	333128112131601	50	210	20			*	P
A-02-01 11DDD1	333128112131601	195	355				*	P
A-02-01 11DDD2	333128112131701	350	985	20	0.5	6.5	S	P
A-02-01 12DDA	333138112121101	35	202	20			S	P
A-02-01 12DDA	333138112121101	190	410	16	0.62	4	S	P
A-02-01 12DDA	333138112121101	417	420				*	X
A-02-01 13CCC2	333037112130801	300	780	20	0.62	4.5	S	P
A-02-01 14ACC	333059112134201	252	600	20	0.16	1.5	S	P
A-02-01 14ACC	333059112134201	600	1596	16	0.16	1.5	S	P
A-02-01 14ACC	333059112134201	1596	1600				*	X
A-02-01 14BBA	333122112140901	180	685	20			S	P
A-02-01 14CCC	333035112140901	115	685	20			S	P
A-02-01 15ABB	333122112144401	185	520	20			S	P
A-02-01 15CBB	333053112151201	155	488	20			*	P
A-02-01 17BAA1	333116112165001	350	740	20			S	P
A-02-01 17CAB1	333051112170201	60	153	24			*	P
A-02-01 17CAB2	333054112170301	70	706	24			*	P
A-02-01 17DDD1	333034112162401	60	210	18			S	P
A-02-01 17DDD1	333034112162401	213	232				*	X
A-02-01 17DDD2	333034112162501	150	538	20			*	P
A-02-01 18AAA1	333120112172301	90	456	20	0.75	4.5	S	P
A-03-01 01CDC	333730112123801	252	1440	16	0.12	1.5	*	P
A-03-01 02BBB	333815112141001	370	800	20	0.18	2.3	S	P
A-03-01 02BCC	333754112141101	324	770	20	0.25	2.3	S	P
A-03-01 02CBB	333746112141201	540	640	16	0.05		S	R
A-03-01 02CBB	333746112141201	680	1180	16	0.05		S	R
A-03-01 03ABA1	333817112142901	128	428	20			S	P
A-03-01 03ABA2	333817112143001	300	560	20	0.37		S	P
A-03-01 03ABA2	333817112143001	570	780	16	0.37		S	P
A-03-01 03ABB	333812112144401	140	600	20	0.5	12	S	P
A-03-01 03DCC	333727112143701	677	837	16	0.12	2.75	S	S

Appendix D. GWSI Construction Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Site ID	Perf Top	Perf Bottom	Perf Dia	Perf Width	Perf Length	Perf Material Code	Perf Type Code
A-03-01 03DCC	333727112143701	859	1336	16	0.12	2.75	S	S
A-03-01 03DCC	333727112143701	1346	1360					X
A-03-01 04BAA2	333817112154801	240					*	P
A-03-01 04BAA2	333817112154801	240	600				*	P
A-03-01 04BAA3	333816112154801	477	1317	16			S	P
A-03-01 04DBB	333751112154501	360	894	20			S	P
A-03-01 04DDD1	333728112151601	435	1315	16			S	P
A-03-01 04DDD2	333729112151501	730	1005	16	0	0.05	S	R
A-03-01 04DDD2	333729112151501	1125	1330	16	0	0.05	S	R
A-03-01 05ABB2	333816112164801	375	890	20	0.5	3.5	S	P
A-03-01 05ABB2	333816112164801	900	926	20	0.5	3.5	S	P
A-03-01 05ABB2	333816112164801	926	1180	16	0.5	3.5	S	P
A-03-01 05ABB2	333816112164801	1192	1212				*	X
A-03-01 05BBB1	333815112171801	225					*	P
A-03-01 05BBB1	333815112171801	225					*	P
A-03-01 05BBB2	333816112171801	450	1200	16			S	P
A-03-01 05BCD	333753112170501	173	426					P
A-03-01 05BDB	333802112170101	486	1006	16	0.1	3	S	P
A-03-01 06DBB	333750112175101	275					*	P
A-03-01 06DBB	333750112175101	605	1200	16			*	P
A-03-01 07BAD	333718112175901	320	1200	16			S	P
A-03-01 07BCC1	333700112182301	126	450	16	0.5	3.5	S	P
A-03-01 07BCC2	333658112181701	400	800	16	0.19	3	S	P
A-03-01 07DBA	333659112173801	346	986	20			S	P
A-03-01 07DDA	333641112172501	85	100	18			*	P
A-03-01 07DDA	333641112172501	140	190	18			*	P
A-03-01 07DDA	333641112172501	210	220	18			*	P
A-03-01 07DDA	333641112172501	245	265	18			*	P
A-03-01 08BAA	333725112165701	180	745	745	0.5	4	S	P
A-03-01 09ABA	333725112152701	320	780	20	0.62	4	S	P
A-03-01 09BBC	333713112161601	350	993	20			S	P
A-03-01 09CDB	333643112155401	500	884	16	0.13	3	S	P
A-03-01 10BBB	333727112150901	150	460	20	0.63	4.5	S	P
A-03-01 10BCB	333714112151501	580	600	8	0.25	5	S	P
A-03-01 11DDA	333648112131001	150	456	20			S	P
A-03-01 12AAD	333705112121001	1440	1638				*	X
A-03-01 12ADD1	333704112120901	150	440	20	0.75	4	S	P
A-03-01 12ADD2	333705112120901	500	960	20	0.62	3.5	S	P
A-03-01 12ADD2	333705112120901	980	1380	16	0.5	4.5	S	P
A-03-01 12CDB	333646112125301	520	794	16	0.25	3	S	P
A-03-01 12CDB	333646112125301	794	1380	14	0.25	1.5	S	P
A-03-01 13DDA1	333559112121201	120	430	20			S	P
A-03-01 13DDA2	333559112121301	500	988	20			S	P
A-03-01 14DDD	333546112131201	130	404	20			S	P
A-03-01 16ABA2	333634112153601	200	685	20			S	P
A-03-01 16DAA	333603112151701	600	1400	16	0.12	2.5	S	P
A-03-01 17ABB1	333631112164301	80	130	18			*	P
A-03-01 17ABB2	333631112164201	350	984	20			*	P
A-03-01 17ACC	333607112164901	350	980	20	0.5	5	S	P
A-03-01 17DBB	333604112164901	350	980	20			S	P
A-03-01 17DBC	333556112164601	400	920	16	0.18	3	S	P
A-03-01 17DBC	333556112164601	1160	1200	16	0.18	3	S	P
A-03-01 17DDB1	333554112163401	86	97	16			*	P
A-03-01 17DDB1	333554112163401	170	191	16			*	P
A-03-01 17DDB1	333554112163401	198	235	16			*	P
A-03-01 17DDB2	333554112163301	245	605	20			*	P
A-03-01 18CDD1	333541112175901	450	980	14	0.38	2	S	S
A-03-01 18CDD2	333542112175901	505	1040	20	0.38	4	S	P
A-03-01 18DAC	333553112173001	250	960	16	0.44	4	S	P
A-03-01 18DCB	333603112174801	350	888	20	0.5	4.5	S	P
A-03-01 19ACB	333522112175101	280	735	20	0.5	4.5	S	P
A-03-01 19CCD	333447112182201	500	1050	20	0.38	4	S	P
A-03-01 19DBA	333513112174201	230	390	16			S	P

Appendix D. GWSI Construction Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Site ID	Perf Top	Perf Bottom	Perf Dia	Perf Width	Perf Length	Perf Material Code	Perf Type Code
A-03-01 19DBA	333513112174201	420	595	16			S	P
A-03-01 20BAC	333531112165701	508	1008	16	0.12	3	S	P
A-03-01 20BAC	333531112165701	1008	1012				*	X
A-03-01 20DCA	333501112163401	125	592	20			S	P
A-03-01 21ADA	333527112152101	180	750	20	0.63	4.5	*	P
A-03-01 21BDD	333516112155401	70	640	20	0.38	3	S	P
A-03-01 21CBB	333513112161701	237	492	20	0.5	3	*	P
A-03-01 22DDA1	333500112141901	250					*	P
A-03-01 22DDA2	333500112141801	240	283	12			S	P
A-03-01 22DDA3	333459112141901	300	500	16			S	P
A-03-01 22DDA3	333459112141901	560	1110	14	0.19	2	S	P
A-03-01 22DDA3	333459112141901	1128	1129					X
A-03-01 23AAD	333536112131201	115	530	20			S	P
A-03-01 23AAD	333536112131201	545	620				S	X
A-03-01 23AAD	333536112131201	475	878	14	3	0.13	S	P
A-03-01 24CBB	333517112130701	300	1800	20			S	P
A-03-01 25ABB	333452112123301	525	1150	16			S	S
A-03-01 25ABB	333452112123301	1170	1805	16			*	X
A-03-01 25CDD	333401112124001	690	811	16	0.12	2.75	S	P
A-03-01 25CDD	333401112124001	851	1580	16	0.12	2.75	S	P
A-03-01 25CDD	333401112124001	1595	1605					X
A-03-01 26ADD	333427112131201	220	690	20			S	P
A-03-01 26DDD1	333404112131101	110	400	20			S	P
A-03-01 26DDD2	333404112131301	500	992	20	0.05	3.5	S	P
A-03-01 27CCC	333401112151101	60	432	18			*	P
A-03-01 28AAA	333450112151601	85	496	20	0.5	3.5	S	P
A-03-01 29BBB	333448112171901	82	86	24	0.63	5	*	P
A-03-01 29BBB	333448112171901	151	365	24	0.63	5	*	P
A-03-01 29CDA	333405112165101	325	650	20	0.38	4	S	P
A-03-01 29CDA	333405112165101	700	1035	20	0.38	4	S	P
A-03-01 29CDA	333405112165101	1050	1065				*	X
A-03-01 30BAA	333447112175601	350	990	20	0.63	5.5	S	P
A-03-01 30DAC	333413112173501	280	700	16	0.31	4.5	S	P
A-03-01 30DBB	333418112174901	90	200	18			*	P
A-03-01 30DBB	333418112174901	215	260				*	X
A-03-01 31AAB1	333355112173501	200	582	20			S	P
A-03-01 31ABA	333354112174201	400	888	20	0.62	4.5	*	P
A-03-01 32DBB	333330112164801	378	675	16			S	P
A-03-01 33DDD	333307112151701	60	176	18			S	P
A-03-01 34DDD2	333310112151301	150	780	20	0.62	4.5	S	P
A-03-01 34DDD2	333310112151301	500	735	16	0.38	3	S	
A-03-01 34DDD2	333310112151301	785	985	16	0.12	3	S	
A-03-01 35ABB	333358112134201	252					*	P
A-03-01 35ADD	333311112131101	148	592	20			S	P
A-03-01 35DDD	333311112131201	350	1180	20	0.25	2	S	P
A-03-01 35DDD	333311112131201	1194	1198				*	X
A-03-01 36CCA	333320112125701	350	980	24	0.62	4.5	S	P
A-03-01 36CCC	333310112130801	50	190	20			S	P
A-03-01 36DDA	333318112121001	48	250	20			S	P
A-03-01 36DDD	333313112120901	194	600	20			S	P
A-03-02 30CCC1	333402112120601	45	190	20	0.75	4	S	P
A-03-02 30CCC2	333402112120701	260	760	20	0.62	4.5	S	P
A-2-1 05DCC	333214112165001	160	220	5.5			P	P
A-2-1 06CDD	333213112175501	171	221	4	4	50	S	P
A-2-1 07ABC	333210112173801	118	178	4	4	60	S	P
A-2-1 08BCC	333152112171101	120	240	12			S	*
A-2-1 08CCD	333123112171101	110	112	1.5			P	P
A-2-1 08CCD	333123112171101	144	146	1.5			P	P
A-2-1 08CCD	333123112171101	175	205	1.5			P	P
A-2-1 18BCA	333103112181101	130	190	5.5			P	P
B-01-01 36DBB	333300112184801	13	20	2	0.12	1.5	S	P
B-02-01 01BBB	333259112191801	300	340	8	0.37	6	S	P
B-02-01 01CCC2	333213112192001	360	588	8	0.31	2	*	P

Appendix D. GWSI Construction Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Site ID	Perf Top	Perf Bottom	Perf Dia	Perf Width	Perf Length	Perf Material Code	Perf Type Code
B-02-01 01CCC3	333212112192003	320	520	14			S	S
B-02-01 01CCC3	333212112192003	560	600	14			S	S
B-02-01 01CCC3	333212112192003	700	780	14			S	S
B-02-01 01CCC3	333212112192003	890	950	14			S	S
B-02-01 02ABA	333303112194501	70	276	20			S	P
B-02-01 02ACA	333245112194501	262	730	20			*	P
B-02-01 02BAA	333302112200201	190	704	20			S	P
B-02-01 02BBB	333302112202401	235	840	20			*	P
B-02-01 02BBC1	333254112202601	209	248	20			S	P
B-02-01 02BBC2	333254112202501	295	744	20			S	P
B-02-01 02BBD1	333253112201401	120	240	20			S	P
B-02-01 02BBD2	333253112201301	260	900	20			S	P
B-02-01 02BCB	333250112202301	400	790	12	0.5	3	*	P
B-02-01 02BDA	333249112195601	90	204	20			S	P
B-02-01 02BDC	333241112200801	120	222	20			S	P
B-02-01 03AAD	333258112202801	355	852	16			S	P
B-02-01 03ABB2	333304112205101	246	857	20			S	P
B-02-01 03BBA2	333304112211401	290	382	10	0.5	3	S	P
B-02-01 03DDA1	333223112203101	280	580	16			*	P
B-02-01 03DDA2	333223112203201	285	580	16			*	P
B-02-01 03DDD	333213112202601	380	600	8			*	P
B-02-01 10BBA1	333211112211201	140	492	20			S	P
B-02-01 11CCB	333130112201701	380	400	0.08	0.25	1.5	*	P
B-02-01 11CCB	333130112201701	422	431				*	X
B-02-01 11DCD2	333124112193801	500	800	20	0.19	3	S	P
B-02-01 11DCD2	333124112193801	811	885				*	X
B-02-01 11DDA1	333130112192701	130	209	20			S	P
B-02-01 11DDA2	333130112192601	70	115	16			S	P
B-02-01 11DDA2	333130112192601	167	177	16			S	P
B-02-01 12ABC1	332304112184501	175	190	5			P	*
B-02-01 12ABC1	332304112184501	195	200					X
B-02-01 12ABC2	333203112184501	150	165	5			P	S
B-02-01 12ABC2	333203112184501	175	180					X
B-02-01 12BAC	333159112190401	150	210	4			S	S
B-02-01 12BAC	333159112190401	210	220				*	X
B-02-01 12BCC	333151112191801	300	950	16	0.32	3	S	P
B-02-01 12BCC	333151112191801	956	962				*	X
B-02-01 12BDD2	333147112190001	352	419	20			S	P
B-02-01 12BDD2	333147112190001	518	976	20			S	P
B-02-01 12BDD3	333148112185901	400	730	16	0.5	4	S	P
B-02-01 12BDD3	333148112185901	800	997	16	0.5	4	S	P
B-02-01 12CAD	333136112185801	190	625	20			S	P
B-02-01 12CAD	333136112185801	639	1084	12			S	P
B-02-01 12CAD	333136112185801	1094	1140				*	X
B-02-01 12CAD	333157112190601	170	670	20			S	P
B-02-01 12CCA2	333134112185401	148	348	20	0.5	4.5	S	P
B-02-01 12CCA2	333134112185401	446	500				*	X
B-02-01 12CDD	333113112190701	400	970	16	1.5	3.5	S	P
B-02-01 13BAD	333059112190801	330	920	16	0.5	3.5		P
B-02-01 13DBC	333040112185101	220	260	8	0.12	1.5	S	P
B-02-01 13DBC	333040112185101	340	385	8	0.12	1.5	S	P
B-02-01 14AAB	333116112193501	50	81	26			*	P
B-02-01 14AAB	333116112193501	100	110				*	X
B-02-01 14AAD	333110112192601	200	970	16	0.5	4	S	P
B-02-01 14AAD	333110112192601	982	1000				*	X
B-02-01 14ABD1	333109112194201	55	90				*	P
B-02-01 14ABD2	333109112194301	300	748	20			S	P
B-02-01 14BDB	333106112200701	306	350	10	0.19	2	S	P
B-02-01 14BDB	333106112200701	368	376	10	0.19	2	S	P
B-02-01 14BDB	333106112200701	380	415				*	X
B-02-01 14BDB	333106112200701	0					*	*
B-02-01 14CBB	333052112202401	145	690	12			S	P
B-02-01 14DBB1	333052112195001	55	102	26			S	P

Appendix D. GWSI Construction Data for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Site ID	Perf Top	Perf Bottom	Perf Dia	Perf Width	Perf Length	Perf Material Code	Perf Type Code
B-02-01 14DBB1	333052112195001	104	115	26			S	P
B-02-01 14DBB2	333052112195101	160	704	20			S	P
B-03-01 01AAA	333817112182501	175	385	12	0.5	3	S	P
B-03-01 02ACC	333758112195701	634	1004	16	0.09	2.4	S	P
B-03-01 02DAD	333741112192801	664	1044	16	0.09	2.4	S	P
B-03-01 02DCD	333728112194601	286	316				*	X
B-03-01 03BBB	333817112212701	230	512	20	0.62	4.5	S	P
B-03-01 10ACB	333708112205501	160	810	20			S	P
B-03-01 11BBB	333724112202401	232	540	20			S	P
B-03-01 11BCB	333708112202501	590	702	20	0.5	4	S	P
B-03-01 11BCB	333708112202501	702	1005	16			S	P
B-03-01 12BBB2	333723112192501	365	935	20	0.5	4	S	P
B-03-01 12BBB2	333723112192501	949	1000	20			*	X
B-03-01 12CBB1	333652112192201	500	880	20	0.13	1.5	S	P
B-03-01 13BAA2	333630112185601	664	1004	16			S	P
B-03-01 13DBB	333604112185301	216	486	20	0.62	4	S	P
B-03-01 14ABB	333631112195401	130	388	20			S	P
B-03-01 14BBB2	333632112202701	232	515	20			S	P
B-03-01 14BBB2	333632112202701	515	810	16			S	P
B-03-01 14CAA	333601112200401	540	750	16				L
B-03-01 15BBB3	333631112212501	426	460	16	0.19	3	S	F
B-03-01 15BBB3	333631112212501	700	1300	16	0.19	3	S	F
B-03-01 15BBB3	333631112212501	1310	1470				*	X
B-03-01 22ABB	333540112205201	250	800	20	0.25	10	S	P
B-03-01 22BAD	333538112210401	315	415	5	0	0	S	P
B-03-01 22CAA	333509112210501	598	982	8	0.12	3	S	P
B-03-01 22CBA	333509112212101	280	380		0.2		P	
B-03-01 23BBB1	333540112202701	72	180	20			P	*
B-03-01 23CBB	333512112202601	200	538	20			S	P
B-03-01 23CBB	333512112202601	500	1002	14	0.38	4	S	P
B-03-01 24BBB1	333540112192401	96	275	20			S	P
B-03-01 24BBB2	333539112192401	165	505	20			S	P
B-03-01 24BCB	333522112192501	240	600	20			S	P
B-03-01 25BBB3	333446112192401	260	630	20			*	P
B-03-01 26ACD	333422112191401	150	505	20	0.75	4.5	S	P
B-03-01 26BBB	333447112202601	200	475	20			S	P
B-03-01 26BBB	333447112202601	400	1000	14			S	P
B-03-01 26CBB2	333420112202601	412	856	20			S	P
B-03-01 26CBB2	333420112202601	856	1000				*	X
B-03-01 27AAB	333447112204101	605	1807	20	0.13	3	S	P
B-03-01 27ABB1	333447112205801	300	735	20			S	P
B-03-01 27ABB2	333446112205801	510	1025	20	0.25	6	S	P
B-03-01 27ABC2	333437112205701	520	987	20	0.25	4	S	P
B-03-01 27ABC2	333437112205701	1002	1050	20.5			*	X
B-03-01 27BDB	333432112211101	384	804	20			S	P
B-03-01 27BDB	333432112211101	804	1500	16			S	P
B-03-01 27CAA	333420112211001	252	1000	20			S	P
B-03-01 34ABB1	333356112205801	170	338	16			S	P
B-03-01 34ABB2	333356112205701	375	780	18			S	P
B-03-01 34ABB2	333356112205701	785	975	18			*	X
B-03-01 34DBB1	333330112205801	180	340	20	0.5	5	S	P
B-03-01 34DBB2	333330112205501	544	1250	16	0.13	3	S	P
B-03-01 34DBB2	333330112205501	1250	1271				*	X
B-03-01 35AAB	333354112193601	200	535	20			S	P
B-03-01 35AAB	333354112193601	400	800	14		3	S	P
B-03-01 35BBB	333354112202301	598	1407	12.75	0.19	3	S	P
B-03-01 36BBC	333355112193601	300	724	20	0.63	4	S	P
B-03-01 36BBC	333355112193601	733	900				*	X

Appendix C. GWSI Basic Well Inventory for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	DWR Reg No	Latitude	Longitude	Water Use	Well Depth (ft)	Drill Date	Well Elev (ft msl)	Casing Dia (in)	WL Date	DTW (ft)	WL Elev (ft msl)
A-02-01 01DDA	617818	33.5418	-112.2025	IRRIGATION	642	08/19/49		20.0	02/04/09	226.6	904.4
A-02-01 02ADA	625217	33.5483	-112.2206	UNUSED	0			0.0		0.0	0.0
A-02-01 02DDD1		33.5394	-112.2208	UNUSED	380	01/01/28		20.0	12/26/62	194.0	920.2
A-02-01 02DDD2	608420	33.5383	-112.2197	IRRIGATION	1900	01/24/63		20.0	11/11/97	168.8	945.0
A-02-01 03AAC		33.5494	-112.2406	DOMESTIC	277			0.0	02/13/62	218.5	879.6
A-02-01 03BBA	619203	33.5514	-112.2514	DOMESTIC	0			16.0	11/04/91	149.4	946.6
A-02-01 04AAA	611153	33.5511	-112.2561	DOMESTIC	321			0.0		0.0	0.0
A-02-01 04AAB	611154	33.5508	-112.2572	DOMESTIC	321			0.0		0.0	0.0
A-02-01 04ADD		33.5442	-112.2556	UNUSED	290	03/01/21		18.0		0.0	0.0
A-02-01 04BBA1		33.5511	-112.2675	UNUSED	224	01/28/22		18.0		0.0	0.0
A-02-01 04BBA2	607249	33.5511	-112.2678	UNUSED	800	09/01/51		20.0	12/14/84	134.0	950.0
A-02-01 04CBB1		33.5439	-112.2708	UNUSED	225	01/01/22		18.0		0.0	0.0
A-02-01 04CBB2	607248	33.5442	-112.2715	IRRIGATION	800	12/03/51		20.0	12/07/10	150.8	925.2
A-02-01 04DAA	618590	33.5444	-112.2556	UNUSED	657	01/01/47		20.0	12/12/84	119.7	967.3
A-02-01 04DDD		33.5381	-112.2547	UNUSED	800	03/25/52		20.0	01/11/68	160.1	916.9
A-02-01 05BAB	623802	33.5508	-112.2828	IRRIGATION	614	06/01/60		20.0	12/17/76	218.8	872.2
A-02-01 05BBB	623801	33.5508	-112.2872	IRRIGATION	355	03/01/39		20.0		0.0	0.0
A-02-01 05CAC	619390	33.5406	-112.2831	IRRIGATION	0			0.0	12/01/82	155.9	906.1
A-02-01 05CDB	505934	33.5400	-112.2825	DOMESTIC	400	09/07/84		20.0		0.0	0.0
A-02-01 06ACC	625087	33.5440	-112.2969	UNUSED	483			0.0	11/05/97	190.0	882.0
A-02-01 06BAA		33.5500	-112.2986	UNUSED	354	05/01/48		20.0	12/27/62	183.1	879.9
A-02-01 06BBA		33.5508	-112.3019	UNUSED	0			0.0	12/02/82	189.7	873.3
A-02-01 06BDD	529236	33.5452	-112.2996	OBSERVATION	221	09/22/90		4.0	04/14/03	189.6	874.4
A-02-01 06CDD	529235	33.5369	-112.2994	OBSERVATION	221	09/22/90		4.0	04/14/03	157.5	890.5
A-02-01 07ADC	618079	33.5297	-112.2917	UNUSED	320			0.0	12/12/84	131.6	924.4
A-02-01 07BDD	623413	33.5306	-112.2978	COMMERCIAL	586	01/01/65		24.0		0.0	0.0
A-02-01 08ACA	618920	33.5317	-112.2767	INDUSTRIAL	0			0.0		0.0	0.0
A-02-01 08CAA	607246	33.5290	-112.2804	IRRIGATION	1000	05/01/43		16.0	11/20/02	172.4	879.6
A-02-01 08CDD1		33.5231	-112.2822	UNUSED	207	03/01/22		10.0		0.0	0.0
A-02-01 08CDD2	607245	33.5223	-112.2818	IRRIGATION	800	07/17/51		20.0	11/20/02	174.0	872.0
A-02-01 08DDA1		33.5258	-112.2719	UNUSED	0			0.0	03/25/47	58.8	1001.2
A-02-01 08DDA2		33.5261	-112.2722	DOMESTIC	0			0.0		0.0	0.0
A-02-01 08DDD	608411	33.5231	-112.2721	IRRIGATION	600	05/25/51		20.0	12/01/10	102.6	953.4
A-02-01 09BBB1		33.5367	-112.2711	UNUSED	202	02/01/22		18.0		0.0	0.0
A-02-01 09BBB2	400206	33.5367	-112.2714	IRRIGATION	800	02/12/52		20.0		0.0	0.0
A-02-01 09CBB1		33.5300	-112.2711	UNUSED	202	02/01/28		18.0		0.0	0.0
A-02-01 09CBB2	607247	33.5299	-112.2714	IRRIGATION	800	09/01/51		20.0	12/10/08	121.0	939.0
A-02-01 09CCC	603631	33.5242	-112.2697	INDUSTRIAL	421			0.0		0.0	0.0
A-02-01 09DDD1		33.5244	-112.2558	UNUSED	240	07/03/19		18.0	02/21/62	185.6	880.6
A-02-01 09DDD2	608360	33.5234	-112.2547	IRRIGATION	550	02/14/47		20.0	12/23/02	165.1	900.9
A-02-01 11BAA	604122	33.5361	-112.2286	PUBLIC SUPPLY	1774	08/15/77		12.0	11/05/97	156.8	947.0
A-02-01 11DDD1		33.5244	-112.2211	UNUSED	355	01/01/29		20.0	02/20/62	201.8	902.0
A-02-01 11DDD2	608390	33.5234	-112.2201	IRRIGATION	1000	07/23/59		20.0	02/18/09	194.0	910.0
A-02-01 12DDA	608409	33.5272	-112.2031	IRRIGATION	420	08/06/51		20.0	11/11/97	164.8	961.2
A-02-01 13CCC2	608408	33.5091	-112.2194	IRRIGATION	800	05/15/53		20.0	11/21/02	202.9	892.1
A-02-01 14ACC	617099	33.5169	-112.2282	IRRIGATION	1600	10/28/51		20.0	02/04/09	191.9	898.1
A-02-01 14BBA	617098	33.5220	-112.2336	IRRIGATION	700	02/11/49		20.0	12/01/10	160.7	924.3
A-02-01 14BBB		33.5228	-112.2361	DOMESTIC	65			0.0	01/18/72	186.0	899.0
A-02-01 14CCC	608394	33.5099	-112.2368	IRRIGATION	700	03/15/49		20.0	11/21/02	184.9	892.1
A-02-01 15ABB	608361	33.5228	-112.2456	IRRIGATION	540	07/01/49		20.0	11/11/97	125.6	947.4
A-02-01 15ADD		33.5167	-112.2378	UNUSED	0			0.0		0.0	0.0
A-02-01 15CBB	608359	33.5155	-112.2541	IRRIGATION	500	01/24/47		20.0	02/04/09	201.9	859.1
A-02-01 17ABB		33.5208	-112.2806	IRRIGATION	305			0.0	12/26/62	187.8	861.2
A-02-01 17BAA1	620349	33.5211	-112.2806	IRRIGATION	760	08/01/63		20.0		0.0	0.0
A-02-01 17BAA2	620350	33.5217	-112.2800	DOMESTIC	0			0.0		0.0	0.0
A-02-01 17CAB1		33.5142	-112.2839	UNUSED	165	06/01/34		24.0	05/01/46	88.0	955.0
A-02-01 17CAB2	607244	33.5151	-112.2839	IRRIGATION	720	02/01/44		24.0	12/10/08	106.9	936.1
A-02-01 17DDD1		33.5094	-112.2733	UNUSED	232	07/19/19		18.0	12/27/45	53.5	990.3
A-02-01 17DDD2	608356	33.5087	-112.2720	IRRIGATION	550	01/10/47		20.0	02/19/09	135.5	908.5
A-02-01 18AAA1	606047	33.5220	-112.2898	UNUSED	470	09/01/47		20.0	10/23/97	139.7	901.0
A-02-01 18AAA2		33.5222	-112.2894	DOMESTIC	0			0.0		0.0	0.0
A-03-01 01BBA	627180	33.6381	-112.2156	IRRIGATION	0			0.0	11/15/91	383.8	828.2
A-03-01 01CDC	618621	33.6200	-112.2129	IRRIGATION	1636	12/18/51		16.0	12/17/08	381.8	825.2
A-03-01 02BBB	805338	33.6375	-112.2362	PUBLIC SUPPLY	825	12/03/60		24.0	12/11/02	399.0	806.0
A-03-01 02BCC	804526	33.6317	-112.2364	UNUSED	800	06/15/56		20.0	12/03/91	364.3	826.7
A-03-01 02CBB	565552	33.6297	-112.2364	PUBLIC SUPPLY	1200	10/13/98		16.0	12/11/09	370.1	819.9
A-03-01 03AAA		33.6372	-112.2378	UNDETERMINED	760			0.0		0.0	0.0
A-03-01 03ABA1		33.6381	-112.2414	UNUSED	428	01/01/38		20.0	02/16/54	195.5	1008.5

Appendix C. GWSI Basic Well Inventory for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	DWR Reg No	Latitude	Longitude	Water Use	Well Depth (ft)	Drill Date	Well Elev (ft msl)	Casing Dia (in)	WL Date	DTW (ft)	WL Elev (ft msl)
A-03-01 03ABA2	611442	33.6381	-112.2417	IRRIGATION	780	12/01/58		20.0	11/15/91	388.0	816.0
A-03-01 03ABB	611441	33.6367	-112.2456	IRRIGATION	600	09/01/46		20.0		0.0	0.0
A-03-01 03BDA		33.6336	-112.2461	UNUSED	0			0.0		0.0	0.0
A-03-01 03DCC	538774	33.6245	-112.2441	PUBLIC SUPPLY	1360	12/28/93		30.0		0.0	0.0
A-03-01 04BAA1		33.6378	-112.2631	UNUSED	225			0.0	02/17/49	159.1	1042.9
A-03-01 04BAA2		33.6379	-112.2634	UNUSED	1000	01/01/47		20.0	12/22/09	402.6	799.4
A-03-01 04BAA3	606520	33.6376	-112.2600	PUBLIC SUPPLY	1330	12/02/73		28.0	12/05/97	415.4	788.0
A-03-01 04DBB	606518	33.6308	-112.2626	UNUSED	910	12/01/50		20.0	12/23/08	389.0	803.0
A-03-01 04DDD1	606519	33.6200	-112.2500	UNUSED	1321	11/10/73		28.0	12/02/97	390.8	784.0
A-03-01 04DDD2	574914	33.6247	-112.2544	UNUSED	1330	10/07/99		30.0	12/23/08	370.7	804.3
A-03-01 05ABB1		33.6375	-112.2800	UNUSED	0			0.0	12/31/48	167.7	1034.3
A-03-01 05ABB2	606521	33.6379	-112.2802	UNUSED	1212	02/01/52		20.0	02/17/09	412.4	789.6
A-03-01 05BBB1		33.6375	-112.2883	IRRIGATION	516	01/01/45		20.0	02/28/56	242.2	965.0
A-03-01 05BBB2	606522	33.6375	-112.2882	PUBLIC SUPPLY	1206	05/15/73		30.0	12/23/08	425.2	782.8
A-03-01 05BCD		33.6314	-112.2847	IRRIGATION	1000	01/01/60		20.0	01/22/62	304.3	890.8
A-03-01 05BDB	506072	33.6339	-112.2836	IRRIGATION	1006	05/25/84		16.0		0.0	0.0
A-03-01 06DAD	609021	33.6278	-112.2914	IRRIGATION	0			0.0	12/03/91	401.5	786.5
A-03-01 06DBB	609014	33.6306	-112.2975	IRRIGATION	1200	01/01/45		20.0	01/04/63	307.5	883.5
A-03-01 07BAD	606524	33.6213	-112.2999	PUBLIC SUPPLY	1200	03/23/69		16.0	12/23/08	385.1	780.9
A-03-01 07BCC1	611456	33.6167	-112.3064	INDUSTRIAL	507	05/01/51		16.0		0.0	0.0
A-03-01 07BCC2	611455	33.6161	-112.3047	INDUSTRIAL	800	12/24/77		16.0		0.0	0.0
A-03-01 07DBA	606523	33.6164	-112.2936	PUBLIC SUPPLY	1000	05/22/54		20.0	12/03/97	373.9	793.0
A-03-01 07DDA		33.6114	-112.2903	UNUSED	285	01/01/20		18.0	02/03/54	182.9	977.1
A-03-01 08BAA	606525	33.6235	-112.2822	PUBLIC SUPPLY	760	01/31/48		20.0	12/23/08	388.8	792.2
A-03-01 09ABA	603236	33.6236	-112.2597	PUBLIC SUPPLY	800	02/01/71		20.0	02/01/71	320.0	860.0
A-03-01 09BBC	606526	33.6203	-112.2714	PUBLIC SUPPLY	1006	08/14/56		20.0	02/17/09	376.3	798.7
A-03-01 09CDB	603269	33.6119	-112.2650	IRRIGATION	1000	10/18/78		16.0		0.0	0.0
A-03-01 10BBB	617953	33.6239	-112.2529	PUBLIC SUPPLY	500	04/06/48		20.0	12/11/02	386.6	787.4
A-03-01 10BCB	617954	33.6206	-112.2542	DOMESTIC	610	01/27/75		8.0		0.0	0.0
A-03-01 10CDD		33.6103	-112.2475	DOMESTIC	0			8.0		0.0	0.0
A-03-01 11CBB	636821	33.6164	-112.2367	DOMESTIC	500			6.0	12/17/84	276.0	900.0
A-03-01 11DDA	607684	33.6134	-112.2100	IRRIGATION	474	08/01/41		20.0	12/01/10	309.6	881.9
A-03-01 12AAD	604117	33.6222	-112.2028	UNUSED	1638	12/14/51		20.0	11/06/97	364.3	825.7
A-03-01 12ADD1		33.6178	-112.2025	UNUSED	460	10/01/40		20.0	02/21/62	196.5	1017.0
A-03-01 12ADD2	607685	33.6183	-112.2022	IRRIGATION	1400	08/24/67		20.0	12/17/84	368.3	844.7
A-03-01 12BBB		33.6244	-112.2189	DOMESTIC	0			0.0		0.0	0.0
A-03-01 12CCC		33.6108	-112.2186	UNDETERMINED	352			0.0		0.0	0.0
A-03-01 12CCD		33.6106	-112.2167	UNUSED	0			6.0		0.0	0.0
A-03-01 12CDB	618620	33.6127	-112.2146	PUBLIC SUPPLY	1394	08/05/68		16.0	12/11/02	354.2	839.8
A-03-01 13DDA1		33.5997	-112.2033	UNUSED	440	11/01/40		20.0	02/21/62	237.9	952.1
A-03-01 13DDA2	608415	33.5997	-112.2022	IRRIGATION	1000	08/01/59		20.0	02/01/78	291.0	897.0
A-03-01 14DDD	608398	33.5961	-112.2200	UNUSED	418	12/01/40		20.0	02/04/09	335.6	832.4
A-03-01 16ABA1		33.6094	-112.2603	UNUSED	0			18.0		0.0	0.0
A-03-01 16ABA2	608030	33.6094	-112.2600	UNUSED	702	09/29/51		20.0	12/12/84	270.3	883.7
A-03-01 16DAA	525040	33.6000	-112.2544	PUBLIC SUPPLY	1400	01/20/91		16.0	12/11/02	312.0	830.0
A-03-01 17ABB1		33.6086	-112.2786	UNUSED	230	01/01/19		18.0	12/12/19	62.0	1097.0
A-03-01 17ABB2	606527	33.6091	-112.2786	PUBLIC SUPPLY	1000	05/02/53		20.0	01/06/03	359.1	799.9
A-03-01 17ACC	609015	33.6019	-112.2803	IRRIGATION	1006	04/23/57		20.0	12/09/97	288.1	859.9
A-03-01 17CAA		33.6008	-112.2811	UNUSED	0			0.0	01/01/46	120.0	1527.0
A-03-01 17DBB		33.6011	-112.2803	UNDETERMINED	1006	04/01/57		20.0	02/17/66	249.4	898.6
A-03-01 17DBC	606528	33.5985	-112.2787	PUBLIC SUPPLY	1200	07/19/75		16.0	12/02/97	314.7	830.0
A-03-01 17DDB1		33.5983	-112.2761	UNUSED	245	01/01/18		24.0	02/23/18	46.7	1097.3
A-03-01 17DDB2		33.5983	-112.2758	UNDETERMINED	630	11/01/46		20.0	10/02/63	208.7	935.3
A-03-01 18CDD1	608175	33.5900	-112.3000	PUBLIC SUPPLY	1050	01/01/47		14.0	12/23/09	344.6	792.4
A-03-01 18CDD2	608176	33.5950	-112.2999	PUBLIC SUPPLY	1090	06/01/58		20.0	12/19/08	348.1	788.9
A-03-01 18DAC	609020	33.5981	-112.2917	IRRIGATION	1005	10/08/70		16.0		0.0	0.0
A-03-01 18DCB	606529	33.5974	-112.2977	PUBLIC SUPPLY	900	01/30/51		20.0	12/19/08	348.1	793.9
A-03-01 19ACB	606530	33.5893	-112.2977	PUBLIC SUPPLY	750	03/03/48		20.0	12/19/08	332.3	800.7
A-03-01 19BAC		33.5908	-112.3011	UNDETERMINED	550			0.0		0.0	0.0
A-03-01 19CCD	608177	33.5802	-112.3027	UNUSED	1090	09/01/60		20.0	01/06/03	325.9	797.1
A-03-01 19DBA	609012	33.5869	-112.2950	IRRIGATION	600	06/16/64		16.0	12/05/97	311.3	817.7
A-03-01 19DCD		33.5806	-112.2947	UNDETERMINED	900			0.0		0.0	0.0
A-03-01 20BAA		33.5939	-112.2822	IRRIGATION	0			0.0		0.0	0.0
A-03-01 20BAC	507850	33.5919	-112.2825	IRRIGATION	1012	07/10/84		16.0		0.0	0.0
A-03-01 20BBB	606537	33.5946	-112.2898	UNUSED	437	09/01/51		16.0		0.0	0.0
A-03-01 20DCA	609013	33.5836	-112.2761	IRRIGATION	602	04/03/45		20.0		0.0	0.0
A-03-01 21ADA	608414	33.5908	-112.2542	PUBLIC SUPPLY	785	11/20/51		20.0	12/09/97	256.9	877.1
A-03-01 21BDD	609019	33.5878	-112.2646	IRRIGATION	655	08/14/77		20.0	12/05/97	257.8	866.0

Appendix C. GWSI Basic Well Inventory for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	DWR Reg No	Latitude	Longitude	Water Use	Well Depth (ft)	Drill Date	Well Elev (ft msl)	Casing Dia (in)	WL Date	DTW (ft)	WL Elev (ft msl)
A-03-01 21CBB	621171	33.5872	-112.2713	IRRIGATION	505	09/02/67		20.0		0.0	0.0
A-03-01 22AAA	610273	33.5953	-112.2372	IRRIGATION	650	01/01/49		20.0		0.0	0.0
A-03-01 22DDA1		33.5833	-112.2386	UNUSED	312	01/01/31		16.0	01/03/63	196.4	943.6
A-03-01 22DDA2	622786	33.5831	-112.2383	PUBLIC SUPPLY	283			12.0	05/01/57	169.0	971.0
A-03-01 22DDA3	532530	33.5831	-112.2386	PUBLIC SUPPLY	1129	06/04/64		16.0	12/04/97	229.7	911.3
A-03-01 22DDD		33.5819	-112.2381	UNDETERMINED	0			0.0		0.0	0.0
A-03-01 23AAD	523841	33.5936	-112.2198	PUBLIC SUPPLY	900	02/18/47		20.0	12/23/08	306.2	858.8
A-03-01 23BDC	622785	33.5892	-112.2314	PUBLIC SUPPLY	312	04/01/46		16.0	05/01/57	177.2	972.8
A-03-01 24CBB	608413	33.5885	-112.2193	IRRIGATION	1800	06/21/57		20.0	12/01/10	271.1	891.9
A-03-01 25ABB	517584	33.5813	-112.2091	PUBLIC SUPPLY	1805	09/28/87		18.0	12/23/08	275.9	887.1
A-03-01 25CDD	537968	33.5674	-112.2114	PUBLIC SUPPLY	1600	09/19/93		16.0	12/23/08	257.1	887.9
A-03-01 26ADD	608412	33.5741	-112.2198	IRRIGATION	703	07/21/49		20.0	11/20/02	262.1	881.9
A-03-01 26DDD1		33.5678	-112.2197	UNUSED	414	11/01/40		20.0	02/14/63	205.3	931.5
A-03-01 26DDD2	608406	33.5677	-112.2198	IRRIGATION	1002	11/25/67		20.0	02/04/09	239.9	897.1
A-03-01 27CCC	607683	33.5679	-112.2541	PUBLIC SUPPLY	453	05/29/19		18.0	02/19/09	258.6	852.6
A-03-01 27DAA		33.5728	-112.2381	UNUSED	41			0.0	10/11/39	38.2	1092.8
A-03-01 28AAA	805343	33.5806	-112.2544	UNUSED	518	04/01/47		20.0	12/06/82	164.2	955.8
A-03-01 29BBB	606531	33.5798	-112.2889	PUBLIC SUPPLY	600	05/03/30		24.0	12/19/08	302.2	818.8
A-03-01 29CDA	800408	33.5681	-112.2808	IRRIGATION	1065	01/03/66		20.0	01/03/66	185.0	920.0
A-03-01 30BAA	606532	33.5797	-112.2992	PUBLIC SUPPLY	1004	09/30/54		20.0	12/19/08	319.9	810.1
A-03-01 30DAC	800409	33.5703	-112.2931	IRRIGATION	725	05/01/68		16.0	07/01/68	266.3	852.7
A-03-01 30DBB		33.5717	-112.2969	UNUSED	260	02/01/20		18.0	02/12/20	48.0	1074.0
A-03-01 31AAB1		33.5653	-112.2931	PUBLIC SUPPLY	600			20.0	01/09/85	234.3	880.7
A-03-01 31AAB2		33.5653	-112.2917	IRRIGATION	0			0.0		0.0	0.0
A-03-01 31ABA	617060	33.5650	-112.2950	IRRIGATION	900	11/01/58		20.0	01/18/72	259.0	856.0
A-03-01 31ABB	617059	33.5653	-112.2958	IRRIGATION	900	03/01/48		0.0	01/09/85	236.2	878.8
A-03-01 31ACA	617058	33.5611	-112.2900	PUBLIC SUPPLY	956	06/17/51		20.0	12/11/02	276.5	831.5
A-03-01 32ABA1	600054	33.5656	-112.2764	UNUSED	300	01/01/35		20.0	12/12/84	168.6	933.4
A-03-01 32ABA2	600056	33.5656	-112.2775	IRRIGATION	505			0.0		0.0	0.0
A-03-01 32ADB		33.5611	-112.2750	UNUSED	2000	01/01/65		0.0		0.0	0.0
A-03-01 32DBB	622788	33.5600	-112.2800	PUBLIC SUPPLY	700	04/08/74		16.0	12/13/07	230.1	861.9
A-03-01 33DDD	618619	33.5518	-112.2545	IRRIGATION	190	07/14/19		18.0	11/20/02	180.2	915.3
A-03-01 34DDD1		33.5528	-112.2375	UNUSED	277			0.0		0.0	0.0
A-03-01 34DDD2	523842	33.5521	-112.2373	PUBLIC SUPPLY	1000	10/12/51		20.0	11/09/97	176.7	923.0
A-03-01 35ABB	607737	33.5664	-112.2283	IRRIGATION	810	01/03/52		30.0	12/15/09	225.3	902.7
A-03-01 35ADD	619199	33.5531	-112.2197	UNUSED	592	06/28/47		20.0		0.0	0.0
A-03-01 35BAB		33.5661	-112.2308	UNUSED	217	01/01/46		6.0	01/22/73	208.0	920.0
A-03-01 35DDD	607740	33.5531	-112.2200	IRRIGATION	1198	08/20/55		20.0	11/11/97	188.6	937.4
A-03-01 36CCA	618618	33.5556	-112.2158	INDUSTRIAL	1000	03/27/56		24.0	12/09/97	188.4	943.6
A-03-01 36CCC	400072	33.5528	-112.2189	UNUSED	202			20.0	10/22/48	82.0	1047.7
A-03-01 36DDA		33.5550	-112.2028	UNUSED	260	01/06/29		20.0	12/21/45	70.0	1073.1
A-03-01 36DDD	617819	33.5536	-112.2025	IRRIGATION	600	05/12/51		20.0	12/17/84	198.9	941.1
A-03-02 30CCC1	806102	33.5672	-112.2017	UNUSED	200	05/28/29		20.0	05/28/29	27.0	1128.4
A-03-02 30CCC2	608400	33.5673	-112.2019	IRRIGATION	780	11/04/52		20.0	02/03/09	237.4	917.6
A-2-1 05DCC	211749	33.5372	-112.2802	OBSERVATION	230	07/24/06		5.5	07/25/06	173.3	878.8
A-2-1 06CDD	529234	33.5368	-112.2987	OBSERVATION	221	09/22/90		4.0	07/25/06	149.6	876.4
A-2-1 07ABC	540444	33.5361	-112.2938	OBSERVATION	178	11/17/93		4.0	07/25/06	178.3	874.7
A-2-1 08BCC	507056	33.5311	-112.2865	OBSERVATION	240	02/17/84		12.0	07/25/06	173.3	876.7
A-2-1 08CBD	201509	33.5263	-112.2851	OBSERVATION	209	12/20/03		2.5	07/25/06	172.6	876.4
A-2-1 08CCD	201506	33.5230	-112.2863	OBSERVATION	205	12/12/03		1.5	07/25/06	168.1	879.9
A-2-1 18BCA	211748	33.5174	-112.3029	OBSERVATION	200	07/05/06		5.5	07/25/06	129.5	896.5
A-2-1 8BDC	201507	33.5299	-112.2825	OBSERVATION	0			0.0	07/25/06	175.4	876.6
B-01-01 36DBB	516763	33.5500	-112.3133	OTHER	20	02/10/87		2.0		0.0	0.0
B-02-01 01BAB	634572	33.5500	-112.3189	DOMESTIC	300	01/01/72		8.0		0.0	0.0
B-02-01 01BBB	518426	33.5497	-112.3205	INDUSTRIAL	340	08/05/87		8.0		0.0	0.0
B-02-01 01BBC	800659	33.5472	-112.3228	IRRIGATION	0			0.0		0.0	0.0
B-02-01 01BDC1	605119	33.5444	-112.3186	INDUSTRIAL	1300			16.0	12/20/84	203.6	859.4
B-02-01 01BDC2	605120	33.5436	-112.3172	INDUSTRIAL	858			12.0		0.0	0.0
B-02-01 01CAD	605121	33.5411	-112.3147	INDUSTRIAL	700			10.0		0.0	0.0
B-02-01 01CCC1		33.5372	-112.3225	UNUSED	172			0.0		0.0	0.0
B-02-01 01CCC2	609883	33.5400	-112.3200	INDUSTRIAL	596	12/01/60		12.0	12/09/09	249.4	819.6
B-02-01 01CCC3	557607	33.5367	-112.3222	RECREATION	960	07/19/97		14.0	10/21/97	222.8	842.2
B-02-01 01DDC		33.5375	-112.3106	UNDETERMINED	250	04/01/71		6.0		0.0	0.0
B-02-01 02ABA		33.5508	-112.3292	UNUSED	368	01/01/37		20.0	01/12/82	267.5	812.5
B-02-01 02ACA		33.5458	-112.3292	UNUSED	840	08/01/55		20.0	12/01/60	224.0	849.0
B-02-01 02BAA	611736	33.5506	-112.3339	UNUSED	720	07/01/48		20.0	12/02/82	340.3	739.7
B-02-01 02BBB	611735	33.5506	-112.3400	UNUSED	866	11/01/50		20.0	11/01/50	148.0	939.0
B-02-01 02BBC1		33.5483	-112.3406	UNUSED	265	04/01/46		20.0	04/01/46	103.0	984.0

Appendix C. GWSI Basic Well Inventory for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	DWR Reg No	Latitude	Longitude	Water Use	Well Depth (ft)	Drill Date	Well Elev (ft msl)	Casing Dia (in)	WL Date	DTW (ft)	WL Elev (ft msl)
B-02-01 02BBC2	611734	33.5483	-112.3403	UNUSED	772	03/01/57		20.0	12/30/60	253.4	833.6
B-02-01 02BBD1		33.5481	-112.3372	UNUSED	294	11/01/36		20.0	11/01/36	102.0	984.0
B-02-01 02BBD2		33.5481	-112.3369	UNUSED	926	11/01/53		20.0		0.0	0.0
B-02-01 02BCB	606564	33.5472	-112.3397	IRRIGATION	818	10/01/73		16.0	10/01/73	365.0	723.0
B-02-01 02BDA		33.5469	-112.3322	UNUSED	237			20.0	03/06/56	160.0	905.0
B-02-01 02BDC		33.5447	-112.3356	UNUSED	330	10/01/36		20.0	05/01/46	100.0	986.0
B-02-01 02CBB	618180	33.5433	-112.3383	INDUSTRIAL	0			20.0		0.0	0.0
B-02-01 02CCB		33.5403	-112.3383	UNDETERMINED	3425	01/01/70		0.0		0.0	0.0
B-02-01 03AAB1		33.5500	-112.3444	UNUSED	0			12.0		0.0	0.0
B-02-01 03AAB2		33.5503	-112.3444	UNUSED	0			20.0		0.0	0.0
B-02-01 03AAD	606565	33.5494	-112.3411	IRRIGATION	858	05/07/74		16.0	05/22/74	327.6	760.4
B-02-01 03ABB1		33.5511	-112.3478	UNUSED	0			0.0		0.0	0.0
B-02-01 03ABB2	606566	33.5511	-112.3475	IRRIGATION	920	04/27/57		20.0	12/20/84	358.0	735.0
B-02-01 03BBA1		33.5508	-112.3539	UNUSED	272	01/01/28		20.0	10/12/54	200.1	895.9
B-02-01 03BBA2		33.5511	-112.3539	DOMESTIC	386	05/01/59		10.0		0.0	0.0
B-02-01 03BBA3	601890	33.5511	-112.3542	IRRIGATION	1060			0.0		0.0	0.0
B-02-01 03CBB		33.5431	-112.3567	UNUSED	1200	01/01/59		16.0		0.0	0.0
B-02-01 03DDA1	400038	33.5397	-112.3419	UNUSED	593	01/01/59		16.0	04/01/59	225.0	859.0
B-02-01 03DDA2	400108	33.5397	-112.3422	UNUSED	600	01/01/59		16.0	04/01/59	220.0	864.0
B-02-01 03DDA3		33.5397	-112.3425	UNDETERMINED	445			0.0		0.0	0.0
B-02-01 03DDD	606568	33.5369	-112.3406	PUBLIC SUPPLY	600	10/22/59		8.0	01/09/85	323.3	760.7
B-02-01 10BBA1	639720	33.5364	-112.3533	DOMESTIC	506	01/01/46		20.0	01/29/66	290.4	794.6
B-02-01 10BBA2	639721	33.5364	-112.3536	DOMESTIC	388	04/01/68		12.0	05/01/68	317.0	766.0
B-02-01 10BCB		33.5325	-112.3564	UNDETERMINED	356			0.0		0.0	0.0
B-02-01 11BAC	800484	33.5344	-112.3344	PUBLIC SUPPLY	600			0.0		0.0	0.0
B-02-01 11CCB	606585	33.5250	-112.3381	DOMESTIC	431	11/01/67		8.0	01/19/68	302.0	814.1
B-02-01 11DCD1	639722	33.5236	-112.3281	PUBLIC SUPPLY	840			0.0		0.0	0.0
B-02-01 11DCD2	503273	33.5233	-112.3272	PUBLIC SUPPLY	885	02/04/83		24.0		0.0	0.0
B-02-01 11DDA1		33.5250	-112.3242	UNUSED	219	01/01/17		20.0	01/01/46	73.0	971.0
B-02-01 11DDA2		33.5250	-112.3239	UNUSED	202			26.0	12/01/36	79.0	965.0
B-02-01 12ABC1	578232	33.5344	-112.3125	UNUSED	200	12/15/99		5.0		0.0	0.0
B-02-01 12ABC2	578231	33.5344	-112.3125	UNUSED	180	12/20/99		5.0	11/26/02	84.5	966.5
B-02-01 12BAC	515904	33.5331	-112.3169	PUBLIC SUPPLY	600	12/06/86		10.0	11/25/02	251.9	788.1
B-02-01 12BCC	611725	33.5292	-112.3217	IRRIGATION	962	07/01/73		16.0	02/03/09	224.1	830.9
B-02-01 12BDB1		33.5328	-112.3178	UNUSED	0			0.0		0.0	0.0
B-02-01 12BDD1		33.5297	-112.3164	UNUSED	207	01/01/17		26.0	01/01/46	74.6	971.4
B-02-01 12BDD2	611726	33.5297	-112.3167	UNUSED	1002	05/01/53		20.0		0.0	0.0
B-02-01 12BDD3	611726	33.5297	-112.3165	IRRIGATION	1015	04/22/65		16.0	10/31/97	175.4	871.0
B-02-01 12CAD	611729	33.5258	-112.3161	IRRIGATION	1140	01/01/60		20.0	02/19/09	203.0	838.0
B-02-01 12CAD	611738	33.5325	-112.3183	IRRIGATION	992	09/01/48		20.0	12/27/62	212.6	833.4
B-02-01 12CCA1		33.5258	-112.3150	UNDETERMINED	444	01/01/41		16.0		0.0	0.0
B-02-01 12CCA2	803447	33.5261	-112.3150	IRRIGATION	500	10/01/53		20.0		0.0	0.0
B-02-01 12CDD	611727	33.5219	-112.3153	IRRIGATION	1000	07/01/76		16.0	10/31/97	156.8	879.0
B-02-01 13BAD	611728	33.5100	-112.3150	IRRIGATION	1002	02/08/77		16.0	01/28/03	187.8	845.2
B-02-01 13CCA	609769	33.5108	-112.3192	IRRIGATION	250			20.0	10/31/97	139.7	887.0
B-02-01 13CCC		33.5083	-112.3222	UNUSED	200			20.0		0.0	0.0
B-02-01 13DBC	509065	33.5111	-112.3142	INDUSTRIAL	406	12/19/85		8.0		0.0	0.0
B-02-01 14AAA		33.5206	-112.3233	IRRIGATION	0			0.0	01/06/72	239.0	798.0
B-02-01 14AAB		33.5211	-112.3264	UNUSED	110	01/01/17		26.0	01/01/17	22.5	1024.5
B-02-01 14AAD	611724	33.5201	-112.3234	IRRIGATION	1000	05/09/64		16.0	10/31/97	163.1	872.0
B-02-01 14ABD1		33.5192	-112.3283	UNUSED	100	07/01/17		26.0	07/01/17	25.1	1017.9
B-02-01 14ABD2	611723	33.5190	-112.3284	IRRIGATION	1605	08/01/56		20.0	12/13/02	228.9	815.1
B-02-01 14BDB	639723	33.5183	-112.3353	PUBLIC SUPPLY	415	11/05/64		10.0		0.0	0.0
B-02-01 14CBA	801249	33.5150	-112.3375	PUBLIC SUPPLY	500			0.0		0.0	0.0
B-02-01 14CBB		33.5146	-112.3401	UNUSED	708	01/01/60		12.0	12/08/09	263.3	793.7
B-02-01 14DBB1		33.5144	-112.3306	UNUSED	124	01/01/17		26.0	01/01/17	30.3	1013.7
B-02-01 14DBB2	611722	33.5144	-112.3308	UNUSED	720	11/01/48		20.0	01/06/72	271.0	773.0
B-02-01 15DCA	634002	33.5111	-112.3461	DOMESTIC	336	01/01/59		8.0		0.0	0.0
B-02-01 15DDD	634973	33.5086	-112.3414	DOMESTIC	500	01/01/56		8.0		0.0	0.0
B-03-01 01AAA		33.6381	-112.3069	UNUSED	410	01/01/19		16.0		0.0	0.0
B-03-01 01CBD	608648	33.6200	-112.3200	UNUSED	900			0.0	01/25/67	296.7	855.3
B-03-01 01CCB		33.6200	-112.3200	UNUSED	0			20.0	01/25/67	311.4	849.6
B-03-01 02ACC	630070	33.6327	-112.3323	PUBLIC SUPPLY	1004	08/28/78		20.0	01/21/09	406.5	768.5
B-03-01 02CBB	630073	33.6306	-112.3408	UNUSED	0			0.0		0.0	0.0
B-03-01 02DAD	630071	33.6281	-112.3244	PUBLIC SUPPLY	1064	08/01/78		20.0	01/22/09	375.1	786.9
B-03-01 02DCD		33.6244	-112.3294	IRRIGATION	316			8.0	01/14/47	144.0	1018.0
B-03-01 03BBB	605761	33.6384	-112.3574	PUBLIC SUPPLY	524	11/14/46		20.0	12/17/08	444.7	760.3
B-03-01 10ABB	617645	33.6231	-112.3494	IRRIGATION	0			0.0		0.0	0.0

Appendix C. GWSI Basic Well Inventory for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	DWR Reg No	Latitude	Longitude	Water Use	Well Depth (ft)	Drill Date	Well Elev (ft msl)	Casing Dia (in)	WL Date	DTW (ft)	WL Elev (ft msl)
B-03-01 10ACB	617644	33.6189	-112.3486	IRRIGATION	810	05/01/46		20.0	12/21/82	397.7	776.3
B-03-01 11AAB		33.6225	-112.3269	PUBLIC SUPPLY	0			0.0		0.0	0.0
B-03-01 11ABD	628504	33.6206	-112.3289	PUBLIC SUPPLY	500			8.0		0.0	0.0
B-03-01 11BBB		33.6233	-112.3402	UNUSED	558			20.0	01/09/85	325.4	842.6
B-03-01 11BCB	613597	33.6189	-112.3403	IRRIGATION	1005	06/21/63		20.0	07/14/76	476.0	686.0
B-03-01 11CCC		33.6100	-112.3403	DOMESTIC	600	11/01/63		10.0		0.0	0.0
B-03-01 11CDC	626782	33.6089	-112.3356	DOMESTIC	0	01/01/49		0.0		0.0	0.0
B-03-01 12BBB1		33.6233	-112.3236	UNUSED	270			0.0		0.0	0.0
B-03-01 12BBB2	608647	33.6231	-112.3235	IRRIGATION	1000	07/01/59		20.0	12/10/09	385.5	765.5
B-03-01 12CBB1	630072	33.6144	-112.3228	PUBLIC SUPPLY	900	09/01/76		20.0	01/22/09	392.1	748.9
B-03-01 12CBB2	630077	33.6144	-112.3231	PUBLIC SUPPLY	450			0.0		0.0	0.0
B-03-01 12DDC	630075	33.6086	-112.3100	IRRIGATION	418			10.0		0.0	0.0
B-03-01 13BAA1	630074	33.6081	-112.3164	PUBLIC SUPPLY	700			12.0		0.0	0.0
B-03-01 13BAA2	085252	33.6083	-112.3156	PUBLIC SUPPLY	1013	08/18/82		20.0	01/22/09	360.2	765.8
B-03-01 13BBA		33.6089	-112.3203	UNUSED	0			0.0	02/14/52	197.0	932.0
B-03-01 13DBB	801408	33.6011	-112.3147	UNUSED	500	06/01/53		20.0	12/20/84	281.7	834.3
B-03-01 14AAA	636715	33.6087	-112.3254	INSTITUTION	0			0.0	11/11/97	400.5	738.0
B-03-01 14ABB		33.6086	-112.3317	UNUSED	401	01/01/40		20.0	01/13/72	278.0	865.0
B-03-01 14BBB1		33.6089	-112.3411	UNUSED	390	01/01/30		18.0	05/14/51	180.8	970.2
B-03-01 14BBB2	617643	33.6089	-112.3408	IRRIGATION	810	01/01/48		20.0		0.0	0.0
B-03-01 14CAA	590334	33.6003	-112.3344	PUBLIC SUPPLY	1520	07/26/02		16.0	01/21/09	361.7	771.3
B-03-01 15BBB3	603303	33.6089	-112.3572	IRRIGATION	1470	03/05/75		16.0	12/17/02	411.9	756.1
B-03-01 15CBB3	628488	33.6016	-112.3573	IRRIGATION	1500	01/01/61		20.0	12/27/07	385.5	775.5
B-03-01 22ABB	628487	33.5944	-112.3478	IRRIGATION	800	07/01/46		20.0	10/22/97	449.2	690.8
B-03-01 22BAD	572867	33.5939	-112.3511	OBSERVATION	415	04/16/99		5.0	11/12/02	331.5	808.5
B-03-01 22BCA	605188	33.5892	-112.3558	IRRIGATION	780			0.0	11/12/97	354.5	789.0
B-03-01 22CAA	519048	33.5858	-112.3514	PUBLIC SUPPLY	1001	10/12/87		8.0		0.0	0.0
B-03-01 22CBA	564527	33.5857	-112.3561	OBSERVATION	380	10/01/97		10.0	02/26/09	282.4	855.6
B-03-01 23BBB1		33.5939	-112.3408	UNUSED	424			20.0	01/31/03	290.0	844.0
B-03-01 23BBB2		33.5944	-112.3411	UNUSED	1200	01/01/65		0.0		0.0	0.0
B-03-01 23BBC	612950	33.5900	-112.3400	UNUSED	1108			16.0	10/20/97	387.3	745.0
B-03-01 23BCA	635279	33.5892	-112.3383	IRRIGATION	0			0.0		0.0	0.0
B-03-01 23BCB		33.5889	-112.3406	UNUSED	0			12.0		0.0	0.0
B-03-01 23CBB	603811	33.5867	-112.3406	PUBLIC SUPPLY	1006	01/01/48		20.0	12/31/62	303.0	824.0
B-03-01 24BBB1	603821	33.5944	-112.3233	PUBLIC SUPPLY	275	01/01/43		20.0	01/01/43	96.0	1022.0
B-03-01 24BBB2	629935	33.5942	-112.3233	UNUSED	505	01/01/46		20.0	03/01/49	121.0	997.0
B-03-01 24BBB3	603822	33.5942	-112.3234	IRRIGATION	1200	12/01/61		18.0	12/07/09	350.3	767.7
B-03-01 24BCB		33.5894	-112.3236	IRRIGATION	600	04/01/55		20.0	01/13/72	283.0	829.0
B-03-01 25BBB1		33.5797	-112.3233	UNUSED	150	01/01/16		20.0	02/01/52	137.0	970.0
B-03-01 25BBB2		33.5800	-112.3233	UNUSED	300			16.0	10/01/46	87.0	1020.0
B-03-01 25BBB3		33.5794	-112.3233	DOMESTIC	826	04/01/59		20.0	11/06/91	311.2	795.8
B-03-01 26ABB		33.5798	-112.3302	UNUSED	0			0.0	12/11/02	367.9	747.1
B-03-01 26ACD		33.5728	-112.3206	UNUSED	525	02/06/46		20.0	12/31/62	278.4	829.6
B-03-01 26BAB	610628	33.5798	-112.3352	UNUSED	1150			24.0	12/11/02	407.8	708.2
B-03-01 26BBB	610627	33.5799	-112.3409	IRRIGATION	1000	01/01/47		20.0	12/12/02	399.9	717.1
B-03-01 26CBB1		33.5725	-112.3406	UNUSED	0			20.0		0.0	0.0
B-03-01 26CBB2	610629	33.5727	-112.3408	IRRIGATION	1000	07/01/57		22.0	12/11/02	400.8	707.2
B-03-01 27AAB	610631	33.5797	-112.3447	IRRIGATION	1807	12/05/76		20.0		0.0	0.0
B-03-01 27ABB1		33.5799	-112.3495	UNUSED	752	05/01/51		20.0	12/11/02	414.5	709.5
B-03-01 27ABB2	610625	33.5799	-112.3495	IRRIGATION	1085	01/03/73		20.0	12/11/02	414.4	709.6
B-03-01 27ABC1		33.5769	-112.3494	UNUSED	0			0.0		0.0	0.0
B-03-01 27ABC2	610626	33.5772	-112.3493	IRRIGATION	1050	03/01/72		20.0	10/27/97	425.3	698.0
B-03-01 27BDB	609454	33.5756	-112.3531	IRRIGATION	1500	01/01/62		34.0	01/01/62	305.0	822.0
B-03-01 27CAA	609452	33.5722	-112.3528	IRRIGATION	1000	04/01/60		20.0	11/06/91	407.8	707.2
B-03-01 34ABB1	601589	33.5656	-112.3494	DOMESTIC	350	10/01/46		16.0		0.0	0.0
B-03-01 34ABB2		33.5656	-112.3492	IRRIGATION	975	04/01/62		18.0		0.0	0.0
B-03-01 34DBB1		33.5583	-112.3493	IRRIGATION	350	07/01/43		20.0	12/14/07	219.9	880.1
B-03-01 34DBB2	610630	33.5583	-112.3486	IRRIGATION	1271	06/14/76		16.0		0.0	0.0
B-03-01 35AAB		33.5650	-112.3267	UNUSED	855	05/15/47		20.0	01/13/72	315.0	787.0
B-03-01 35BBB	610633	33.5654	-112.3399	IRRIGATION	1407	09/09/78		18.0	12/11/02	387.2	714.8
B-03-01 35DAA1		33.5581	-112.3253	UNUSED	0			0.0		0.0	0.0
B-03-01 35DAA2		33.5578	-112.3253	UNUSED	0			0.0		0.0	0.0
B-03-01 36AAB	617061	33.5650	-112.3086	IRRIGATION	800	01/01/63		0.0	11/29/88	223.2	858.8
B-03-01 36BAB		33.5636	-112.3189	UNUSED	0			0.0		0.0	0.0
B-03-01 36BBC	604162	33.5653	-112.3267	IRRIGATION	900	04/26/60		20.0	12/28/62	249.8	847.2

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A02001001000	590108	387504.5	3712411	GEOTECHNICAL	04/05/02	120	0	0	0	0	X	ARIZONA DEPARTMENT OF TRANSPORTATION
A02001001AAA	535501	388221.4	3713120	EXPLORATION	06/16/92	146	0	0	0	0	X	STONE CONTAINER CORP
A02001001DCC	400035	387593.1	3711711	EXEMPT		0	0	310	6	0		LIBERTY BANK C/O UNIQUE PROPERTIES
A02001001DDA	203263	388198.6	3711921	NON-EXEMPT		0	0	0	0	0		SALT RIVER PROJECT
A02001001DDA	218298	388198.6	3711921	NON-EXEMPT		630	0	1150	20	0	X	SALT RIVER PROJECT
A02001001DDC	400236	387994.2	3711718	EXEMPT		0	0	0	0	0		TREND HOMES OF ARIZONA
A02001002AAA	636123	386611.5	3713100	EXEMPT		0	0	0	8	0		D C JACOBS
A02001002ABC	564302	385999.1	3712890	MONITOR OR PIEZOMETER		0	0	0	0	0		DAIRY, PAUL,R
A02001002ADA	625217	386605.2	3712698	NON-EXEMPT		0	0	0	0	0		BOOTH,E F
A02001002ADD	400154	386602.1	3712498	EXEMPT		0	0	0	0	0		TONY WAYLAND
A02001002BAA	635022	385798.2	3713086	EXEMPT		0	0	0	0	34		RANEY II,R R
A02001002BBA	210061	385391.7	3713079	EXEMPT	02/16/06	600	400	600	45	0	X	PETER SCHUBERT
A02001002BCA	215606	385388.8	3712682	EXEMPT	10/20/07	400	220	400	6	7	X	TAMI & JIM PARK
A02001002CDA	533850	385785.9	3711891	MONITOR	06/10/92	270	0	270	4	0	X	LUKE AFB - 56 CES/CEV
A02001002DAB	619209	386396.2	3712295	EXEMPT		0	0	0	8	0		P E ROVEY
A02001002DBA	619210	386194.1	3712293	EXEMPT		0	0	0	6	0		P E ROVEY
A02001002DCC	636557	385985.0	3711693	EXEMPT		230	170	0	6	100		PSIG ONE L P
A02001002DDD	482086	386589.5	3711694	SOIL VAPOR EXTRACTION		0	0	0	0	0		CONOCO PHILLIPS COMPANY
A02001002DDD	482087	386589.5	3711694	SOIL VAPOR EXTRACTION		0	0	0	0	0		CONOCO PHILLIPS COMPANY
A02001002DDD	563951	386589.5	3711694	EXPLORATION		140	0	0	0	0	X	EXXON MOBIL OIL CORP
A02001002DDD	608420	386589.5	3711694	NON-EXEMPT	01/24/63	1900	184	1900	20	1401		SALT RIVER PROJECT,
A02001003000	635462	384286.5	3712376	EXEMPT		300	0	0	6	0		NORDTOME,R J
A02001003ACA	400439	384588.6	3712675	EXEMPT		0	0	0	0	0		ORANGEWOOD 88 LLC
A02001003ADA	481485	384986.5	3712677	DOMESTIC STOCK EXEMPT		0	0	0	0	0		TAYLOR WOODROW HOMES INC
A02001003ADA	481486	384986.5	3712677	EXEMPT		0	0	0	0	0		TAYLOR WOODROW HOMES INC
A02001003BAB	619345	383995.4	3713064	EXEMPT		300	200	300	4	0		ORANGEWOOD 88 LLC
A02001003BBA	619203	383796.9	3713063	EXEMPT		0	0	0	6	0		ROVEY,E M
A02001003BBB	591889	383598.3	3713061	EXEMPT		397	0	397	7	0	X	BANANA WIND LLC
A02001004A00	611153	383089.8	3712759	NON-EXEMPT	05/01/56	321	168	321	8	40		RAINIER RESOURCES INC
A02001004AA0	611154	383295.3	3712959	NON-EXEMPT	01/01/36	321	168	321	8	40		MCCLESKEY E TRUST,
A02001004BBB	607249	381984.3	3713038	NON-EXEMPT	09/19/51	800	166	800	20	1344		ROOSEVELT IRR DIST,
A02001004CBB	607248	381973.6	3712245	NON-EXEMPT	12/03/51	800	162	800	20	1089		ROOSEVELT IRR DIST,
A02001004DAA	618590	383384.0	3712273	NON-EXEMPT	01/01/57	657	0	635	20	0		IED GLENDALE LLC
A02001005000	619390	381064.0	3712324	NON-EXEMPT	01/01/30	400	200	0	20	1750		GLENDALE AIRPORT,
A02001005ABA	506081	381378.7	3713030	REPLACEMENT WELL IN NEW LOCATION		0	0	0	0	0		BASHAMET AL,T C
A02001005ADD	619206	381774.8	3712439	EXEMPT		0	0	0	6	0		HOWARD,W N
A02001005B00	624723	380667.5	3712718	NON-EXEMPT	01/01/39	355	100	0	20	2500		HILL,TRI-NORTH & C P,
A02001005B00	624724	380667.5	3712718	NON-EXEMPT		0	0	0	0	0		HILL,TRI-NORTH & C P,
A02001005BAB	623802	380772.9	3713022	NON-EXEMPT	01/01/86	614	160	614	20	0		TRI-NORTH CORP,
A02001005BBA	623801	380570.9	3713019	NON-EXEMPT	01/01/39	355	100	0	20	2500		TRI-NORTH CORP ET AL,
A02001005BBD	623803	380568.3	3712818	EXEMPT		400	0	400	8	0		TRI-NORTH CORP,
A02001005BCC	400238	380361.3	3712410	EXEMPT		0	0	0	0	0		GARVCO LLC
A02001005BCD	524903	380563.2	3712414	MONITOR	06/24/89	175	148	175	4	0	X	KB TOY OF MASSACHUSETTS
A02001005BCD	524904	380563.2	3712414	MONITOR OR PIEZOMETER	06/24/89	182	143	180	4	0	X	CONAIR CORP,

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A02001005BCD	537895	380563.2	3712414	EXPLORATION	03/02/93	95	0	0	0	0	X	GLEN HARBOR JOINT VT,
A02001005BDC	806651	380765.2	3712418	EXEMPT		0	0	0	8	0		GLEN HARBOR JT VENT,
A02001005BDD	539881	380967.1	3712422	MONITOR OR PIEZOMETER	07/30/93	180	158	148	4	0	X	GLEN HARBOR JOINT VT,
A02001005CAC	500124	380760.0	3712015	NON-EXEMPT		0	0	0	0	0		HELM,C E
A02001005CAC	503792	380760.0	3712015	NON-EXEMPT		0	0	0	0	0		HELM,C E
A02001005CAC	609903	380760.0	3712015	NON-EXEMPT	01/01/45	150	125	0	16	1000		HELM,C E
A02001005CCD	522471	380552.9	3711606	EXPLORATION	12/08/88	260	0	260	6	0	X	SOUTHWEST GAS CORP,
A02001005CDB	505934	380757.5	3711814	NON-EXEMPT	09/07/84	400	200	400	16	0	X	MERCHANTS FUNDING LLC
A02001005DCC	211749	381158.9	3711625	MONITOR		234	173	230	6	0	X	SALT RIVER PROJECT
A02001006000	529233	379459.6	3712317	EXPLORATION	09/22/90	221	180	0	0	0	X	GLENDALE, CITY OF,
A02001006BAB	529236	379162.3	3713023	MONITOR OR PIEZOMETER	09/22/90	221	176	221	4	0	X	GLENDALE, CITY OF,
A02001006BAC	522947	379160.7	3712822	MONITOR OR PIEZOMETER	02/02/89	200	160	200	4	0	X	GLENDALE, CITY OF,
A02001006BBB	522948	378760.3	3713025	MONITOR OR PIEZOMETER	02/02/89	220	179	220	4	0	X	GLENDALE, CITY OF,
A02001006BCC	522949	378757.1	3712424	MONITOR OR PIEZOMETER	02/02/89	190	179	190	4	0	X	GLENDALE, CITY OF,
A02001006BCC	625087	378757.1	3712424	NON-EXEMPT	03/05/79	483	213	483	16	550		GLENDALE, CITY OF
A02001006CAD	529234	379354.3	3712015	MONITOR OR PIEZOMETER	09/22/90	221	158	221	4	0	X	GLENDALE, CITY OF,
A02001006CBC	522950	378755.0	3712024	MONITOR OR PIEZOMETER	02/02/89	190	150	190	4	0	X	GLENDALE, CITY OF,
A02001006CDD	529235	379350.6	3711613	MONITOR OR PIEZOMETER	09/22/90	221	167	221	4	0	X	GLENDALE, CITY OF,
A02001007ABB	540444	379548.6	3711410	MONITOR OR PIEZOMETER	11/17/93	180	128	180	12	9	X	GLENDALE, CITY OF,
A02001007ADC	618079	379934.2	3710817	NON-EXEMPT	01/01/55	250	100	0	0	1600		GLENDALE, CITY OF,
A02001007BAA	540129	379349.5	3711413	MONITOR OR PIEZOMETER	08/12/93	160	120	160	4	0	X	GREELEY & HANSEN,
A02001007BAD	623413	379346.5	3711215	NON-EXEMPT	01/01/65	586	540	0	0	800		GLENDALE, CITY OF,
A02001008000	599306	381046.1	3710736	GEOTECHNICAL		200	180	0	10	0	X	TOM RAMSEY HEBBARD & WEBB
A02001008AC0	618920	381250.3	3710939	NON-EXEMPT		0	0	0	0	0		BARIE ENTERPRISES,
A02001008BCC	507056	380334.6	3710819	NON-SERVICE	02/17/84	240	65	240	12	0	X	CITY OF GLENDALE
A02001008BDC	201507	380741.2	3710829	MONITOR		0	0	0	0	0		SALT RIVER PROJECT
A02001008CAA	607246	380941.2	3710638	NON-EXEMPT	08/17/51	1000	160	1000	24	1232		ROOSEVELT IRR DIST,
A02001008CAC	201508	380734.4	3710438	MONITOR		209	177	209	3	0	X	SALT RIVER PROJECT
A02001008CBC	910945	380326.3	3710431	PIEZOMETER	07/28/09	25	0	25	0	0	X	SALT RIVER PROJECT AGRICULTURAL IMPROVEMENTS
A02001008CBC	910946	380326.3	3710431	PIEZOMETER	07/28/09	25	0	25	2	0	X	SALT RIVER PROJECT AGRICULTURAL IMPROVEMENT
A02001008CBC	910947	380326.3	3710431	PIEZOMETER	07/27/09	25	0	25	2	0	X	SALT RIVER PROJECT AGRICULTURAL IMPROVEMENTS
A02001008CBC	910948	380326.3	3710431	PIEZOMETER	07/27/09	25	0	25	2	0	X	SALT RIVER PROJECT AGRICULTURAL IMPROVEMENTS
A02001008CBC	910949	380326.3	3710431	PIEZOMETER	07/27/09	25	0	25	2	0	X	SALT RIVER PROJECT AGRICULTURAL IMPROVEMENTS
A02001008CBD	201509	380530.7	3710434	MONITOR		177	177	209	3	0	X	SALT RIVER PROJECT
A02001008CCD	201506	380523.4	3710045	MONITOR		205	177	205	3	0	X	SALT RIVER PROJECT
A02001008CDD	607245	380932.1	3710050	NON-EXEMPT	08/17/51	800	156	800	20	936		ROOSEVELT IRR DIST,
A02001008DDD	608411	381747.8	3710061	NON-EXEMPT	05/25/51	600	152	600	20	2950		SALT RIVER PROJECT,
A02001009000	586923	382661.1	3710772	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001009000	586924	382661.1	3710772	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001009BBB	400206	381963.3	3711452	NON-EXEMPT	02/12/52	800	90	790	20	0	X	ROOSEVELT IRRIGATION DISTRICT

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A02001009BBB	619204	381963.3	3711452	EXEMPT		0	0	0	6	0		ROVEY LAND & CATTLE,
A02001009CBB	607247	381955.2	3710659	NON-EXEMPT	09/30/51	800	160	800	20	1590		ROOSEVELT IRRIGATION DISTRICT
A02001009CCC	603631	381948.9	3710064	NON-EXEMPT	01/14/69	421	172	421	10	140		TRIPLE G FARMS ATTN: CONRAD GINGG
A02001009CCD	400454	382149.7	3710067	MONITOR		0	0	0	0	0		LARRY ROVEY FARM
A02001009CCD	400455	382149.7	3710067	EXEMPT		0	0	0	0	0		LARRY ROVEY FARM
A02001009D00	638331	383057.2	3710380	EXEMPT		0	0	0	0	0		PENDERGAST,C C
A02001009DDD	482024	383354.7	3710084	NON-EXEMPT	04/07/06	240	0	240	18	0	X	SALT RIVER PROJECT
A02001009DDD	608360	383354.7	3710084	NON-EXEMPT	02/14/47	550	117	550	20	3704	X	SALT RIVER PROJECT,
A02001010000	586925	384268.2	3710790	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001010000	586926	384268.2	3710790	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001010A00	635922	384675.5	3711192	EXEMPT		400	0	0	0	0		83RD AVE INVESTORS,
A02001010A00	635923	384675.5	3711192	EXEMPT		20	0	0	0	0		83RD AVE INVESTORS,
A02001011AAB	633243	386386.5	3711494	EXEMPT		400	16	0	4	0		LENNAR COMM DEV INC,
A02001011BAA	604122	385783.9	3711493	SERVICE	01/01/78	755	220	755	12	1000	X	GLENDALE, CITY OF
A02001011DDD	482170	386563.3	3710092	NON-EXEMPT	07/08/50	355	190	320	20	0	X	SALT RIVER PROJECT
A02001011DDD	608390	386563.3	3710092	NON-EXEMPT	06/01/07	1000	184	1000	20	2135	X	SALT RIVER PROJECT,
A02001012AAA	617711	388191.8	3711521	NON-EXEMPT	09/02/48	309	0	309	6	0		SALT RIVER PROJECT,
A02001012CBD	634048	386972.9	3710497	EXEMPT	01/01/39	600	120	300	6	0		TOLMACKOFF,M P
A02001012DAD	598063	388179.3	3710515	EXEMPT		425	202	425	6	0	X	JEAN MCGRATH
A02001012DDA	203885	388176.8	3710314	WITHDRAWAL PERMIT	03/16/05	606	209	585	21	1200	X	SALT RIVER PROJECT
A02001012DDA	608409	388176.8	3710314	NON-EXEMPT	07/01/51	420	202	420	20	1790		SALT RIVER PROJECT
A02001013BCB	400172	386755.9	3709491	EXEMPT		0	0	0	0	0		CENTEX HOMES
A02001013CCC	608408	386742.5	3708485	NON-EXEMPT	05/01/53	800	196	800	20	2366		SALT RIVER PROJECT
A02001013CCC	806673	386742.5	3708485	NON-EXEMPT	01/01/28	179	73	179	20	4219		SALT RIVER PROJECT,
A02001014000	586928	385852.3	3709188	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001014BBB	400431	385164.9	3709895	EXEMPT		0	0	0	0	0		FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
A02001014BBB	617098	385164.9	3709895	NON-EXEMPT	02/09/49	700	168	700	20	2483		SALT RIVER PROJECT,
A02001014BDD	808577	385754.6	3709289	EXEMPT		0	0	0	0	0		SARA I HELBERT
A02001014CCC	608394	385143.7	3708482	NON-EXEMPT	03/15/49	700	174	700	20	2844		SALT RIVER PROJECT,
A02001014CDA	617099	385746.0	3708684	NON-EXEMPT	10/28/51	1600	174	1596	20	2275		SALT RIVER PROJECT,
A02001014DAA	807501	386550.1	3709087	EXEMPT	06/04/97	500	0	500	6	0		GLENDALE PARKSIDE LLC
A02001015000	586927	384249.9	3709190	GEOTECHNICAL		0	0	0	0	0		SALT RIVER PROJECT
A02001015ABB	608361	384359.5	3709891	NON-EXEMPT	10/01/49	540	135	540	20	2765		SALT RIVER PROJECT,
A02001015ADD	400370	384955.2	3709289	EXEMPT		0	0	0	0	0		RICHMOND AMERICAN HOMES
A02001015ADD	400371	384955.2	3709289	EXEMPT		0	0	0	0	0		RICHMOND AMERICAN HOMES
A02001015CBB	608359	383539.9	3709094	NON-EXEMPT	01/24/47	500	138	500	20	3250		SALT RIVER PROJECT,
A02001015DA0	636471	384849.8	3708987	EXEMPT		300	180	190	6	0		PRITCHARD,J T
A02001016ABB	603633	382749.0	3709877	EXEMPT		257	222	257	8	12		TRIPLE G FARMS,
A02001016ADA	627353	383345.2	3709489	EXEMPT	04/11/50	300	200	300	4	0		IRA & JUANITA PENDERGAST
A02001016BDD	482232	382535.0	3709277	EXEMPT		40	0	40	6	0		FARM 101 LLC
A02001016DCD	809426	382923.8	3708489	EXEMPT	11/14/08	350	300	350	6	0		MARACAY 95, LLC
A02001017AAA	482134	381742.6	3709862	EXEMPT		0	0	0	0	0		SALT RIVER PROJECT
A02001017BAA	620349	380925.7	3709853	NON-EXEMPT	08/01/63	650	232	650	12	2267		BARRY & ANNE KINGERY
A02001017BAA	620350	380925.7	3709853	EXEMPT		0	0	0	0	0		BARRY & ANNE KINGERY

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A02001017BAB	513218	380721.6	3709851	DOMESTIC STOCK EXEMPT	03/07/86	115	138	342	10	0	X	GRIGG, C. DENNIS,
A02001017CBA	607244	380505.9	3709060	NON-EXEMPT	03/27/01	720	155	720	16	1344	X	ROOSEVELT IRR DIST,
A02001017D00	621648	381409.3	3708765	NON-EXEMPT		0	0	0	0	0		QUIKTRIP
A02001017DDD	608356	381702.1	3708466	NON-EXEMPT	01/06/67	550	134	550	20	3143		SALT RIVER PROJECT,
A02001018000	901232	379422.9	3709136	MINERAL EXPLORATION		160	0	0	0	0		RINKER MATERIALS
A02001018AAA	217517	380113.4	3709843	NON-EXEMPT	08/30/09	2066	71	631	23	0	X	CITY OF GLENDALE
A02001018AAA	482310	380113.4	3709843	EXEMPT		285	0	285	6	0		CITY OF GLENDALE
A02001018AAA	540130	380113.4	3709843	MONITOR OR PIEZOMETER	08/13/93	140	100	140	4	0	X	GREELEY & HANSEN,
A02001018AAA	606047	380113.4	3709843	NON-EXEMPT	09/30/47	470	140	470	20	1000	X	ALHAMBRA CO,
A02001018AAA	806145	380113.4	3709843	NON-EXEMPT	12/31/79	444	120	444	20	5500		CITY OF GLENDALE
A02001018BDB	211748	379132.2	3709425	MONITOR		205	140	200	6	0	X	SALT RIVER PROJECT
A02001018CBD	551417	378935.6	3708822	EXPLORATION		0	0	0	0	0		MARICOPA COUNTY FLD,
A02001018DAA	606065	380107.3	3709056	NON-EXEMPT	01/01/30	390	80	390	20	2000		GLENDALE, CITY OF,
A02001018DAA	639362	380107.3	3709056	EXEMPT	01/01/47	200	150	200	6	20		CITY OF GLENDALE
A02001018DDD	639361	380102.6	3708465	EXEMPT	01/01/47	200	150	200	1	20		ALHAMBRA CO,
A03001001BB0	627180	387052.5	3722528	NON-EXEMPT	01/01/46	680	0	0	20	2600		WHITTINGTON ENTERPRISES LTD
A03001001BBA	805338	387147.1	3722618	NON-EXEMPT	10/30/47	500	0	0	20	1500		PEORIA, CITY OF,
A03001001CB0	622855	387062.8	3721795	NON-EXEMPT		560	0	560	8	0		SENSEMAN FMLY TRUST,
A03001001CDC	617712	387352.8	3721337	NON-EXEMPT	08/13/36	271	0	0	6	0		SALT RIVER PROJECT,
A03001001CDD	565168	387552.8	3721334	NON-EXEMPT	01/15/98	1300	320	1200	20	0	X	SALT RIVER PROJECT
A03001001CDD	618621	387552.8	3721334	NON-EXEMPT	12/18/51	1636	368	840	16	2024		SALT RIVER PROJECT
A03001002000	565369	386052.9	3721974	GEOTECHNICAL		0	0	0	0	0		PEORIA, CITY OF
A03001002000	565856	386052.9	3721974	GEOTECHNICAL		0	0	0	0	0		PEORIA, CITY OF
A03001002000	569668	386052.9	3721974	WITHDRAWAL PERMIT		0	0	0	0	0		FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
A03001002000	569669	386052.9	3721974	WITHDRAWAL PERMIT		0	0	0	0	0		FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
A03001002BBA	602725	385537.5	3722629	EXEMPT	01/01/51	480	0	480	5	0		IN-N-OUT BURGER
A03001002BBB	532531	385337.2	3722632	NON-EXEMPT		0	0	0	0	0		PEORIA, CITY OF,
A03001002BBB	804525	385337.2	3722632	NON-EXEMPT	10/01/45	428	0	0	20	0		PEORIA, CITY OF,
A03001002BBB	805339	385337.2	3722632	NON-EXEMPT	09/22/92	1200	379	1200	16	1700		PEORIA, CITY OF,
A03001002BBB	805342	385337.2	3722632	NON-EXEMPT	12/31/47	500	0	0	12	750		PEORIA, CITY OF,
A03001002BCC	804526	385344.1	3722071	NON-EXEMPT	06/01/56	800	0	796	20	1850		PEORIA, CITY OF
A03001002CAD	576921	385940.2	3721697	PIEZOMETER		0	0	0	0	0		CITY OF PEORIA
A03001002CAD	576922	385940.2	3721697	PIEZOMETER		0	0	0	0	0		CITY OF PEORIA
A03001002CAD	576923	385940.2	3721697	PIEZOMETER		0	0	0	0	0		CITY OF PEORIA
A03001002CAD	576924	385940.2	3721697	PIEZOMETER		0	0	0	0	0		CITY OF PEORIA
A03001002CBC	565552	385338.9	3721696	NON-EXEMPT	10/13/98	1200	410	1000	16	0	X	PEORIA, CITY OF
A03001002CCA	565368	385534.7	3721510	PIEZOMETER		0	0	0	0	0		PEORIA, CITY OF
A03001002DBD	633981	386345.2	3721697	NON-EXEMPT	08/20/08	620	345	620	7	35	X	ROBERT & MARSHA MCCLENDON
A03001002DCC	806672	386142.7	3721326	EXEMPT		350	0	0	6	0		PEORIA UNIFIED SCH,
A03001003000	526603	384423.3	3721977	EXPLORATION	12/08/89	70	0	0	0	0	X	SOUTHWEST SAVINGS,
A03001003ABA	611442	384729.2	3722638	NON-EXEMPT	01/01/58	780	394	733	20	1440		BURKEY INVSTMNTS LP,
A03001003ABA	807189	384729.2	3722638	EXEMPT		947	0	0	20	0		BURKE, ALBERT,
A03001003ABB	611441	384527.0	3722640	NON-EXEMPT	12/31/46	947	408	588	20	1225		BURKEY INVSTMNTS LP,

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001003ACA	622204	384727.2	3722260	EXEMPT		0	160	0	6	11		KING, EVERETT,L
A03001003DBA	807290	384725.3	3721883	EXEMPT		200	0	0	6	0		MILLER, LARRY GROUP,H
A03001003DCC	538774	384519.5	3721314	SERVICE	12/28/93	1360	369	1346	30	1200	X	PEORIA, CITY OF,
A03001004BAA	606520	382705.1	3722653	NON-EXEMPT	03/10/10	1209	393	1204	14	1600	X	ARIZONA AMERICAN WATER CO
A03001004DBB	606518	382900.4	3721870	NON-EXEMPT	03/13/09	760	382	760	16	1400	X	ARIZONA AMERICAN WATER CO
A03001004DDD	574914	383504.6	3721299	NON-EXEMPT	10/07/99	1330	391	1320	30	0	X	ARIZONA AMERICAN WATER CO
A03001004DDD	606519	383504.6	3721299	NON-EXEMPT	11/10/73	1321	369	1315	16	1600		CITIZENS UTILITIES
A03001005AAA	597230	381895.3	3722656	EXEMPT	02/20/03	460	240	460	5	0	X	CHRISTINE FREDRICKSON
A03001005ABB	606521	381292.0	3722659	NON-EXEMPT	02/09/52	905	427	905	16	1500	X	ARIZONA AMERICAN WATER CO
A03001005BBB	606522	380487.8	3722661	NON-EXEMPT	05/15/73	1206	374	1206	16	1900		ARIZONA AMERICAN WATER CO
A03001005BDB	506072	380883.4	3722263	REPLACEMENT WELL IN NEW LOCATION	05/25/84	1006	391	1006	16	0	X	RECREATION CENTERS,
A03001006DAD	609021	380264.4	3721673	NON-EXEMPT		868	351	0	20	1400		MATTHEWS CO,
A03001007BAD	606524	379433.8	3720867	NON-EXEMPT	03/08/69	1200	432	1200	16	1400		ARIZONA AMERICAN WATER CO
A03001007BCC	571747	378816.9	3720459	NON-EXEMPT	03/27/99	800	351	800	16	0	X	VULCAN MATERIALS/CALMAT COMPANIES
A03001007BCC	611456	378816.9	3720459	NON-EXEMPT	01/01/51	506	0	0	16	650		CALMAT CO,
A03001007CBA	515991	379019.1	3720259	NON-EXEMPT	12/22/86	805	292	805	14	810	X	CALMAT CO,
A03001007CBB	611455	378815.2	3720257	NON-EXEMPT	01/01/77	800	332	0	16	1165		CALMAT CO,
A03001007DBA	606523	379836.1	3720264	NON-EXEMPT	03/28/94	1000	358	1000	16	1400	X	ARIZONA AMERICAN WATER CO
A03001008BAA	217004	381064.8	3721069	SERVICE	05/24/08	1244	392	1197	19	1825	X	ARIZONA AMERICAN WATER COMPANY
A03001008BAA	606525	381064.8	3721069	NON-EXEMPT	01/31/48	760	362	760	20	1300		ARIZONA AMERICAN WATER CO
A03001009ABA	603236	383095.2	3721090	NON-EXEMPT	04/01/71	800	346	800	20	1200		PALMBROOK CLUB,
A03001009BBD	596514	382277.6	3720865	MONITOR	02/21/03	200	0	0	8	0	X	SHELL OIL PRODUCTS US
A03001009BBD	596515	382277.6	3720865	MONITOR		0	0	0	0	0		SHELL OIL PRODUCTS US
A03001009BBD	596516	382277.6	3720865	MONITOR		0	0	0	0	0		SHELL OIL PRODUCTS US
A03001009BBD	596517	382277.6	3720865	MONITOR		0	0	0	0	0		SHELL OIL PRODUCTS US
A03001009BCB	606526	382070.4	3720657	NON-EXEMPT	08/14/56	1006	435	1006	20	1400		ARIZONA AMERICAN WATER CO
A03001009CDA	510324	382672.5	3719867	NON-EXEMPT		0	0	0	0	0		PALMBROOK CLUB,
A03001009CDA	515379	382672.5	3719867	NON-EXEMPT		0	0	0	0	0		PALMBROOK CLUB,
A03001009CDA	603269	382672.5	3719867	NON-EXEMPT	03/08/79	1000	346	1000	16	1200		PALMBROOK CLUB,
A03001010000	901367	384404.7	3720410	GEOTECHNICAL	12/07/04	300	0	0	10	0	X	CITY OF PEORIA
A03001010AAA	520835	385124.7	3721126	EXPLORATION	04/13/88	120	0	0	6	0	X	M.C.F.C.D.,
A03001010ADA	628998	385115.6	3720720	NON-EXEMPT		368	284	368	6	9		ARIZONA DEPARTMENT OF TRANSPORTATION
A03001010BBB	583890	383705.3	3721107	NON-EXEMPT	02/02/01	1305	393	647	18	0	X	CITY OF PEORIA
A03001010BBB	617953	383705.3	3721107	NON-EXEMPT	04/01/49	1200	345	500	20	3000		CITY OF PEORIA
A03001010BCB	617954	383700.9	3720703	EXEMPT	04/01/49	610	345	600	0	25		BERCO CORP,
A03001010CDC	632258	384089.6	3719697	EXEMPT	11/24/75	488	315	488	8	35		STEWARD VENTURES INC
A03001010DAD	400096	385102.1	3720112	EXEMPT		0	0	0	0	0		HOWARD W LYDIC
A03001010DDB	400256	384895.8	3719907	EXEMPT		0	0	0	0	0		FAIRFIELD DEVELOPMENT LP
A03001011000	569670	386020.7	3720423	WITHDRAWAL PERMIT		0	0	0	0	0		FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
A03001011AA0	638219	386644.1	3721034	EXEMPT		370	160	370	6	35		WOLFLEY,V A
A03001011BAA	603245	385936.1	3721131	EXEMPT	06/04/56	258	191	246	0	0		THOMAS PROPERTIES IN,C
A03001011BBD	808128	385525.7	3720927	EXEMPT	01/01/50	240	210	240	6	8		THE REDEEMED CHURCH OF GOD, INC

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001011BCB	583414	385318.4	3720723	EXEMPT	10/20/00	492	400	470	6	0	X	GEORGE DATCUK
A03001011BCC	638238	385313.8	3720520	EXEMPT	05/01/46	254	165	240	8	0	X	WAYNE & DENA HAMBLEN
A03001011CBB	636821	385309.3	3720317	EXEMPT		500	0	0	6	0		CHURCH LIGHTHOUSE
A03001011CCB	608031	385300.2	3719911	EXEMPT	08/13/53	326	260	306	6	0		HOWARD W LYDIC
A03001011CDD	602988	385903.8	3719714	EXEMPT	08/01/48	367	260	325	6	35		JOHNSON, RAYMOND,B
A03001011DDA	607684	386719.4	3719924	NON-EXEMPT	08/01/40	474	292	474	20	2053		SALT RIVER PROJECT,
A03001012AAD	512496	388350.3	3720933	NON-EXEMPT	08/31/66	900	0	620	10	900	N	GLENDALE, CITY OF,
A03001012AAD	604117	388350.3	3720933	NON-EXEMPT	08/31/66	900	450	620	10	800		GLENDALE, CITY OF,
A03001012ABC	210077	387746.8	3720938	EXEMPT		510	359	510	5	0	X	MOE GHANDOUR
A03001012ADD	607685	388343.9	3720531	NON-EXEMPT	08/24/67	1400	374	430	20	1852		SALT RIVER PROJECT,
A03001012BAA	213613	387550.1	3721142	EXEMPT	12/30/06	660	90	660	7	12	X	TED & CINDY CHRISTNER
A03001012BBB	807539	386949.6	3721148	EXEMPT		200	0	0	6	0		EXECUTIVE HOMES INC,
A03001012BDD	617713	387539.1	3720535	NON-EXEMPT	07/17/36	235	0	0	6	0		SALT RIVER PROJECT,
A03001012CAC	206124	387330.3	3720130	EXEMPT		550	300	550	6	0	X	MARK HUFF
A03001012CBA	218308	387133.1	3720334	EXEMPT	09/17/08	475	326	475	5	0	X	RUBEN & SAGRARIO AGUAYO
A03001012CBA	581751	387133.1	3720334	EXEMPT		0	0	0	0	0		PAUL E BAKER
A03001012CBA	901690	387133.1	3720334	EXEMPT		520	333	520	5	0	X	DUMITRU HITICAS
A03001012CCB	213490	386922.3	3719927	NON-EXEMPT		0	0	0	0	0		
A03001012CCB	215990	386922.3	3719927	NON-EXEMPT	07/13/08	1290	0	1290	21	2000	X	SALT RIVER PROJECT
A03001012CCC	640159	386917.8	3719724	EXEMPT		0	0	0	8	0		AAA ARIZONA INC
A03001012CCC	638001	386917.8	3719724	EXEMPT		375	0	0	6	0		AAA ARIZONA INC
A03001012CDB	618620	387326.3	3719928	NON-EXEMPT	08/01/68	1394	404	804	16	1440		SALT RIVER PROJECT,
A03001012CDD	605182	387524.2	3719725	NON-EXEMPT	01/01/28	200	180	200	8	0		REITER,J
A03001012DD0	627074	388231.6	3719828	EXEMPT		0	0	0	0	35		M & S INVESTMENT CO,
A03001013AAA	400242	388327.0	3719527	EXEMPT		0	0	0	0	0		QUICKTRIP CORP
A03001013AAA	578854	388327.0	3719527	MONITOR		0	0	0	0	0		QUIKTRIP CORPORATION
A03001013AAA	578855	388327.0	3719527	MONITOR		0	0	0	0	0		QUIKTRIP CORPORATION
A03001013AAA	578856	388327.0	3719527	MONITOR		0	0	0	0	0		QUIKTRIP CORPORATION
A03001013ACC	631461	387711.5	3718926	EXEMPT		0	0	0	0	0		LEPARULO,L
A03001013CCB	550286	386888.6	3718319	SERVICE		0	0	0	0	0		SALT RIVER PROJECT,
A03001013DDA	608415	388311.0	3718332	NON-EXEMPT	08/12/59	1000	306	1000	20	2647		SALT RIVER PROJECT,
A03001013DDB	805821	388108.5	3718330	EXEMPT		359	353	359	20	0		SALT RIVER PROJECT,
A03001014AAA	400192	386710.2	3719521	EXEMPT		0	0	0	0	0		TRIPLE B FARMS
A03001014ABB	634459	386101.8	3719514	EXEMPT	01/01/73	350	85	317	8	20		COLLINS,J W
A03001014CCD	583490	385455.6	3718101	EXEMPT	03/14/01	740	522	740	5	0	X	LARRY& KAY LEGG
A03001014DDD	203264	386680.8	3718116	NON-EXEMPT	08/11/04	1150	0	1150	21	1250	X	SALT RIVER PROJECT
A03001014DDD	608398	386680.8	3718116	NON-EXEMPT	12/01/40	418	226	418	20	523		SALT RIVER PROJECT
A03001015AD0	636298	384974.3	3719001	EXEMPT		0	0	0	0	0		BURNS,N R
A03001015CDC	632221	384051.3	3718100	EXEMPT	04/28/29	380	325	380	6	22		SCHEIDER FMLY TRUST,
A03001015DAD	525040	385059.2	3718499	SERVICE	01/20/91	1400	257	1400	16	1500	X	PEORIA, CITY OF,
A03001016000	901369	382754.0	3718768	GEOTECHNICAL		230	0	0	10	0	X	CITY OF PEORIA
A03001016ABA	608030	383074.7	3719477	NON-EXEMPT	10/03/51	702	330	702	20	1950		PLAZA FUTURES LIMITED PARTNERSHIP
A03001017ABB	606527	381243.1	3719448	NON-EXEMPT	05/02/53	1000	328	1000	20	2000		ARIZONA AMERICAN WATER CO
A03001017ACC	210419	381237.5	3718843	NON-EXEMPT	08/06/06	1215	386	1200	17	0	X	RECREATION CENTERS OF SUN CITY
A03001017ACC	609015	381237.5	3718843	NON-EXEMPT	04/23/57	1006	249	1006	20	2250		RECREATION CENTERS OF SUN CITY INC

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001017BBC	612433	380436.3	3719253	NON-EXEMPT	01/01/76	1783	550	1783	20	2000		MARLEY PARK PHASE I LLC
A03001017CCC	522472	380424.1	3718043	CATHODIC	12/02/88	260	0	260	6	0	X	SOUTHWEST GAS CORP,
A03001017DBC	606528	381233.8	3718439	NON-EXEMPT	07/19/75	1200	321	1200	16	2500		ARIZONA AMERICAN WATER CO
A03001018BAA	565335	379420.2	3719454	GEOTECHNICAL		0	0	0	0	0		CHEVRON PRODUCTS COMPANY
A03001018BBB	532731	378808.7	3719452	EXPLORATION		0	0	0	0	0		ADOT,
A03001018BBC	515453	378807.1	3719250	MONITOR OR PIEZOMETER	11/14/86	325	254	105	10	22	X	REFUSE RESEARCH CORP,
A03001018BCA	525573	379009.1	3719048	MONITOR OR PIEZOMETER	09/13/89	256	225	251	4	4	X	REFUSE RESEARCH CORP,
A03001018CBC	525575	378800.7	3718440	MONITOR OR PIEZOMETER		0	0	0	0	0		REFUSE RESEARCH CORP,
A03001018CCB	525574	378799.1	3718238	MONITOR OR PIEZOMETER	11/27/89	307	265	295	4	10	X	REFUSE RESEARCH CORP,
A03001018CCD	608175	379000.7	3718037	NON-EXEMPT	01/01/47	1050	348	1050	14	650		ARIZONA AMERICAN WATER CO
A03001018CCD	608176	379000.7	3718037	NON-EXEMPT	05/19/00	1090	334	1090	20	1300		ARIZONA AMERICAN WATER CO
A03001018DAC	609020	380021.7	3718446	NON-EXEMPT	10/08/70	1005	250	1005	16	1650		RECREATION CENTERS,
A03001018DCB	606529	379612.8	3718242	NON-EXEMPT	01/30/51	900	305	900	20	1500		ARIZONA AMERICAN WATER CO
A03001019ACB	606530	379604.5	3717439	NON-EXEMPT	03/03/48	750	291	750	20	1180		ARIZONA AMERICAN WATER CO
A03001019BDB	522473	379198.7	3717436	EXPLORATION	12/01/88	260	0	260	6	0	X	SOUTHWEST GAS CORP,
A03001019CCD	207783	378986.6	3716432	NON-EXEMPT	11/16/05	1123	226	1120	28	900	X	ARIZONA AMERICAN WATER COMPANY
A03001019CCD	608177	378986.6	3716432	NON-EXEMPT	09/01/60	1090	380	1090	20	1000		ARIZONA AMERICAN WATER COMPANY
A03001019DBB	609012	379599.8	3717039	NON-EXEMPT	06/16/64	600	334	600	16	990		RECREATION CENTERS,
A03001020BBB	606537	380421.3	3717842	EXEMPT	09/01/51	437	295	437	16	0		ARIZONA AMERICAN WATER CO
A03001020BDB	507850	380818.8	3717440	NON-SERVICE	07/10/84	1012	288	1008	16	1500	X	RECREATION CENTERS,
A03001020CAD	609014	381012.0	3716842	NON-EXEMPT	11/22/93	1039	387	1039	16	1250		RECREATION CENTERS,
A03001020DBD	609013	381415.0	3716840	NON-EXEMPT	04/03/45	602	73	602	20	2900		RECREATION CENTERS,
A03001021000	901368	382737.3	3717164	GEOTECHNICAL	12/09/04	220	0	0	10	0	X	CITY OF PEORIA
A03001021AAD	218276	383449.2	3717695	NON-EXEMPT		0	0	0	0	0		SALT RIVER PROJECT
A03001021ABB	905476	382843.2	3717870	GEOTECHNICAL		0	0	0	0	0		FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
A03001021ABC	804520	382841.5	3717669	NON-EXEMPT		300	0	0	12	700		PEORIA, CITY OF,
A03001021ADA	219594	383447.9	3717493	NON-EXEMPT	09/12/10	1120	0	1120	20	0	X	SALT RIVER PROJECT
A03001021ADA	608414	383447.9	3717493	NON-EXEMPT	11/20/51	785	87	764	20	0	X	SALT RIVER PROJECT
A03001021BCC	603104	382025.9	3717238	EXEMPT	01/01/25	200	0	0	20	0		WHITE EAGLE STUCCO,
A03001021BDD	609019	382635.0	3717261	NON-EXEMPT	03/21/96	554	360	554	16	1000		RECREATION CENTERS,
A03001021CBB	505279	382023.4	3717039	EXEMPT	05/17/83	450	200	450	6	35	X	99TH ASSOCIATES,
A03001021CBB	621171	382023.4	3717039	NON-EXEMPT	09/02/67	545	249	0	14	604		FLEENOR INC,B J
A03001021CCC	565334	382015.8	3716444	GEOTECHNICAL		0	0	0	0	0		CHEVRON PRODUCTS COMPANY
A03001022000	526750	384345.7	3717194	EXPLORATION	01/26/90	130	0	0	9	0	X	SANDERSON FORD,
A03001022AA0	610273	384945.8	3717797	NON-EXEMPT	01/01/45	480	230	0	0	1150		PEORIA, CITY OF,
A03001022AAA	543793	385045.2	3717896	NON-EXEMPT		0	0	0	0	0		PEORIA, CITY OF,
A03001022ACA	806957	384647.3	3717497	EXEMPT		0	0	0	6	0		FULTON HOMES,
A03001022DDA	087484	385048.7	3716696	NON-EXEMPT	10/17/81	1505	180	62	30	0		CITY OF PEORIA
A03001022DDA	532530	385048.7	3716696	NON-EXEMPT	08/19/92	1129	219	1128	14	1000	X	CITY OF PEORIA
A03001022DDA	622786	385048.7	3716696	NON-EXEMPT		1129	230	1128	14	1000	X	CITY OF PEORIA
A03001022DDA	622787	385048.7	3716696	NON-EXEMPT	06/04/64	506	0	0	16	1275		PEORIA, CITY OF,
A03001022DDB	522455	384848.8	3716695	MONITOR OR PIEZOMETER	11/04/88	100	0	100	2	0	X	GROUNDWATER TECH INC,
A03001022DDD	548326	385049.3	3716496	EXPLORATION		0	0	0	0	0		CIRCLE K CORP #2809,
A03001022DDD	548327	385049.3	3716496	EXPLORATION		0	0	0	0	0		CIRCLE K CORP #2809,

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001022DDD	546994	385049.3	3716496	MONITOR		0	0	0	0	0		SHELL OIL PRODUCTS US
A03001023AA0	625284	386573.1	3717814	NON-EXEMPT	01/01/42	650	400	650	16	1500		PEORIA, CITY OF,
A03001023AAD	523841	386673.7	3717715	NON-EXEMPT	07/19/89	900	298	900	14	990	X	PEORIA, CITY OF,
A03001023BCA	220276	385449.9	3717500	GEOTECHNICAL		0	0	0	0	0		SOUTHWEST GAS CORPORATION
A03001023BCC	622785	385246.2	3717297	NON-EXEMPT	04/01/46	312	0	0	16	500		PEORIA, CITY OF,
A03001024CBB	608413	386868.8	3717116	NON-EXEMPT	06/21/57	1860	431	1800	20	2100		SALT RIVER PROJECT,
A03001024CCC	625283	386860.2	3716514	NON-EXEMPT	01/01/40	450	350	450	6	100		BAILEY,J T
A03001024CD0	636473	387366.6	3716619	EXEMPT		0	0	0	0	0		MCCOY,L E
A03001025ABB	517584	387665.8	3716320	SERVICE	09/28/87	1805	300	1170	18	1400	X	PEORIA, CITY OF,
A03001025BBB	625285	386857.6	3716314	NON-EXEMPT	01/01/46	500	300	500	6	75		TRIPLE J INVESTMENTS
A03001025CDD	537968	387439.3	3714911	SERVICE	09/19/93	1605	186	1595	16	1150	X	PEORIA, CITY OF,
A03001026ADD	608412	386645.0	3715709	NON-EXEMPT	06/17/49	703	0	703	20	1958		SALT RIVER PROJECT,
A03001026CCB	400402	385225.7	3715085	EXEMPT		0	0	0	0	0		KB HOME
A03001026D00	806511	386333.9	3715202	EXEMPT	12/31/50	0	0	0	0	32		FOUNDATION INVESTMNT,
A03001026DBB	626781	386037.9	3715500	NON-EXEMPT		0	0	0	8	100		ANDERSON-CLAYTON CO,
A03001026DBB	806509	386037.9	3715500	EXEMPT		159	0	0	5	0		FOUNDATION INVESTMNT,
A03001026DDD	481731	386630.4	3714905	EXEMPT		0	0	0	0	0		ARIZONA DEPARTMENT OF TRANSPORTATION
A03001026DDD	608406	386630.4	3714905	NON-EXEMPT	11/25/67	1002	238	1002	20	2115		SALT RIVER PROJECT,
A03001027AAA	534633	385046.8	3716295	EXPLORATION	05/01/92	260	0	260	6	0	X	SW GAS CORP,
A03001027CCC	565555	383613.8	3714866	NON-EXEMPT	08/13/99	1500	248	1200	20	1200	X	SALT RIVER PROJECT
A03001027CCC	607683	383613.8	3714866	NON-EXEMPT	12/19/97	453	156	453	18	946		SALT RIVER PROJECT
A03001027DBA	807470	384630.2	3715483	NON-EXEMPT		350	0	0	8	0		BEAZER HOMES CORP,
A03001027DCA	508524	384622.8	3715079	EXPLORATION	07/16/84	150	0	0	0	0	X	AZ PUBLIC SERVICE,
A03001027DDD	619200	385021.1	3714880	EXEMPT		0	0	0	0	0		ROVEY,E M
A03001028AAA	805343	383437.9	3716284	NON-EXEMPT	04/30/47	518	0	0	20	0		PEORIA, CITY OF,
A03001028BDC	807441	382410.8	3715651	EXEMPT		519	0	0	10	0		STARDUST DEVELOPMENT,
A03001029BBB	606531	380399.6	3716247	NON-EXEMPT	01/01/53	625	290	600	16	825		ARIZONA AMERICAN WATER CO
A03001029CDA	800408	380993.0	3715038	NON-EXEMPT	01/03/66	933	250	1050	20	750		SUN CITY GOLF RESORT LLC
A03001030BAA	606532	379390.1	3716236	NON-EXEMPT	09/30/54	1000	283	1000	20	1700		ARIZONA AMERICAN WATER CO
A03001030CBC	588680	378775.3	3715228	EXEMPT	10/26/01	435	340	435	6	0	X	PAT GRIMES
A03001030CCC	201900	378771.8	3714827	MONITOR	07/17/04	360	300	350	5	0	X	ARIZONA PUBLIC SERVICE COMPANY
A03001030DBA	800409	379788.3	3715437	NON-EXEMPT	05/01/38	725	250	725	16	750		SUN CITY GOLF RESORT LLC
A03001031000	626462	379473.7	3713927	NON-EXEMPT		0	0	0	0	0		SOLANA PROPERTIES,
A03001031000	626463	379473.7	3713927	NON-EXEMPT		0	0	0	0	0		SOLANA PROPERTIES,
A03001031AAA	617062	380186.4	3714635	NON-EXEMPT	01/01/63	1200	278	1200	16	1000		PEORIA, CITY OF,
A03001031AAB	617059	379984.0	3714634	NON-EXEMPT	03/20/48	900	269	900	16	1350		W D & MAX LONG & WILSON
A03001031ABA	617060	379781.7	3714633	NON-EXEMPT	11/21/58	900	261	900	20	2500		W D & MAX LONG & WILSON
A03001031ABB	212305	379579.3	3714631	CATHODIC		500	0	180	11	0	X	EL PASO NATURAL GAS
A03001031ACA	617058	379777.4	3714229	NON-EXEMPT	06/17/51	956	259	956	20	1350		PEORIA, CITY OF,
A03001031BAA	621003	379377.0	3714630	NON-EXEMPT		0	0	0	0	0		SPUR INDUSTRIES INC,
A03001031BBB	511438	378770.0	3714627	SERVICE		0	0	0	0	0		PEORIA, CITY OF,
A03001031BBB	621004	378770.0	3714627	NON-EXEMPT		0	0	0	0	0		SOLANA PROPERTIES,
A03001031BBC	535869	378768.7	3714427	SERVICE	12/18/92	1512	241	1425	30	0	X	CITY OF PEORIA
A03001031CBB	807423	378764.8	3713826	EXEMPT		100	0	0	8	0		DIAMOND KEY HOMES

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001032ABA	600054	381391.7	3714636	NON-EXEMPT	01/01/55	330	180	330	12	600	N	SUTTON,C A
A03001032ABA	600056	381391.7	3714636	NON-EXEMPT		505	180	505	20	1500	N	MERELLA INVESTMENTS I LLC
A03001032ADC	087304	381588.8	3714035	REPLACEMENT WELL IN NEW LOCATION		0	0	0	0	0		SUTTON,C
A03001032CAD	514958	380981.8	3713629	NON-SERVICE	11/07/86	772	130	772	16	1150	X	CONSOLIDATED SPORTS HOLDINGS (USA) INC
A03001032CAD	519150	380981.8	3713629	NON-SERVICE		0	0	0	0	0		FIRST CITY PROPERTIS,
A03001032DBB	600055	381184.8	3713831	NON-EXEMPT		703	180	703	16	1500	N	SUTTON,C A
A03001032DBB	622788	381184.8	3713831	NON-EXEMPT		0	0	0	0	1300		PEORIA, CITY OF,
A03001032DDB	515743	381585.1	3713433	NON-EXEMPT	07/15/87	404	180	404	14	0	X	ROCKWELL INDUSTRIES
A03001032DDC	507879	381583.9	3713232	NON-SERVICE		0	0	0	0	0		SUTTON,C A
A03001033AAC	607232	383206.3	3714458	NON-EXEMPT	07/23/43	1000	136	1000	20	1295		ROOSEVELT IRR DIST,
A03001033AAD	522824	383408.3	3714461	REPLACEMENT WELL IN NEW LOCATION		0	0	0	0	0		SALT RIVER PROJECT,
A03001033AAD	526765	383408.3	3714461	EXPLORATION	03/10/90	1200	200	20	8	0	X	SALT RIVER PROJECT,
A03001033BAA	482386	382601.1	3714648	NON-EXEMPT		98	0	98	12	0		95TH & OLIVE 16 LLC
A03001033BBA	200714	382196.6	3714641	MONITOR		220	170	220	4	0	X	JOHNSON FAMILY PARTNERSHIP
A03001033BBA	200715	382196.6	3714641	MONITOR		220	170	220	4	0	X	JOHNSON FAMILY PARTNERSHIP
A03001033BBB	200716	381994.5	3714638	MONITOR		0	0	0	0	0		JOHNSON FAMILY PARTNERSHIP
A03001033BBB	200717	381994.5	3714638	MONITOR		190	170	190	4	0	X	JOHNSON FAMILY PARTNERSHIP
A03001033DCA	606904	382997.8	3713452	EXEMPT	01/01/59	0	0	0	0	0		ROBERT E BECKER
A03001033DDB	400288	383199.8	3713455	EXEMPT		0	0	0	0	0		KIMCO BARCLAY PEORIA CROSSING
A03001033DDD	618619	383400.6	3713257	NON-EXEMPT	07/14/19	475	149	418	16	1610		SALT RIVER PROJECT,
A03001034BAC	597265	384009.8	3714468	EXEMPT		240	182	240	7	0	X	WALTER L WILSON
A03001034BB0	641156	383710.2	3714565	EXEMPT	01/01/16	276	169	276	8	12		ROUSSEAU,C V
A03001034CDB	400166	383997.7	3713464	EXEMPT		0	0	0	0	0		GREAT WESTERN HOMES
A03001034CDB	592639	383997.7	3713464	EXEMPT		320	181	300	6	0	X	DON J WILLOBY
A03001034CDB	619344	383997.7	3713464	EXEMPT	01/01/54	400	179	400	8	20		FIRST INTERSTATE BK,
A03001034DDD	523842	384989.0	3713271	NON-EXEMPT	06/29/89	1000	171	1000	16	700	X	PEORIA, CITY OF,
A03001034DDD	607250	384989.0	3713271	NON-EXEMPT	10/12/51	800	176	800	20	860		PEORIA, CITY OF,
A03001035000	205620	385912.3	3713989	GEOTECHNICAL		200	0	0	10	0	X	CITY OF PEORIA
A03001035000	590107	385912.3	3713989	GEOTECHNICAL	05/24/02	100	0	0	0	0	X	ARIZONA DEPARTMENT OF TRANSPORTATION
A03001035AAA	619208	386627.5	3714704	EXEMPT		0	0	0	6	0		ROVEY,R N
A03001035ABB	607737	386023.6	3714695	NON-EXEMPT	01/03/52	810	211	810	20	2576		SALT RIVER PROJECT,
A03001035ADD	619199	386622.2	3714103	NON-EXEMPT	01/01/47	592	0	592	20	0		LARRY ROVEY FARMS
A03001035BB0	633965	385317.0	3714583	EXEMPT		325	0	0	6	0		ROBERTSON,R F
A03001035BC0	633964	385309.9	3714181	EXEMPT		325	0	0	6	0		COOK,E L
A03001035BDB	901523	385614.8	3714286	GEOTECHNICAL		119	0	0	8	0	X	CITY OF PEORIA, UTILITIES DEPARTMENT
A03001035CDD	619202	385803.2	3713286	EXEMPT		0	0	0	6	0		ROVEY,E M
A03001035DAA	573213	386620.5	3713902	NON-EXEMPT		0	0	0	0	0		LARRY ROVERY FARMS
A03001035DCD	619201	386209.8	3713293	EXEMPT		0	0	0	8	0		ROVEY,E M
A03001035DDD	607740	386615.2	3713301	NON-EXEMPT	08/20/55	1198	213	1194	20	2193		SALT RIVER PROJECT,
A03001036000	590106	387528.2	3714012	GEOTECHNICAL	05/24/02	100	0	0	0	0	X	ARIZONA DEPARTMENT OF TRANSPORTATION
A03001036ABC	908105	387635.6	3714512	EXEMPT	11/27/07	400	230	400	5	34	X	CHARAN GOHLWAR
A03001036BB0	636847	386929.2	3714607	EXEMPT		0	0	0	0	0		JORDAN,H L

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
A03001036CAC	618618	387222.2	3713708	NON-EXEMPT	03/28/56	1000	271	1000	24	2400	X	SALT RIVER PROJECT,
A03001036CBD	218811	387020.6	3713706	CATHODIC		0	0	0	0	0		SALT RIVER PROJECT AGRICULTURAL & IMPROVEMENT DISTRICT
A03001036CCA	579387	387018.5	3713506	GEOTECHNICAL	08/23/00	123	0	0	0	0	X	MARY ANN SHEPHERD
A03001036CCA	579388	387018.5	3713506	MONITOR		0	0	0	0	0		MARY ANN SHEPHERD
A03001036CCB	624790	386817.6	3713504	NON-EXEMPT	10/15/81	205	201	200	2	0		SALT RIVER PROJECT,
A03001036CCC	400072	386815.7	3713304	NON-EXEMPT		0	0	0	0	0		MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION
A03001036CDB	624788	387219.9	3713508	NON-EXEMPT	07/21/81	385	216	380	4	0		SALT RIVER PROJECT,
A03001036CDB	624789	387219.9	3713508	NON-EXEMPT	07/14/81	367	208	360	4	0		SALT RIVER PROJECT,
A03001036CDC	542771	387217.6	3713308	MONITOR OR PIEZOMETER	04/01/94	270	177	150	4	0	X	SALT RIVER PROJECT,
A03001036CDC	542772	387217.6	3713308	MONITOR OR PIEZOMETER	04/07/94	270	178	150	4	0	X	SALT RIVER PROJECT,
A03001036DAD	481422	388230.2	3713718	EXEMPT		0	0	0	0	0		VERN EAGLE
A03001036DAD	589768	388230.2	3713718	EXEMPT	03/03/02	420	300	420	5	0	X	RICKEY BURKHARDT
A03001036DCC	540125	387620.1	3713312	MONITOR OR PIEZOMETER	08/25/93	206	178	205	4	0	X	STONE CONTAINER CORP
A03001036DCC	540126	387620.1	3713312	MONITOR OR PIEZOMETER	08/25/93	206	178	203	4	0	X	STONE CONTAINER CORP
A03001036DCC	619211	387620.1	3713312	EXEMPT		0	0	0	6	0		ROVEY,E M
A03001036DCD	557679	387821.4	3713315	GEOTECHNICAL		250	0	0	4	0		STONE CONTAINER COMPANY
A03001036DCD	604606	387821.4	3713315	NON-EXEMPT	11/01/59	560	0	282	6	550		SW FOREST INDUSTRIES,
A03001036DDA	537946	388227.3	3713518	EXPLORATION	02/22/93	140	0	0	0	0	X	STONE CONTAINER CORP
A03001036DDA	539975	388227.3	3713518	EXPLORATION	08/02/93	130	0	0	0	0	X	STONE CONTAINER CORP
A03001036DDA	635742	388227.3	3713518	EXEMPT	01/01/47	280	0	0	6	0		MULDNER,G H
A03001036DDC	560538	388022.6	3713317	MONITOR	01/09/97	237	182	193	4	0	X	STONE CONTAINER CORP
A03001036DDD	530698	388224.3	3713319	EXPLORATION	02/27/91	260	0	260	6	0	X	SOUTHWEST GAS CORP,
A03001036DDD	617819	388224.3	3713319	NON-EXEMPT	05/17/51	600	215	600	20	2058		SALT RIVER PROJECT,
B02001001000	634963	377861.0	3712341	EXEMPT	01/01/62	350	300	350	8	15		MASON,H W
B02001001000	906862	377861.0	3712341	MINERAL EXPLORATION		0	0	0	0	0		RINKER
B02001001AAA	540441	378559.2	3713027	MONITOR OR PIEZOMETER	11/10/93	210	160	210	12	9	X	GLENDALE, CITY OF,
B02001001AAA	540442	378559.2	3713027	MONITOR OR PIEZOMETER	11/16/93	180	128	180	12	9	X	GLENDALE, CITY OF,
B02001001BAB	217842	377554.8	3713042	EXEMPT	09/05/08	360	80	360	6	0	X	CHUCK RUSH
B02001001BAB	634572	377554.8	3713042	EXEMPT		300	0	300	6	0		LEE,E
B02001001BBA	629354	377353.8	3713045	EXEMPT	01/01/72	300	226	160	8	0		HULLIHEN,A A
B02001001BBB	514423	377153.1	3713048	DOMESTIC STOCK EXEMPT	08/16/86	380	250	380	10	15	X	TALLEY, JACK,W
B02001001BBB	518426	377153.1	3713048	DOMESTIC STOCK EXEMPT	08/05/87	340	235	340	8	20	X	HAROLD HOLMBORG
B02001001BBB	803781	377153.1	3713048	EXEMPT	06/10/54	350	310	350	8	10		MASON, HAROLD,
B02001001BC0	800659	377259.7	3712548	NON-EXEMPT		371	240	371	12	100		QUASS,I D
B02001001BCB	591512	377158.5	3712649	EXEMPT		0	0	0	0	0		AMERICAN SAND & ROCK
B02001001CAA	555117	377759.3	3712240	EXPLORATION	03/04/96	100	0	0	0	0	X	UNITED METRO MATERIALS
B02001001CAB	522729	377560.3	3712244	NON-EXEMPT	03/15/89	807	165	807	16	600	X	UNITED METRO MATERIALS INC
B02001001CAB	605119	377560.3	3712244	NON-EXEMPT		450	225	400	16	400		UNITED METRO MATERIALS INC
B02001001CAB	605120	377560.3	3712244	NON-EXEMPT		858	214	0	12	230		UNITED METRO MATERIALS INC
B02001001CBB	545887	377163.8	3712250	MONITOR OR PIEZOMETER		385	330	380	10	0	X	LUKE AFB - 56 CES/CEV
B02001001CBC	567473	377166.5	3712051	EXEMPT	09/20/98	350	200	350	8	0	X	MUZZ INVESTMENTS, L.L.C.
B02001001CCB	557607	377169.2	3711851	SERVICE	06/19/97	970	222	560	14	0	X	LUKE AIR FORCE BASE,
B02001001CCB	908420	377169.2	3711851	MONITOR	02/22/08	370	250	380	5	0	X	LUKE AFB ENV FLIGHT 56 CES/CEVQR

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B02001001CCC	609883	377171.8	3711652	NON-EXEMPT	12/01/60	596	302	599	8	110		LUKE AFB,
B02001001CCC	908419	377171.8	3711652	MONITOR	02/22/08	290	250	280	5	0	X	LUKE AFB ENV. FLIGHT 56 CES/CEVQR
B02001001DAA	540443	378555.8	3712227	MONITOR OR PIEZOMETER	11/11/93	210	149	210	12	9	X	GLENDALE, CITY OF,
B02001001DAC	907641	378355.2	3712030	MONITOR		132	0	130	5	0	X	CITY OF GLENDALE
B02001001DBC	605121	377958.5	3712037	NON-EXEMPT		700	244	0	10	400		ARIZ MUNICIPAL CORP,
B02001001DCD	808192	378156.7	3711634	EXEMPT	01/01/76	0	0	0	0	0		ACCESS 101 LLC
B02001001DCD	808193	378156.7	3711634	EXEMPT	01/01/76	0	0	0	0	0		ACCESS 101 LLC
B02001001DDD	533849	378553.3	3711626	MONITOR OR PIEZOMETER		0	0	0	0	0		YOUNG, COL. SAMUEL,E
B02001002000	528938	376264.6	3712375	EXPLORATION	08/20/90	450	0	180	6	0	X	AMERI GAS,
B02001002ABA	527897	376551.3	3713064	EXEMPT		306	0	0	20	0	N	GOODYEAR TIRE,
B02001002ACA	527898	376558.3	3712665	EXEMPT		538	0	0	20	0	N	GOODYEAR TIRE,
B02001002ACD	607240	376561.8	3712465	NON-EXEMPT	04/15/47	750	97	750	24	2100		ROOSEVELT IRR DIST,
B02001002AD0	803935	376860.5	3712557	EXEMPT	12/31/74	370	309	370	6	12		PHOENIX VEGETABLE,
B02001002ADD	505590	376962.1	3712454	EXEMPT		0	0	0	0	0		RIVERA,O R
B02001002BAA	527942	376149.5	3713076	EXEMPT		555	0	0	20	0	N	GOODYEAR TIRE,
B02001002BAA	611736	376149.5	3713076	NON-EXEMPT	07/01/48	720	327	720	20	1200		EL PASO NATURAL GAS CO.
B02001002BBA	527900	375747.8	3713087	EXEMPT		694	0	0	20	0	N	GOODYEAR TIRE,
B02001002BBB	527895	375547.0	3713093	EXEMPT		605	0	0	20	0	N	GOODYEAR TIRE,
B02001002BBB	578228	375547.0	3713093	MONITOR	01/04/00	190	160	185	5	0	X	CITY OF GLENDALE
B02001002BBB	578231	375547.0	3713093	MONITOR	12/20/99	180	161	175	5	0	X	CITY OF GLENDALE
B02001002BBB	611735	375547.0	3713093	NON-EXEMPT	11/01/50	866	442	866	20	1200		EL PASO NATURAL GAS CO.
B02001002BBC	527894	375552.2	3712893	EXEMPT		71	0	0	20	0	N	GOODYEAR TIRE,
B02001002BBC	611734	375552.2	3712893	NON-EXEMPT	03/01/57	772	0	770	20	1200		EL PASO NATURAL GAS CO.
B02001002BBD	528966	375752.5	3712887	EXPLORATION	06/27/90	625	0	0	20	0	N	SOUTHWEST SALT CO,
B02001002BCA	218718	375757.2	3712687	MONITOR	06/03/09	425	337	425	4	0	X	PLAINS LPG SERVICES, L.P.
B02001002BCB	218717	375557.4	3712692	MONITOR	06/03/09	425	250	420	5	0	X	PLAINS LPG SERVICES, L.P.
B02001002BCB	504431	375557.4	3712692	EXEMPT		0	0	0	0	0		CAL GAS CORP,
B02001002BCB	518405	375557.4	3712692	MONITOR OR PIEZOMETER	07/22/87	400	210	400	8	0	X	PLAINS LPG SERVICES, L.P.
B02001002BCB	518406	375557.4	3712692	MONITOR OR PIEZOMETER	07/20/87	401	210	400	8	0	X	PLAINS LPG SERVICES, L.P.
B02001002BCB	518407	375557.4	3712692	MONITOR OR PIEZOMETER	07/18/87	401	220	400	8	0	X	PLAINS LPG SERVICES, L.P.
B02001002BCB	606564	375557.4	3712692	NON-EXEMPT	10/24/73	817	400	817	4	300		GLENDALE SALT DEVELOPMENT LLC
B02001002BCD	218716	375761.9	3712487	MONITOR		410	337	400	5	0		PLAINS LPG SERVICES, L.P.
B02001002BCD	910845	375761.9	3712487	MONITOR		410	337	400	5	0		PLAINS LPG SERVICES, L.P.
B02001002BDA	527896	376157.8	3712676	EXEMPT		170	0	0	20	0	N	GOODYEAR TIRE,
B02001002CBB	516972	375567.8	3712292	MONITOR OR PIEZOMETER	03/06/87	158	0	0	0	0	X	SOUTHWEST SALT CO,
B02001002CBB	519675	375567.8	3712292	NON-EXEMPT	04/16/88	824	377	821	12	200	X	MORTON SALT,
B02001002CBB	618180	375567.8	3712292	NON-EXEMPT	02/02/71	650	400	659	20	500		GLENDALE SALT DEVELOPMENT LLC
B02001002CCC	908315	375583.4	3711692	MONITOR	01/31/08	392	317	390	6	0	X	MORTON SALT
B02001003000	537297	374666.5	3712414	EXPLORATION		0	0	0	0	0		LUKE AFB,
B02001003AAA	553284	375347.1	3713098	NON-SERVICE	11/10/96	700	368	700	20	0	X	MORTON INTERNATIONAL,
B02001003AAD	606565	375352.6	3712899	NON-EXEMPT	05/16/74	852	455	852	16	600		FIRST AM TITLE INS,
B02001003ABB	219157	374747.7	3713113	NON-EXEMPT		0	0	0	0	0		DYSART & NORTHERN LLC
B02001003ABB	606566	374747.7	3713113	NON-EXEMPT	04/27/57	920	360	857	20	1300		INDIAN SCHOOL,
B02001003ABB	606567	374747.7	3713113	EXEMPT	01/01/60	500	360	500	8	20		ROACH-BAKER RANCHES,
B02001003BAB	587821	374347.8	3713122	NON-EXEMPT	10/16/01	800	287	800	16	800	X	RONALD E. GASS F-16 LLC

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B02001003BAB	601890	374347.8	3713122	NON-EXEMPT	01/31/07	845	272	845	11	1650	X	F-16, LLC
B02001003BCD	219589	374163.9	3712526	SERVICE		0	0	0	0	0		LUKE AIR FORCE BASE
B02001003DDA	400038	375380.1	3711897	EXEMPT		0	0	0	0	0		LUKE AIR FORCE BASE
B02001003DDA	400108	375380.1	3711897	EXEMPT		0	0	0	0	0		LUKE AIR FORCE BASE
B02001003DDD	606568	375385.7	3711697	EXEMPT	10/22/59	600	348	600	8	10		VALLEY UTILITIES WATER CO INC
B02001010ADA	569556	375382.3	3711096	GEOTECHNICAL	08/14/98	158	0	0	0	0	X	AMERICAN PUBLIC SERVICE CO
B02001010BAA	559674	374587.5	3711516	EXPLORATION		0	0	0	0	0		DESERT GARDENS APTS,
B02001010BAB	208819	374387.7	3711521	SERVICE		715	385	695	16	0	X	VALLEY UTILITIES WATER CO INC
B02001010BAB	595222	374387.7	3711521	NON-EXEMPT		0	0	0	0	0		VALLEY UTILITIES WATER CO INC
B02001010BAB	639720	374387.7	3711521	NON-EXEMPT	10/20/46	650	450	650	12	115	X	VALLEY UTILITIES,
B02001010BAB	639721	374387.7	3711521	NON-EXEMPT		650	450	650	10	115		VALLEY UTILITIES,
B02001010BBB	635275	373988.1	3711530	EXEMPT	04/12/75	780	475	771	16	12	X	G C H INVESTMENTS,
B02001010CCB	539926	373979.2	3710333	EXEMPT	10/21/93	150	0	150	6	0	X	TOWN OF BUCKEYE
B02001011000	640446	376275.8	3710770	EXEMPT		0	0	0	8	20		BURGENER,C W
B02001011000	800957	376275.8	3710770	EXEMPT	08/26/74	600	305	600	8	20		MARTHA ROBARGE
B02001011AA0	629004	376876.8	3711358	EXEMPT		0	0	0	0	0		GLENDALE AVE WEST,
B02001011AAA	200127	376976.8	3711456	EXEMPT		0	0	0	0	0		ADVANTAGE STORAGE LLC
B02001011AAA	200208	376976.8	3711456	EXEMPT		0	0	0	0	0		BRONLEIO (LEO) R VALDEZ
B02001011AAA	218562	376976.8	3711456	EXEMPT	10/05/10	600	0	600	5	0	X	JONES PLAZA LLC
B02001011AAA	535500	376976.8	3711456	MONITOR OR PIEZOMETER	06/06/92	280	211	280	4	0	X	YOUNG, COL. SAMUEL,E
B02001011AAA	578584	376976.8	3711456	EXEMPT	02/17/00	345	220	345	6	18	X	JONES PLAZA LLC
B02001011AAA	611538	376976.8	3711456	EXEMPT		320	280	320	6	15		BRONLEIO (LEO) R VALDEZ
B02001011AAA	800899	376976.8	3711456	EXEMPT	01/01/40	337	317	337	6	22		WESTERN HILLS BAPTIST CHURCH
B02001011AAA	902581	376976.8	3711456	EXEMPT		395	255	395	5	0	X	SAWB LLC
B02001011AAC	588756	376776.8	3711260	EXEMPT	02/19/02	235	125	230	6	0	X	WILLIAM WELSCH
B02001011AAC	803920	376776.8	3711260	EXEMPT		332	0	0	7	0		GLENDALE AVE WEST,
B02001011ADC	901902	376774.2	3710858	EXEMPT		500	200	500	7	0	X	CROWN CHARTER SCHOOLS INC.
B02001011ADC	807452	376774.2	3710858	EXEMPT	10/02/78	515	380	515	8	0		KEVIN L ROSS
B02001011ADD	515692	376973.0	3710852	REPLACEMENT WELL IN NEW LOCATION		0	0	0	0	0		VALLEY UTILITIES,
B02001011ADD	641467	376973.0	3710852	EXEMPT	10/02/78	515	0	515	8	25		MAXWELL,G E
B02001011ADD	640400	376973.0	3710852	EXEMPT	01/01/79	515	100	499	8	30		TOLBERT,E V
B02001011B00	800484	375881.5	3711183	NON-EXEMPT	01/01/72	600	277	416	8	56		HEGEL,J J
B02001011B00	800485	375881.5	3711183	NON-EXEMPT	01/01/72	600	277	416	8	56		HEGEL,J J
B02001011BAA	522470	376182.3	3711476	EXPLORATION	12/02/88	260	0	260	6	0	X	SOUTHWEST GAS CORP,
B02001011BB0	530125	375684.8	3711389	EXPLORATION	12/07/90	500	0	25	8	0	X	SANTA FE PACIFIC,
B02001011CC0	606585	375671.8	3710185	NON-EXEMPT	12/07/67	431	330	422	8	35		HERBERT, JAMES,M
B02001011CC0	600352	375671.8	3710185	NON-EXEMPT	04/29/79	430	294	430	8	30	N	VINBERG, DONALD,J
B02001011CCA	507175	375773.3	3710283	DOMESTIC STOCK EXEMPT	03/21/84	450	279	453	8	25	X	MANGHAM,J
B02001011CCC	500279	375571.0	3710088	EXEMPT		100	0	0	0	0		MOORE,D
B02001011CCC	503015	375571.0	3710088	EXEMPT		0	0	0	0	0		MOORE,D
B02001011CCD	509129	375771.3	3710082	EXEMPT	02/06/08	680	329	531	7	5	X	RONALD JARRELL
B02001011CD0	639722	376071.5	3710174	NON-EXEMPT		840	240	840	12	125		VALLEY UTILITIES,
B02001011DCC	580082	376369.8	3710065	SERVICE		0	0	0	0	900	N	VALLEY UTILITIES WATER COMPANY
B02001011DCC	584895	376369.8	3710065	WITHDRAWAL PERMIT	04/16/01	800	200	390	12	0	X	TOWN OF BUCKEYE
B02001011DCD	216455	376569.3	3710059	SERVICE	04/15/09	810	305	740	20	500	X	VALLEY UTILITIES WATER CO INC

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B02001011DCD	503273	376569.3	3710059	REPLACEMENT WELL IN NEW LOCATION	02/04/83	885	200	811	24	0	X	VALLEY UTILITIES,
B02001011DDA	527901	376969.2	3710249	EXEMPT		140	0	0	26	0	N	GOODYEAR TIRE,
B02001011DDC	481759	376768.9	3710053	NON-EXEMPT		0	0	0	26	0		CHI CONSTRUCTION COMPANY
B02001012000	515793	377860.1	3710734	EXPLORATION	10/18/86	101	0	0	7	0	X	LUKE AFB,
B02001012000	902432	377860.1	3710734	MINERAL EXPLORATION		0	0	0	0	0		GRAVEL RESOURCES OF ARIZONA
B02001012ABA	217656	378160.0	3711433	EXEMPT	07/17/08	700	200	700	5	0	X	LG & M HOLDINGS LLC
B02001012ABA	581036	378160.0	3711433	PIEZOMETER	12/15/99	90	0	85	2	0	X	CITY OF GLENDALE
B02001012ABC	400145	377961.7	3711235	EXEMPT		0	0	0	0	0		CITY OF GLENDALE
B02001012ABC	581035	377961.7	3711235	PIEZOMETER	12/15/99	90	0	85	2	0	X	CITY OF GLENDALE
B02001012ACA	581032	378157.5	3711030	PIEZOMETER	12/13/99	90	0	85	2	0	X	CITY OF GLENDALE
B02001012ACB	581034	377960.4	3711034	PIEZOMETER	12/14/99	90	0	85	2	0	X	CITY OF GLENDALE
B02001012ACD	200846	378156.3	3710829	MONITOR		210	70	205	5	0	X	CITY OF GLENDALE
B02001012ACD	200847	378156.3	3710829	MONITOR		515	70	475	5	0	X	CITY OF GLENDALE
B02001012B00	515904	377468.4	3711144	MONITOR OR PIEZOMETER	12/06/86	230	0	210	6	10	X	LUKE AFB,
B02001012BBB	578465	377174.7	3711452	INJECTION		0	0	0	0	0		CITY OF GLENDALE
B02001012BBB	578466	377174.7	3711452	INJECTION		0	0	0	0	0		CITY OF GLENDALE
B02001012BBB	578467	377174.7	3711452	INJECTION		0	0	0	0	0		CITY OF GLENDALE
B02001012BBB	578468	377174.7	3711452	INJECTION		0	0	0	0	0		CITY OF GLENDALE
B02001012BBB	578469	377174.7	3711452	INJECTION		0	0	0	0	0		CITY OF GLENDALE
B02001012BBB	578227	377174.7	3711452	MONITOR	01/13/00	240	160	240	5	0	X	CITY OF GLENDALE
B02001012BBB	578229	377174.7	3711452	MONITOR	12/22/99	206	162	200	5	0	X	CITY OF GLENDALE
B02001012BBB	578230	377174.7	3711452	MONITOR	01/07/00	200	160	200	5	0	X	CITY OF GLENDALE
B02001012BBB	578232	377174.7	3711452	MONITOR	12/15/99	200	161	195	5	0	X	CITY OF GLENDALE
B02001012BBD	527902	377370.5	3711247	EXEMPT		186	0	0	26	0	N	GOODYEAR TIRE,
B02001012BCC	527903	377170.9	3710848	EXEMPT		49	0	0	26	0	N	GOODYEAR TIRE,
B02001012BCC	611725	377170.9	3710848	NON-EXEMPT	09/04/73	962	245	0	16	1660		R P WATER LLC
B02001012BDB	527904	377566.3	3711041	EXEMPT		773	0	0	20	0	N	GOODYEAR TIRE,
B02001012BDC	527905	377565.1	3710840	EXEMPT		59	0	0	16	0	N	GOODYEAR TIRE,
B02001012BDD	527909	377762.1	3710836	EXEMPT		454	0	0	20	0	N	GOODYEAR TIRE,
B02001012BDD	611726	377762.1	3710836	NON-EXEMPT	04/22/65	1015	260	1007	16	1600	X	R P WATER LLC
B02001012CAA	206190	377760.9	3710635	NON-EXEMPT	04/14/05	475	198	466	16	0	X	M.R. TANNER MINING, INC
B02001012CAA	564158	377760.9	3710635	NON-EXEMPT		0	0	0	0	0		M.R. TANNER MINING, INC
B02001012CAD	611729	377759.6	3710434	NON-EXEMPT	08/01/60	1140	185	1094	12	1422	X	LIBERTY WATER
B02001012CAD	611738	377759.6	3710434	NON-EXEMPT	09/01/45	992	0	992	20	0		
B02001012CBB	527915	377169.6	3710646	EXEMPT		161	0	0	0	0	N	GOODYEAR TIRE,
B02001012CCA	803447	377364.3	3710240	NON-EXEMPT		0	0	0	0	0		HAAZ ACQUISITION CO LLC
B02001012CDD	611727	377757.2	3710031	NON-EXEMPT	07/01/76	1000	270	1000	16	1600	X	LIBERTY WATER
B02001012DAB	558508	378352.1	3710624	WITHDRAWAL PERMIT	10/23/96	500	210	500	14	400	X	GRAVEL RESOURCES,
B02001012DAD	517522	378548.0	3710419	NON-EXEMPT		0	0	0	0	0		IDEAL ROCK PRODUCTS,
B02001012DBA	581033	378155.0	3710627	PIEZOMETER	12/13/00	90	0	85	2	0	X	CITY OF GLENDALE
B02001013000	901229	377850.2	3709126	MINERAL EXPLORATION		0	0	0	0	0		RINKER MATERIALS
B02001013BAD	611728	377755.0	3709630	NON-EXEMPT	02/04/77	1002	250	1002	16	1600	X	R P WATER LLC
B02001013CCA	609769	377352.0	3708635	NON-EXEMPT		414	0	414	16	1800		HAAZ ACQUISITION CO LLC
B02001013DBC	509065	377950.2	3708825	NON-SERVICE	12/19/85	406	130	406	8	290	X	ABC ENTERPRISES,
B02001014AAD	611724	376962.9	3709646	NON-EXEMPT	08/05/64	1000	183	982	16	1200	X	R P WATER LLC

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B02001014ABD	611723	376563.4	3709657	NON-EXEMPT	08/01/56	753	154	753	20	1300		R P WATER LLC
B02001014BBD	533464	375764.8	3709680	DOMESTIC STOCK EXEMPT	12/02/91	400	0	401	6	20	X	WALKER, SAMMIE,
B02001014BDB	639723	375962.0	3709474	NON-EXEMPT	11/05/64	429	250	425	9	40	X	VALLEY UTILITIES WATER CO INC
B02001014CAD	564891	376154.3	3708866	SERVICE	03/02/98	680	180	680	12	0	X	TIERRA BUENA WATER CO
B02001014CCA	801249	375752.3	3708676	EXEMPT		500	350	450	8	35		TIERRA BUENA WATER CO
B02001014CD0	800781	376050.7	3708568	EXEMPT	03/28/77	435	210	405	8	30		WILLIAMSON,J D
B02001014CD0	800782	376050.7	3708568	EXEMPT	01/01/55	250	210	250	6	35		WILLIAMSON,J D
B02001014DBB	481784	376356.5	3709061	NON-EXEMPT		0	0	0	0	0		SUNCOR DEVELOPMENT COMPANY
B02001014DBB	527912	376356.5	3709061	EXEMPT		48	0	0	16	0	N	GOODYEAR TIRE,
B02001014DBB	611722	376356.5	3709061	NON-EXEMPT	11/01/48	720	350	0	20	1300		SUNCOR DEVELOPMENT COMPANY
B02001014DDA	208818	376951.1	3708644	SERVICE		0	0	0	0	0		LITCHFIELD PARK SERVICE COMPANY
B02001014DDA	214539	376951.1	3708644	SERVICE	05/12/07	1010	192	670	17	0	X	LITCHFIELD PARK SERVICE COMPANY
B02001015ACC	573247	374764.7	3709314	MONITOR		0	0	0	0	0		INDIAN SCHOOL 109 LLC
B02001015ADD	573246	375360.3	3709292	MONITOR	06/09/99	0	0	0	0	0	X	INDIAN SCHOOL 109 LLC
B02001015D00	634002	375057.2	3708803	EXEMPT	07/27/61	330	206	210	8	20		DAVENPORT,R W
B02001015DCB	505243	374757.8	3708717	EXEMPT	06/05/83	300	200	300	8	12	X	LOGAN & DOUG PROCTOR
B02001015DDA	086086	375352.3	3708690	EXEMPT		0	0	0	0	0		MARSHALL,J T
B02001015DDB	575822	375154.0	3708699	EXEMPT	07/14/99	320	210	320	6	0	X	DR LOUIS ALBELDA
B02001015DDB	639150	375154.0	3708699	EXEMPT	01/01/57	269	178	178	6	3		CRAIG ALBELDA
B02001015DDD	218199	375349.8	3708489	CATHODIC		510	0	510	12	0	X	S. E. P. P. KINDER MORGAN
B02001015DDD	634973	375349.8	3708489	EXEMPT	01/01/56	500	300	0	8	30		LAUMAN,G W
B03001001ADA	619222	378631.8	3722334	EXEMPT		500	0	0	6	25		CARIOCA CORP
B03001001CB0	608648	377326.6	3721821	NON-EXEMPT		900	374	900	20	1243		DREISESZUN, HUBERT,E
B03001002ACB	630070	376429.5	3722363	NON-EXEMPT	08/28/78	1000	440	370	20	0		EL MIRAGE, TOWN OF,
B03001002CBB	630073	375618.1	3721951	NON-EXEMPT		600	440	600	12	300		HTO DISTRIBUTION LLC
B03001002DAD	630071	377022.9	3721721	NON-EXEMPT	08/01/78	1064	420	1064	20	1000		EL MIRAGE, TOWN OF,
B03001002DCC	505973	376412.6	3721306	EXEMPT	10/13/83	480	405	475	6	12	X	MOONGLOW FAMILY LMTD PARTNERSHIP
B03001002DCC	577049	376412.6	3721306	CATHODIC	10/27/99	265	0	265	6	0	X	SOUTHWEST GAS CORPORATION
B03001003BBB	605761	374026.0	3722802	NON-EXEMPT	11/14/46	1000	507	524	20	700	X	ARIZONA AMERICAN WATER CO
B03001010AAC	570748	375207.0	3720920	SERVICE	04/22/99	1786	400	1205	16	1500	X	CITY OF SURPRISE
B03001010ABB	617645	374807.9	3721130	NON-EXEMPT		996	405	996	20	2700		LENNAR COMMUNITIES DEVELOPMENT INC
B03001010ACB	617644	374806.5	3720729	NON-EXEMPT		1016	400	1016	20	1800		LENNAR COMMUNITIES DEVELOPMENT INC
B03001010BDD	590717	374605.9	3720533	GEOTECHNICAL	02/19/02	1500	400	0	0	0	X	CYRIL BURKE LIMITED PARTNERSHIP
B03001010BDD	595273	374605.9	3720533	NON-EXEMPT	10/28/03	1750	403	1750	30	850	X	CITY OF SURPRISE
B03001010DCC	400184	374802.8	3719727	EXEMPT		0	0	0	0	0		PORTOLA L.L.C, WOODSIDE HOMES
B03001010DCC	617646	374802.8	3719727	EXEMPT		500	0	500	6	0		PROTOLA LLC, WESTSIDE HOMES
B03001011AAA	400161	377013.2	3721090	EXEMPT		400	0	400	20	0		THOMPSON RANCH PARTNERSHIP
B03001011ABA	628504	376611.9	3721096	NON-EXEMPT	09/01/75	500	500	486	8	90		SUNWEST CEMETERY & CREMATORY INC
B03001011BAA	584724	376210.5	3721103	WITHDRAWAL PERMIT		0	0	0	0	0		CITY OF EL MIRAGE
B03001011BBB	613598	375608.5	3721112	NON-EXEMPT	09/02/47	558	350	558	20	850	X	EL MIRAGE DYSART INVESTORS LLC
B03001011BCB	205081	375606.6	3720712	NON-EXEMPT		1630	402	1630	16	0	X	CITY OF EL MIRAGE
B03001011BCB	613597	375606.6	3720712	NON-EXEMPT	06/21/63	1005	320	1005	20	1386	X	CITY OF EL MIRAGE
B03001011CCC	800821	375601.4	3719712	NON-EXEMPT	01/01/59	0	0	0	0	0		WAL MART STORES, INC.

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B03001011CDC	626782	376001.8	3719704	NON-EXEMPT		0	0	0	8	100		WAL MART STORES, INC.
B03001012BBB	608647	377214.0	3721087	NON-EXEMPT	05/20/06	868	387	868	13	1100	X	CITY OF EL MIRAGE
B03001012CBB	630072	377208.1	3720283	NON-EXEMPT	09/01/76	900	420	900	20	1200		EL MIRAGE, TOWN OF,
B03001012CBB	630077	377208.1	3720283	NON-EXEMPT		450	420	450	12	150		CITY OF EL MIRAGE
B03001012CCA	528914	377405.7	3719877	EXPLORATION	08/21/90	260	0	20	6	0	X	SW GAS CORP,
B03001012DDC	630075	378407.3	3719659	NON-EXEMPT		418	400	418	10	200		EL MIRAGE, TOWN OF,
B03001012DDC	627233	378407.3	3719659	NON-EXEMPT	08/01/23	250	100	234	16	120		ATCHISON-TOPEKA,
B03001012DDC	806348	378407.3	3719659	EXEMPT		0	0	0	0	0		ADOT,
B03001013BAA	085252	377803.7	3719468	NON-EXEMPT	01/01/80	1013	376	1004	16	2000		EL MIRAGE, TOWN OF,
B03001013BAA	630074	377803.7	3719468	NON-EXEMPT		600	420	600	12	300		EL MIRAGE, TOWN OF,
B03001013BBA	625802	377402.5	3719475	NON-EXEMPT	01/01/65	1000	420	0	18	1800		ARTISTIC CONSTRUCTIO,
B03001013DAC	581384	378398.0	3718446	MONITOR	07/01/00	345	0	338	4	0	X	CITY OF EL MIRAGE
B03001013DBB	219152	377997.7	3718656	NON-EXEMPT		0	0	0	0	0		
B03001013DBB	801408	377997.7	3718656	NON-EXEMPT	06/02/53	500	281	500	20	1100	X	CITY OF EL MIRAGE
B03001013DCA	566946	378195.5	3718248	MONITOR		340	295	4	8	0	X	DYSART UNIFIED SCHOOL DISTRICT #89
B03001014AAA	636715	377001.3	3719482	NON-EXEMPT	01/01/40	401	417	401	20	259	X	DYSART UNIFIED SCH,
B03001014BBB	617643	375600.2	3719511	NON-EXEMPT	04/06/48	925	378	925	20	1850	X	PWP DYSART AND THUNDERBIRD LLC
B03001014BCD	584722	375793.6	3718904	WITHDRAWAL PERMIT		0	0	0	0	0		CITY OF EL MIRAGE
B03001014CAA	590334	376191.9	3718694	SERVICE	07/26/02	1520	388	1520	16	800	X	CITY OF EL MIRAGE
B03001015BBB	482185	374003.8	3719541	NON-EXEMPT		355	363	355	20	370		SURPRISE HOLDING, LLC
B03001015BBB	603302	374003.8	3719541	NON-EXEMPT	01/01/58	802	550	802	16	850		GLIMCHER VENTURES SOUTHWEST
B03001015BBB	603303	374003.8	3719541	NON-EXEMPT	03/05/75	1200	850	1440	20	1600		GLIMCHER VENTURES SOUTHWEST
B03001015BDD	214257	374594.9	3718928	SERVICE	07/25/07	2000	0	1845	17	1500	X	CITY OF SURPRISE
B03001015CBB	215992	373993.5	3718740	SERVICE	02/24/08	1500	0	1488	17	1274	X	CITY OF SURPRISE
B03001015CBB	482371	373993.5	3718740	EXEMPT		370	330	370	20	0	X	SURPRISE DYSART PROPERTIES LLC
B03001015CBB	628488	373993.5	3718740	NON-EXEMPT	05/15/54	729	385	729	20	1800	X	SURPRISE / DYSART PROPERTIES
B03001022000	572866	374677.7	3717220	GEOTECHNICAL	03/27/99	200	0	0	0	0	X	CITY OF SURPRISE
B03001022ABB	214668	374782.4	3717921	NON-EXEMPT		0	0	0	0	0		SURPRISE/DYSART LLC
B03001022ABB	628487	374782.4	3717921	NON-EXEMPT		670	400	670	20	1200		SKYWAY BUSINESS PARK II LLC
B03001022BAD	218387	374581.3	3717724	VADOSE ZONE	12/15/08	157	0	157	12	0	X	CITY OF SURPRISE
B03001022BAD	218388	374581.3	3717724	VADOSE ZONE	12/15/08	152	0	152	12	0	X	CITY OF SURPRISE
B03001022BAD	218389	374581.3	3717724	VADOSE ZONE	12/15/08	153	0	153	12	0	X	CITY OF SURPRISE
B03001022BAD	218390	374581.3	3717724	VADOSE ZONE	12/15/08	150	0	150	12	0	X	CITY OF SURPRISE
B03001022BAD	218391	374581.3	3717724	VADOSE ZONE	12/15/08	150	0	150	12	0	X	CITY OF SURPRISE
B03001022BAD	572867	374581.3	3717724	MONITOR	04/16/99	415	365	415	5	0	X	SURPRISE CITY OF
B03001022BBB	218658	373983.6	3717938	MONITOR		0	0	0	0	10		CITY OF SURPRISE
B03001022BBB	605189	373983.6	3717938	NON-EXEMPT	01/01/77	840	379	800	18	1400		SURPRISE, CITY OF
B03001022BCA	605188	374180.6	3717532	NON-EXEMPT	01/01/40	780	350	800	20	1400		CITY OF SURPRISE
B03001022CAA	520176	374577.0	3717122	NON-SERVICE		0	0	0	0	0		SAGE DEVELOPMENT,
B03001022CAA	519048	374577.0	3717122	DOMESTIC STOCK EXEMPT	10/12/87	1001	438	1004	8	0	X	SAGE DEVELOPMENT,
B03001022CCC	564527	373973.9	3716533	MONITOR OR PIEZOMETER		380	335	380	10	0	X	SURPRISE CITY OF
B03001023000	621340	376278.6	3717184	NON-EXEMPT	01/01/27	210	132	210	24	1300		DYSART DEV CO INC,
B03001023000	621341	376278.6	3717184	NON-EXEMPT	01/01/75	1006	415	1006	14	1250		DYSART WATER CO INC,
B03001023AAC	205434	376783.2	3717675	SERVICE		1530	366	920	16	0	X	CITY OF EL MIRAGE
B03001023BBC	612950	375580.3	3717702	NON-EXEMPT		1108	405	1108	16	2000		H J BOOL

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B03001023BCA	512299	375779.4	3717497	NON-SERVICE		0	0	0	0	0		DYSART UNIFIED SCH,
B03001023BCA	635279	375779.4	3717497	NON-EXEMPT	01/01/12	183	131	183	15	0		DYSART UNIFIED SCH,
B03001023CBB	603811	375576.0	3717100	NON-EXEMPT	11/18/75	1006	525	1006	14	1470	X	EL MIRAGE, CITY OF,
B03001024ACD	219588	378187.6	3717242	SERVICE		0	0	0	0	0		CITY OF EL MIRAGE
B03001024BBA	603821	377387.0	3717862	NON-EXEMPT	01/01/43	275	96	275	20	49		ROBERTS,,R C
B03001024BBB	603822	377185.8	3717867	NON-EXEMPT	08/06/10	964	355	964	16	1600	X	ROBERTS PROPERTIES
B03001024BBB	629935	377185.8	3717867	EXEMPT	03/01/49	800	300	800	20	0	X	ROBERTS PROPERTIES
B03001024BCC	625295	377182.1	3717264	NON-EXEMPT	01/01/40	800	160	700	20	2000		ROBERTS,,R C
B03001025BAC	599833	377576.1	3716051	MONITOR		305	280	137	2	0	X	CITY OF EL MIRAGE
B03001025BAC	908434	377576.1	3716051	PIEZOMETER	01/31/08	102	0	100	2	0	X	CITY OF EL-MIRAGE
B03001025BB0	639873	377275.5	3716158	EXEMPT	01/01/70	855	311	855	4	35		CISLAGHI ET AL,B R
B03001025CBC	536563	377168.9	3715260	DOMESTIC STOCK EXEMPT		0	0	0	0	0		SMT INVESTORS,
B03001025CCB	536562	377167.5	3715059	DOMESTIC STOCK EXEMPT		0	0	0	0	0		SMT INVESTORS,
B03001025CDC	209997	377567.1	3714851	WITHDRAWAL PERMIT		0	0	0	0	0		SALT RIVER MATERIALS GROUP
B03001026ADA	218207	376972.2	3715865	NON-EXEMPT		0	0	0	0	0		CITY OF EL MIRAGE
B03001026BAB	610628	375971.4	3716288	NON-EXEMPT		1150	520	1150	20	1200		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001026BBB	610627	375570.1	3716297	NON-EXEMPT	11/27/50	1000	520	1000	20	1650		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001026BCC	610629	375566.6	3715697	NON-EXEMPT	07/24/57	950	520	950	20	1600		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001026DDA	584720	376967.0	3715064	WITHDRAWAL PERMIT		0	0	0	0	0		CITY OF EL MIRAGE
B03001027000	909845	374666.0	3715615	GEOTECHNICAL	10/07/08	125	0	0	6	0	X	CITY OF PHOENIX AVIATION DEPT.
B03001027AAB	610631	375170.2	3716306	NON-EXEMPT	12/05/76	1820	520	1820	20	2400		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001027ABB	610625	374771.0	3716315	NON-EXEMPT	01/01/73	1050	520	1050	20	1650		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001027ABC	610626	374769.7	3716114	NON-EXEMPT	01/01/74	1050	520	1050	20	1850		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001027BDB	609454	374369.1	3715922	NON-EXEMPT	03/05/62	1500	410	1500	20	2000	X	MCKEE,R H
B03001027CAB	609452	374366.5	3715521	NON-EXEMPT	05/25/60	1000	450	1000	20	1700	X	MCKEE,R H
B03001027CBB	579041	373966.8	3715529	GEOTECHNICAL		0	0	0	0	0		CITY OF PHOENIX AVIATION DEPARTMENT
B03001027CBB	597681	373966.8	3715529	MONITOR	06/27/03	0	7300	40	2	0	X	CITY OF PHOENIX
B03001027CBB	597682	373966.8	3715529	MONITOR	08/22/03	120	300	40	2	0	X	CITY OF PHOENIX
B03001027CBB	597683	373966.8	3715529	MONITOR	08/22/03	120	7300	40	2	0	X	CITY OF PHOENIX
B03001027CBB	609455	373966.8	3715529	EXEMPT	01/01/45	800	400	800	14	25	X	MCKEE,R H
B03001034AAB	209820	375159.9	3714705	EXEMPT		540	352	540	6	0	X	BUTTRUM DYSART RV & BOAT STORAGE LLC
B03001034ABB	601589	374760.1	3714712	NON-EXEMPT	04/25/47	900	400	900	16	1500		ROGER & ERLENE D BUTTRUM
B03001034ADA	517993	375355.7	3714300	NON-EXEMPT	08/18/87	800	515	800	10	0	X	WESTSIDE INDUSTRIAL INVESTMENTS
B03001034ADB	516887	375155.7	3714304	NON-EXEMPT		0	0	0	0	0		DYSART & OLIVE PRTSP,
B03001034BBB	085977	373960.5	3714726	NON-EXEMPT	02/27/81	1200	446	1200	1	1660		TAL-WI-WI,
B03001034BBB	609456	373960.5	3714726	NON-EXEMPT	01/01/81	1400	460	1400	16	1700		MCKEE,R H
B03001034DBB	610630	374751.8	3713912	NON-EXEMPT	08/09/76	1250	520	1250	20	2000		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008

Appendix A. ADWR 55-File Information for the Peoria RSO Study Area
NW corner: B(3-1)3, SE corner: A(2-1)13

Cadastral	Reg No	UTMX	UTMY	Well Type	Installed	Well Depth	Depth to Water	Casing Depth	Casing Dia.	Pump Rate	Drill Log	Owner Name
B03001035ACD	528467	376557.5	3714069	EXEMPT	07/20/90	560	420	560	12	0	X	CONTECH CONST PROD,
B03001035BBB	610633	375560.3	3714697	NON-EXEMPT	09/09/78	1450	520	1450	14	2100		JOHN F LONG FAMILY REVOCABLE LIVING TRUST U/A/D 2/26/2008
B03001035DAA	807147	376957.1	3713857	NON-EXEMPT	12/31/48	520	0	0	12	0		JDL & COMPANY,
B03001035DBA	552334	376555.7	3713868	NON-SERVICE		0	0	0	0	0		ELLIOTT HOMES
B03001036000	522303	377860.6	3713940	EXPLORATION	10/01/88	120	0	0	9	120	X	UNION ROCK & MATL.,
B03001036000	524168	377860.6	3713940	EXPLORATION	06/08/89	105	0	0	0	0	X	BROWNING FERRIS IND,
B03001036AAB	617061	378368.0	3714633	NON-EXEMPT	01/01/63	800	222	800	20	1140		UNITED METRO MATERIALS INC
B03001036ADC	214517	378364.5	3714032	NON-SERVICE	10/13/07	1200	215	1085	16	0	X	RINKER MATERIALS
B03001036BAA	524162	377766.3	3714646	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BAC	531070	377564.3	3714449	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BBB	531071	377164.8	3714658	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BBC	524167	377163.0	3714457	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BBC	604162	377163.0	3714457	NON-EXEMPT	01/01/60	900	322	900	20	1877		UNITED METRO MATERIALS INC
B03001036BCB	531072	377161.5	3714255	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BCC	524166	377159.8	3714054	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036BDD	524163	377762.2	3714043	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036CBC	524165	377156.3	3713651	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036CCD	531073	377354.3	3713245	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,
B03001036CDC	524164	377555.5	3713242	MONITOR OR PIEZOMETER		0	0	0	0	0		BROWNING FERRIS IND,

Appendix H. Summary of Regulatory Requirements

ADWR

Underground Storage Facility Permit
To obtain a USF permit, the applicant must establish that the facility will meet the statutory criteria, Pursuant to A.R.S. §45-811.01These include:

- a demonstration of technical and financial capability
- a demonstration of hydrologic feasibility,
- a demonstration of no unreasonable harm,
- a requirement to obtain any applicable floodplain use permits,
- a demonstration that the facility will not promote the migration of a contaminant plume or will not result in pollutants leaching to the aquifer.

USF application submittal

- The initial application fee for a USF Permit is $2,000. Total fees for this application are based upon an hourly billable rate, which is currently $118 per hour. If the costs of reviewing the application exceed $2,000, applicants will be invoiced for the difference, up to a maximum total fee of $25,000.
- Applicant's signature
- One original and three (3) separate copies of a completed application to store effluent.
- Hydrologic report that demonstrates hydrologic feasibility and demonstrates that facility will not cause unreasonable harm to land and other users within the maximum area of impact (this can be the same hydrologic report that is submitted to ADEQ). This includes a site description and plan of operation, description of the source water, hydrogeologic characterization of the study area, impact and mounding analysis, and monitoring and contingency plans for the operation of the facility.
- Demonstration of Technical and Financial Capability.

Water Storage Permit
To obtain a WS permit, the applicant must establish that the following criteria apply, pursuant to A.R.S. §45-831.01

- A legal right to the source of water proposed for recharge
- The applicant has applied for any required water quality permits issued by ADEQ.
- Water storage will occur at a permitted storage facility.

WS application submittal

- The initial application fee for a WS Permit is $1,000. Total fees for this application are based upon an hourly billable rate, which is currently $118 per hour. If the costs of reviewing the application exceed $1,000, applicants will be invoiced for the difference, up to a maximum total fee of $10,000.
- Applicant's signature
- One original and one separate copy of a completed application to store effluent.
- Demonstration of the legal right to store the source water
- Demonstration that the applicant has applied for any water quality permit required by ADEQ and federal law.

- Application must be associated with a permitted storage facility. Applications for a USF and WS permit may be applied for concurrently.

Recovery Well Permit

The RW permit requirements, A.R.S. §45-834.01 include:

- Holding long-term storage credits or a water storage permit
- Proposed recovery from a new well must meet well spacing requirements. Additionally, certain conditions require recovery from an existing well to meet well spacing requirements.
- Proposed recovery from an existing well must include the right to use the well.
- Additional specific requirements apply depending upon whether the proposed well is inside or outside of the area of impact of the storage. These relate to notification of the recovery by nearby cities, towns, irrigation districts, and private water companies, and also to ensure the recovery is consistent to the management plan and goal of the AMA in which it is located.

RW application submittal

- The initial application fee for a RW Permit is $1,000. Total fees for this application are based upon an hourly billable rate, which is currently $118 per hour. If the costs of reviewing the application exceed $1,000, applicants will be invoiced for the difference, up to a maximum total fee of $10,000.
- Applicant's signature
- One original and two (2) separate copies of a completed application.
- Well spacing analysis. This analysis evaluates the proposed impacts to nearby wells that may fall within the 10- and 25-foot drawdown radius and may include a multiple well impact analysis depending upon the number of recovery wells desired.

USF, WS, and RW Processing

Administrative Completeness- 100 day review

ADWR reviews the application for completeness and correctness with respect to the statutory criteria within this timeframe. If additional information is requested, the timeframe is suspended and 15 days are added to the timeframe. The applicant typically has 60 days in which to respond. Once the application is determined complete and correct, the administrative completeness timeframe ends. Note-it is not uncommon to receive an incomplete and incorrect determination by ADWR in order to address agency questions and provide clarification of the application.

Substantive Review – 195 day review

ADWR has 15 days from the date the application is determined complete and correct to publish a public notice of the applications. The applications are published for two consecutive weeks in a paper of general circulation. This has historically been accomplished in the Arizona Business Gazette. A 15-day objection period follows the last day of the public notice. If no objections are filed, and a hearing is not held, the director must issue a decision and order with six months of the date notice is first given. This often occurs within several weeks after the close of the objection period.

ADWR sends out an initial draft permit and then a final draft permit for review and comment by the applicant. Once finalized and all fees are paid, a final appealable permit is sent out to the applicant. After 30 days, if no appeals are filed, then a signed permit is issued. At this point the substantive review ends. If valid objections are filed and a hearing is necessary, a hearing is set at least 60 days, but not more than 90 days, after the expiration date of the objection period. The applicant and objectors are notified of the

hearing at least 30 days prior to the hearing. The substantive review is reduced to 177 days if an administrative hearing is held.

Notice of Intent to Drill

In Arizona, in order to drill a well, the applicant must first file a notice of intent to drill (NOI), pursuant to A.R.S. §45-596.

The NOI typically requires information related:

- well location, assessor parcel identification
- proposed well construction method information, conceptual design drawing, and well construction plan
- specific type of well use
- owner/landowner contact information
- specific questions to ensure the well meets certain requirements
    - length of screen/perforated interval
    - width of annual space between casing and borehole for gravel pack
    - whether the well construction has been coordinated with ADEQ
    - for monitor wells, if a dedicated pump is installed
    - whether a variance is being sought for the minimum construction standards. If so, then a variance request must accompany the NOI, with reasons for the variance.
    - Information on the unique identifier for the applicant and also info on the display of the registration number on the vault or upper casing.

NOI processing

Some types of monitoring wells may be filed through ADWRs electronic filing program on line. This is the most efficient method, as issuance of the drill card is provided immediately. However, the process for most other recharge related NOIs requires paper processing.

The overall timeframe for obtaining the drilling authorization, the drill card, is 15 days from submittal of the NOI to issuance of the drill card. The fees for a NOI are $150 per well.

<u>ADEQ</u>

The Arizona Department of Environmental Quality (ADEQ) must issue an Aquifer Protection Permit for the discharges (including recharge) of reclaimed water.

Aquifer Protection Permit

The specific criteria to obtain an individual APP, pursuant to A.A.C Title 18, Chapter 9, Part A includes:

- Technical Requirements
- Financial Requirements
- Contingency Plan
- Alert Levels, Discharge Limitations and Aquifer Quality Limits
- Monitoring Requirements

- Reporting Requirements
- Compliance Schedule
- Closure and Post Closure Plans

ADEQ Permit Process

Administrative Completeness Review

This review evaluates whether the basic permit application requirements are submitted.

Substantive Review

This review evaluates the adequacy of the demonstrations of BADCT, if necessary, and compliance with Aquifer Water Quality Standards at the applicable point of compliance. All the technical requirements are evaluated.

License Type	Administrative Completeness Review	Substantive Review	Overall Time Frame
Individual Permit (no public hearing)	35	186	221
Individual Permit (with public hearing)	35	231	266
Complex Individual Permit (no public hearing)	35	249	284
Complex Individual Permit (with public hearing)	35	294	329

Application Submittal

The following items must accompany the application submittal:

- A completed 2-page APP Check List form
- A Table of Contents
- The initial application fee for an APP Permit is $2,000. Total fees for this application are based upon an hourly billable rate, which is currently $122 per hour. If the costs of reviewing the application exceed $2,000, applicants will be invoiced for the difference, up to a maximum total fee of $200,000.
- One original and two (2) separate copies of the completed application.
- Demonstration of compliance with Aquifer Water Quality Standards. This demonstration requires the **Hydrologic Study**. This study includes a detailed site description, hydrologic and geologic information of the region, as well as site-specific information. The study must include an impact analysis of the recharged water and it must include a monitoring and contingency plan. This study, once prepared, can be utilized to serve the applications for both ADWR and ADEQ.
- Demonstration of BADCT (not required for recharge facility)
- Demonstration of Technical and Financial Capability
- Demonstration of compliance with applicable municipal or county ordinances and regulations
- Description of any enforcement action of any federal, state law, rule, or regulation, or any county, city or local government ordinance relating to the protection of the environment instituted against the applicant during the 5-year period prior to the application submittal.

Maricopa County Environmental Services Division

Approval to Construct and Approval of Construction

Application submittals for ATC for a recharge facility include a $250 fee, plans, specifications, and data pertinent to the project and require preparation by, or under the supervision of a professional engineer in Arizona.

Application Submittal

Applications must be filed with MCESD at least 30 days prior to the date upon which approval is desired.

Applications for AOC occurs after construction of the new public water supply systems, extensions or modifications to existing public water supply systems, extensions or modifications to existing sewage collection systems, new sewage collection systems, or reclaimed water distribution systems. Before an AOC will be issued, the following requirements must be met:

- A final inspection has been completed by the Department or with the approval of the Department, by a Registered Engineer.
- An Operator, Certified by the State of Arizona is employed to operate the system.
- An Operation and Maintenance manual is submitted to and approved by the Department for new sewage treatment systems or substantial modifications thereto.
- Construction conforms to plans and specifications approved by the Department.

EPA Underground Injection Control Inventory

Filing an inventory form, identifying each well, and its associated aquifer protection permit number, plus some basic construction information satisfies this program. The information is used to update the well owners of applicable regulatory requirements or best management practices to prevent contamination.

Inventory Submittal

Short inventory forms may be completed and mailed or submitted electronically.

EPA Clean Water Act, Section 404 Permit

The EPA's Clean Water Act, Section 404, regulates discharges of dredged and fill material into waters of the United States, including wetlands. Both the EPA and U.S. Army Corps of Engineers (USACE) are responsible for the enforcement and administration of the 404 program.

- Applicant's name, address, Telephone Number(s).
- Authorized Agent's Name and Title; Agent's Address and Telephone Number; Statement of Authorization
- Proposed Project Name or Title
- Name of Water body
- Proposed Project Street Address; Location (lat/long)

- Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality that the site is located in.
- Directions to the Site.
- Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wing walls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles, or float-supported platforms.
- Proposed Project Purpose and projected date of completion
- Reasons for Discharge
  Types of Material Being Discharged and the Amount of Each Type in Cubic Yards
- Surface Areas of Wetlands or Other Waters Filled
- Description of Avoidance, Minimization, and Compensation
  Is Any Portion of the Work Already Complete?
- Names and addresses of adjoining property owners, lessees, etc., whose property adjoins the project site.
- Information about Approvals or Denials by Other Agencies
- Signature of Applicant or Agent

DRAWINGS AND ILLUSTRATIONS

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number.

Status of additional permits, certifications or documentation required, including:

- 401 certification
- Cultural Resources Section 106
- Endangered Species Act

Additional Items needed for Corps to Process Permit

- Alternatives Analysis
- Mitigation Plan
- Cultural resources report
- Biological resources report
- Draft environmental assessment
- Draft public notice

Section 404 Processing

On average, individual permit decisions (standard permits and letters of permission) are made within 2 to 6 months from receipt of a completed application. Expedited procedures are possible, and are authorized on a case-by-case basis. Permit applications that require the preparation of an Environmental Impact Statement take an average of 3 years to process.