

CYHWRMS – 2050 Commercial/Industrial Demand
based on PrAMA Assessment Assumptions

Background: In the CYHWRMS, 2050 demand has been broken out by the following sectors: Municipal/Domestic, Commercial/Industrial, and Agriculture. Due to this being a future look, the best we can do is look at the past trends as well as what we know is on the horizon to make reasonable assumptions. Since this study has an ADWR defined AMA in it, work developed by AMA staff for the Assessment was reviewed to help in CYHWRMS assumptions. **This paper will only document CHYWRMS assumptions for Commercial and Industrial users which have been identified with Grandfather right numbers (58s – Irrigation Grandfather Rights, *Type 1 Non-Irrigation Grandfather Rights*, and *Type 2 Non-Irrigation Grandfather Rights*), as well as Withdrawal Permits (59 – *General Industrial Use Permit and Mineral Extraction Permits*). One unique user has also been identified, Asphalt Paving and Supply Inc. who operates with surface water.**

Industrial Sector – as described by ADWR

AMA statements

- We do know that there is relatively limited industrial use and it is limited primarily to golf courses and sand and gravel operations. There are some other industrial users that receive water from municipal providers, i.e. Frito Lay in Prescott Valley. Overall, staff believes that much of the future industrial use will either receive water from municipal providers or will use direct delivered effluent or surface water supplies instead of groundwater. (AMA memo – 8/27/2008)
- It is our belief that the majority of future industrial use in the Prescott AMA will not be linked to population, with the exception of sand and gravel operations. It is not anticipated that there will be a linear increase in number of golf courses with population growth. (AMA memo – 8/27/2008)
- For most of the Prescott AMA entities, obtaining LTS credits for effluent is more important than golf courses. The exception is Bond Ranch, a development that is in the very preliminary phases. There has been talk that there will be at least one golf course associated with the Bond Ranch development. (AMA memo – 8/27/2008)
- [The full allotment] proposal is really not feasible, even for a max scenario because there are two large right holders in both the Type 1 and Type 2 categories. With respect to the Type 1, the Bond Ranch at Del Rio Springs holds a right with a 2008 allotment of 1406.13. This equals approximately 69% of the total allotment for Type 1 rights. It is likely that this right will not ever be used in its entirety within the planning period [2025] because the Bond Ranch development will likely not be complete in that time frame. 500 AF of this right was included as a GOLF use in the projections. Examination of the other Type 1's shows that about 150 AF will likely be used for new developments but that growth/demand will fall under the Small Provider demand. There is approximately 100 AF of increased demand that can be attributed to the

remaining Type 1's. With respect to the Type 2's, the City of Prescott holds one large Type 2 with a 2008 allotment of 3169.00 AF which equals approximately 70% of the total Type 2 allotment. It is known that this Type 2 is being held in perpetuity for the Yavapai Prescott tribe and will not be used unless growth dramatically increases on the reservation. Examination of the other Type 2 rights shows a potential for an additional 55 AF that is for new subdivision use that would fall under the Small Provider demand. (AMA memo 3/3/2009)

- With respect to the Mineral Extraction and GIU permits, there really is no allotment cap because new permits can continue to be issued. (AMA memo 3/3/2009)
- Average industrial water use for the time period 2000-2006 is approximately 1,500 AF. If we add an additional golf course at 500 AF and additional S&G at 200 AF, this yields 2,250 AF. In the discussion above, I identified approximately 100 AF of demand that could be attributed to the Type 1's, however, there will likely be approximately 200 AF of demand lost between the three Chino Valley schools moving onto exempt wells as well as Yavapai College. Therefore, 2,250 AF of industrial use seems to be a reasonable projection. (AMA memo 3/3/2009)
- Turf is water applied to an area greater than 10 acres that is not for golf course uses. Review of the uses showed no turf use in Prescott AMA because all cemeteries, memorial park etc. uses are less than 10 acres. Also, no surface water or effluent uses showing up in template because only showing those that have a groundwater right. (AMA memo 3/3/2009)
- The PV sand and gravel that operates solely on surface water is not included because they do not have a gw right. (Letter from Fain 3/9/2009)

AMA projected demand assumptions

- Maintain current golf course use until 2015 and then increase 500 AFA for uses associated with Bond Ranch golf course. Maintain that volume through the planning period. (AMA memo – 8/27/2008)
- Escalate sand and gravel with population in a manner that you're doing for other AMAs as we have no other better estimate. We are currently in the process of approving a mineral extraction permit for 50 years for 250 AFA that should be issued in 2008. (AMA memo – 8/27/2008)
- Include additional regional type parks/turf facilities for each of the municipalities. We anticipate one in Prescott Valley in approximately the 2015 time frame with approximately 350 AFA of landscape irrigation and another in Prescott in the 2018 time frame with approximately 350 AFA of landscape irrigation. Maintain those projections through the planning period. (AMA memo – 8/27/2008)

CYWRMS projected demand assumptions

1. Dewey-Humboldt WPA – Yavapai Land Holding LLC, was Young's Farm. In 2006, the LLC filed paperwork for an Analysis of Assured Water Supply requesting about 700 AF for the development. At this

time the application is still pending. *For CHYWRMS, non-exempt will be held at 22 AF and Yavapai Land will be 700 AF. A total of 722 AF.*

2. Prescott Valley WPA – Maintain Prescott CC GC at 449 AF. The Humboldt USD is a type 2 held by Prescott Valley, it is school landscaping. The AMA determined that regional parks and turf facilities would remain constant until 2015, then about 350 AF should be added for additional landscape/turf. So, for convenience, we could use this type 2 as a placeholder for the 5 AF for the school plus 350 AF = 355 AF. The Fain type 2 rights and associated wells are mixed and matched to meet the Quailwood GC needs. This use is reported on a well that is in the Mingus Mtn. CCD. *For CHYWRMS, non-exempt wells will remain at 6 AF, Prescott CC GC remains at 449 AF, 355 AF will be added for future regional parks and turf facilities, and the Asphalt Paving and Supply Inc averages a use of 96 AF. A total of 906 AF.*
3. Chino Valley WPA – With respect to type 1s this WPA has the most and could carry all the AMA's recommendations. The greatest type 1 allotment is for Del Rio Springs at 1406.13. It is the assumption of the AMA that this community will not be build by the 2025 timeframe. However by 2050, it seems reasonable to that it may. This future development filed a Hydrogeologic Study to ADWR AAWS Program dated 10/2001. In that report the demands for the community were 1406.8 AF for residential, 439.6 AF for commercial, and 2704.0 AF for Irrigation, Golf Course, and Landscape. The total submitted equaled 4550.4 AF. At this time, ADWR has only issued a PAD for 3531.0, note this does not "lock up" the water for this community. Please note that the AMA assumption included 500 AF for a GC. Also, based on AMA examination of the type 1s, about 150 AF will likely be used for new developments. Type 2s are generally small and not considered. *For CYWRMS, it is recommended that we make the assumption Del Rio will be build with a demand at 3500 AF (this includes the GC). An additional 150 AF will also be added to this WPA for the above mentioned PrAMA type 1 assumption. With respect to GIUs and Mineral extraction permits, the AMA held the current use steady but did add in and additional S&G at 200 AF. The GIU/mineral use in 2006 was about 342 AF. This WPA also has a existing nonexempt use of 30 AF. Total equal to 4222 AF in the Chino Valley WPA.*
4. Prescott WPA – With respect to type 2s, the City of Prescott holds one large type 2 with a 2008 allotment of 3169.0 AF which equals approximately 70% of the total type 2 allotment. It is known that this type 2 is being held in perpetuity for the Yavapai-Prescott Tribe and will not be used unless growth dramatically increases on the reservation. When other type 2 are examined, there is potential for an

additional 55 AF this is for a new subdivision. *For CHYWRMS, it is recommended that 3169.0 AF and 55 AF be consider as the 2050 comm/indust. Demand. This WPA has an existing non-exempt use of 7AF. Total equals 3231 AF. At this time it is assumed that the 3 GCs in this WPA are already being accounted for in the City of Prescott Municipal System and the demand is housed in the 2050 Muni/Dom.*

5. Prescott CCD WPA – Based on AMA assumptions, GUIs will continue at there current use. *For CHYWRMS, 78 AF for nonexempts, 0 AF for the existing GIU, and 8AF for Drake Cement Plant. Total equals 86 AF.*
6. Mingus CCD WPA – This area will also follow the AMA assumptions for water users who hold a GFR. *For CHYWRMS, nonexempt is 21AF, Phoenix Cement will remain at 350 AF, both type 1 current use is 350 AF, no type 2 use, Hanson's is provided reclaimed water from COP and United Metro used 28 AF in 2006. The total is 749 AF.*