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Version -82

United Water Idaho Inc.

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← 5/16/2000

GIVENS PURSLEY ^{LLP}

Submitted to the
Idaho Department of Water Resources

Karl J. Dreher, Director

By

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United Water Idaho Inc.

~~ORIGINAL~~ *5/16/2000*

Integrated Municipal
Application Package
("IMAP")



June 16, 2000

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WATER RESOURCES
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APPENDIX A: MAP SHOWING UWID PLANNING AREA

A

A. EXECUTIVE SUMMARY

1. Background

Four years ago, the Idaho Legislature enacted the Municipal Water Rights Act of 1996 ("1996 Act" or the "Act"). This statute codified substantive and procedural law embodying what has come to be known as the "growing communities doctrine." The thrust of the Act is to encourage municipal providers to establish a long term "planning horizon" and to engage in planning for water rights acquisition to ensure that they will be able to satisfy the needs of their customers throughout the planning horizon. Water rights held for this purpose are referred to as the "planning horizon component" ("PHC") of the provider's portfolio of rights.

This *Integrated Municipal Application Package* ("IMAP") is submitted by United Water Idaho Inc. ("UWID" or the "Company") to the Idaho Department of Water Resources ("IDWR" or the "Department") as a direct result of the 1996 Act. Its purpose is to bring UWID's portfolio of water rights¹ within the protection and obligations of the 1996 Act.

The core of the IMAP consists of two sets of change applications: First, UWID seeks to change 92 ground water rights (Tab H). Second, UWID seeks to amend 16 water right permits,² all but one of which are for ground water³ (Tab I). These applications are supported by a series of spreadsheets, identifying and describing various aspects of the water rights in UWID's portfolio (Tabs J through N). Finally, the IMAP documents the

¹In addition to water rights and permits addressed in this IMAP, the Company owns certain other entitlements to the use of surface water. UWID is not seeking to change the water rights behind these entitlements. They are fully disclosed, taken into account, and discussed in Part E.7 at page 64. In addition, UWID owns a contract entitlement to water from Anderson Ranch Reservoir which is used solely for mitigation purposes in connection with Water Right No. 63-02892. Because this right does not supply water to UWID's customers, but instead benefits other water users, it is not deemed part of UWID's portfolio for purposes of quantifying UWID's planning horizon component.

²UWID is now in the process of proving up on these permits. If some or all of them are approved as licenses prior to the time the Department completes processing of this IMAP, we request that, in each case, the *Application for Amendment of Permit* be treated as an *Application for Transfer of Water Right*.

³The only surface water permit in UWID's portfolio is its Marden Treatment Plant right from the Boise River, No. 63-12055. In addition to the 16 permits included in this IMAP, UWID holds four permits to divert water into three small systems in Canyon County and southwest Ada County: 63-12424, 63-12463, 63-12506 and 63-12522. These systems are not connected to each other or to UWID's large municipal supply system. Consequently, these permits are not included in this IMAP. Nor should they be taken into account in quantifying UWID's PHC.

various planning requirements under the 1996 Act:

Tab B	⇒	Definitions
Tab C	⇒	The Company's history
Tab D	⇒	Objectives of the IMAP
Tab E	⇒	Quantification of water needs for the planning horizon
Tab F	⇒	Analysis of comprehensive plans in all areas served
Tab G	⇒	Summary

2. Planning Horizon Established

The IMAP establishes a planning horizon of fifty years. If the IMAP is approved by the Department, this will authorize UWID to acquire water rights for its portfolio sufficient to serve reasonably anticipated needs over the next fifty years. Water rights held for this purpose pursuant to a such a documented planning horizon are expressly declared to constitute "beneficial use" of the state's water.

The IMAP then sets about determining the quantity of water which will be necessary to serve UWID's customers in the year 2050.

3. Planning Area Mapped

The first step in determining projected demand is to delineate the area which will be served, termed the "planning area." The planning area is shown graphically on the accompanying map (Appendix A). Many areas which are likely to be served by UWID in the future (and even some areas which are served today) were nevertheless excluded from the planning area.⁴

First, the planning area was limited to Ada County. This is because the few system components operated by UWID in Canyon County are very small and are not integrated into the Ada County system. (See footnote 3 at page 4.)

⁴The planning area, as its name implies, is solely a planning device. It does not control or limit the provider's ultimate service area. The effect of exclusions of potential service areas from the planning area is solely to reduce the quantity of water which UWID is entitled to claim as its planning horizon component ("PHC"). On the other hand, the quantity of water actually delivered today to areas outside the planning area is included in the total service projection. (See footnote 19 at 29.) The inclusion or exclusion of an area from the planning area has no legal effect on what areas UWID ultimately may be authorized to serve with its PHC water rights. UWID's actual "certificated area" is determined from time to time by the PUC. Under the 1996 Act, the Company's "service area" for these water rights will follow changes in the certificated area automatically.

Second, the planning area excludes communities which have their own water supply system, such as Garden City, Meridian, Kuna, Star and parts of Eagle.

Third, as required by the 1996 Act, the planning area excludes certain areas which are subject to unresolved planning conflicts among competing governmental entities or to competition among potential water providers. For this reason, the planning area does not include growth areas surrounding Kuna and Star, and it excludes the entire Eagle area.

The planning area was then broken into five sub-areas, labeled "Demand Factor Areas." Each of these areas has somewhat different water use characteristics.

4. Year 2050 Population Projected

Next the IMAP predicts population for the planning area in the year 2050. Using data made available by the U.S. Census Bureau, Idaho Power Company, and COMPASS, UWID employed a variety of extrapolations and interpolations (most using linear or exponential regression) to predict Ada County population in the year 2050. From a range of projections, UWID selected a mid-range result based on a methodology using the Census Bureau's national projection for the year 2050. UWID studied the relationship between Idaho and national populations over a 55 year period, and predicted that by the year 2050, Idaho's population will equal 0.71 percent (less than one percent) of the national population. UWID rejected the Census Bureau's more aggressive Series C projection, using instead the more modest Series B projection of a national population of 403,687,000 in the year 2050, yielding an Idaho population of 2,866,178.

The next step was to carve out Ada County's 2050 population from the state-wide number. From a matrix of options, UWID selected the most conservative approach, yielding an estimated county-wide population of 874,184 in the year 2050.

Finally, it was necessary to allocate an appropriate fraction of this county population to UWID's planning area. Again, UWID employed a conservative approach, giving the benefit of the doubt about relative growth to the non-planning area portion of the county: UWID subtracted COMPASS' full build-out population projections for each on the non-planning area communities, with an appropriate and conservative adjustment for expected growth in rural areas of the county. The result is a predicted planning area population of 623,478. (At full build-out, UWID's planning area would sustain a population of 1,042,728 based on current zoning patterns.)

Comparing the projected population of 623,478 to UWID's current service area population of 192,960 yields an annually compounded rate of growth of 2.37 percent over

the fifty year period. Considering the explosive growth the area has experienced in the last decade, and the strong indicators that the Treasure Valley has reached or is fast approaching a critical mass of population capable of self-generating exponential growth, UWID believes that its projection is appropriate and, indeed, quite conservative.

5. Projecting Water Demand

Water demand is only loosely related to population. Whether that population comes in the form of landscaped suburban homes or high density apartments will substantially affect water demand. Likewise, the availability of non-potable irrigation ("NPI") (sometimes referred to as "pressurized irrigation facilities") and effective conservation strategies may substantially reduce demand for water from municipal providers. Each of these were taken into account in each of the five "Demand Factor Areas" within UWID's planning area.

UWID's analysis began with a calculation of base water demand per household. This base demand is composed of (1) "residential consumption" (actual consumption per household) and (2) "commercial consumption" (a factor allocated to each household).

"Residential consumption" is water actually used within the home or lawn. "Commercial consumption" is a catch-all for all other non-residential uses, including commercial, industrial, parks, and system losses. Total commercial consumption is then divided among all households in the system, so that each home is assigned its "share" of all non-residential consumption.

"Residential" and "commercial" are then added together to produce an estimate of "combined consumption" per household. These values, which have proven fairly stable over time, yielded annual averages of 220 ccf for residential AAC per customer, 154 ccf for commercial AAC per customer, and 374 combined AAC per customer.

Based on a comparative evaluation of uses in older versus newer neighborhoods, UWID adjusted this number upward slightly to 250 ccf for residential demand, in turn pushing combined demand to 404 ccf.

UWID's adjusted average annual residential consumption of 250 ccf per customer equates to 0.57 af/yr. This compares favorably with (*i.e.*, is much lower than) the Department's rule of thumb for residential consumption (0.60 af/yr per non-irrigated residence and 1.20 af/yr per irrigated residence).

UWID next made adjustments to account for expected increases in population

density and the availability of NPI in some parts of the county. The first step in the process was to allocate the planning area population to each of five Demand Factor Areas in UWID's planning area. UWID then quantified the effect of NPI on residential consumption. Comparing demand between subdivisions with and without NPI, UWID calculated an annual consumer consumption quantity of 94 ccf for customers that do not use UWID for summer irrigation water. Using this number, UWID reduced water demand in those Demand Factor Areas where higher population is expected to increase density enough to affect the average demand by limiting summer irrigation demand. UWID further reduced demand in each of the five Demand Factor Areas by calculating the effects of NPI based on an estimation of acres available for NPI using *IDWR Land Use Cover Data*. After factoring in NPI, UWID was able to predict "combined AAC" for each area. The result was a reduction in demand of 5,616,790 ccf per year, approximately 5.5 percent of total demand.

Next UWID factored in an additional reduction of 5 percent attributable to its ongoing, aggressive water conservation education program and pricing structure. This yielded total water savings of 8,315,149 ccf annually. After these adjustments, the predicted annual consumption for UWID's planning area in the year 2050 is 93,014,760 ccf (or 213,533 acre-feet). This compares to annual production in 1999 of 21,063,082 ccf (or 48354.18 acre-feet), yielding an annual compounded growth rate of 3.02 percent.⁵

6. Quantification of Peak Demand

Municipal water rights are quantified only in terms of peak flow, not annual volume. Consequently, the final step was to use the predicted annual consumption to predict peak flow.

Comparing the relationship between annual production and peak flow over 13 years of available data, UWID determined that ratio of peak to annual has been declining. This decline, however, is anticipated to taper off. Projecting this out using an exponential regression, UWID predicts a ratio of 0.51 percent in the year 2050, yielding a peak demand of 550.18 cfs. Compared to the current demand of 141.56 cfs, this reflects an compounded annual increase of 2.75 percent.

The bottom line is reflected in Table 29 at page 77. UWID is entitled to hold a water rights portfolio of up to 550.18 cfs. Its current portfolio measures 303.54 cfs, meaning that UWID is entitled to acquire additional water rights totaling 246.64 cfs, if this IMAP is approved.

⁵This is something of an apples to oranges comparison. See footnote 24 at page 43.

7. Additional Changes

In addition in determining the size of UWID's planning horizon component, the IMAP seeks a variety of changes in the Company's current portfolio of water rights. The most notable change is to make each point of diversion an alternative point of diversion for every right in UWID's portfolio. UWID will agree to a condition ensuring that this change will not be used to cause well interference to any existing, senior priority well.

UWID also has provided a consistent description of its service areas for all its water rights, as well as a uniform statement of the nature of use and season of use for each right.

Finally, inconsistent methods of quantification are proposed to be eliminated, so that all rights may be expressed and measured in terms of peak flow (cfs). In so doing, appropriate adjustments are made to ensure against any enlargement.

B

B. DEFINITIONS

For the convenience of the reader, the following table provides an explanation of commonly used terms, acronyms and shorthand references.

TABLE 1 EXPLANATION OF ACRONYMS AND SHORTHAND REFERENCES		
Full name	Shorthand	Explanation
Annual average consumption	AAC	This is a measure of the volume of water consumed or delivered. AAC is often expressed on a per-household basis.
Acre-feet	af	This is a volumetric measure equal to an acre filled to the depth of one foot.
Acre-feet per annum	AFA	This refers to the number of acre-feet which are produced in one year.
Certificated area		The "certificated area" of a municipal water supplier regulated by the PUC is that area which it is authorized and required to serve. Unlike the more loosely defined "service area" under the 1996 Act, the certificated area is precisely defined, and must be amended (with the approval of the PUC) to bring in each new area.
Change / Transfer		The terms "change" and "transfer" are often used interchangeably to describe a change in point of diversion, period of use, nature of use, and/or place of use. The terms can also be used to describe the conveyance of title to a water right - that is, a change or transfer in <u>ownership</u> .
Community Planning Association of Southwest Idaho	COMPASS	This organization is the successor to the Ada Planning Association. It provides detailed population projections for the Treasure Valley.
Cubic feet per second	cfs	This is the standard flow measure for water rights.
Demand Factor Areas		UWID's planning area is broken down into five Demand Factor Areas. These are described and defined in Part E.6 (Fifty Year Demand Analysis) at page 44.
Director of IDWR	The Director	The Director of the Idaho Department of Water Resources, Karl J. Dreher
Dwelling units per acre	du/a	This is a measure of the density of housing allowed in a particular zone.
Future needs		The term "future needs" is sometimes employed to describe the water rights that make up the PHC. This term is misleading because the 1996 Act expressly declares these rights to constitute beneficial use of water rights today. See footnote 16 at page 25.
Growing communities doctrine		This is the common law doctrine which recognizes that water rights held by municipal providers for reasonably anticipated needs satisfy the requirement of <u>current</u> beneficial use under Idaho Water Law.

Hundred cubic feet	ccf	This is a measure of volume commonly employed by municipal suppliers for tracking AAC. One acre-foot contains 435.6 ccf. One hundred cubic feet equals 0.0022957 acre-feet.
Idaho Department of Water Resources	IDWR or the Department	This is the Idaho state agency which administers water rights.
Integrated Municipal Application Package	IMAP	This is a submission, such as this one, intended to change much or all of a municipal provider's portfolio of water rights to bring them within the 1996 Act. It contains traditional change application materials as well as supporting documentation for the planning horizon component. This IMAP is really a collection of 92 applications for change of water right and 16 applications for amendment of permit.
Million gallons per day	MGD	This is a flow measure commonly employed by municipalities. 1 MGD equates to a continuous flow of 1.547 cfs or 1,120.147 acre-feet/year.
Municipal Water Rights Act of 1996	1966 Act	This is the legislative codification of the growing communities doctrine, which is the foundation of this IMAP. The full citation is Municipal Water Rights Act of 1996, 1996 Idaho Sess. Laws, ch. 297, codified at Idaho Code §§ 42-202, 42-202B, 42-217, 42-219, 42-222.
Non-potable irrigation	NPI	This phrase refers to "non-potable irrigation" systems which deliver <i>untreated</i> water for lawn and park irrigation from a non-municipal source, such as an irrigation district. These are sometimes referred to a "pressurized irrigation facilities" or PIF. The term "PIF" is confusing, however, in that most domestic irrigation systems are pressurized, regardless of whether they obtain their water from municipal or untreated non-municipal sources. Consequently, we have employed the term "non-potable irrigation" to describe the systems providing untreated water from non-municipal sources—irrespective of whether it is provided in a pressurized or un-pressurized system.
Planning horizon component	PHC	This refers to the portion of a water right (or of a portfolio of water rights) which is held to meet reasonably anticipated needs within an approved planning horizon, as provided in the 1996 Act. Idaho Code §§ 42-202B(5) and (6).
Planning area		UWID's planning area is depicted on the map attached hereto as Appendix A. The planning area is essentially UWID's prediction as to what its service area will actually be fifty years from now (subject to specified statutory exclusions). See discussion in Part E.4 beginning on page 27.
Public Utilities Commission (or Idaho Public Utilities Commission)	PUC (or IPUC)	The PUC has regulatory authority over UWID and all other investor-owned companies providing water and power to the public.

Service area		The term "service area" is a term of art under the 1996 Act. It refers to the evolving geographic area served by a particular municipal provider. Unlike other water users, municipal providers do not have fixed and precise places of use, but broadly defined service areas which grow and evolve over time. The term "service area" should not be confused with "planning area" or "certificated area" (see those definitions).
United Water Idaho Inc.	UWID or the Company	UWID is the applicant for these change applications.



C

C. HISTORICAL BACKGROUND

United Water Idaho Inc. and its predecessors have been the principal supplier of municipal water to the City of Boise and surrounding communities for over a century. In 1890—the same year Idaho was granted statehood—the Artesian Water and Land Development Improvement Company began serving downtown Boise City. The entire system consisted of two artesian wells and a single reservoir in Hulls Gulch, with two and a half miles of main running down Eighth Street to the old Eastman Hotel.

In the following year, 1891, Artesian Water merged with Boise Waterworks to form the Artesian Hot and Cold Water Company. The Company provided not only drinking water, but captured thermal water from hot springs to heat buildings, homes, and the historic Natatorium.

In 1913, with the advent of the Idaho Public Utilities Commission, the Company was divided into hot and cold components. Boise Water Company took the drinking water side, while Natatorium Water supplied hot water for heat. Boise Water Company was formally incorporated in 1928, and was acquired by General Waterworks Corporation 18 years later in 1946. In 1994, General Waterworks Corporation merged with United Water Resources, forming the second largest investor-owned water services company in the nation. In 1995, the Boise Water Company changed its name to United Water Idaho Inc. to reflect its relationship to its parent company, United Water Resources, and its similarly named sister corporations across the nation.

United Water Resources is a holding company which provides water and wastewater services in 19 states and Canada. Its stock is traded on the New York Stock Exchange under the symbol UWR. The majority owner is Suez Lyonnaise des Eaux, a world leader in private infrastructure services.

In the 109 years since its inception, the Company's water rights system has expanded to nearly 100 wells, 27 reservoirs, several surface water rights and entitlements, and a raw water treatment plant. The system serves customers throughout the Treasure Valley with 813 miles of water mains, 38 booster stations, and six pressure levels in a service area covering 150 square miles. Today the system serves 64,320 connections (customers).⁶ This equates to 192,960 people,⁷ including their homes, businesses,

⁶These connections include individual residences, apartment buildings (which typically count as one connection), and commercial/industrial/park and other users.

⁷This population estimate is based on a multiplier of 3.0 times the number of connections. The 3.0 multiplier is used by the industry and is based on population/service studies conducted throughout the

industries, parks, open space, and water amenities which are served within UWID's service area today.⁸

nation, with regional adjustments. This IMAP, however, approaches population and water demand predictions from a per household basis, rather than based on the number of connections. This enables UWID to more readily make area-specific adjustments reflecting different demand assumptions in different parts of the Company's planning area.

⁸This population number is slightly less than the current population of Boise, as estimated by Idaho Power Company. This is explained by the fact that UWID does not serve the entire Boise population. Some are served by other suppliers, such as Capital Water Corporation. Others are served by private homeowners associations. Some are on private wells.

D

D. OBJECTIVES OF THIS IMAP

1. Introduction

Following the enactment of the Municipal Water Rights Act of 1996, UWID has undertaken a comprehensive review of its water rights portfolio. As a result, the Company wishes to integrate its entire ground and surface water right portfolio⁹—92 water rights and 16 permits—into the new statutory framework for municipal planning needs and to update the portfolio to reflect the integrated nature of UWID's municipal supply system in Ada County.

The water rights associated with UWID's municipal supply system—as they are currently documented in existing licenses, permits and beneficial use claims—do not adequately reflect the integrated nature of the system or the forward looking vision and service responsibilities of UWID. By this change, UWID seeks to update its water right portfolio to better match the configuration of the supply system and to recognize that a portion of the current portfolio is held to meet demand during the Company's planning horizon.

To accomplish these goals, UWID proposes the following for each of the water rights included in this IMAP:

- ✓ Recognize each well within the interconnected system as an alternate point of diversion for each ground water right.
- ✓ Establish a municipal nature of use for each water right, per the 1996 Act.
- ✓ Establish a consistent place of use description for all its water rights, based on the service area concept in the 1996 Act.
- ✓ Amend the season of use for all ground water rights to consistently reflect full year usage.
- ✓ Adjust diversion quantities for volume limited rights to reflect a continuous flow rate.

⁹See footnote 1 at page 4 regarding the exclusion of certain surface water entitlements from this IMAP.

- ✓ Designate a portion of the total diversion rate reflected in the portfolio as the planning horizon component ("PHC") under the 1996 Act.

We discuss each of these components below.

2. Alternate Points of Diversion

One of the goals of the proposed change is to adjust UWID's water rights portfolio to recognize the management efficiencies built into the operation of UWID's municipal water supply system. This goal requires recognition that each well operated by UWID serves as an alternate point of diversion for each of UWID's ground water rights.

UWID currently operates a system of wells that each feed into a pressurized and interconnected supply system. In addition to wells and supply lines, the system contains booster pumps, reservoirs and interties which all act to move water throughout the system to most efficiently meet the current localized demands. The current water right descriptions do not recognize this flexibility—which UWID has built into its system at considerable cost and with considerable benefits to its customers.

For example, UWID uses its best and most efficient wells around the clock to meet the base demand on the system. As demand surges at different locations within the system, additional wells are electronically activated. The sequence in which the various wells are used to meet the increasing demand is a function of each well's quality and its geographic location in relation to the increased demand. The system maximizes efficiency through a complex, integrated management system which automatically responds to fluctuations in demand, maximizes production of the best wells, stores water, utilizes stored water, and transports water to different service levels.

By and large, the best and most efficient wells in the system are the newer wells. Typically, as each new well is drilled, UWID has obtained, with the Department's approval, additional junior priority water rights, without surrendering the older priority rights. In this way, the overall size of the Company's portfolio has increased in proportion to the newest increase in production capacity. As a practical matter, UWID has met municipal demand by using its water rights interchangeably. Thus, the oldest priority water rights have continued to be used to meet base demand, even as new wells are brought on line. Meanwhile, the most junior priority water rights are added to the portfolio and held to meet reasonably anticipated demand over time, as contemplated under the growing communities doctrine.

This process of acquiring new water rights for each new well has created a water

right portfolio which superficially ties each of UWID's water rights to a particular well. UWID seeks to amend its portfolio to conform these rights to the actual practice of interchangeable use. Amending UWID's ground water rights to allow each well as an alternate point of diversion will allow UWID to continue to maximize the efficiency of its system by allowing the diversions from the most senior rights to be diverted using the best wells.

By obtaining alternate points of diversion, UWID does not seek to reallocate water rights among its wells to the detriment of other aquifer pumpers. UWID simply seeks authorization to move licensed quantities around to the most efficient well where this can be done without injury. With this in mind, UWID expects that each existing well will retain the priority date associated with the well for purposes of well interference claims. For example, if UWID drilled a well in 1985 and is diverting water from that well pursuant to a 1965 priority water right, the relevant priority for that well in the event of a well interference claim would be 1985 and not 1965. Each right should be conditioned accordingly. On the other hand, in the event of future regulatory action aimed at curtailing uses generally within all or a part of the aquifer system, UWID would be able to respond with maximum flexibility.

Spreadsheet 5 under Tab N of this IMAP sets out the well name and legal description for each of UWID's current points of diversion for ground water rights. UWID proposes to use this list as the current point of diversion description for all of its ground water rights. From time to time, UWID anticipates updating this filing to reflect any old wells which are subsequently abandoned and new wells added to the system.

3. Place of Use

As UWID obtained new water rights over the years, the place of use description evolved so that UWID's water rights contain many different place of use descriptions. Since each right is part of an interconnected system, UWID believes that the place of use for all of its water rights should have a consistent place of use description. Further, the Municipal Water Rights Act of 1996 provides explicit statutory recognition that the place of use description for municipal providers can be described in general terms with an evolving boundary that can change over time without formally seeking departmental approval of the change. Idaho Code § 42-202B(7).

UWID proposes to conform to the Municipal Water Rights Act of 1996 by using the following place of use description for all of its water rights: "UWID's Service Area."

For most of UWID's rights, amending the place of use description is not a true

change in place of use, but is simply a change in terminology. For example, many of UWID's rights have a place of use described as "City of Boise and vicinity" or some similar variation. Others include the phrase "Within Boise Water Corp. service area" which errs only by employing the former company name. Many water rights describe the place of use as "City of Boise" or "within the city limits of Boise" which contemplates an evolving service area as the city grows but does not explicitly recognize that UWID serves customers outside the city limits.

Several rights, however, have a place of use limited to specified legal descriptions or designated subdivisions. The vast majority of these rights were rights originally obtained by smaller water delivery companies for servicing small and discrete areas. Subsequently, UWID acquired the delivery systems and the associated water rights and integrated the systems to UWID's large municipal delivery system.¹⁰ Rights with these limited place of use descriptions need to be changed to the larger service area place of use to reflect that water diverted pursuant to these rights is diverted into an integrated and interconnected delivery system. The following table identifies those rights that need to have the place of use element changed.

TABLE 2 REVISED PLACE OF USE		
Right Number	Current Place of Use	Proposed Place of Use
63-02954	T3N, R2E, S17 NWSW, SWSW; S19 NENE	UWID Service Area
63-02956	T3N, R2E, S17 NWSW, SWSW; S19 NENE	UWID Service Area
63-03105	T3N, R2E, S18 NWNE, SWNE	UWID Service Area
63-03112	T3N, R2E, S17 NWSW, SWSW; S18 SW ¼, SE ¼	UWID Service Area
63-03164	T3N, R2E, S27 SWNW, NW ¼, NESW	UWID Service Area
63-03457	T3N, R2E, S24 SWNE 8, SENW 7, NESW 5, NESE 10; 30 acres total, place of use for domestic and fire protection is the same.	UWID Service Area
63-04395	T3N R3E S28 SENE 18, SWNW 02; S29 NESE, 25 acres total; S29 NENE, SENE, NWNW, SWNW, NESE domestic	UWID Service Area
63-07077	T3N, R2E, S27 NWSE	UWID Service Area
63-07641	T2N, R1E, S3 SWSE, SESE	UWID Service Area
63-07896	T3N, R1E, S27, NWSE	UWID Service Area
63-07979	T2N, R01E, S3 SW ¼, SWSE; S3 NENW, SENW, NESW, NWSW, SESW, SE ¼; S10 NENE, SENE; S11 NWNE, NW ¼	UWID Service Area
63-07998	T3N, R1E, S27 SWNE, SENE, NESE, NWSE	UWID Service Area
63-08011	T3N, R1E, S23, NW ¼	UWID Service Area
63-08248	T3N, R1E, S22 SWSE 20, SESE 20; S27 NENE 32, SWNE 32, NESE 32, NWSE 32, 200 acres total	UWID Service Area

¹⁰ Two of these systems were acquired recently: one serving the Warm Springs Mesa area and another serving the Barber Mobile Home Park. These two systems have not yet been connected to the main municipal delivery system. However, the water rights covering these two systems are included in this IMAP because UWID plans to integrate both systems in the near future as part of infrastructure expansions and improvements associated with development in the Harris Ranch area.

63-08265	T3N, R1E, S15, NWNE, SWNE, SENE	UWID Service Area
63-08357	T4N, R1E, S25 SWNW, NWSW; S26 SENE, NESE	UWID Service Area
63-08385	T3N, R3E, S28 SWNW, NWSW; S29 SENE, NESE (152 homes)	UWID Service Area
63-08405	T2N, R1E, S2 42 acres, S3 43 acres, S10 3 acres, S11 12 acres, 100 acres total, place of use same for domestic and fire protection	UWID Service Area
63-08432	T3N, R1E, S31 NE ¼; S35 NW ¼	UWID Service Area
63-08635	T3N, R1E, SEC. 23 SWSE 6, SESE 8, 14 acres total	UWID Service Area
63-09087	T3N, R1E, S23, NW ¼	UWID Service Area
63-09106	T3N, R1E, S15 NESE, NWSE	UWID Service Area
63-09198	T3N, R1E, S22 SWSE, SESE; S27 NENE, SWNE, SENE, NESW, NWSW, NESE, NWSE	UWID Service Area
63-09199	T3N, R1E, S2 NENW, SENW, SW ¼; S3 NENW, SENW, NESW, SE ¼; S34 NESW	UWID Service Area
63-09384	T3N, R1E, S15 NESW 20, SESW 20, 40 acres total, place of use for domestic and fire protection same as for irrigation	UWID Service Area
63-10150	T3N, R3E, S28 NWNW, SWNW; S29 NENE, SENE	UWID Service Area
63-10391	T3N, R1E, S15, SWSW 8 acres total	UWID Service Area
63-11990	T3N, R1E, S15 NW ¼; S16 NE ¼	UWID Service Area

Changing the place of use for each of these right to “UWID’s Service Area” properly recognizes the actual place of use for each of UWID’s water rights. This change in place of use will not alter the quantity of water associated with any water right, and thus will cause no injury to other water right holders.

4. Nature of Use

The majority of UWID’s water rights are licensed for a municipal purpose of use. Several rights in the portfolio, however, are licensed for domestic, fire protection and/or irrigation purposes of use. As with those water rights that need place of use adjustments, the majority of rights needing nature of use changes were originally held by small delivery companies with more distinctly defined service obligations. Consequently, these rights were often licensed with two or three specific purposes of use rather than the general municipal designation. Nothing in the quantity element of the water rights, nor the context of their creation, indicates that any actual limitation was intended by the choice of language for describing nature of use.

UWID seeks to change the nature of use for these water rights into a municipal nature of use. Since water from each well is diverted into a common municipal supply system, it is not practical to designate the water from any one well for a specific purpose. Instead, water from each well is commingled in the system and delivered to municipal customers who use the water for a variety of purposes. Maintaining an accounting of each water right would serve no public purpose, while significantly increasing costs to UWID’s customers. To accurately reflect the broad uses made of water from UWID’s system, each of UWID’s rights should list a municipal nature of use.

TABLE 3 REVISED PURPOSE OF USE		
Right Number	Current Purpose of Use	Proposed Purpose of Use
63-02605	Domestic	Municipal
63-02954	Domestic	Municipal
63-02956	Domestic	Municipal
63-02989	Municipal, Domestic	Municipal
63-03064	Irrigation, Domestic, Fire Protection	Municipal
63-03112	Irrigation, Domestic	Municipal
63-03164	Domestic	Municipal
63-03457	Irrigation, Domestic, Fire Protection	Municipal
63-04015	Domestic, Fire Protection	Municipal
63-04395	Irrigation, Domestic	Municipal
63-07066	Domestic	Municipal
63-07077	Domestic, Fire Protection	Municipal
63-07641	Domestic	Municipal
63-07896	Domestic	Municipal
63-07979	Irrigation, Domestic, Fire Protection	Municipal
63-07998	Irrigation, Domestic, Fire Protection	Municipal
63-08011	Domestic, Fire Protection	Municipal
63-08248	Irrigation, Domestic, Fire Protection	Municipal
63-08265	Domestic	Municipal
63-08357	Domestic	Municipal
63-08385	Domestic	Municipal
63-08405	Irrigation, Domestic, Fire Protection	Municipal
63-08635	Irrigation, Domestic, Fire Protection	Municipal
63-09106	Domestic, Fire Protection	Municipal
63-09198	Municipal, Fire Protection	Municipal
63-09199	Municipal, Fire Protection	Municipal
63-09384	Irrigation, Domestic, Fire Protection	Municipal
63-10150	Irrigation	Municipal
63-10391	Irrigation, Domestic, Fire Protection	Municipal
63-11990	Domestic, Fire Protection	Municipal

The table above lists those rights for which a change in the nature of use element is sought.

Changing the nature of use of these identified water rights will not change UWID's operation of its system but instead will amend the licenses to reflect the way the system has been operated. The quantity, quality and location of the return flows and will not be changed and this change will not affect any other water users.

5. Season of Use

Ten of UWID's water rights, typically those with an irrigation purpose of use,

contain a season of use that limits use of the right to the irrigation season.¹¹

UWID proposes that a year round season of use be added to all these rights for the sake of consistency. UWID seeks to amend these water rights to permit diversion of the right during any day of the year. UWID does not propose to divert additional volumes of water under these rights, but simply desires management discretion to decide when the quantity diverted under the right should be diverted. (The annual volume issue is addressed in Part D.6 below.)

TABLE 4 REVISED PERIOD OF USE		
Right Number	Current Period of Use	Proposed Period of Use
63-03457	1/1-12/31 & 3/15-11/15	1/1 - 12/ 31
63-04395	4/15-10/10, 1/1-12/30	1/1 - 12/ 31
63-07979	1/1-12/31, 4/1-10/31	1/1 - 12/ 31
63-07998	1/1-12/31, 4/1-10/31	1/1 - 12/ 31
63-08248	1/1-12/31, 4/1-10/31	1/1 - 12/ 31
63-08405	1/1-12/31, 3/1-10/31	1/1 - 12/ 31
63-08635	1/1-12/31, 3/15-11/15	1/1 - 12/ 31
63-09384	1/1-12/31, 4/1-10/31	1/1 - 12/ 31
63-10150	1/1-12/31, 3/15-11/15	1/1 - 12/ 31
63-10391	1/1-12/31, 3/15-11/15	1/1 - 12/ 31

The table above identifies those rights for which a change of the season of use is sought.¹²

6. Volume Limitations

Sixteen of UWID's licenced water rights are limited by an annual diversion volume. Once again, the majority of these rights were obtained by UWID from other municipal providers that obtained domestic and irrigation rather than municipal water rights which typically not are limited by volume. Another was obtained from a private individual through a transfer. In other cases, it is not clear why the volume limitation was originally placed on the right. Table 5 below identifies each of the rights in UWID's portfolio which has a volume limitation. The last column shows the delivery system with which the right originally was associated.

¹¹Any existing limitation (as to period of use, annual volume, or otherwise) associated with those water right interests and entitlements which are excluded from this IMAP (see footnote 1 at page 4) would remain in place.

¹²While most UWID water rights contain a season of use description identifying the entire year (1/1 through 12/31), 22 of UWID's water rights do not contain any season of use description at all. These should also be modified to expressly state a year round season of use.

The few diversion volume limitations in UWID's portfolio add an unnecessary layer of complexity to the administration of UWID's system. If this IMAP is approved, and UWID is permitted to move water rights around freely among its various points of diversion (subject to the well interference conditions), the volume limitation would be nearly impossible to track.

As a result, UWID proposes to eliminate the volume limitation from the 16 licensed rights and 3 permits listed in the following two tables.¹³ To prevent enlargement, UWID proposes to adjust the authorized diversion rates on each license downward to reflect the rate required to produce the licensed volume based on a year-round continuous flow. Table 5 below shows this conversion. In making this conversion, UWID will lose 9.24 cfs from its portfolio of water rights. However, UWID believes this concession is worth the added flexibility the Company and its customers will be afforded by removal of the volume limitations.

TABLE 5 ELIMINATION OF VOLUME LIMITATION (LICENSES)						
Right Number	Priority Date	Licensed Quantity (cfs)	Licensed Volume (AFA)	Adjusted Quantity (cfs)	Reduction in Quantity (cfs)	Original Water System
63-03411	6/17/64	1.50	178.00	0.25	1.25	UWID
63-03448	4/27/65	4.90	3540.00	4.89	0.01	UWID
63-03457	7/14/65	1.67	1209.00	1.67	0.00	UWID
63-07896	11/13/73	0.25	181.00	0.25	0.00	South County
63-07979	5/13/74	2.00	1268.00	1.75	0.25	South County
63-07998	6/25/74	1.27	658.00	0.91	0.36	South County
63-08011	7/18/74	3.00	276.00	0.38	2.62	South County
63-08248	1/2/76	1.57	843.00	1.16	0.41	South County
63-08385	11/6/77	0.49	182.40	0.25	0.24	Barber
63-08405	1/12/77	2.00	1320.00	1.82	0.18	South County
63-08635	8/17/83	0.89	106.20	0.15	0.74	South County
63-09384	5/27/80	1.00	420.00	0.58	0.42	South County
63-10150	7/1/83	0.48	56.10	0.08	0.40	Barber
63-10391	11/14/86	0.30	62.40	0.09	0.21	South County
63-11090A	1/21/90	1.73	376.40	0.52	1.21	private
63-11990	1/27/93	1.80	624.00	0.86	0.94	South County
Total Reduced Flow					9.24	

¹³Elsewhere in this IMAP, UWID has requested the conversion of several rights into year-round municipal rights. In the event that this conversion requires the addition of a diversion volume to prevent enlargement, UWID proposes to use the same conversion formula to eliminate the volume limitation as is employed here.

In addition to the licensed rights listed above, three of UWID's permits contain volume limitations. As part of the permit amendments, UWID seeks elimination of the volume component from these three permits along with the corresponding reduction in quantity. Table 6 below identifies the permits and the requested changes.

TABLE 6 ELIMINATION OF VOLUME LIMITATION (PERMITS)					
Right Number	Priority Date	Permitted Quantity (cfs)	Permitted Volume (AFA)	Adjusted Quantity (cfs)	Reduction in Quantity (cfs)
63-11467	2/21/91	2.27	520.00	0.72	1.55
63-11878	6/15/92	0.99	190.50	0.26	0.73
63-12334	3/8/95	0.38	42.00	0.06	0.32
Total Reduced Flow					2.60

7. Quantification of PHC

The final step was to establish a planning horizon and to determine the quantity of water required to meet needs over that period. The complex process discussed fully in Part E beginning on page 25. The end result is a prediction of peak flow requirements for the year 2050.

It was then possible to determine which part of UWID's portfolio is held to meet immediate demand, and which portion is held to serve the planning horizon component ("PHC"). This is illustrated in Table 7 below. (Table 29 on page 77 is a reproduction of Table 7 with each component quantified.)

TABLE 7 DIAGRAM BREAKING DOWN UWID'S WATER RIGHTS PORTFOLIO		
Planning horizon needs plus immediate demand needs	Additional water rights which UWID may acquire during the planning horizon	
	Current portfolio	Rights in current portfolio held to serve planning horizon needs
		Rights in current portfolio used to support immediate demand

As illustrated in Table 7 above (and quantified in Table 29 on page 77), UWID's planning horizon needs exceed its current portfolio. Consequently, after approval of the analysis contained in this IMAP, UWID may acquire additional water rights for its portfolio, and hold them for planning horizon purposes.

E

E. QUANTIFICATION OF PLANNING HORIZON COMPONENT

1. Introduction

Idaho, like every western state, has long recognized the needs of municipal suppliers to acquire water supplies to support long term growth. This recognition is reflected in case law which has come to be known as the "growing communities doctrine."¹⁴

Thus, while other water users ordinarily cannot prove up beneficial use without demonstrating actual use, municipal providers holding water supplies to meet reasonably anticipated needs are deemed to satisfy the beneficial use requirement. This reflects the fundamental distinction that non-municipal water users generally control their own growth and expansion, and are expected to acquire water rights roughly in accordance therewith. Municipal providers, in sharp contrast, cannot set production limits. Instead, as public utilities, they are required by law to serve any and all customers in a market which they cannot control and can only roughly predict.

The central purpose of the 1996 Act is codification of the growing communities doctrine. The 1996 Act expressly recognizes that water rights acquired and held by a municipal provider to meet needs within an approved planning horizon constitute beneficial use today even if they are not being fully diverted and physically applied at present.¹⁵ We have employed the term "planning horizon component" (or PHC) to describe these rights.¹⁶

¹⁴Janis E. Carpenter, *Water for Growing Communities: Refining Tradition in the Pacific Northwest*, 27 *Env'tl. L.* 127 (1997); Wells A. Hutchins, *The Idaho Law of Water Rights*, 5 *Idaho L. Rev.* 1, 44 n.211 (1968); A. Lynne Krogh-Hampe, *Injury and Enlargement in Idaho Water Right Transfers*, 27 *Idaho L. Rev.* 249, 294-95 (1990); Frank J. Trelease, *Preferences to the Use of Water*, 27 *Rocky Mtn. L. Rev.* 133, 138 (1955); *State of Washington, Dept. of Ecology v. Theodoratus*, 135 *Wash.2d* 582, 957 *P.2d* 1241 (1998); *City and County of Denver v. Sheriff*, 96 *P.2d* 836, 841 (Colo. 1939); *City of Pocatello v. Murray*, 206 *F. 72*, 80 (D. Idaho 1913), *aff'd*, 214 *F. 214* (9th Cir. 1914); *Village of Peck v. Denison*, 92 *Idaho* 747, 450 *P.2d* 310 (1969); *Beus v. Soda Springs*, 62 *Idaho* 1, 107 *P.2d* 151 (1940).

¹⁵"A water right held by a municipal provider to meet reasonably anticipated future needs shall be deemed to constitute a beneficial use, and such rights shall not be lost or forfeited for nonuse unless the planning horizon specified in the license has expired and the quantity of water authorized for use under the license is no longer needed to meet reasonably anticipated future needs." Idaho Code § 42-222. "[T]he new use [must be] a beneficial use, which in the case of a municipal provider shall be satisfied if the water right is necessary to serve reasonably anticipated future needs as provided in this chapter." Idaho Code § 42-222.

¹⁶The term "future needs" is sometimes employed to describe the water rights which make up the PHC of a municipal provider's water rights portfolio. We have not employed that term because it carries

UWID currently serves approximately 193,000 people (see calculation on page 13) through an interconnected municipal water system supplied by roughly 100 wells, a small portfolio of surface rights and other entitlements, and a water treatment plant. The system is fully integrated within the greater Boise area. All surface or ground water sources serve as inputs to this unified system which is capable of delivering water to any customer within the service area. In 1999, customer demand reached the highest levels ever, peaking at 141.58 cfs (91.5 MGD). We conservatively expect to reach 550 cfs by the year 2050 as the population in UWID's service area grows to nearly 625,000 people. The process used to derive these figures is explained in detail below.

Unlike other public utilities which may add increments of additional capacity as demand increases, municipal water suppliers are obligated to secure water rights far in advance. The simple, physical reason for this is that the supply of water in the Treasure Valley is constrained. Consequently, it is essential that UWID undertake substantial investments in water right planning and acquisition today in order to assure that its water right portfolio is able to meet demand throughout the planning horizon. This is the central concept embodied in the 1996 Act. As a result, the Idaho Water Code now expressly provides standards and procedures applicable to municipal providers seeking to hold water rights to meet reasonably foreseeable needs over the long term.

With the advent of the Municipal Water Rights Act of 1996, UWID has undertaken a comprehensive review of its water right portfolio. UWID seeks, by this application, to integrate its entire portfolio into the new statutory framework for municipal water supply needs. Although this entails considerable effort and expense on behalf of UWID, and although the Act imposes some new restrictions on the Company, UWID believes that it is in its customers' best interest to bring to its water rights portfolio the stability and assurances which accompany the codification of the growing communities doctrine reflected in the 1996 Act.

To meet the requirements of the Municipal Water Rights Act of 1996, UWID undertook an extensive project to calculate the quantity of water it would be expected to supply customers throughout a fifty year planning horizon. UWID worked closely with the Department throughout this project to ensure smooth implementation in this first major use of the 1996 Act.

the misleading connotation that the water rights are not needed today. Even if they are not being pumped at present, they serve a present need by providing ongoing assurance to citizens, businesses and organizations that the community will be able to satisfy projected demand during the planning horizon—despite the physical constraints on the water supply. Absent such assurance, today's new business and community opportunities would be forfeited and the current economic vitality of the service area would be threatened. Thus, water rights held for this purpose serve current needs, even if they are not pumped until the end of the planning horizon.

2. Service Area

The term "service area" is a term of art under the 1996 Act. It refers to the area served by a particular municipal provider. Unlike other water users, municipal providers do not have fixed or precisely described places of use. Instead, they serve broadly defined service areas which grow and evolve over time.

The 1996 Act requires a municipal provider to file with the Department a general, conceptual description of its service area. Idaho Code §§ 42-202B(7), 222(1). UWID has done so, and files updates of its description from time to time. The most recent description is available to the public at the Department (and at the PUC).

3. Planning Horizon

The 1996 Act authorizes the establishment of planning horizon for each municipal provider. Idaho Code § 42-202B(5). There is no upper limit on the duration.

UWID has selected a fifty year planning period, and seeks departmental approval of a corresponding planning horizon under the Act. This fifty year period corresponds to the Company's long term planning needs and is consistent with other rapidly growing major urban centers in the West.

4. Planning Area

(a) Planning Area Delineated

As noted above, the 1996 Act clearly provides that a municipal provider is not required to precisely delineate its service area, and that it may serve any expansion area to which it later becomes entitled to serve.¹⁷ It is nonetheless necessary for such a provider to define with some precision the extent and location of its anticipated service area in order to project population and water demand. UWID has undertaken such a delineation, based on its best estimate of those areas within Ada County which it is reasonable to assume will be served by the Company fifty years from now.

UWID wishes to underscore the limited purpose of this delineation. All changes in UWID's actual service area are subject to regulatory approval by the PUC. UWID's

¹⁷As noted in footnote 3 at page 4, this IMAP excludes four permits that cover three independent systems in Canyon and southwest Ada Counties. These remote systems are not served by UWID's otherwise integrated delivery system, and consequently are not included within the planning area. Nor are they considered for purposes quantifying the PHC.

decision to include or exclude areas from its planning area has no regulatory effect whatsoever on whether the Company actually will service those areas in the future. In particular, UWID's decision not to include an area in its planning area in no way precludes UWID from seeking to serve that area in the future.¹⁸ Moreover, no amendment of its water rights would be required to serve such areas (so long as they are consistent with the general description of UWID's service area). Likewise, UWID is authorized to use its water rights to serve whatever areas the PUC may so authorize. It is for this reason that we have sought to employ the distinct terminology of "planning area," to avoid confusion with (1) UWID's evolving "service area" and (2) whatever may turn out to be UWID's actual "certificated area" over time.

UWID's planning area is depicted on the large map labeled Appendix A which accompanies this IMAP. The entire planning area lies within Ada County. We have divided it into the following five geographic components called "Demand Factor Areas."

TABLE 8 THE FIVE "DEMAND FACTOR AREAS" WITHIN UWID'S PLANNING AREA	
Demand Factor Area	Acres (Approx.)
Downtown Core	1,920
Urban Residential	14,050
Suburban Residential	46,640
North County	18,368
South County	32,960

The five Demand Factor Areas are described and explained more fully in Part E.6(d)(i)(3) ("Fifty Year Demand Analysis") at page 52.

For illustrative purposes, areas owned by government entities are shown in grey on the map. At present, private construction is not permitted in these areas (which are largely BLM lands). In the long run, however, some construction is likely to be enabled through land swaps and the like.

(b) Areas Excluded from UWID's Planning Area

¹⁸For instance, UWID is precluded from including areas in its planning area for purposes of securing PHC water rights which are subject to conflicting comprehensive plans. See discussion in Part F.1 ("Statutory Requirements for Plan Analysis") beginning on page 66. However, UWID is not precluded from using whatever water rights it obtains to serve these areas.

UWID's planning area does not include the cities or impact areas of Star, Meridian, Kuna, or Garden City. Each of these cities provides municipal water to its own citizens.

The foothills bordering Boise to the north and east were excluded from the UWID's planning area to the extent that these areas are not already included in either Boise City's current area of impact or UWID's certificated service area. Although some development will occur in these areas within the 50-year planning horizon, UWID determined that the extent of future development in these areas was too unpredictable for planning purposes.

The Cities of Star and Kuna are now engaged in disputes with the county over the boundaries of their impact areas. Consequently, the entire disputed areas were excluded from UWID's planning area. This is discussed more fully in Part F.2(b) beginning on page 68.

Finally, UWID also excluded the entire Eagle area from its planning area, due to uncertainties about which water provider will serve the community as it grows.¹⁹ This is discussed in detail in Part F.2(b)(iii) at page 69.

5. Fifty-Year Population Projection

(a) Introduction

Of all factors affecting a community's water demand, population is by far the most significant. Consequently, the first step in projecting demand over the fifty year planning horizon is to project population within UWID's planning area over this time period. (See Part E.4 immediately above for a discussion of what areas are included within UWID's planning area.)

Unfortunately, no published population projections exist for Idaho or Ada County fifty years in the future. UWID therefore had to use historic population figures and projections for other larger geographical areas to project the future population within its planning area.

¹⁹ Although the Eagle area was excluded from the planning area, UWID currently serves 450 residential customers in this area whose share of the system-wide peak equals 1.11 cfs. Since these customers will continue to be served by UWID regardless of which entity serves future growth in the area, it is therefore appropriate to add the 1.11 cfs consumed by these existing customers on to quantity ultimately calculated to meet the water needs of the projected population in the planning area. This addition is reflected in Part E.6(e)(ii) on page 63.

We conservatively project a planning area population of nearly 625,000 by the year 2050. Since UWID's planning area lies entirely within Ada County, UWID first projected population in Ada County and then allocated a portion of Ada County's population to the planning area. The data, assumptions and calculations supporting this two step analysis are discussed in the following sections.

Underlying all of UWID's calculations is the assumption that recent growth rates experienced in the area will continue. The realistic and conservative nature of this assumption is supported by three observations.

First, as described in Part E.4 on page 27, UWID deliberately chose a planning area which is smaller than the one it is likely to be serving fifty years from now. UWID excluded substantial areas which are subject to current disputes over (1) area of impact boundaries, (2) competing municipal providers and/or (3) conflicting comprehensive plans.

Second, population forecasts are inherently uncertain. The aim of the 1996 Act is not to require precision which is impossible to obtain. Rather, the goal is to require a reasonable, realistic and competent projection of demand, and to encourage municipal providers to plan today to meet that demand. If economic or other factors shift downward substantially, then a municipal provider might end up holding more water rights than required, in which case it would be subject to forfeiture and reallocation. In such an event, however, there would be lower than expected demand in all sectors, and consequently less strain throughout the water allocation system.

If, on the other hand, UWID failed to acquire water rights to support continued growth trends, and found itself unable to adequately supply municipal water to Boise and the surrounding area, the entire valley would face a dilemma with potentially catastrophic consequences. In short, the growing communities doctrine and the 1996 Act recognize that the damage to the community which comes from underestimating future demand is greater than the risk of overestimating.

Finally, UWID chose relatively aggressive projections (though by no means the most aggressive) because demographers suggest that Idaho, and the Boise metropolitan area in particular, can expect rapid growth in the coming decades.

This well documented trend is well captured in the following excerpt from Dr. Pamela Chase and Greg Alward's 1997 publication *Patterns of Demographic, Economic and Value Change (Implications for water use and management)*. The following extract from that report explains the unusual demographics of the Western United States, including Ada County, Idaho:

The US population as a whole is projected to increase by 275 million people by the year 2000, reach 300 million shortly after 2010, 350 million around 2030 and then achieve 392 million people by 2050.²⁰ Only during the 1930s has the Nation's population ever grown more slowly than this.

But the future is very different for the Western US than it is for the nation as a whole. The South and the West combined are projected to account for slightly more than 84 percent of the growth over the next thirty years. Nine of the ten fastest growing states are expected to be in the West.

It appears that the Western landscape is coming to be dominated by about thirteen major metropolitan areas. Some of these are old settlements (such as Los Angeles and San Francisco) given a new, booming vitality. Some, such as Boise, Salt Lake City, Albuquerque and Spokane are places no one, twenty years ago, would have imagined could become large cities. The core cities of these thirteen metropolitan areas are growing at a significant rate. The towns and small cities at some remove from these archipelago cities are growing a little in some areas, but generally fading in other areas. The reefs of suburban growth around the core cities are booming.

The Denver metropolitan area presents a typical example. About 80 percent of all the people in Colorado have lived in the Front Range cities of Denver, Fort Collins and Colorado Springs throughout the later part of this Century. Colorado's population in the last twenty-five years, like those of the other interior Western states has grown by 30 to 35 percent. But almost 88 percent of the people moving into the State during this period of accelerated growth have settled, and are continuing to settle into this single Front Range metropolitan complex.

The *economic* 'data' show a picture of the economy based on services, and increasingly on advanced computer technology.

Economic activity, and economic diversity are distributed in a pattern much like that of the population. That is, the greatest amount of economic diversity, and the greatest wealth-producing activities occur in the centers of population

²⁰ The US Census Bureau has since revised its population projections upward to approximately 402 million people.

(those 13-15 urban archipelagos), which are not coincidentally located at the nodes of the transportation system.

Indeed, the population projections used by UWID as the foundation for the estimate of planning area population all suggest rapid growth will continue.

(b) Population data sources

In developing its population projection, UWID reviewed all available sources of population information for the local area. These are:

- ✓ Census Bureau of the United States Department of Commerce
- ✓ Idaho Power Company
- ✓ Community Planning Association of Southwest Idaho ("COMPASS")

The Census Bureau (together with a related U.S. Department of Commerce arm, the Economics and Statistics Administration) is generally considered to have assembled the best staff of demographers in the world.

Idaho Power produces a State and County Economic Forecast (the "Idaho Power Forecast"). The Idaho Power Forecast includes detailed projections for Idaho's counties. The Idaho Power Forecast is generally recognized by local, state, and regional planners as the most definitive work available for Idaho counties.

COMPASS (formerly the Ada Planning Association) utilizes data made available by the Census Bureau to develop more detailed and geographically tailored population projections. COMPASS prepares twenty-five year forecasts which utilize both the Census Bureau figures and the Idaho Power Forecast as base documents and add input from local and regional planning entities and governmental bodies.

As explained in detail in the following sections, we used all these population information sources in order to project the population within our planning area through the year 2050.

(c) Methodology for projecting planning area population through 2050.

UWID used only known and respected sources of population data as the basis for its population projection. None of these sources, however, projected population on a county or even a statewide basis out to 2050. (The Census Bureau projects that far out,

but only on a national basis.) UWID therefore had to employ (1) various extrapolations over time (using linear and exponential regression) and (2) geographical interpolations based on planning constraints and similar assumptions in order to project the population reasonably expected to reside in the planning area.

(i) Step One: Determine the Year 2050 Population of Ada County.

UWID found no published projections for Ada County's population beyond the year 2020. The Census Bureau projects the United States population out 100 years, and projects state population out 25 years, but does not project at all on the county level. The farthest county projections available are Idaho Power's projections which go only through 2020.

It was therefore necessary either to extrapolate Ada County's population using the Idaho Power Forecast or to back into the county's population by establishing relationships between Ada County and larger geographical areas for which longer projections are available. UWID used both methods. This served as a double-check to ensure that it was generating a consistent and reliable projection.

Our calculations generated an Ada County population that ranged from a low of approximately 530,000 to a high of 1.4 million. Ultimately, the number we settled on fell slightly below the midrange at 874,184. The different methods UWID used to project Ada County's population are detailed in the following sections.

(1) Straight-line and Exponential Extrapolations of Ada County's Population

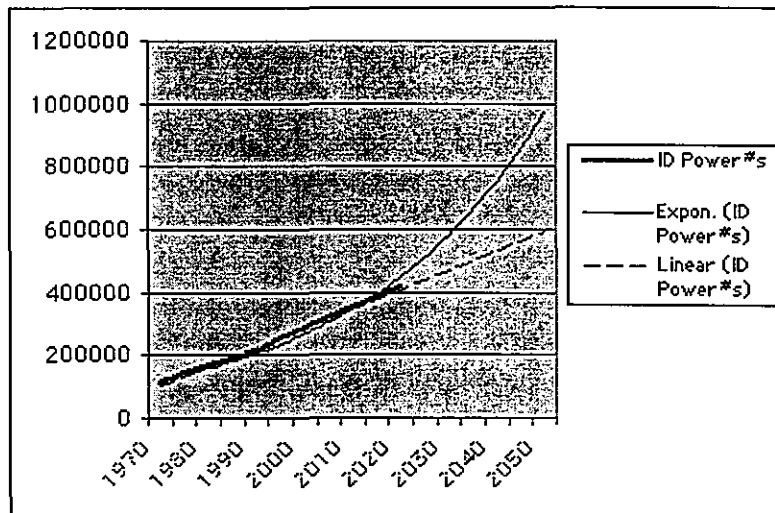
As a starting point for projecting planning area population, UWID calculated regressions of known and projected populations for Ada County out to 2050. The result was a wide range of predictions that necessitated alternate projection methods.

For the first regression, we began with Idaho Power's projections which forecast Ada County population through 2020. We then included known population figures back through 1970 in order to establish more data points. Table 9 shows the base data set used for the extrapolations.

TABLE 9 ADA COUNTY POPULATION THROUGH 2020 (Data From Idaho Power Forecast)										
1970	1975	1980	1985	1990	1995	2000	2005	2010	2015	2020
112,224	140,462	172,683	190,427	207,505	252,251	286,938	316,871	350,871	383,130	417,503

We then extrapolated this data out an additional thirty years to 2050 using regression analysis. Both a linear and a least squares ("exponential") regression were used to extrapolate from these data. Figure 1 below shows both the linear and exponential trend lines from the extrapolations.

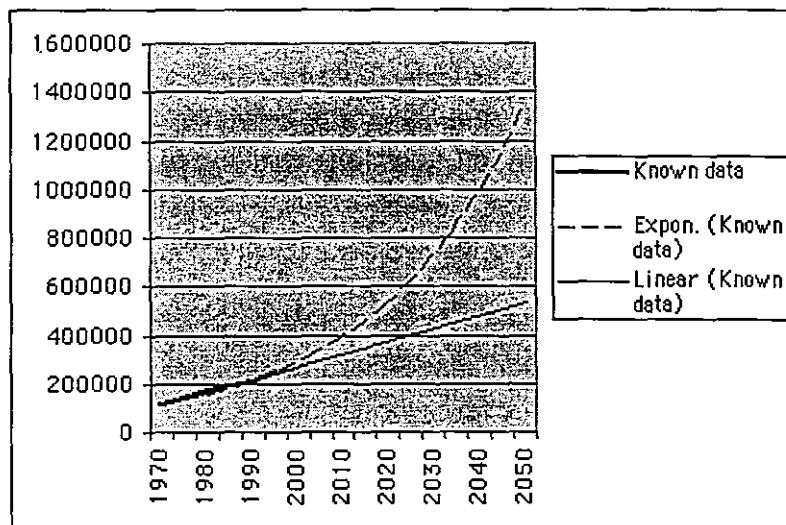
Figure1
Extrapolations of Ada County Population
Through 2050 Using Idaho Power Projections



The linear regression projected a population of 593,746 while the exponential regression calculated a population of 926,452.

UWID also extrapolated Ada County's population by the same methods using only known populations from 1970 through 1995. Figure 2 shows the result of this extrapolation.

Figure 2
Extrapolations of Ada County Population
Through 2050 Using Known Population Through 1995



The results ranged from a low of 533,733 people to a high of approximately 1.4 million. The wide range of results from the linear and the exponential projections suggested that an alternate method of projecting population was necessary, ideally a method that used an existing population projection that UWID could then use as the starting point for calculating the population in Ada County.

(2) Backing Into Ada County's Future Population

In an effort to calculate a more definitive population forecast, UWID next attempted to back into Ada County's 2050 population using long term Census population projections. Since the Census Bureau projects state populations to 2025 and national populations to 2050, UWID calculated Ada County's future population using both of these forecasts as a starting point.

As explained below, the results from the two methods were very close, leading to a projected population of approximately 875,000. This is a figure that falls below the

midpoint in the range predicted by straight Ada County extrapolations. Consequently, we believe this approach reflects a reasonable, replicable and conservative approach.

a) Using Census Bureau State Data

This section of the IMAP explains how UWID projected Ada County's future population using Census Bureau projections for the State of Idaho. As a necessary first step for backing into Ada County's population, UWID developed a relationship between the populations of Ada County and the State of Idaho. This was done by using known populations for Ada County and Idaho from 1970 to 1995 and Idaho Power projections for both areas through 2020. Table 10 shows that the percentage of Ada County's population relative to that of the State continues to rise and is projected to continue on this course.

TABLE 10 RATIO OF ADA COUNTY TO STATE USING IDAHO POWER FORECAST			
Year	Ada County Population	Idaho State Population	County as a % of State
1970	112,224	712,533	15.75%
1975	140,462	826,708	16.99%
1980	172,683	942,670	18.32%
1985	190,427	992,725	19.18%
1990	207,505	1,011,904	20.51%
1995	252,251	1,166,112	21.63%
2000	286,938	1,281,379	22.39%
2005	316,871	1,384,355	22.89%
2010	350,871	1,493,255	23.50%
2015	383,130	1,597,279	23.99%
2020	417,503	1,708,309	24.44%

Next, UWID extended the relationship to 2050 using both a linear and exponential extrapolation. The linear and the exponential extrapolations produced results of 30.5% and 33.3% respectively—surprisingly close results. Table 11 shows the results of the extrapolations.

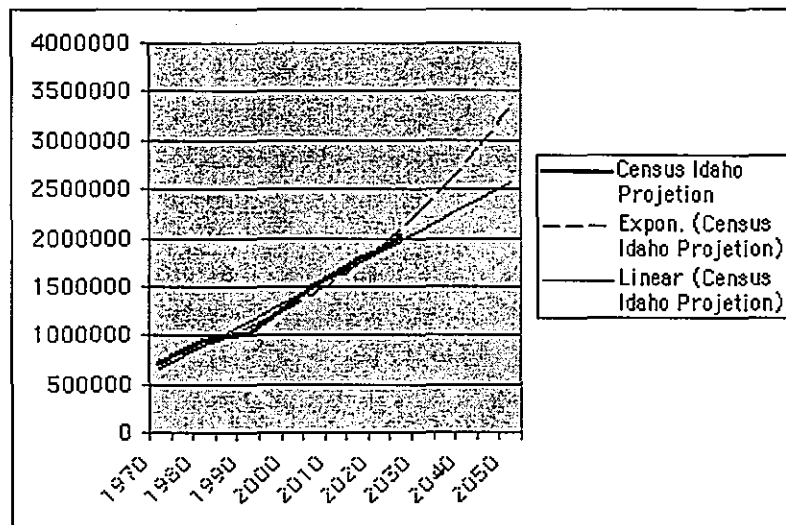
TABLE 11 EXTRAPOLATIONS OF COUNTY TO STATE RELATIONSHIP						
Year	2025	2030	2035	2040	2045	2050

Linear extrapolation	26.1%	27.0%	27.9%	28.8%	29.6%	30.5%
Exponential extrapolation	26.8%	28.0%	29.2%	30.5%	31.9%	33.3%

In order to apply the relationship between the County and the State, UWID then needed to extend the Census Bureau projection for Idaho from 2025 to 2050. This was again done using a linear and an exponential regression incorporating known data points (1970 to 1995) in addition to the projected numbers. Table 39 shows the data set used for these extrapolations. Figure 3 is a graph of the extrapolations.

The linear extrapolation predicts an Idaho population of 2,633,672 and the exponential extrapolation predicts 3,339,708.

Figure 3
Extrapolations of Census Bureau Idaho Projections
From 2025 to 2050



The final step was to apply the Ada County percentages to the Idaho figures to calculate the final population estimates for Ada County. Table 12 is a matrix showing the results.

TABLE 12 ADA COUNTY POPULATION IN 2050 DERIVED FROM CENSUS BUREAU STATE PROJECTIONS		
State population in 2050 (From Figure 3)	Ada Population in 2050 (Based on Table 11 linear projection of ratio of Ada to State: 30.5%)	Ada Population in 2050 (Based on Table 11 exponential projection of ratio of Ada to State: 33.3%)
Linear projection: 2,633,672	803,270	877,013
Exponential projection: 3,339,708	1,018,611	1,112,123

This projection method yielded results ranging from a low of 803,270 to a high of

1,112,122. UWID believes the linear state projection represents the most likely scenario, and in any event, the more conservative. It therefore concluded that the more likely population range extended from 803,270 to 877,013. To confirm this conclusion, we did one final set of calculations that used Census Bureau projections for the nation's population in 2050.

b) Using Census Bureau National Data

The only published population projection available that forecast population as far out as 2050 were the Census Bureau national projections. UWID decided to use this national figure as a starting point for predicting Ada County's population. To use national population projections as the starting point, we needed to develop the relationship of Idaho population to that of the nation. This was done using the same method described in the previous section for determining the relationship between Ada County and the State.

UWID began with known populations of the United States and Idaho from 1970 through 1995 and then added Census Bureau projections of population for both areas from 2000 to 2025 (the last date for Census Bureau state projections). The relationship was then extrapolated to 2050. This is based on the assumption that Idaho's percentage of the nation's population will continue to increase as population densities in the West outpace growth elsewhere in the nation. UWID used only a linear extrapolation this time in an effort to build another conservative layer into the analysis. The linear relationship predicted that 0.71% of the nation's population will reside in Idaho by 2050, up from about 0.50% in 2000.

The following table shows the data used to generate the relationship.²¹

²¹Note, this calculation is driven by Census Bureau statistics. The Census Bureau calculations for Idaho population in Table 13 do not precisely match the Idaho Power population numbers presented in Table 10 due to differences in the timing and perhaps methodology of the data collection.

TABLE 13 RATIO OF IDAHO TO US USING CENSUS BUREAU NUMBERS (Years 2030 to 2050 Based on Linear Regression Results)				
Year		Idaho Population	US Population	Idaho as a % of US
Historical	1970	713,015	205,052,174	0.35%
	1975	831,982	215,973,199	0.38%
	1980	943,935	227,224,681	0.41%
	1985	994,051	237,923,795	0.42%
	1990	1,006,749	249,438,712	0.40%
	1995	1,163,000	262,764,948	0.44%
Census Projection	2000	1,332,000	275,306,000	0.48%
	2005	1,489,000	287,716,000	0.52%
	2010	1,621,888	299,862,000	0.54%
	2015	1,775,000	312,268,000	0.57%
	2020	1,867,000	324,927,000	0.58%
	2025	2,008,000	337,815,000	0.60%
UWID Extrapolation	2030			0.62%
	2035			0.64%
	2040			0.67%
	2045			0.69%
	2050			0.71%

The projected percentage of 0.71% was then applied to national projections to determine a new set of Idaho population predictions which then in turn were reduced to Ada County figures based on the ratios developed and discussed above.

Two sets of national figures were analyzed. The Census Bureau prepares a low, medium and high population series, designated Series A, B, and C respectively, for its national projections. In contrast, only Series B figures are prepared for state projections.

Series A was rejected as being too conservative for planning purposes. Series B represents the Census Bureau's "most likely" outcome, while Series C represents a more aggressive projection. Series C differs from Series B principally by assuming a trend towards larger families and longer life spans. UWID calculated the results using the projections from both Series B and C. The results are contained in the following tables:

TABLE 14 IDAHO POPULATION DERIVED FROM CENSUS BUREAU NATIONAL PROJECTIONS		
Census Bureau Projected US Population	Ratio of Idaho to US in 2050	Idaho Population in 2050
Series B: 403,687,000	0.71%	2,866,178
Series C: 552,757,000	0.71%	3,924,575

The predicted Idaho populations are very similar to the linear and exponential extrapolations of the Census Bureau projection for Idaho from the previous section which calculated Idaho's 2050 population as 2,633,672 and 3,339,708 respectively (see Figure 3 on page 37 and Table 12 on page 37).

Figure 4
Census Bureau US Series B Projection

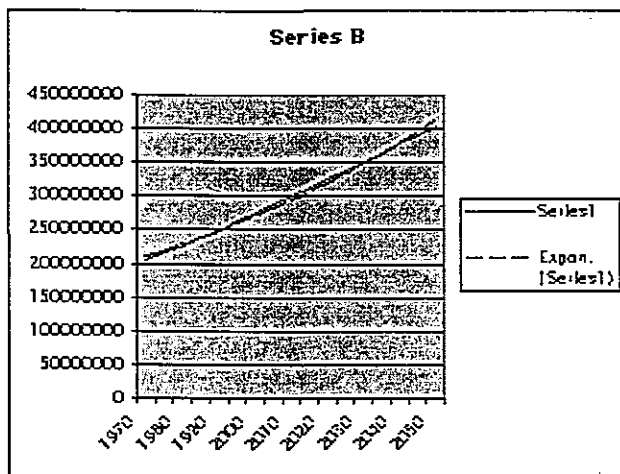
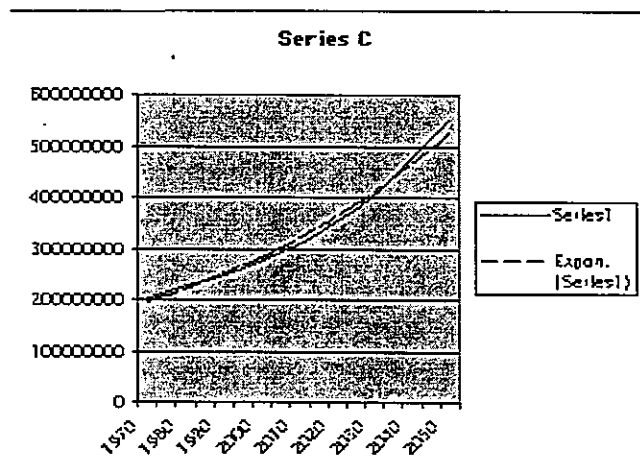


Figure 5
Census Bureau US Series C Projection



The similarity in numbers is at least partially explained by the fact that the Census Bureau Series B projection for the United States follows a fairly linear trend while Series C has an exponential trend. Figure 4 is a graph of the Census Bureau Series B prediction which shows the linear trend. Figure 5 shows the exponential trend for Series C.

The final step for this projection was to apply the percentage relationship between Ada County and the State to derive the final county population figure.

TABLE 15 ADA COUNTY POPULATION IN 2050 DERIVED FROM CENSUS BUREAU NATIONAL PROJECTIONS		
Idaho population in 2050 (From Table 14)	Ada Population in 2050 (Based on Table 11 linear projection of ratio of Ada to State: 30.5%)	Ada Population in 2050 (Based on Table 11 exponential projection of ratio of Ada to State: 33.3%)
Based on Series B: 2,866,178	874,184	954,437
Based on Series C: 3,924,575	1,196,995	1,306,883

As expected, given the consistency in state population numbers discussed above, the ultimate county population projections are very similar to the ones derived with Census Bureau state figures as the starting point.

From the matrix in Table 15 above, UWID selected the lowest of the four population predictions as the best prediction for Ada County's year 2050 population: 874,184. This method involved the least amount of actual population extrapolation and was calculated mainly by developing relationships from data generated by agencies with expertise in forecasting population. Additionally, this population figure falls generally in the middle of the range generated using the different projection methods detailed in the previous sections. Finally, it is generally conservative by assuming linear relationships in the growth trends underlying the relationship projections.

**(ii) Step Two: Allocate a Portion of Ada County's
Year 2050 Population into UWID's Planning Area.**

Having calculated the projected year 2050 population for Ada County (874,184), the next task was to determine what portion of the expected county population would reside in UWID's planning area. While, COMPASS provides city-by-city population projections in Ada County, the data only extends through the year 2025. Consequently, UWID had to come up with an alternative method of allocating Ada County's population.

One approach would be simply to divide the year 2050 population among the various communities based on the assumption that the current relative size of the communities will not change. This is probably a fair assumption.²²

²²In projecting the distribution of population in the second twenty-five years, we considered the following forces, influences and constraints. These competing factors are difficult to quantify, but will tend to cancel each other out:

- ✓ The availability of cheaper land to the west, pulling population in that direction.
- ✓ Physical constraints of the terrain to the north and northeast of Boise, both of which will push

Instead, however, we took the more conservative approach of assuming that each of the communities outside UWID's planning area will reach full build-out by the year 2050, even though Boise will not. (Full build-out refers to the population capable of being supported by the city if it is developed at the highest density allowed in its comprehensive plan through the city and its impact area.) This is an extremely conservative approach which likely over-allocates population away from Boise City, the core of UWID's planning area.

COMPASS provides full build-out population projections for the four urban areas not served by UWID: Eagle, Meridian, Kuna and Garden City.

Next, it was necessary to develop a population projection for the rural parts of Ada County (including Star²³) outside of UWID's planning area. Based on the map provided in Appendix A, we determined that this area contains 75,362 acres. Ada County's comprehensive plan calls for a rural density of only 0.2 persons per acre for this area. This yields a total of 15,072 people when 0.2 is multiplied by the 75,362 acres in the rural non-planning area portion of the county.

However, we felt this number likely underestimates rural non-planning-area population (which would, in turn, overestimate the planning area population). As Ada County develops, UWID expects that average rural densities will be increased, as areas of the rural county experience increased density around the fringes of growing communities. UWID therefore determined that the 0.2 person per acre number from the build-out analysis was too low and more than doubled the allowable density to 0.44 people per acre. This significant upward adjustment is also aimed at accounting for Star's potential growth.

By assuming average density will increase to 0.44 people per acre, a total of 33,500 people will live in Ada County outside of any city or UWID's planning area.

-
- population toward the south, west and southeast.
 - ✓ The downtown location of many federal, state, county, and city governmental offices, pulling population away from the south and west.
 - ✓ The concentration of employment in Boise City, pulling population away from the south and west.
 - ✓ Public policies of both Ada County and Boise City as expressed in their respective comprehensive plans which encourage high urban densities, which tend toward population centralization.

²³No build-out data is available for Star, because the city does not have an approved area of impact yet. For planning purposes, COMPASS treats the Star population as part of rural Ada County, as have we.

Table 16 shows the results of the allocation of population across Ada County.

TABLE 16 ALLOCATION OF YEAR 2050 ADA COUNTY POPULATION TO UWID PLANNING AREA							
Year	Ada County Population	Eagle	Garden City	Kuna	Meridian	Rural County (33,500 acres)	UWID Planning Area Population
	(From Table 15)	(Based on Full Build-Out Projections from COMPASS)				(Based on 0.44 Person/Acre)	(Balance After Subtracting Others)
2050	874,184	35,589	18,561	22,629	140,427	33,500	623,478

The resulting population for UWID's planning area is 623,478. Compared to UWID's estimated current service population of 192,960, this number reflects substantial, sustained growth. This amounts to an annually compounded rate of growth of 2.37 percent over the fifty year period.²⁴ UWID believes this number is a conservative one for planning purposes. Indeed, considering the explosive growth that the area and the region have experienced over the last decade, and the continuing strong indicators, this number reflects a sound basis for planning.

**(iii) UWID's Planning Area Projects a Population
Lower than the Population Projected by a Build-
out Analysis.**

As a double check on the above population projection, UWID performed an additional analysis based on the Boise City Comprehensive Plan. UWID used information in the Comprehensive Plan to determine the population which UWID's planning area can sustain at full build-out. This refers to when all available land within the impact area is utilized at the highest density allowed under the comprehensive plan. Moreover, we assumed that the southern boundary of Boise's area of impact would migrate to include the area covered by UWID's planning area. This resulted in upward adjustment of allowable densities within new lands covered by the expanded area of impact. As shown in Table 17 below, the population within UWID's planning area is projected to be 1,042,728 at build out.

This analysis was deemed to be overly aggressive as a population projection because full build-out may not occur during the fifty year planning horizon. Nonetheless, this table is useful to the extent that it verifies that the land area available, built to reasonably anticipated densities, can support the projected growth in the planning

²⁴This statistic should be viewed as a ballpark estimate only, because it compares an estimate of the current service area population with the projected planning area population. Data for a true apples-to-apples comparison are not readily available.

area.

TABLE 17 PLANNING AREA AT FULL BUILD-OUT				
Demand Factor Areas ²⁵	Acres (From Table 8)	Dwelling Units/acre	Total Dwelling Units	Population (2.3 Persons per Dwelling Unit)
Downtown Core	1,920	5.0	9,600	22,080
Urban Residential	14,050	8.0	11,240	258,520
Suburban Residential	46,640	4.0	186,560	429,088
North County	18,368	2.5	45,920	105,616
South County	32,960	3.0	98,880	227,424
TOTALS	113,938		580,160	1,042,728

In short, the fifty year population projection of 623,478 may easily be accommodated within the planning area. This reinforces the conclusion that our projection is a reasonable one for these planning purposes.

6. Fifty-Year Demand Analysis

(a) Introduction

Projecting UWID's planning area population for the next fifty years is only the first step toward calculating water demand at the end of the planning horizon. If the predominant growth turns out to be in high density, urban apartments and condominiums, water demand would obviously be less than if the population growth primarily is large-lot suburban developments. Likewise, if new suburbs are irrigated primarily with converted crop irrigation water, municipal demand will be much lower than if new suburban growth is irrigated with treated municipal water. These two examples highlight the analysis provided below which is aimed at determining how projected population growth will impact water demand.

UWID has designed its demand estimate to reflect the important land use, demographic and conservation policies that are expected to be implemented within UWID's service area within the fifty year planning horizon. This section explains each of the additional adjustments made in the process of translating population into peak

²⁵The six Demand Factor Areas are described and defined in Part E.6 (Fifty Year Demand Analysis) at page 44.

water demand.

First, in Parts E.6(b) and E.6(c) below, UWID calculates water demand per household based on historical consumption records and a survey of newer subdivisions. A comparison of these indicates a trend toward higher water usage. However, this base demand calculation taken alone would overstate overall demand because it does not account for (1) higher expected densities due to urbanization and comprehensive plan policies, (2) the impact of separate “non-potable irrigation” (“NPI”) facilities which supply untreated water from non-municipal sources, and (3) expected future conservation savings. Part E.6(d) discusses these expected demand reductions in turn.

(b) Base Calculation of Water Demand Per Household.

UWID calculated the basic demand per household based on historical information supplemented by a survey of several newer subdivisions. Historical water consumption consists of two parts: residential consumption and commercial/public consumption. The subsections below discuss these issues.

(i) Residential Consumption.

Residential consumption includes all water used by residential customers (both in-home use and lawn irrigation). UWID maintains historical water consumption records on a system-wide basis. Annual average consumption (“AAC”) for all residential connections over the most recent eight year period has averaged 220 hundred cubic feet (“ccf”)²⁶ (that is, 0.51 acre-feet), per household, per year. (See Table 18 below.) The highest demand year in recent history (1992 a drought year) showed an AAC of 241 ccf (0.59 acre-feet) and the lowest recent year (1998, a relatively wet and cool year) yielded an AAC of only 203 ccf (0.47 acre-feet).

Although temperature and rainfall both figure into the varying AAC figures registered from year to year, commencing with the calendar year 1994, the water usage may be affected by both an active water conservation plan by UWID and by the implementation of a Boise City Ordinance requiring the use of untreated irrigation water applied through separate pressurized “non-potable irrigation” (“NPI”) facilities on residential landscaping in new subdivisions where irrigation water is available for this purpose. The eight year water usage AAC of 220 ccf (0.51 acre-feet) appears best to represent current usage patterns in the Boise area.

²⁶Municipal providers commonly employ this volumetric measure. One acre-foot contains 435.6 ccf. One hundred cubic feet equals 0.0022957 acre-feet.

(ii) Commercial Consumption.

In addition to residential customers, UWID provides water for commercial and public customers. This includes water for stores, offices, industrial uses, parks, schools, and government facilities. In this IMAP, we refer collectively to all these non-residential uses by the shorthand reference "commercial consumption." This term also includes unmetered water and system losses.

As shown in Table 18 below,²⁷ consumption data over the years shows a relatively consistent, proportional relationship between the number of residential customers and commercial consumption. This fact is not surprising when one considers that both core employment and retail employment are functions of the number of households in the area. In other words, as residential consumption rises, one would expect commercial consumption to increase in rough proportion.

As can be seen from Table 18 below the average commercial water consumption, expressed in terms of ccf/dwelling unit or household, is 154 ccf, (or 0.35 acre-feet) per year.

²⁷The figures in Table 18 have been adjusted to delete the effects of Micron Technology, a large water user in the historical period that now owns its own wells and, therefore, is not expected to use significant amounts of UWID resources in the future.

TABLE 18 CALCULATION OF COMMERCIAL CONSUMPTION COMPONENT PER CUSTOMER						
Year	System Total Consumption (gallons/year)	System Total Consumption (ccf/year)	Number of Residential Customers	("A") Combined AAC Per Residential Customer (ccf)	("B") Residential AAC Per Residential Customer (ccf)	("A" minus "B") Commercial AAC Per Residential Customer (ccf)
1992	12,903,373,000	17,249,293.5	42,144	409.3	241.0	168.3
1993	11,699,174,000	15,639,514.3	43,652	358.3	209.0	149.3
1994	13,761,725,000	18,396,742.8	45,207	406.9	246.2	160.7
1995	12,731,463,000	17,019,483.4	46,560	365.5	207.2	158.3
1996	13,532,432,000	18,090,222.8	47,767	378.7	218.2	160.5
1997	13,839,785,000	18,501,093.8	50,028	369.8	212.0	157.8
1998	12,819,025,000	17,136,536.7	51,177	334.8	203.0	131.8
1999	15,756,279,000	21,063,072.6	57,638	365.4	221.0	144.4
AVERAGE				373.6	219.7	153.9
ROUNDED				374	220	154

(iii) Combined Consumption.

"Combined consumption" per household is simply the sum of the two averages derived above. Thus, average combined consumption per household equals average residential consumption per household (220 ccf) plus average commercial consumption per household (154 ccf). Including both actual domestic consumption and an attributed portion of commercial water use, the average household served by UWID uses 374 ccf of water per year.

TABLE 19 CALCULATION OF BASELINE COMBINED AAC PER HOUSEHOLD			
	Residential consumption per residential customer	Commercial consumption attributed to each residential customer	Combined AAC per residential customer
ccf/year	220	154	374
acre-feet/year	0.51	0.35	0.86
gallons/minute	0.32	0.22	0.53

The breakdown for "Residential," "Commercial" and "Combined" consumption is

summarized in Table 19 above. The results are also shown in acre-feet per year²⁸ and gallons per minute.²⁹

(c) Adjustment for Increased AAC in Newer Subdivisions

UWID performed a survey of newer residential areas believed to be representative of newer development in an effort to quantify any differences in water use compared to older neighborhoods. In order to compare apples to apples, all areas selected for comparison are non-NPI. (See discussion of NPI under Definitions in Part B beginning on page 10.)

UWID surveyed water usage in the Columbia Village area in East Boise (216 dwelling units with a residential AAC of 243 ccf), and two areas on the West Bench near Capitol High School (418 dwelling units with a residential AAC of 289 ccf). The Columbia Village development represents new development, and the West Bench area a relatively more mature, but still younger development. Both areas irrigate with municipal water. That is, neither is served by NPI.

Overall, the combined 634 dwelling units without NPI had an AAC of 273 ccf. This result compares to a current system average of only 220. The system is average is lower due to the abundance of older homes in Boise with small, mature landscaping which uses less irrigation water than newer homes with typically larger, exposed lots

²⁸The annual residential consumption figure (0.51 acre-feet per year per household) compares very favorably with the Department's standard for licensing of domestic rights. The Department typically allows 0.6 acre-feet/year for a domestic use excluding lawn irrigation and 1.2 acre-feet/year for a domestic right including lawn irrigation. In other words, UWID's recent historical data shows that its residential customers are using less water, on average (including many municipally irrigated lawns), than the Department allows for homes with no irrigation use. This reinforces the conclusion that UWID's demand projections are conservative.

²⁹The flow measure (0.32 gallons per minute) is provided solely for comparative purposes. It should be understood that this reflects a hypothetical average flow, in which total annual use is spread evenly over the entire year. In reality, of course, peak flows will be higher.

Actual peak day demand may be derived from Table 29 at page 77. UWID predicts peak day demand of 550.18 cfs in 2050. Multiplying by 448.83 converts this to 251,551 gallons per minute. Dividing by the number of residences in UWID's planning area in the year 2050 (271,077, from Table 21 at page 55) yields 0.928 gallons per minute per household. This estimate of peak day demand per household fifty years out takes into account both downward pressures (increased density, conservation measures, and the availability of NPI) and upward pressures (increasing per capita use in new subdivisions and the non-availability of NPI in some parts of the county), and still results in a lower estimate than the current rule of thumb of 1.0 gallons per minute per household employed in Meridian's comprehensive plan and elsewhere. Moreover, this estimate (0.928 gallons per minute) includes not just residential use, but a per-residence allocation of commercial and other uses, including system losses.

and/or extensive landscaped common areas and entrances. This analysis assumes the trend towards larger lots and landscaped common areas will continue, although in a somewhat reduced aspect. For this reason, a baseline AAC figure of 250 ccf (the approximate mean between the existing average and the expected future trend) is used to represent expected future residential consumption in areas where single family homes will predominate. In the demand calculations below, this figure is added to the 154 ccf figure for commercial consumption to arrive at an “combined consumption” figure per household.

Table 20 CALCULATION OF ADJUSTED BASELINE COMBINED AAC PER HOUSEHOLD					
	Current System-wide Residential AAC	Current System-wide Commercial AAC	Newer Residential AAC	Adjusted Baseline Residential AAC	Adjusted Baseline Combined AAC (Residential Plus Commercial)
ccf/year	220	154	273	250	404
acre-feet/year	0.51	0.35	0.63	0.57	0.93
gallons/minute	0.31	0.22	0.39	0.36	0.57

Having established an “adjusted baseline” AAC of 404 ccf per residential customer, the next task was to further adjust the demand to account for future conditions which may operate to reduce the AAC. In the following sections, the baseline demand per household calculation is adjusted to account for trends that are expected to reduce average customer consumption in the future.

(d) Demand Reductions to Account for Higher Population Densities, NPI, and Conservation.

UWID identified three factors expected to result in lower AAC in the future: (1) higher population densities with corresponding lower summer irrigation demand per household; (2) NPI which eliminates peak irrigation demand by allowing other water delivery entities to deliver untreated summer irrigation water; and (3) continued implementation of UWID’s conservation pricing structure and education program.

(i) Allocation of Planning Area Population Into Demand Factor Areas.

To accurately predict the effects of the demand reducing factors identified above, it was necessary to allocate the projected planning area population into different areas within the planning area. This allocation was made by dividing the planning area into

five separate areas (which we call “Demand Factor Areas”), based on different expected population densities in each area at the end of the fifty year planning horizon. The Demand Factor Areas are set forth on the large map attached as Appendix A. The boundaries are not intended to be precise delineations. Instead, they represent broad development trends.

UWID selected the Demand Factor Areas by analyzing background material from the existing Boise City Comprehensive Plan (January 1997, as modified) (the “Boise Comprehensive Plan”). We also adopted the consistent assumption of a standard municipal growth pattern from the center outward with emphasis on higher density closer to the city centers. The sections below describe: (1) an overview of residential zoning and land use patterns in the service area, (2) a description of the assumptions used to designate the projected densities in each of the Demand Factor Areas, and (3) a description of each of the Demand Factor Areas.

(1) Overview of Residential Zoning and Growth Patterns.

The current Boise City Zoning Code allows residences in six separate zones. These classifications and the allowed density in dwelling units per acre (“du/a”) are as follows:

<u>Zone</u>	<u>Dwelling Unit Per Acre</u>
R-1A	2.1
R-1B	4.8
R-1C	8.0
R-1M	12.0
R-2	14.5
R-3	43.5

Almost no R-1A zoning and very little R-1B zoning currently exist within the city. The vast majority of single family and duplex dwellings are situated on R-1C zoned lands. R-1M is a new “mixed use” zone that allows dwellings to exist in concert with (and often on top of) commercial property such as the recently completed Washington Mutual Plaza and Grove Hotel, and the proposed Boise Tower.

The clear trend is toward higher residential densities and mixed use throughout the community and especially in core areas. R-2 is the preferred zoning for single and two story apartment and condominium complexes. Boise City currently uses R-3 zoning for locating high density, high-rise apartment and condominium projects in urban areas.

(2) General Assumptions in the Analysis.

The demand analysis relies on a number of general assumptions in allocating the projected population into the Demand Factor Areas. Each one of these assumptions is conservative in that it assumes that the service area will achieve higher densities and, as a result, experience lower water usage. None of the assumptions change the projected population, only the location of the population within the service area. The assumptions are as follows:

- ✓ Recent trends for higher density residential areas in the Downtown Core will continue. Several goals in the Boise Comprehensive Plan support this kind of development.
- ✓ The planning area will develop an adequate (but not all-encompassing) system of public transportation. In the absence of this assumption, the service area probably could not support the assumed densities in the Downtown Core and Urban Residential areas without serious traffic gridlock.
- ✓ The unique geographical features of the foothills, river, and multiple benches, particularly to the north and east, will prevent Boise from growing in concentric circles around the Downtown Core as typically occurs in growing metropolitan areas. Instead, the analysis assumes that growth in the planning area will concentrate to the south. Significant growth will also occur to the west, but the analysis assumes that much of this growth will occur in the Meridian and Kuna areas of impact—outside UWID's planning area.
- ✓ UWID has limited the planning area to Boise's current area of impact, or its current certificated area, whichever is larger, in all but the southern portion of its planning area. Although growth will likely occur in the north and east beyond the current area of impact and certificated area, the foothills and the lack of existing infrastructure make these areas difficult to predict. By contrast, the southern portion of UWID's planning area is characterized by flat land with infrastructure improvements already in place. For example, UWID has an existing complex of wells and a main line already south of Boise City's current area of impact. Additionally, community governments in the Treasure Valley are in the process of studying the most feasible route for a by-pass highway that would divert traffic off of I-84. *Destination 2020*, the regional transportation plan prepared by Compass currently locates this by-pass on Kuna-Mora Road. Construction of the

bypass would further enhance growth levels that are expected south of Boise. UWID's planning area does not encroach on the areas of impact of neighboring cities, including Star, Meridian, Kuna, Garden City or Eagle including logical growth areas for those cities where applicable. Appendix A depicts the selected growth boundaries, which we believe are reasonable extensions of current conditions.

- ✓ In calculating the population within each Demand Factor Area, UWID did not consider publicly owned lands to be developable except minimally where land swaps and liquidations are likely to occur as a natural result of city growth.
- ✓ The analysis states the population density in "dwelling units per acre" because the number of dwelling units correlates most directly with the expected water usage for landscape irrigation. The analysis assumes that an average of 2.3 persons will live in each dwelling unit. In the short term, this assumption will understate the number of dwelling units. Currently American families contain on average just over 2.4 persons. However, the trend is toward lower birth rates and lower family sizes according to data from the Census Bureau.

(3) Description of Demand Factor Areas.

The following sections contain descriptions of each Demand Factor Area and an explanation of the assumptions that were used in each area:

a) Downtown Core

The "Downtown Core Demand Factor Area" is the business center of the community and includes the state governmental complex. Ten years ago, this area had few residents. With the advent of the R-1M zone and the current desire to increase residential densities in the core area to relieve traffic congestion, the analysis assumes that this area will see increasing population densities and consequently lower water usage.

The Downtown Core consists of approximately 1,920 acres, much of which is currently covered by office and commercial development. The demand analysis assumes that this area will achieve the overall residential density of 5.6 dwelling units per acre allowed in the Boise City Comprehensive Plan. As an illustration of the development pattern that might occur, the assumption made is consistent with a land use pattern where 20 percent of the downtown core (384 acres) is occupied by mixed use projects including

an overall residential density of 25 units per acre (along with office, commercial and other uses). In this illustration, the remainder of the Downtown Core would be occupied by streets, offices, commercial development, parks, open space, and the Boise River and associated riparian areas.

b) Urban Residential

The "Urban Residential Demand Factor Area" is the area surrounding the Downtown Core that generally will be served by public transportation operating on frequent schedules. In this area, when fully developed, the automobile will be used relatively infrequently as a means of transportation. Public transportation and other alternative means will be increasingly relied upon. This area will have higher densities. The cost of public transportation will dictate that the City take aggressive steps to encourage both R-2 and R-3 density developments to increase public transportation ridership.

The Urban Residential area includes approximately 14,050 acres. The demand analysis assumes this area will achieve an overall density of 5.6 units per acre by 2050. Based on geography, current development patterns and the Boise Comprehensive Plan, significant parts of the Urban Residential area will be covered by the Boise River and riparian areas, open space, parks, streets, schools (including Boise State University), and office and commercial development. Therefore, to achieve the projected 5.0 dwelling units per acre average, residential development in some areas of Urban Residential development will have to approach the 43.5 dwelling units per acre allowance in the R-3 zone. By the end of the fifty year planning window, much of the Urban Residential area may be zoned R-2, R-3, and R-1M, or the then current equivalents.

As one illustration of how development might proceed in the Urban Residential area, assume that fifty percent of the total land area in the Urban Residential area (7,025 acres) will contain uses other than residential development. This assumption is reasonable given

- ✓ the large amount of river and riparian area,
- ✓ large existing parks, including Julia Davis, Ann Morrison, Kathryn Albertson and others,
- ✓ open space required by the comprehensive plan,
- ✓ significant commercial areas, including Broadway, Fairview and State Street.
- ✓ Street and parking facility coverage of approximately 20 percent.

We assume further that twenty-five percent of this area will contain medium density single-family residential development consistent with existing land use patterns at an overall density of 4 units per acre (14,050 dwelling units on 3,512.5 acres). As a result, the remaining 3,512.5 acres would contain residential development at an average density of 18.4 units per acre (64,630 units on 3,512.5 acres).

c) Suburban Residential

The "Suburban Residential Demand Factor Area" is essentially the suburbs. This area, where now developed, is characterized by large lot and common area subdivisions and above average houses in terms of size and cost. While lot sizes and common areas may diminish somewhat over time, a large and sustained demand is expected for this style of suburban living. A combination of clustering of residential dwellings near local shopping nodes (community nodes) and increasing use of telecommuting will mitigate, to some extent, the adverse impact of increased commute distances created by this type of housing demand. The role of public transportation in these areas will primarily be limited to transportation from community nodes to the transportation network serving the Urban Residential and Downtown Core areas.

The Suburban Residential area consists of approximately 46,640 acres. The demand analysis assumes that this area will develop to an overall density of 3.0 dwelling units per acre (139,920 dwelling units).

d) North County

The "North County Demand Factor Area" is located north of the Urban Residential area. The North County Demand Factor area presents a situation where typical concentric growth patterns are altered by Boise's unique geographical characteristics. Even though the area is close to Boise's urban center, the foothills prevent development at densities that would otherwise be expected in the area. This area includes all existing foothills developments and the Hidden Springs development.

The North County Demand Factor Area consists of approximately 18,368 acres. The demand analysis assumes this area will develop to a density of 0.55 dwelling units per acre by 2050 (or 10,115 dwelling units). Terrain, the cost of infrastructure development and current desires to protect open space in the foothills, expressed in the current Foothills Plan, are expected to keep overall densities down.

e) South County

The "South County Demand Factor Area" is the area that will absorb most of the future growth that will not fit in the Downtown Core, Urban Residential and Suburban Areas. Any growth to the West will be in the Eagle, Meridian, and Kuna areas of impact.

The South County Demand Factor Area for purposes of this planning process is assumed to end one mile south of Kuna-Mora Road, the proposed location for the I-84 bypass corridor. Actually, approximately one-half of Ada County lies to the south of Kuna-Mora Road so continued expansion can occur until the population of Treasure Valley exceeds three million people, subject, of course, to other constraining factors, including the availability of water.

The South County Demand Factor Area consists of 32,960 acres. The demand analysis assumes this area will develop to an overall density of approximately one person per acre by 2050.

**(4) Summary of Allocation of Population
to Demand Factor Areas**

The starting point for allocating the population to the Demand Factor Area was the total UWID planning area population at the end of the planning horizon: 623,478. (Recall, this number came from Table 16 at page 43.) We then allocated this population to each of the Demand Factor Areas based on factors spelled out in the previous section describing the Demand Factor Areas. The results of this allocation are shown in Table 21 below.

TABLE 21 ALLOCATION OF YEAR 2050 POPULATION TO DEMAND FACTOR AREAS				
Assumption Areas	Acres (from Table 8)	Dwelling Units/Acre (Per Discussion Above)	Total Dwelling Units	Population (2.3 Persons per Dwelling Unit)
Downtown Core	1,920	5.0000	9,600	22,080
Urban Residential	14,050	5.6000	78,680	180,964
Suburban Residential	46,640	3.0000	139,920	321,816
North County	18,368	0.5507	10,115	23,265
South County	32,960	0.9940	32,762	75,353
TOTAL	113,938		271,077	623,478

**(ii) Impacts of NPI and Modern Subdivision
Landscaping Practices.**

The next step in the analysis was to determine the effect NPI has on reducing AAC. With this number we could then adjust future AAC down based upon the expected occurrence of NPI. A similar adjustment would be made for areas where high density will significantly reduce land available for landscaping.

To determine NPI water usage, UWID compared six areas within the UWID's current service area, three using treated water for landscape irrigation and three using NPI for landscape irrigation, to determine the probable treated water savings in subdivisions where NPI is available.

The first comparison is between an area not served by NPI, the Columbia Village area in southeast Boise (216 dwelling units with an AAC of 243 ccf), and another area in southeast Boise which has NPI, Surprise Valley (368 dwelling units with an AAC of only 82 ccf). Both subdivisions are relatively new.

Predictably, the subdivision using NPI experienced much lower municipal water usage. The dwelling units having NPI used only 33.7 percent of the municipal water used by the dwelling units without NPI.

The second comparison contrasted water usage in relatively mature NPI and non-NPI subdivisions. The non-NPI neighborhoods selected were two areas on the West Bench near Capitol High School (totaling 418 dwelling units with an AAC of 289 ccf). These were compared with The Legends and Candlestick subdivisions, both of which have NPI (totaling 168 dwelling units with an AAC of 121 ccf). The dwelling units having NPI used 41.9 percent of the municipal water used by the dwelling units without NPI.

The results for each category were grouped together and averaged. Overall, the 634 dwelling units without NPI had an AAC of 273 ccf. The 536 dwelling units with NPI had an AAC of 94 ccf. The average municipal water consumption of both comparison areas with NPI is only 34.4 percent of the municipal water consumption of similar dwelling units without NPI.

These results are summarized below in Table 22 below.

TABLE 22 RESIDENTIAL AAC FOR CUSTOMERS WITH NPI			
	Surprise Valley (368 units)	The Legends and Candlestick (168 units)	Total when averaged (536 units)
ccf/year	82	121	94
acre-feet/year	0.19	0.28	0.22

(iii) Reduction in AAC from Increases in Population Density.

Knowing that the AAC drops to 94 ccf for customers that do not use UWID for summer irrigation water, we were able to estimate expected municipal water savings. We determined that the Downtown Core Demand Factor Area and the Urban Residential Demand Factor Area would experience reduced AAC simply as a function of increased density. This is based on the assumption that increased densities will result in lower AAC owing to less land area per household devoted to lawn and common area irrigation.

In calculating the AAC for the Downtown Core, the low usage experience of the subdivisions with NPI (94 ccf) was used because of the relatively small areas of landscaping involved even though the area will not actually have NPI.

In calculating the AAC for the Urban Residential the figure of 165 ccf was used to account for the fact that expected density in this area will include multi-unit dwellings which should drive water consumption down. The 165 ccf figure was derived by taking 66% (or two-thirds) of the average residential demand of 250 ccf.

The basic AAC of modern development of 250 ccf is used in all of the other planning areas for land without NPI and 94 ccf is used in areas where NPI is available.

(iv) Estimated Demand in Each Demand Factor Area with NPI Considered.

The next step in anticipating reduced future consumption was to account for the effects of NPI by identifying areas where NPI is expected to be used. UWID conservatively estimated that all the acres identified as potential NPI lands would be fully developed by 2050 for this demand analysis. In recent years local governments have encouraged the installation of NPI in new residential communities which deliver untreated, non-municipal water where available. Where NPI is employed, municipal use is reduced significantly, because the irrigation load is carried by the non-municipal

supplier. (Ironically, total consumption—municipal in-house plus non-municipal lawn irrigation—may actually go up, because NPI systems are typically unmetered.)

UWID's demand analysis assumes that developments will fully utilize NPI wherever suitable water rights are present (e.g., those areas where formerly irrigated croplands have been converted to home development).

To determine where suitable water rights exist to enable NPI, UWID used the *IDWR Land Use Cover Data* from 1994 (the latest available) with suitable water rights assumed for all land with "Irrigated Agriculture," "Idle Agriculture," "Feedlot-Stockyard," and "Residential-Farmstead" designations.

Based on this analysis, UWID determined how many acres of land within each Demand Factor Area would be available for NPI. The results are as follows:

TABLE 23 NPI ACRES POTENTIALLY AVAILABLE IN EACH DEMAND FACTOR AREA		
Demand Factor Area	NPI acres potentially available	Percent of total area
Downtown Core	0	0%
Urban Residential	1,160	8%
Suburban Residential	10,790	23%
North County	510	3%
South County	670	2%

Table 24 depicts the impact of NPI in reducing water demand. Combined AAC per dwelling unit was calculated for each Demand Factor Area by using the following formula: AAC per unit = ((demand with NPI factored in) x (% of acres with NPI)) + ((demand without NPI factored in) x (% of acres without NPI). The overall anticipated impact of NPI is to reduce overall annual water demand by 5,616,790 ccf (12,894 acre-feet).³⁰ This amounts to approximately 5.5 percent of total demand.

³⁰This number was calculated by recalculating Table 26 below without factoring in the demand savings from NPI.

TABLE 24 ESTIMATED PER HOUSEHOLD DEMAND IN 2050 BY DEMAND FACTOR AREA (Adjusted for Potential New NPI)								
Demand Factor Areas	Demand in areas without NPI			Demand in areas with NPI			% with NPI	Combined AAC Per Household (ccf)
	Residential	Commercial	Combined	Residential	Commercial	Combined		
Downtown Core	94	154	248	94	154	248	0	248
Urban Residential	165	154	319	94	154	248	8	313
Suburban Residential	250	154	404	94	154	248	23	368
North County	250	154	404	94	154	248	3	399
South County	250	154	404	94	154	248	2	401

(v) Impact of Further Conservation Measures.

In addition to the savings of approximately 5.6 million ccf/year or 5.5 percent through the full use of NPI, UWID anticipates active participation by its water users in an ongoing program to reduce water usage.³¹

In addition to the use of non-municipal irrigation water for NPI and the use of peak demand pricing, other viable measures are available. Commencing with the 1994 water year, UWID has progressively implemented and encouraged conservation through such measures as public education, summer-winter rate structures,³² and public

³¹In this analysis, we only calculated conservation reductions for the residential component of AAC. While we do believe that commercial entities will achieve some reductions in consumption through conservation, they will not be as dramatic as those for residential customers since AAC for commercial customers is less dependent on irrigation, the area where conservation efforts have the potential for greatest impact. Further, the conservation levels achieved by commercial impacts will be offset by an increased ratio of businesses to residences as more people commute into work from Canyon County.

³²For example, a typical UWID customer bill in May 2000 contained the following statement: "Your consumption for the same period last year was __ CCF. Beginning May 1st, the Summer Volume charge per 100 CCF of water used is \$0.23 higher than the winter rate. A Summer/Winter structure promotes conservation. The people who use more water in the summer pay their share of the cost for additional facilities to meet summer demands. The 5-month summer rate allows for a lower rate in the other 7 months and an overall lower customer charge, resulting in a lower annual bill for customers who do not use more water in the summer. As customers conserve, the investment needed to meet ever-higher

awareness campaigns, both through the media and incorporated into the billing process.

Through these measures, an estimated 1 percent to 3 percent savings has been achieved to date.³³ While UWID is committed to an aggressive program of conservation measures, it cannot control the outcome. UWID's best estimate is that continued aggressive pursuit of water conservation measures will produce a full 3 percent to 5 percent savings by the year 2050.

Assuming the full 5 percent is achieved in residential consumption, coupled with 4.5 percent savings attributable to expanded NPI, the result will be combined savings of approximately 7.2 percent.³⁴ This translates into an annual water savings of 7,361,000 ccf (16,899 acre-feet).³⁵ Table 25 shows the amended average demand in each area after the five percent reduction in residential demand.

TABLE 25 ESTIMATED COMBINED DEMAND PER HOUSEHOLD IN 2050 BY DEMAND FACTOR AREA (Adjusted for Conservation and Potential New NPI)								
Demand Factor Areas	Demand in areas without NPI			Demand in areas with NPI			% with NPI	Combined AAC per Household (ccf)
	Residential	Commercial	Combined	Residential	Commercial	Combined		
Downtown Core	89	154	243	89	154	243	0	243
Urban Residential	157	154	311	89	154	243	8	305
Suburban Residential	238	154	392	89	154	243	23	357
North County	238	154	392	89	154	243	3	387

summer demands can be delayed.”

³³The effectiveness of conservation efforts is extremely difficult to gage with precision. Total demand fluctuates significantly over time, as a result of many factors. Even if a reduction in demand is sustained for several years, it is difficult to know how much to attribute it to conservation efforts and how much to milder weather, for instance.

³⁴The numbers 4.5 and 5.0 do not sum to 9.5 because the 5% conservation savings only applies to residential consumption. While some conservation savings are expected in the commercial sector, these savings are expected to be offset by an increase in the number of commercial users per residential customer in the planning area as more and more people commute from western suburbs into the planning area.

³⁵This number was calculated by recalculating Table 26 without factoring in the demand savings from NPI or 5% conservation savings.

South County	238	154	392	89	154	243	2	389
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The final step was to multiply the projected demand in each area by the projected number of households in each area. Table 26 below shows the results.

TABLE 26 PROJECTED DEMAND IN 2050 ACCOUNTING FOR FULL NPI USAGE AND AN AGGRESSIVE CONSERVATION PROGRAM			
Demand Factor Areas	AAC per Household (ccf) with 5% Residential Demand Reduction (From Table 25)	Total Dwelling Units (from Table 21)	Total Annual Demand (ccf)
Downtown Core	243	9,600	2,335,680
Urban Residential	305	67,200	24,025,253
Suburban Residential	357	157,506	50,009,366
North County	387	8,237	3,915,151
South County	389	25,024	12,729,310
TOTAL (ccf/yr)			93,014,760
TOTAL (acre-feet/yr)			213,533
TOTAL (cfs)			295
TOTAL (gallons/minute)			132,404
TOTAL (gallons/day)			190,670,586
TOTAL (gallons/yr)			69,594,763,820

The calculation shown in Table 26 above shows an expected annual consumption of 93,014,760 ccf. Comparing this number (converted to gallons per year) with the total annual production figure for 1999 (from Table 27 below) results in an annually compounded rate of growth of 3.02 percent.³⁶

(e) Peak Day Demand Calculation

Unlike other water rights, municipal water rights are quantified only on the basis of peak flow, without an annual volume component. Consequently, the next step is to develop a peak demand projection.

³⁶ As noted before, this is something of an apples to oranges comparison. See footnote 24 at page 43.

(i) **Determine Peak Day Volume**

Largely due to the summer landscape irrigation requirements of the region, UWID experiences peak production during the summer months with water usage falling off during cooler months. This fact requires reservation of water rights and construction of system production capacities substantially in excess of the average daily production requirements.

In order to calculate the expected peak day demand, UWID established a relationship between total annual production and peak demand over a 22 year time frame. The following table shows the data.

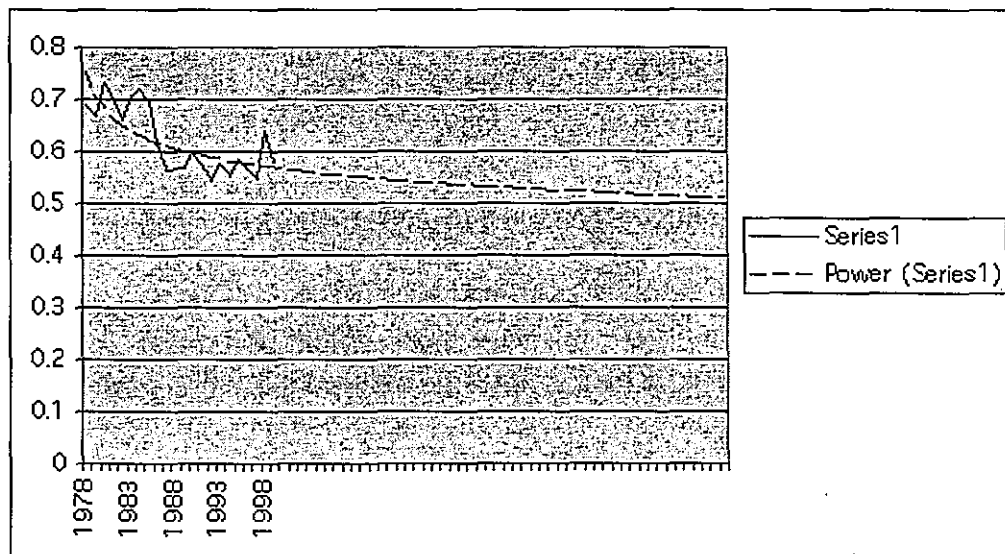
TABLE 27 SYSTEM-WIDE HISTORIC PRODUCTION TOTALS UWID PRODUCTION FIGURES			
Year	Total Annual Production (gallons/year)	Peak Day Production (gallons/day)	% of Annual
1978	7,563,372,000	52,100,000	0.6889%
1979	8,764,430,000	58,600,000	0.6686%
1980	8,100,935,000	59,200,000	0.7308%
1981	8,864,110,000	62,200,000	0.7017%
1982	8,522,210,000	56,400,000	0.6618%
1983	8,692,560,000	61,400,000	0.7063%
1984	8,997,121,000	64,870,000	0.7210%
1985	9,715,048,000	67,100,000	0.6907%
1986	10,314,459,000	63,340,000	0.6140%
1987	11,255,278,000	63,546,000	0.5646%
1988	11,426,871,000	64,750,000	0.5666%
1989	11,646,824,000	66,020,000	0.5668%
1990	12,070,730,000	71,900,000	0.5956%
1991	12,371,027,000	70,500,000	0.5699%
1992	12,903,373,000	70,400,000	0.5456%
1993	11,699,174,000	67,500,000	0.5770%
1994	13,761,725,000	76,000,000	0.5523%
1995	12,731,463,000	74,500,000	0.5852%
1996	13,532,432,000	76,900,000	0.5683%
1997	13,839,785,000	75,900,000	0.5484%
1998	12,819,025,000	81,924,000	0.6393%
1999	15,756,279,000	91,500,000	0.5807%
1999 Total Annual Production =15,756,279,000 gallons =21,063,082 ccf = 48,354 acre-feet			

The ratio of peak daily production to annual production has been gradually decreasing overall during the 22 years covered by Table 27.

This trend can be traced to increased public awareness of water conservation, the implementation of summer/winter rate schedules, and the advent of NPI. UWID expects this trend to continue as NPI is used more and the public becomes more aware of conservation. The trend will level off, however, as a fixed amount of acres are available for NPI and summer irrigation demand will always cause a spike in UWID's production during the dry summer months. UWID used an exponential regression to predict the relationship of peak demand to annual production through the year 2050. (An exponential regression can capture the asymptotic nature of the trend.)

The regression predicts that peak demand will gradually drop to and level off at 0.51 percent of total annual production by 2050. The following graph depicts the likely trend.

Figure 6
Projected Ratio of Peak Demand to Annual Projection



(ii) Conversion to Peak Day Flow

The final step in calculating future demand in the planning area is to multiply the projected annual demand of 93,014,760 ccf in the year 2050 (see Table 26) by 0.51% to produce the projected peak daily demand in 2050. The result is a peak day demand of 474,375 ccf (1,112 acre-feet).

This figure translates to a continuous instantaneous flow over that 24 hour

period of 549.07 cfs.³⁷ (See summary in Table 29 below at page 77.) This number increases to 550.18 when the current 1.11 cfs consumed by current customers in the City of Eagle is added back in to the projection. It is appropriate to add the peak consumption of UWID's Eagle customers because the entire Eagle area was excluded from the planning area even though UWID currently serves customers in this area (see footnote 19 on page 29).

This projected demand compares to current peak demand of 141.57 cfs, an increase of 396 percent (an annual compounded rate of 2.75 percent). This increase corresponds with an expected 323 percent increase in population in the planning area.

Obviously, there are several competing factors at play here. We have identified three factors which drive demand down: (1) conservation, (2) core density, and (3) NPI. Two other factors offset these downward trends: (1) the non-availability of NPI (e.g., in desert areas with no irrigation for potential for conversion to NPI) and (2) the upward trend in irrigation lawn and common area water consumption for newer subdivisions (quantified in Part E.6(c) beginning on page 48). This mix of competing forces results in a trend toward slightly higher consumption in the future despite aggressive conservation efforts yielding savings of 16,899 acre-feet per year.

7. Adjustment to PHC for Other Entitlements to Surface Water

In addition to the ground water rights addressed in this IMAP, UWID's portfolio includes a handful of contract entitlements, exchanges and other interests in surface water. In order to avoid potentially distracting side issues over which entity has the right to change these water rights and other complexities unique to these interests, UWID intends to exclude them from this IMAP.³⁸ In other words, these interests in water should not be viewed as subject to the protections and obligations of the 1996 Act.

The Department nevertheless may be authorized to take these water interests into account in quantifying UWID's PHC. That is, the quantity of water available to UWID pursuant to these interests may serve as an offset, correspondingly reducing the size of the Company's PHC.

³⁷This flow number for "peak day demand" assumes that the volume corresponding to the peak day is spread evenly throughout the twenty-four hour period. Although circumstances affecting individual wells will tend to cancel themselves out, thus evening out the daily systemwide hydrograph to some extent, the hydrograph is not likely to be a flat line. Thus, actual systemwide instantaneous demand may fluctuate up and down around this number during the course of the day.

³⁸UWID has also excluded one contract entitlement held solely for mitigation purposes. See footnote 1 at page 4.

As of this time, this issue is academic, because UWID has not yet come close to obtaining water rights equal to its full PHC. However, we think it incumbent to fully disclose the size of this component of UWID's portfolio at this time.

UWID's contract entitlements are described in the Table 28 below.

TABLE 28 CONTRACT ENTITLEMENTS TO USE OF SURFACE WATER (INCLUDING EXCHANGES)		
Name/Description	Water right number	Quantity (cfs)
Boise City Canal Company	63-00165L	0.68
Thurman Mill Ditch Company	63-00169F	0.81
South Boise Mutual Canal Company	63-00243E	3.30
South Boise Mutual Canal Company	63-00243H	0.93
Snake River water right	02-02339	11.00
TOTAL		16.72



F

F. COMPREHENSIVE PLAN ANALYSIS

1. Statutory Requirements for Plan Analysis

The Municipal Water Rights Act of 1996 specifically requires that the water rights which make up the planning horizon component ("PHC") must be

reasonably expected to be required within the planning horizon of each municipality³⁹ within the service area not inconsistent with comprehensive land use plans approved by each municipality. [The PHC] shall not include uses of water within areas overlapped by conflicting comprehensive land use plans."

Idaho Code § 42-202B(6) (emphasis supplied).

In other words, taking these issues in reverse order, the statutory test is that the IMAP (1) may not include areas "overlapped by conflicting comprehensive ... plans" and (2) must be "not inconsistent" with the applicable comprehensive plans in the area to be served.

The six cities in Ada County, plus the county itself, have adopted comprehensive plans. The six cities are Boise, Garden City, Meridian, Eagle, Star, and Kuna.

The sections below discuss (1) whether any of these plans create areas of overlap constituting a conflict under the statutory test, and (2) whether the IMAP is otherwise inconsistent with the applicable comprehensive plans.

2. Overlapping Impact Areas and Related Concerns

(a) The Law Governing Impact Area Disputes

The main opportunity for overlap and conflict between comprehensive plans in Idaho involves the creation of "area of impact" boundaries. An area of impact is an area within which an adjacent city is deemed to have a significant impact in the form of

³⁹This phrase ("planning horizon of each municipality") is a *non sequitur* inadvertently inserted during the enactment process. The original version of the bill refers to the "planning horizon of each municipal provider," which makes sense. It is the provider which has the planning horizon, not the municipality. In any event, the thrust of the meaning is clear. The planning projections of the municipal provider (which form the basis for the PHC claim) must not be contradicted by inconsistent comprehensive plans of communities to be served.

providing services, spurring development or otherwise causing the creation of an urbanized environment. If two cities both plan to grow into the same area (i.e., their areas of impact overlap), the Department is prohibited from including water needs for that overlapped area within the PHC.

Adoption of an area of impact is a precondition for a city to annex adjacent territory. Idaho Code § 67-6526(a). In addition (with the exception of property owner requests for annexation adjacent to city boundaries), property must be located within the area of impact boundary to be annexed into a city. Idaho Code § 50-222(1).

The opportunities for overlapping and conflicting comprehensive plans in Idaho are limited to some extent because of Idaho Code § 67-6526. This section in essence creates a mechanism to resolve overlapping area of impact issues. At the outset, it requires cities and counties to adopt a map "identifying an area of city impact within the unincorporated area of the county." Idaho Code § 67-6526(a).

If the adopted areas of impact overlap, Idaho Code Section 67-6526(c) provides a specific procedure for resolving the dispute. The act states:

If areas of city impact overlap, the cities involved shall negotiate boundary adjustments to be recommended to the respective city councils. If the cities cannot reach agreement, the board of county commissioners shall, upon a request from either city, within thirty (30) days, recommend adjustments to the areas of city impact which shall be adopted by ordinance by the cities following the notice and hearing procedures provided in section 67-6509, Idaho Code. If any city objects to the recommendation of the board of county commissioners, the county shall conduct an election, subject to the provisions of section 34-106, Idaho Code, and establish polling places for the purpose of submitting to the qualified electors residing in the overlapping impact area, the question of which area of city impact the electors wish to reside. The results of the election shall be conclusive and binding, and no further proceedings shall be entertained by the board of county commissioners

Idaho Code § 67-6526(c).

In summary, this procedure requires the competing cities to attempt to negotiate a resolution of any area of impact boundary dispute. If they are unable to do so, the county

commissioners step in to propose a resolution upon request by one of the affected cities. If any involved city objects to the county proposal, the statute requires the county to conduct an election among the residents in the overlapping impact area, as to which city's area of impact they prefer to reside in. The results of the election are binding and conclusive.

Further, the Idaho Attorney General has opined that a city cannot adopt an area of impact ordinance unilaterally unless the affected county also adopts the ordinance. O.A.G. 95-1. The Ada County Code follows this procedure. Ada County Code, Title 9. Therefore, the only way an overlapping area of impact boundary could be created is if the affected county adopted inconsistent ordinances. Such an action would be subject to challenge under Idaho Code section 67-6526(c) and other authorities as an arbitrary and capricious or unlawful act. For these reasons, it is unlikely if not impossible for city area of impact boundaries to overlap in Idaho.

The statutory procedure has worked well in Ada County. As depicted on the area of impact map attached as Appendix A, no formally adopted areas of impact overlap or conflict in Ada County.

(b) Specific Instances of Dispute

Despite Idaho's strong statutory conflict resolution mechanisms for area of impact disputes, our review revealed two potential growth boundary conflicts in Ada County. A third area, Eagle, is subject to a different type of dispute.

(i) Kuna Growth Plans

The first is in the Kuna Comprehensive Plan. Kuna has an "ultimate intent" statement in Section 4.3 to expand its area of impact to encompass the area bounded by Barker Road, Black Cat Road, Five Mile Road, and Hubbard Road. Both the area map in the current plan and the ultimate intent area are greater than that authorized by Ada County and could, potentially, cause a conflict if another city requested the same area of impact. As Kuna is near both Boise and Meridian, the potential for conflict in the future is real. Kuna views this expanded area of impact as an "Immediate" priority in the prioritized list of policies in the plan. Despite this, we are advised that Ada County is not inclined, at this time, to grant any expanded area of impact to Kuna.

(ii) Star Growth Plans

The second potential conflict or overlap is in the Star comprehensive plan. Star's proposed comprehensive plan map (presumably what Star wants as an Area of Impact) encompasses an area that is greater than the area that Ada County is currently inclined to

grant. This could cause a conflict with both Meridian and Eagle at some time in the future.

(iii) Eagle Service Competition

Eagle's area of impact does not overlap with any other city's. However, Eagle is subject to a different type of dispute.

Because different parts of the City of Eagle are served by UWID, Eagle Water Company and the city itself, it is difficult to predict which entity will serve future growth surrounding currently developed parts of the city. UWID does not read the 1996 Act's restriction with respect to overlapping, inconsistent comprehensive plans as applying to conflicts among private providers (because private providers do not publish comprehensive plans).⁴⁰

Nevertheless, the Director has made it clear that he views these conflicts as making the Eagle area entirely off limits for PHC water rights, at least until relevant governmental entities (the city and/or the PUC) issue definitive statements about which entity they expect to serve each new area. The same applies not just to UWID, but to any water provider.

Consequently, UWID has determined not to challenge this reading of the statute, so long as it is applied consistently with respect to all municipal providers. Consequently, UWID has not included any part of the City of Eagle or the surrounding area in its planning area.

In sum, as a result of the potential conflicts identified above, the potentially disputed areas in Kuna, Star and Eagle each have been excluded from UWID's planning area.⁴¹

⁴⁰The Act's prohibition on conflicting plans is directed at comprehensive plans adopted by cities and counties. The Act simply does not address the plans of private water companies which meet the definition of municipal providers. Thus two competing water companies could have conflicting plans in the sense that each hoped in the future to serve a particular area, reflected in overlapping future "service area" descriptions. This, in itself, however, would not prohibit either of them from obtaining a PHC water right to serve the disputed area—so long as the cities and counties in the area did not have conflicting comprehensive plans describing their plans for growth. On the other hand, while the prohibition against overlapping comprehensive plans does serve as a *per se* barrier, the Department of Water Resources would have discretion to take such conflicts into account in making its determination of whether the entity did indeed have a "reasonably anticipated future need" for the water.

⁴¹As noted above in Part E.5(c)(i)(1) beginning on page 33, this does not mean that UWID cannot use its PHC water rights to serve these areas in the future. It simply means that the Company may

3. The IMAP Is Otherwise “Not Inconsistent” with the Applicable Comprehensive Plans.

As noted above, the 1996 Act prohibits not only “overlaps” but “inconsistencies” with comprehensive plans. For this reason, UWID undertook a review of each of the comprehensive plans in Ada County, looking for provisions that might be at odds in any way with this IMAP.

UWID’s review of the applicable comprehensive plans showed no inconsistencies with the IMAP. The following pages discuss the provisions in each of the comprehensive plans that are pertinent to the municipal water rights planning.

(a) Ada County 1996 Comprehensive Plan

- ✓ The Ada County Comprehensive Plan (the “Ada Plan”) describes in a general way the County’s expectations for development over the next 15 to 20 years.
- ✓ Nothing in the Ada Plan is inconsistent with the IMAP.
- ✓ The Ada Plan includes discussion of the various city comprehensive plans and specifically covers all of the land outside the municipal boundaries in Ada County, but incorporates the various city areas of impact to avoid duplication.
- ✓ The Ada Plan is silent on the provision of water facilities.
- ✓ Section 5.4-2 encourages the use of pressure irrigation systems or other efficient irrigations systems for lands that are converted from agricultural to non-agricultural use.
- ✓ Ada County commits to negotiating “area of city impact” agreements for each incorporated city and to codifying each area of impact in the Ada County Code, Title 9 (Section 5.10-2).
- ✓ Title 9 of the Ada County Code adopts the city area of impact maps and incorporates them into the Ada County Code by reference to the official city area of impact map. Each city has negotiated special procedures for dealing with development applications outside the city limits but within

not base any part of its PHC claim on the need to serve them.

that city's area of impact. Those procedures are included in the Ada County Code section for that city and the procedures vary from city to city. Following are some items that may impact water providers:

- ⇒ The Kuna comprehensive plan applies to development applications in the Kuna area of city impact.
 - ⇒ The Boise comprehensive plan applies to the Boise area of city impact. In the Boise area of impact, dry line water lines are required in all platted subdivisions regardless of the ability of the city to provide service.
 - ⇒ The Meridian comprehensive plan applies to the Meridian area of city impact. In the Meridian area of impact, dry line water lines are required in all subdivision plats regardless of the ability of the city to provide service.
 - ⇒ The Garden City comprehensive plan applies to the Garden City area of city impact.
 - ⇒ The Eagle comprehensive plan applies to the Eagle area of city impact.
 - ⇒ The Ada County Code contains no provisions pertinent to Star as Star has only recently incorporated.
- ✓ None of these provisions constitute a potential inconsistency with other comprehensive plans in the area.

(b) Boise City 1997 Comprehensive Plan

The Boise City Comprehensive Plan has two provisions relating to water use. The first discusses the provision of domestic water (Section 2.4) and the second discusses the use of irrigation water (Section 2.5). Neither of these provisions is inconsistent with the IMAP.

- ✓ The domestic water provision adopts an objective for Boise to "ensure that new growth does not exceed adequate water supply and appropriate infrastructure levels." Boise has adopted the following policies in this regard:

- ⇒ Coordinate with other entities to conduct studies to evaluate the aquifer and its long-term capabilities.
- ⇒ Coordinate land-use planning and development with the standards and procedures of the Southeast Boise Groundwater Management Plan as appropriate when developed.
- ⇒ Coordinate with private water providers and appropriate governmental agencies prior to approval of new development entitlements.
- ✓ The second objective of the domestic water provision addresses water conservation. Boise adopts several priorities in this regard:
 - ⇒ Require incorporation of water conservation features such as low-flush toilets, in the design of all new construction and site development.
 - ⇒ Require a separate system for use of irrigation water, where available and feasible, for landscape irrigation.
 - ⇒ Promote drought-tolerant landscaping through landscape standards and guidelines.
 - ⇒ Encourage industrial and commercial water users to incorporate appropriate water conservation measures such as recycling into their operations.
- ✓ The irrigation water provision adopts objectives and policies relevant to use of irrigation water for landscape irrigation in new developments.
- ✓ None of these provisions create a potential overlap or conflict with other comprehensive plans in the area.

(c) City of Meridian 1994 Comprehensive Plan

The Meridian Comprehensive Plan (the “Meridian Plan”) discusses the provision of water in a number of places, discussed in the paragraphs below. However, none of these provisions is inconsistent with the IMAP. The plan was adopted in 1994 for a 10-year planning horizon.

(i) Land Use Chapter

- ✓ Section 1.11U guides Meridian to “[p]rotect citizen investments in existing public facilities [including water] by encouraging controlled growth through city planning reviews and development agreements.”
- ✓ Section 3.10 recommends that the City locate industrial uses “where adequate water supply and water pressure are available for fire protection.”

(ii) Natural Resources and Hazardous Areas Chapter

- ✓ Section 2.2U asks the City to “[p]romote safe city drinking water.”
- ✓ Section 2.4U advises Meridian to “[p]romote water-saving devices and techniques through education to all segments of the community.”
- ✓ Section 2.5U instructs the city to “[i]nitiate new design elements that limit water-use requirements, including the use of native and low-water species in the landscape.”

(iii) Public Services, Utilities and Energy Resources Chapter

- ✓ Section 1.5U authorizes Meridian to contract for the provision of municipal services (including the provision of water) if an outside provider can do so at lower cost than the city.
- ✓ Section 5.1 exhorts Meridian to monitor and review the Meridian municipal water system “because of the potential for growth and development within the Urban Service Planning Area.”
- ✓ Section 5.7 recommends that Meridian develop a progressive water conservation program and to monitor it for effectiveness.
- ✓ Section 5.8U directs Meridian to “[p]rocure and develop additional water sources to ensure sufficient water supply for future residential and industrial demands.”
- ✓ In Section 5.12U, Meridian adopts “[t]he standard of one gallon per minute (1 gpm) average daily use per household [as] the water planning standard use [sic] in Meridian to evaluate new growth and water service demand/capacity.” UWID’s projection of residential and commercial

consumption is substantially more conservative than this. See footnote 28 at page 48.

(d) City of Eagle 1997 Comprehensive Plan

Eagle adopted its current comprehensive plan in 1997 (the "Eagle 1997 Plan") but is in the process of revising it. The sections below discuss the 1997 plan as well as the currently available 1999 draft (the "Eagle 1999 Draft Plan"). Neither of these documents are inconsistent with the IMAP.

(i) Eagle 1997 Plan

- ✓ The Eagle 1997 Plan says little about the provision of water.
- ✓ The Eagle 1997 Plan does not delineate a specific planning horizon.
- ✓ The Fire Protection section of the Public Services, Facilities and Utilities chapter states that "[new developments shall be required to provide adequate fire protection" (p. 29).
- ✓ The Water Supply section of the Public Services, Facilities and Utilities chapter (pp. 30-31) contains several policies and goals pertinent to water supply. These are:
 - ⇒ "To encourage dedication of water systems to the City in order to maintain a municipal water system owned and operated by the City." [This policy is changed in the new draft.]
 - ⇒ "To prescribe a plan for the acquisition of water treatment plants, water supply systems, and methods for water storage, to ensure an adequate supply of water for the service area of the City."
 - ⇒ "To ensure that the City water facilities shall conform to all applicable State, Federal and local environmental regulations."
 - ⇒ "To take advantage of the availability of financial assistance and grants from Federal and other sources to acquire, to continue to build and operate a municipal water system to meet the needs of City water users."
 - ⇒ The Eagle 1997 Plan permits the installation of individual wells on

certain grandfathered lots under limited circumstances.

(ii) Eagle 1999 Draft Plan

- ✓ The Eagle 1999 Draft Plan also includes little about the provision of water.
- ✓ The Eagle 1999 Draft Plan envisions a 20-year planning horizon.
- ✓ Section 4.2.5 describes the existing contract with UWID and the current arrangements with other water providers.
- ✓ Section 4.5 exhorts Eagle to “periodically review the costs and benefits of the City water system.”
- ✓ Section 6.7 encourages Eagle to “[e]stablish land use patterns and zoning districts that do not exhaust available services such as . . . water . . .”

(e) Garden City 1996 Comprehensive Plan

- ✓ The 1996 Garden City Comprehensive Plan (the “Garden City Plan”) is not inconsistent with the IMAP. The Garden City Plan does not have any elements within it that impact water providers directly other than to indicate that the City provides water and to indicate a need for fire flow backup.
- ✓ The planning window in the plan is 20 years. The Garden City Plan contemplates total build-out at a level of 12,000 residents. Unlike many cities, Garden City is surrounded by other cities and can focus on build-out instead of expansion possibilities.
- ✓ Although Garden City has, in the past, disputed the Boise City area of impact, all issues have either been negotiated or mandated by the court and there are no disputed areas currently.
- ✓ None of these provisions are inconsistent with the IMAP.

(f) City of Kuna 1998 Comprehensive Plan

- ✓ The Kuna Comprehensive Plan (the “Kuna Plan”) has population forecasts out to 2020. Kuna used a private consultant (Civil Survey Consultants, Inc.) instead of APA in making its population forecasts.

- ✓ The Kuna Plan does not directly address the provision of water.
- ✓ Nothing in the Kuna Plan is inconsistent with the IMAP.

(g) City of Star 1999 Draft Comprehensive Plan

- ✓ The Star 1999 Draft Comprehensive Plan does not directly address the provision of water.
- ✓ The planning window in this plan is 10 years.
- ✓ Nothing in the Star 1999 Draft Plan is inconsistent with the IMAP.

In conclusion, nothing in the comprehensive plans of Ada County or its six cities conflicts with UWID's IMAP.

G

G. SUMMARY OF IMAP

UWID operates an integrated municipal supply system supplied by roughly 100 wells, a variety of surface water rights, permits and entitlements, and a water treatment plant. The water rights associated with this system (as currently configured in the Department's records) do not fully recognize the integrated nature of this system.

✓ The first part of this IMAP seeks to change all of UWID's ground water rights so that each may be diverted out of any well in the system. This will more accurately reflect current and historical operations. This change will be subject to conditions to avoid well interference.

✓ The IMAP also seeks to achieve a consistent description of the service area and the purpose of use for all of UWID's water rights and to amend all ground water rights so that pumping may occur anytime during the year.

✓ The IMAP seeks to convert all water right quantifications to a consistent, flow-based measure (cfs).

✓ Finally this change seeks to amend UWID's water right licenses and permits to recognize that a portion of the Company's portfolio is held to meet reasonably anticipated demand during the planning horizon. Demand on UWID's municipal supply system peaked during the summer of 1999 at 141.57 cfs. UWID projects the peak demand will rise to 550.18 cfs by the year 2050. UWID's current portfolio of water rights (assuming appropriate quantity reductions to account for elimination of volume limits), including its contract entitlements to water, authorizes the diversion of 303.54 cfs. Pursuant to this IMAP, UWID seeks to change water rights and/or permits totaling 161.97 cfs of its portfolio of water rights to meet demand during the planning horizon. Table 29 shows the breakdown. (Table 29 is a quantification of Table 7 on page 23.)

TABLE 29 DIAGRAM BREAKING DOWN UWID'S WATER RIGHTS PORTFOLIO		
Planning horizon needs plus immediate demand needs = 550.18 cfs	Additional water rights which UWID may acquire during the planning horizon = 246.64 cfs	
	Current portfolio = 303.54 cfs	Rights in current portfolio held to serve planning horizon needs = 161.97 cfs
		Rights in current portfolio used to support immediate demand = 141.57 cfs

H

H. APPLICATION FOR CHANGE OF 92 WATER RIGHTS

The following *Application for Transfer of Water Right* is really a collection of 92 separate applications. For the convenience of the Department and the reader, we have submitted a single form, modeled on the Department's standard form, with corresponding spreadsheets containing information respecting each of the 92 water rights to be changed.

Transfer No. _____

STATE OF IDAHO

DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT

PART 1

Name of applicant United Water Idaho Inc. ("UWID" or the "Company") Phone 208-362-1704

Post Office Address 8248 W. Victory Road, P.O. Box 7488, Boise, Idaho 83709-4165

Contact/Counsel: Christopher H. Meyer, Givens Pursley LLP, P.O. Box 2720, Boise, ID 83701-2720

A. PURPOSE OF TRANSFER

1. ☒ Change point of diversion ☒ Add diversion point(s) ☒ Change place of use
☒ Change nature of use ☒ Change period of use ☒ Other Bring within 1996 Act

2. Describe the reason for the proposed changes:

UWID SEEKS TO BRING ITS PORTFOLIO OF GROUND WATER RIGHTS INTO THE 1996 MUNICIPAL WATER RIGHTS ACT FRAMEWORK FOR EFFICIENT AND INTEGRATED MANAGEMENT OF WATER RIGHTS HELD WITHIN ITS PLANNING HORIZON. THIS IS MORE FULLY DESCRIBED ELSEWHERE IN THIS COMPREHENSIVE MUNICIPAL APPLICATION PACKAGE.

B. DESCRIPTION OF RIGHT(S) OR PORTION THEREOF, AFTER THE REQUESTED CHANGE

1. Right Number, Priority, Amount, Nature of Use, Period of Use:

SEE SPREADSHEET 3 AT TAB "L"

2. Total amount of water being transferred SEE SPREADSHEET 3 AT TAB "L"

3. Source of water SEE SPREADSHEET 3 AT TAB "L" tributary to SEE SPREADSHEET 3 AT TAB "L"

4. Point(s) of Diversion SEE SPREADSHEET 5 AT TAB "N"

5. Lands irrigated or place of use UWID'S SERVICE AREA

6. General Information

- a. Description of diversion system:

AN INTEGRATED AND INTERCONNECTED MUNICIPAL WATER SUPPLY SYSTEM

- b. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts? NOT APPLICABLE If yes, provide a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes.
NOT APPLICABLE
- c. Describe the effect on the land now irrigated if the place of use is changed pursuant to this transfer: NOT APPLICABLE
- d. Remarks: SEE COMPREHENSIVE MUNICIPAL APPLICATION PACKAGE

ACTION OF THE DIRECTOR, DEPARTMENT OF WATER RESOURCES

This is to certify that I have examined Application for Transfer of Water Rights No. _____
And said application is hereby _____, subject to the following limitations and conditions:

Witness my hand this _____ day of _____, 20 _____.

PART 2

A. DESCRIPTION OF RIGHT AS RECORDED

1. Right evidenced by (License, Decree, Claim and Transfer Nos.):
SEE SPREADSHEET 1 AT TAB "J"
2. Attach a copy of last year's tax notice for the property to which the water right is appurtenant or other documents which show ownership. NOT APPLICABLE.
3. Source of water SEE SPREADSHEET 1 AT TAB "J" tributary to SEE SPREADSHEET 1 AT TAB "J"
4. Date or priority SEE SPREADSHEET 1 AT TAB "J"
5. Water is used for the following purpose: SEE SPREADSHEET 1 AT TAB "J"
6. Total amount of water under right(s) SEE SPREADSHEET 1 AT TAB "J" cubic feet per second and/or _____ acre-feet per annum.
7. Point(s) of Diversion SEE SPREADSHEET 1 AT TAB "J"
8. Lands irrigated or place of use: SEE SPREADSHEET 1 AT TAB "J"
9. Describe any other water rights used for the same purpose as described above:
SEE SPREADSHEET 2 AT TAB "K"
10. To your knowledge, has any portion of this water right undergone a period of five or more consecutive years of non-use? N/A If yes, describe USED FOR REASONABLY FORESEEABLE NEEDS

PART 3

- A. Draw a map or attach a USGS map indicating the new point(s) of diversion and/or the new place of use for rights described in part 1. Clearly depict the land by section, township and range number.

ALL POINTS OF DIVERSION ARE IDENTIFIED IN SPREADSHEET 5 AT TAB "N". THE PLACE OF USE IS UWID'S SERVICE AREA.

B. CHANGES IN NATURE OF USE

1. New nature of use, amount, hours/days/years, period of use:

SEE SPREADSHEET 5 AT TAB "N" FOR QUANTITY INFORMATION. FOR ALL WATER RIGHTS, THE NEW NATURE OF USE IS "MUNICIPAL" AND THE PERIOD OF USE IS 1/1 TO 12/31.

2. Quantity and quality of return flows and location of discharge:

NOT APPLICABLE

3. Describe effects on other water uses resulting from the proposed change:

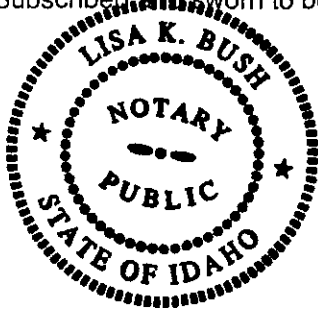
NONE

I hereby assert that no one will be injured by such change and that the change does not constitute an enlargement in use of the original right. The information contained in this application is true to the best of my knowledge.

I understand that any willful misrepresentations made in this application may result in voiding its approval.

Christopher H. Meyer
Christopher H. Meyer, Counsel for United Water Idaho Inc. by
John M. Marshall

Subscribed and sworn to before me this 16th day of June, 2000.
March



Lisa K. Bush
(Notary Public)

My commission expires 7-12-2000

FOR DEPARTMENT USE ONLY

Transfer contains _____ pages and _____ attachments

Received by JK Date 6/16/2000 Protest by _____

Prelim. check by _____ Fee \$9200 (92 rights @ \$100 each)

Receipted by JK for LM Date 6/16/2000 W026617 *

Published in _____ Copies of protest forwarded by _____

Pub. dates _____ Hearing held by _____ Date _____

Watermaster recommendation request on _____ Recommended for ☐ approval ☐ denial

_____ rec'd. _____ by _____

Copy of transfer sent to line holder _____

* Same receipt as in 16 companion amendments.



I

I. APPLICATION FOR AMENDMENT OF 16 PERMITS

The following *Application for Amendment of Permit* is really a collection of 16 separate applications. For the convenience of the Department and the reader, we have submitted a single form, modeled on the Department's standard form, with corresponding spreadsheets containing information respecting each of the 16 permits to be amended.

UWID is now in the process of proving up on these permits. If some or all of them are approved as licenses prior to the time the Department completes processing of this IMAP, we request that, in each case, the *Application for Amendment of Permit* be treated as an *Application for Transfer of Water Right*.

Receipt No. W026617
Received By RL for LM
Date 6/16/2000

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR AMENDMENT OF A PERMIT

Applicant United Water Idaho Inc. ("UWID") Phone 208-362-1704

Address 8248 W. Victory Road, P.O. Box 7488, Boise, Idaho 83709-4165

Contact/Counsel: Christopher H. Meyer, Givens Pursley LLP, P.O. Box 2720, Boise, ID 83701-2720

I am the owner and holder of Permit to Appropriate the Public Waters of the State of Idaho No(s). SEE SPREADSHEET 2 AT TAB "K", and request that the permit and permit map be amended and/or changed as follows:

Purpose of Amendment:

- ☒ Change point of diversion ☒ Add diversion point(s) ☒ Change place of use
☒ Change nature of use ☒ Change period of use ☒ Other Bring within 1996 Act

1. Point of diversion: SEE SPREADSHEET 5 AT TAB "N"

Other points of diversion: SAME

2. Period and nature of use: (quantities for irrigation, domestic, stockwatering, industrial, etc.)

SEE SPREADSHEET 4 AT TAB "M" FOR QUANTITY INFORMATION. FOR ALL WATER RIGHTS, THE NEW NATURE OF USE IS "MUNICIPAL" AND THE PERIOD OF USE IS 1/1 TO 12/31.

3. Place of use or land to be irrigated: UWID'S SERVICE AREA

Total number of acres to be irrigated = NOT APPLICABLE

4. a. Who owns the property at the point(s) of diversion? UWID

b. Who owns the land to be irrigated at the place of use? NOT APPLICABLE

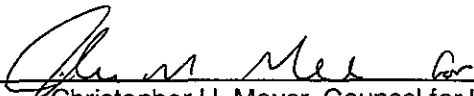
c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: NOT APPLICABLE

Complete the following map by showing land and point(s) of diversion as proposed by this amendment. Show ¼ ¼, section, township, range and ditches. (the smallest subdivision represents 40 acres)

ALL POINTS OF DIVERSION ARE IDENTIFIED IN SPREADSHEET 5 AT TAB "N". THE PLACE OF USE IS UWID'S SERVICE AREA.

I hereby request approval of this change subject to the fact that no one will be injured by the change, and that the change will be made at my own risk.

Signed this 16 day of June ~~March~~, 2000.



Christopher H. Meyer, Counsel for United Water Idaho Inc.

ACTION OF THE DEPARTMENT OF WATER RESOURCES

Preliminary check by _____ Publication prepared by _____
Date _____

Published in _____ Publication dates _____

I, _____, of the Department of Water Resources hereby

Witness my hand this _____ day of _____, 20____.

Signature

5

J. SPREADSHEET 1: SUMMARY OF PRE-CHANGE LICENSES

UWID's Current Licensed and Statutory Ground Water Rights

RIGHT NUMBER	TRANSFER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	POINT TWN	OF RGE	DIV SEC	TRACT	PLACE OF USE	PERIOD OF USE
63-02500	4998	GW	8/30/34	Municipal	0.80		3N	2E	4	SW,SW	Within the City of Boise and surrounding service area	1/1-12/31
							3N	2E	9	NE,NW		
							3N	2E	9	SE,NW		
							3N	2E	10	NW,NW		
63-02506		GW	6/5/35	Municipal	1.66		3N	2E	14	NE,NE	City of Boise	
63-02576		GW	4/26/38	Municipal	1.90		3N	2E	14	NE,NE	Within city limits of Boise	
63-02595		GW	8/31/66	Municipal	1.34		3N	2E	16	NW,NW	Within city limits of Boise & vicinity	1/1-12/31
63-02605		GW	7/2/43	Domestic	0.90		3N	2E	4	NE,NW	Within city limits of Boise & adjacent territory	
63-02668		GW	7/15/47	Municipal	2.14		3N	2E	8	NE,NE	Within city limits of Boise & adjacent territory	
63-02703		GW	6/23/48	Municipal	5.00		3N	2E	15	NW,NW	Within city limits of Boise & vicinity	
63-02808			4/3/50	Municipal	3.10		3N	2E	13	SW,NW	Within city limits of Boise & vicinity	
63-02874	4998	GW	8/18/51	Municipal	4.00		3N	2E	4	SW,SW	Within the City of Boise and surrounding service area	1/1-12/31
							3N	2E	9	NE,NW		
							3N	2E	9	SE,NW		
							3N	2E	10	NW,NW		
63-02892		GW	2/7/52	Municipal	15.00		3N	2E	5	SE,NE	Within city limits of Boise	
							3N	2E	14	SE,NE		
63-02954		GW	8/27/53	Domestic	0.90		3N	2E	18	SW,SE	T3N, R2E, S17 NWSW, SWSW; S19 NENE	
63-02956		GW	8/27/53	Domestic	0.56		3N	2E	18	SE,SE	T3N, R2E, S17 NWSW, SWSW; S19 NENE	
63-02989		GW	6/2/54	Municipal, Domestic	1.00		3N	1E	1	SE,SE	Within city limits of Boise & vicinity	
63-03064		GW	10/31/55	Irrigation, Domestic, Fire Protection	1.22		4N	2E	31	NW,SW	Within city limits of Boise & vicinity	
63-03073		GW	1/4/56	Municipal	2.00		3N	2E	28	NW,NW	Within city limits of Boise & vicinity	
63-03105		GW	12/19/56	Municipal	2.00		3N	2E	18	NW,NE	T3N, R2E, S18 NWNE, SWNE	
63-03112		GW	9/11/57	Irrigation, Domestic	1.44		3N	2E	19	NE,NE	T3N, R2E, S17 NWSW, SWSW; S18 SW1/4, SE1/4	
63-03128		GW	4/24/58	Municipal	4.44		3N	2E	21	NE,NE	Within city limits of Boise & vicinity	
63-03164		GW	8/5/59	Domestic	1.73		3N	2E	27	NE,SW	T3N, R2E, S27 SWNW, NW1/4, NESW	
63-03172		GW	10/14/59	Municipal	2.22		3N	2E	18	NE,SW	Within the boundary of Overland Water Co.	
63-03202		GW	6/8/60	Municipal	2.89		3N	2E	22	NW,NE	Within city limits of Boise & vicinity	
63-03291		GW	5/21/62	Municipal	2.40		4N	2E	32	NW,NW	Within city limits of Boise & vicinity	
63-03292		GW	5/21/62	Municipal	2.26		3N	2E	22	NW,NE	Within city limits of Boise & vicinity	
63-03293		GW	5/21/62	Municipal	3.56		3N	2E	16	NW,NW	Within city limits of Boise & vicinity	
63-03295		GW	5/24/62	Municipal	3.24		3N	2E	28	NE,NE	Within city limits of Boise & vicinity	
63-03411		GW	6/17/64	Municipal	1.50	178.00	4N	2E	32	SW,NW	Within city limits of Boise & vicinity	1/1-12/31
63-03448		GW	4/27/65	Municipal	4.90	3540.00	3N	2E	14	SE,NW	Within city limits of Boise & vicinity	1/1-12/31

UWID's Current Licensed and Statutory Ground Water Rights

RIGHT NUMBER	TRANSFER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	POINT TWN	OF RGE	DIV SEC	TRACT	PLACE OF USE	PERIOD OF USE
63-03457		GW	7/14/65	Irrigation, Domestic, Fire Protection	1.67	1209.00	3N	2E	24	SW,NE	T3N, R2E, S24 SWNE 8, SENW 7, NESW 5, NESE 10; 30 acres total, place of use for domestic and fire protection is the same.	1/1-12/31 & 3/15-11/15
63-03494		GW	3/8/66	Municipal	6.44		3N	2E	17	NE,SW	Within city limits of Boise & vicinity	1/1-12/31
63-03562		GW	11/7/66	Municipal	1.47		3N	2E	19	NE,NW	Within city limits of Boise & vicinity	1/1-12/31
63-04015*		GW	10/17/60	Domestic, Fire Protection	2.00		3N	2E	27	NW,SE	Within city limits of Boise	1/1-12/31
63-04395		GW	6/1/50	Irrigation, Domestic	0.75		3N	3E	S29	SE,NE	T3N R3E S28 SENE 18, SWNW 02; S29 NESE, 25 acres total; S29 NENE, SENE, NWNW, SWNW, NESE domesitc	4/15-10/10, 1/1-12/30
63-04414		GW	7/1/43	Municipal	1.11		3N	2E	32	NE,NE	Within the city limits of Boise and for Gowen Field Airport	1/1-12/31
63-04424		GW	7/1/43	Municipal	1.33		3N	2E	33	NE,NW	Within the city limits of Boise and for Gowen Field Airport	1/1-12/31
63-04752		GW	1/1/47	Municipal	1.11		3N	2E	2	NE,NW	Within city limits of Boise	1/1-12/31
63-07066		GW	2/28/68	Domestic	5.80		4N	1E	36	NE,NW	Within city of Boise	1/1-12/31
63-07067	4998	GW	2/28/68	Municipal	2.84		3N	2E	4	SW,SW	Within city of Boise and surrounding service area	1/1-12/31
							3N	2E	9	NE,NW		
							3N	2E	9	SE,NW		
							3N	2E	10	NW,NW		
63-07077*		GW	3/15/68	Domestic, Fire Protection	1.11		3N	2E	27	NW,SE	T3N, R2E, S27 NWSE	1/1-12/31
63-07204		GW	3/13/69	Municipal	1.82		3N	2E	8	NE,NE	Within city limits of Boise & vicinity	1/1-12/31
63-07282		GW	12/2/69	Municipal	4.12		3N	2E	20	SE,NE	Within city limits of Boise & vicinity	1/1-12/31
63-07348		GW	7/14/70	Municipal	6.60		3N	2E	7	SW,SW	Within city limits of Boise & vicinity	1/1-12/31
63-07479		GW	8/20/71	Municipal	7.00		3N	2E	22	SE,SE	City of Boise and vicinity	1/1-12/31
63-07577		GW	4/6/72	Municipal	2.01		3N	2E	36	SW,NE	Within city limits of Boise	1/1-12/31
63-07589		GW	4/20/72	Municipal	4.40		3N	1E	3	SE,NE	Within city limits of Boise	1/1-12/31
63-07641		GW	8/17/72	Domestic	2.00		2N	1E	3	SE,SE	T2N, R1E, S3 SWSE, SESE	1/1-12/31
63-07658		GW	1/8/73	Municipal	1.06		3N	1E	3	SE,NE	Within city limits of Boise	1/1-12/31
63-07896		GW	11/13/73	Domestic	0.25	181.00	3N	1E	27	NW,SE	T3N, R1E, S27 NWSE	1/1-12/31
63-07979		GW	5/13/74	Irrigation, Domestic, Fire Protection	2.00	1268.00	2N	1E	3	NESW	T2N, R01E, S3 SW1/4, SWSE; S3 NENW, SENW, NESW, NWSW, SESW, SE1/4; S10 NENE, SENE; S11 NWNE, NW1/4	1/1-12/31, 4/1-10/31
63-07998		GW	6/25/74	Irrigation, Domestic, Fire Protection	1.27	658.00	3N	1E	27	SE,NE	T3N, R1E, S27 SWNE, SENE,NESE, NWSE	1/1-12/31, 4/1-10/31
63-08011		GW	7/18/74	Domestic, Fire Protection	3.00	276.00	3N	1E	23	SE,NW	T3N,R1E, S23 NW1/4	1/1-12/31
63-08059		GW	11/12/74	Municipal	0.57		4N	2E	32	SW,NW	Within city limits of Boise	1/1-12/31
63-08236		GW	11/28/75	Municipal	3.63		3N	2E	25	NW,SE	City of Boise	1/1-12/31
63-08248		GW	1/2/76	Irrigation, Domestic, Fire Protection	1.57	843.00	3N	1E	27	NE,NE	T3N, R1E, S22 SWSE 20, SESE 20; S27 NENE 32, SWNE 32, NESE 32, NWSE 32, 200 acres total	1/1-12/31, 4/1-10/31
63-08265		GW	2/23/76	Domestic	2.37		3N	1E	15	SE,NE	T3N, R1E, S15, NWNE, SWNE, SENE	1/1-12/31

UWID's Current Licensed and Statutory Ground Water Rights

RIGHT NUMBER	TRANSFER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	POINT TWN	OF RGE	DIV SEC	TRACT	PLACE OF USE	PERIOD OF USE
63-08385		GW	11/6/77	Domestic	0.49	182.40	3N	3E	S29	SE,NE	T3N, R3E, S28 SWNW, NWSW; S29 SENE, NESE (152 homes)	1/1-12/30
63-08405		GW	1/12/77	Irrigation, Domestic, Fire Protection	2.00	1320.00	2N	1E	3	SE,SE	T2N, R1E, S2 42 acres; S3 43 acres; S10 3; S11 12, 100 acres total, place of use same for domestic and fire protection	1/1-12/31, 3/1-10/31
63-08432		GW	2/10/77	Municipal	1.78		3N	1E	36	NE,SE	T3N, R1E, S31 NE 1/4; S35 NW1/4	1/1-12/31
63-08635		GW	8/17/83	Irrigation, Domestic, Fire Protection	0.89	106.20	3N	1E	23	SE, SE	T3N, R1E, SEC. 23 SWSE 6, SESE 8, 14 acres total	1/1-12/31, 3/15-11/15
63-08990		GW	7/19/77	Municipal	4.00		3N	1E	24	NE,SE	Within Boise Water Corp."	1/1-12/31
63-09087		GW	11/25/77	Municipal	3.40		3N	1E	23	NW,NW	T3N, R1E, S23, NW1/4	1/1-12/31
63-09106		GW	1/23/78	Domestic, Fire Protection	1.12		3N	1E	15	NE,SE	T3N, R1E, S15 NESE, NWSE	1/1-12/31
63-09147		GW	6/6/78	Municipal	4.00		3N	2E	30	SW,SE	City of Boise and adjacent area	1/1-12/31
63-09198		GW	1/2/79	Municipal, Fire Protection	2.45		3N	1E	27	NW,SW	T3N, R1E, S22 SWSE, SESE; S27 NENE, SWNE, SENE, NESW, NWSW, NESE, NWSE	1/1-12/31
63-09199		GW	1/3/79	Municipal, Fire Protection	3.12		3N	1E	34	NE,SW	T3N, R1E, S2 NENW, SENW, SW1/4; S3 NENW, SENW, NESW, SE 1/4; S34 NESW	1/1-12/31
63-09204		GW	1/9/79	Municipal	4.00		4N	1E	27	NW,SW	Within Boise Water Corp. service area	1/1-12/31
63-09205		GW	1/9/79	Municipal	4.00		4N	1E	35	NE,NW	Within Boise Water Corp. service area	1/1-12/31
63-09219		GW	3/20/79	Municipal	2.23		3N	2E	24	SW,NW	Within the limits of the Boise Water Corp. Service Area	1/1-12/31
63-09223		GW	4/3/79	Municipal	4.23		3N	1E	36	NW,NE	Within the limits of the Boise Water Corp. Service Area	1/1-12/31
63-09384		GW	5/27/80	Irrigation, Domestic, Fire Protection	1.00	420.00	3N	1E	15	SE,SW	T3N, R1E, S15 NESW 20, SESW 20, 40 acres total, place of use for domestic and fire protection same as for irrigation	1/1-12/31, 4/1-10/31
63-09671		GW	2/25/81	Municipal	2.12		3N	1E	14	NE,NE	Within city limits of Boise	1/1-12/31
63-09855		GW	12/23/81	Municipal	3.34		4N	1E	34	NE,SW	Within city limits of Boise	1/1-12/31
63-10150		GW	7/1/83	Irrigation	0.48	56.10	3N	3E	S28	SW,NW	T3N, R3E, S28 NWNW, SWNW; S29 NENE, SENE, place	3/15-11/15
				Domestic			3N	3E	S29	SE,NE	domestic is same as for irrigation	1/1-12/31
63-10386		GW	9/19/86	Municipal	1.11		3N	2E	14	SE,NE (lot 7)	Within city limits of Boise	1/1-12/31
63-10391		GW	11/14/86	Irrigation, Domestic, Fire Protection	0.30	62.40	3N	1E	15	SW,SW	T3N, R1E, S15, SWSW 8 Acres total, place of use for irrigation and domestic is same as for irrigation	1/1-12/31, 3/15-11/15
63-10405		GW	3/17/87	Municipal	1.56		3N	2E	24	SW,SE	Within city limits of Boise	1/1-12/31
63-10533		GW	9/9/87	Municipal	0.52		4N	2E	27	NW,SE	Within city limits of Boise	1/1-12/31
63-10569		GW	2/5/88	Municipal	1.78		2N	2E	2	NW,NW	Within city limits of Boise	1/1-12/31
63-10688		GW	8/15/88	Municipal	2.00		4N	2E	30	SW,SE	Within the city limits of Boise and the surrounding service area	1/1-12/31
63-10862		GW	7/18/89	Municipal	1.44		3N	2E	26	NW,NE,SE	Within the city limits of Boise and the surrounding service area	1/1-12/31
63-11034		GW	10/22/89	Municipal	2.74		3N	2E	32	NW,NW	Within the Boise Water Corp. service area	1/1-12/31
63-11068		GW	11/17/89	Municipal	2.79		3N	2E	8	NE,SW	Within the Boise Water Corp. service area	1/1-12/31

UWID's Current Licensed and Statutory Ground Water Rights

RIGHT NUMBER	TRANSFER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	POINT TWN	OF RGE	DIV SEC	TRACT	PLACE OF USE	PERIOD OF USE
63-11090A		GW	1/21/90	Municipal	1.73	376.40	4N	1E	5	SE,SW	Within United Water Idaho's municipal service area	1/1-12/31
63-11118		GW	2/1/90	Municipal	2.78		3N	2E	16	NE,SE	Within the city limits of Boise and the surrounding area served by Boise Water Corp.	1/1-12/31
63-11232		GW	2/12/90	Municipal	2.83		3N	1E	9	SE,NE	Within city limits of Boise	1/1-12/31
63-11384		GW	8/7/90	Municipal	3.12		4N	1E	27	SE,NE	Within the city limits of Boise and the surrounding service area	1/1-12/31
63-11385		GW	8/7/90	Municipal	2.58		3N	2E	35	NE,NW	Within the Boise Water Corp. service area	1/1-12/31
63-11558		GW	6/24/91	Municipal	2.67		3N	2E	6	SE,SE	Within the city limits of Boise and the surrounding service area	1/1-12/31
63-11950		GW	10/14/92	Municipal	2.30		3N	2E	21	NE,NE	Within the city limits of Boise and the surrounding service area of United Water Idaho	1/1-12/31
63-11951		GW	10/14/92	Municipal	0.85		3N	2E	19	NE,NW	Within the city limits of Boise and the surrounding service area of United Water Idaho	1/1-12/31
63-11990		GW	1/27/93	Domestic, Fire Protection	1.80	624.00	3N	1E	16	SE,NE	T3N, R1E, S15 NW1/4; S16 NE1/4	1/1-12/31
63-12363		GW	9/9/96	Municipal	4.50		3N	2E	16	NE,SE	City limits of Boise and surrounding service area	1/1-12/31
63-19456	4998	GW	3/31/53	Municipal	1.60		3N	2E	4	SW,SW	Within the City of Boise and surrounding service area	1/1-12/31
							3N	2E	9	NE,NW		
							3N	2E	9	SE,NW		
							3N	2E	10	NW,NW		
Total CFS					227.94							

* Water rights 63-04015 and 63-07077 overlap the same use of water. Water right 63-4015 is the statutory claim for the water right out of the B.I.F. well while 63-07077 is an after-acquired license for the use. The total above excludes the 1.11 cfs licensed under right 63-07077

UWID also holds contract entitlements for delivery of surface water from the Boise River and a water right from the Snake River diverted using water from the Boise River through an exchange when the Bureau of Reclamation is releasing water for flow augmentation. These rights are identified on page 65 of this application. These rights are not being transferred but should be taken into account in quantifying UWID's total portfolio.

K

K. SPREADSHEET 2: SUMMARY OF PRE-CHANGE PERMITS

UWID's Current Water Right Permits

RIGHT NUMBER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	POINT TWN	OF RGE	DIV SEC	TRACT	PLACE OF USE	PERIOD OF USE
63-10945	GW	10/29/89	Irrigation, Domestic, Fire Protection	2.00		3N	2E	24	NE,SW,NE (lot 2) 3PODs	T3N, R3E, S19 NWNE, SWSE, SENE, NENW, SWNW, SENW, NESW, NWSW, 67 acres total	1/1-12/31, 3/15-11/15
63-11467	GW	2/21/91	Municipal	2.27	520.00	4N	1E	16	NW,SW (lot 5)	Within the service area of United Water Idaho	1/1-12/31
						4N	1E	21	NW,SW (lot 4)		
63-11878	GW	6/15/92	Municipal	0.99	190.50	4N	1E	7	SW,NW (lot 2)	Within the service area of United Water Idaho	1/1-12/31
						4N	1E	8	SE,NW		
63-12043	GW	7/23/93	Municipal	4.46		2N	2E	17	SE,NE	Within the city limits of Boise and the surrounding area served by United Water Idaho.	1/1-12/31
						2N	2E	17	NW,NW		
						2N	2E	21	NE,NW		
						2N	2E	22	NW,NE		
63-12055	GW	9/8/93	Municipal	24.80		3N	2E	14	SE,NE (lot 7)	City limits of Boise and the area of certification	1/1-12/31
63-12138	GW	8/19/94	Municipal	3.90		2N	2E	17	SE,NE	Within the city limits of Boise and the surrounding area served by United Water Idaho.	1/1-12/31
						2N	2E	17	NW,NW		
						2N	2E	21	NE,NW		
						2N	2E	22	NW,NE		
63-12139	GW	8/19/94	Municipal	4.90		2N	2E	17	SE,NE	Within the city limits of Boise and the surrounding area served by United Water Idaho.	1/1-12/31
						2N	2E	17	NW,NW		
						2N	2E	21	NE,NW		
						2N	2E	22	NW,NE		
63-12140	GW	10/19/94	Municipal	3.50		4N	1E	28	SW,SW	Within the city limits of Boise and the surrounding service area	1/1-12/31
63-12192	GW	3/31/95	Municipal	5.00		4N	1E	5	SE,SW	Within the City limits of Boise and the surrounding area	1/1-12/31
						4N	1E	7	SW,NW (lot 2)	Certificated Area	1/1-12/31
63-12310	GW	1/19/96	Municipal	3.00		4N	2E	32	SE,SE (lot 1)	Certificated Area	1/1-12/31
63-12334	GW	3/8/95	Municipal	0.38	42.00	4N	1W	23	NE,SW	Within the service area of United Water Idaho	1/1-12/31
						4N	1W	24	SW,SE		
63-12362	GW	9/30/96	Fire Protection	2.22		4N	1W	24	SW,SE	T4N, R1W, S24 SWSE	1/1-12/31
63-12432	GW	1/30/98	Municipal	4.50		4N	1E	16	NW,SW (lot 5)	Within the service area of United Water Idaho	1/1-12/31
						4N	1E	21	NW,SW (lot 4)		
63-12452	GW	4/15/98	Municipal	4.50		4N	1E	5	SE,SW	Within the City limits of Boise and the surrounding area	1/1-12/31
						4N	1E	7	SW,NW (lot 2)	Certificated Area	
63-12464	GW	7/13/98	Municipal	0.30		3N	3E	S29	SW,NW	Within the Service Area of the Barber Water Corp.	1/1-12/31
						3N	3E	S28	SE,NE		
63-12516	GW	4/13/99	Municipal	4.00		4N	1W	23	NE,SW	Within the service area of United Water Idaho	1/1-12/31
						4N	1W	24	SW,SE		

Total CFS: 70.72

L

L. SPREADSHEET 3: SUMMARY OF POST-CHANGE WATER RIGHTS

Description of UWID's Ground Water Rights After Transfer

RIGHT NUMBER	SOURCE	PRIORITY	AMOUNT (CFS)	AMOUNT (AFA)	PERIOD OF USE	POINT OF DIVERSION
63-02500	Ground water	8/30/34	0.80		1/1-12/31	See list behind Tab "N"
63-02506	Ground water	6/5/35	1.66		1/1-12/31	See list behind Tab "N"
63-02576	Ground water	4/26/38	1.90		1/1-12/31	See list behind Tab "N"
63-02595	Ground water	8/31/66	1.34		1/1-12/31	See list behind Tab "N"
63-02605	Ground water	7/2/43	0.90		1/1-12/31	See list behind Tab "N"
63-02668	Ground water	7/15/47	2.14		1/1-12/31	See list behind Tab "N"
63-02703	Ground water	6/23/48	5.00		1/1-12/31	See list behind Tab "N"
63-02808	Ground water	4/3/50	3.10		1/1-12/31	See list behind Tab "N"
63-02874	Ground water	8/18/51	4.00		1/1-12/31	See list behind Tab "N"
63-02892	Ground water	2/7/52	15.00		1/1-12/31	See list behind Tab "N"
63-02954	Ground water	8/27/53	0.90		1/1-12/31	See list behind Tab "N"
63-02956	Ground water	8/27/53	0.56		1/1-12/31	See list behind Tab "N"
63-02989	Ground water	6/2/54	1.00		1/1-12/31	See list behind Tab "N"
63-03064	Ground water	10/31/55	1.22		1/1-12/31	See list behind Tab "N"
63-03073	Ground water	1/4/56	2.00		1/1-12/31	See list behind Tab "N"
63-03105	Ground water	12/19/56	2.00		1/1-12/31	See list behind Tab "N"
63-03112	Ground water	9/11/57	1.44		1/1-12/31	See list behind Tab "N"
63-03128	Ground water	4/24/58	4.44		1/1-12/31	See list behind Tab "N"
63-03164	Ground water	8/5/59	1.73		1/1-12/31	See list behind Tab "N"
63-03172	Ground water	10/14/59	2.22		1/1-12/31	See list behind Tab "N"
63-03202	Ground water	6/8/60	2.89		1/1-12/31	See list behind Tab "N"
63-03291	Ground water	5/21/62	2.40		1/1-12/31	See list behind Tab "N"
63-03292	Ground water	5/21/62	2.26		1/1-12/31	See list behind Tab "N"
63-03293	Ground water	5/21/62	3.56		1/1-12/31	See list behind Tab "N"
63-03295	Ground water	5/24/62	3.24		1/1-12/31	See list behind Tab "N"
63-03411	Ground water	6/17/64	0.25		1/1-12/31	See list behind Tab "N"
63-03448	Ground water	4/27/65	4.89		1/1-12/31	See list behind Tab "N"
63-03457	Ground water	7/14/65	1.67		1/1-12/31	See list behind Tab "N"
63-03494	Ground water	3/8/66	6.44		1/1-12/31	See list behind Tab "N"
63-03562	Ground water	11/7/66	1.47		1/1-12/31	See list behind Tab "N"
63-04015*	Ground water	10/17/60	2.00		1/1-12/31	See list behind Tab "N"
63-04395	Ground water	6/1/50	0.75		1/1-12/31	See list behind Tab "N"
63-04414	Ground water	7/1/43	1.11		1/1-12/31	See list behind Tab "N"
63-04424	Ground water	7/1/43	1.33		1/1-12/31	See list behind Tab "N"
63-04752	Ground water	1/1/47	1.11		1/1-12/31	See list behind Tab "N"
63-07066	Ground water	2/28/68	5.80		1/1-12/31	See list behind Tab "N"
63-07067	Ground water	2/28/68	2.84		1/1-12/31	See list behind Tab "N"
63-07204	Ground water	3/13/69	1.82		1/1-12/31	See list behind Tab "N"
63-07282	Ground water	12/2/69	4.12		1/1-12/31	See list behind Tab "N"
63-07348	Ground water	7/14/70	6.60		1/1-12/31	See list behind Tab "N"
63-07479	Ground water	8/20/71	7.00		1/1-12/31	See list behind Tab "N"
63-07577	Ground water	4/6/72	2.01		1/1-12/31	See list behind Tab "N"
63-07589	Ground water	4/20/73	4.40		1/1-12/31	See list behind Tab "N"
63-07641	Ground water	8/17/72	2.00		1/1-12/31	See list behind Tab "N"
63-07658	Ground water	1/8/73	1.06		1/1-12/31	See list behind Tab "N"
63-07896	Ground water	11/13/73	0.25		1/1-12/31	See list behind Tab "N"
63-07979	Ground water	5/13/74	1.75		1/1-12/31	See list behind Tab "N"
63-07998	Ground water	6/25/74	0.91		1/1-12/31	See list behind Tab "N"
63-08011	Ground water	7/18/74	0.38		1/1-12/31	See list behind Tab "N"
63-08059	Ground water	11/12/74	0.57		1/1-12/31	See list behind Tab "N"
63-08236	Ground water	11/28/75	3.63		1/1-12/31	See list behind Tab "N"

Description of UWID's Ground Water Rights After Transfer

RIGHT NUMBER	SOURCE	PRIORITY	AMOUNT (CFS)	AMOUNT (AFA)	PERIOD OF USE	POINT OF DIVERSION
63-08248	Ground water	1/2/76	1.16		1/1-12/31	See list behind Tab "N"
63-08265	Ground water	2/23/76	2.37		1/1-12/31	See list behind Tab "N"
63-08385	Ground water	11/6/77	0.25		1/1-12/31	See list behind Tab "N"
63-08405	Ground water	1/12/77	1.82		1/1-12/31	See list behind Tab "N"
63-08432	Ground water	2/10/77	1.78		1/1-12/31	See list behind Tab "N"
63-08635	Ground water	8/17/83	0.15		1/1-12/31	See list behind Tab "N"
63-08990	Ground water	7/19/77	4.00		1/1-12/31	See list behind Tab "N"
63-09087	Ground water	11/25/77	3.40		1/1-12/31	See list behind Tab "N"
63-09106	Ground water	1/23/78	1.12		1/1-12/31	See list behind Tab "N"
63-09147	Ground water	6/6/78	4.00		1/1-12/31	See list behind Tab "N"
63-09198	Ground water	1/2/79	2.45		1/1-12/31	See list behind Tab "N"
63-09199	Ground water	1/3/79	3.12		1/1-12/31	See list behind Tab "N"
63-09204	Ground water	1/9/79	4.00		1/1-12/31	See list behind Tab "N"
63-09205	Ground water	1/9/79	4.00		1/1-12/31	See list behind Tab "N"
63-09219	Ground water	3/20/79	2.23		1/1-12/31	See list behind Tab "N"
63-09223	Ground water	4/3/79	4.23		1/1-12/31	See list behind Tab "N"
63-09384	Ground water	5/27/80	0.58		1/1-12/31	See list behind Tab "N"
63-09671	Ground water	2/25/81	2.12		1/1-12/31	See list behind Tab "N"
63-09855	Ground water	12/23/81	3.34		1/1-12/31	See list behind Tab "N"
63-10150	Ground water	7/1/83	0.08		1/1-12/31	See list behind Tab "N"
63-10386	Ground water	9/19/86	1.11		1/1-12/31	See list behind Tab "N"
63-10391	Ground water	11/14/86	0.09		1/1-12/31	See list behind Tab "N"
63-10405	Ground water	3/17/87	1.56		1/1-12/31	See list behind Tab "N"
63-10533	Ground water	9/9/87	0.52		1/1-12/31	See list behind Tab "N"
63-10569	Ground water	2/5/88	1.78		1/1-12/31	See list behind Tab "N"
63-10688	Ground water	8/15/88	2.00		1/1-12/31	See list behind Tab "N"
63-10862	Ground water	7/18/89	1.44		1/1-12/31	See list behind Tab "N"
63-11034	Ground water	10/22/89	2.74		1/1-12/31	See list behind Tab "N"
63-11068	Ground water	11/17/89	2.79		1/1-12/31	See list behind Tab "N"
63-11090A	Ground water	1/21/90	0.52		1/1-12/31	See list behind Tab "N"
63-11118	Ground water	2/1/90	2.78		1/1-12/31	See list behind Tab "N"
63-11232	Ground water	2/12/90	2.83		1/1-12/31	See list behind Tab "N"
63-11384	Ground water	8/7/90	3.12		1/1-12/31	See list behind Tab "N"
63-11385	Ground water	8/7/90	2.58		1/1-12/31	See list behind Tab "N"
63-11558	Ground water	6/24/91	2.67		1/1-12/31	See list behind Tab "N"
63-11950	Ground water	10/14/92	2.30		1/1-12/31	See list behind Tab "N"
63-11951	Ground water	10/14/92	0.85		1/1-12/31	See list behind Tab "N"
63-11990	Ground water	1/27/93	0.86		1/1-12/31	See list behind Tab "N"
63-12363	Ground water	9/9/96	4.50		1/1-12/31	See list behind Tab "N"
63-19456A	Ground water	3/31/53	1.60		1/1-12/31	See list behind Tab "N"

Total CFS: 218.70

Place of use for all rights: Within the Service Area of United Water Idaho

Nature of use for all rights: Municipal

* Water right 63-04015 is a statutory claim that overlaps the license for 63-07077. Water right 63-07077 has been omitted from this list on the assumption that the Department will recognize water right 63-04015. If the Department does not, then water right 63-07077 will be added back to this list.

M

M. SPREADSHEET 4: SUMMARY OF POST-CHANGE PERMITS

Description of UWID's Permits After Application for Amendment

RIGHT NUMBER	SOURCE	PRIORITY	PURPOSE OF USE	AMOUNT (CFS)	AMOUNT (AFA)	PERIOD OF USE
63-10945	Ground water	10/29/89	Municipal	2.00		1/1-12/31
63-11467	Ground water	2/21/91	Municipal	0.72		1/1-12/31
63-11878	Ground water	6/15/92	Municipal	0.26		1/1-12/31
63-12043	Ground water	7/23/93	Municipal	4.46		1/1-12/31
63-12055	Boise River	9/8/93	Municipal	24.80		1/1-12/31
63-12138	Ground water	8/19/94	Municipal	3.90		1/1-12/31
63-12139	Ground water	8/19/94	Municipal	4.90		1/1-12/31
63-12140	Ground water	10/19/94	Municipal	3.50		1/1-12/31
63-12192	Ground water	3/31/95	Municipal	5.00		1/1-12/31
63-12310	Ground water	1/19/96	Municipal	3.00		1/1-12/31
63-12334	Ground water	3/8/95	Municipal	0.06		1/1-12/31
63-12362	Ground water	9/30/96	Municipal	2.22		1/1-12/31
63-12432	Ground water	1/30/98	Municipal	4.50		1/1-12/31
63-12452	Ground water	4/15/98	Municipal	4.50		1/1-12/31
63-12464	Ground water	7/13/98	Municipal	0.30		1/1-12/31
63-12516	Ground water	4/13/99	Municipal	4.00		1/1-12/31

Total CFS: 68.12

Place of use for all permits: "Within the Service Area of UWID"

Point of diversion for all permits: Please see list behind Tab "N"

N

UWID ALTERNATE POINTS OF DIVERSION

River Run	3N	2E	24	NE,SW,SE	63-10405	3/17/87	1.56
Roosevelt #1	3N	2E	16	SW,NW,NW	63-02595	8/31/66	1.34
Roosevelt #2	3N	2E	16	SW,NW,NW	63-03293	5/21/62	3.56
Roosevelt #3	3N	2E	16	SW,NW,NW	63-03293	5/21/62	3.56
Settlers	4N	1E	35	NW,NE,NW	63-09205	1/9/79	4.00
Sherman Oaks	3N	1E	23	SE, SE	63-08635	8/17/83	0.89
Sixteenth St.	3N	2E	9	SW,SE,NW	63-02874	8/18/51	4.00
Spurwing	4N	1W	23	NE,SW	63-12334	3/8/95	0.38
					63-12516	4/13/99	4.00
Sunrise	3N	2E	27	NE,NE,SW	63-03164	8/5/59	1.73
Sunset West #1	3N	1E	36	SE,NE,SE	63-08432	2/10/77	1.78
Swift #1	3N	2E	30	SE,SW,SE	63-09147	6/6/78	4.00
Swift #2	4N	2E	31	SE,SW,SE	63-10688	8/15/88	2.00
Taggart #1	3N	2E	21	SW,NE,NE	63-03128	4/24/58	4.44
Taggart #2	3N	2E	21	SW,NE,NE	63-11950	10/14/92	2.30
Tenmile	2N	2E	17	SE,NE	63-12043	7/23/93	4.46
					63-12138	8/19/94	3.90
					63-12139	8/19/94	4.90
Terteling	3N	2E	36	NE,SW,NE	63-07577	4/6/72	2.01
Thirteenth	3N	2E	10	NE,NW,NW	63-02500	8/30/34	0.80
Thirteenth B	3N	2E	4	SW,SW	63-19456A	3/31/53	1.60
Twenty-eighth & Lemp	3N	2E	4	NE,NW	63-02605	7/2/43	0.90
Veterans	4N	2E	32	SW,SE,SE	63-12310	1/19/96	3.00
Veterans Collectors	3N	2E	5	SE,NE	63-02892	2/7/52	15.00
Victory	3N	1E	27	NE,NE	63-08248	1/2/76	1.57
Vista	3N	2E	28	NE,NE,NE	63-03295	5/24/62	3.24
Westland Acres	3N	1E	1	SE,SE	63-02989	6/2/54	1.00
Westmoreland	4N	2E	31	NE,NW,SW	63-03064	10/31/55	1.22
Willow Lane #1	4N	2E	32	NW,NW,NW	63-03291	5/21/62	2.40
Willow Lane #2	4N	2E	32	NW,SW,NW	63-03411	6/17/64	1.50
Willow Lane #3	4N	2E	32	NW,SW,NW	63-08059	11/12/74	0.57

UWID ALTERNATE POINTS OF DIVERSION

Goddard	4N	1E	36	SW,NE,NW	63-07066	2/28/68	5.80
H.P.	4N	1E	27	SW,SE,NE	63-11384	8/7/90	3.12
Hidden Valley Estates #1	2N	1E	3	SE,SE	63-07641	8/17/72	2.00
					63-08405	1/12/77	2.00
Hidden Valley Estates #2	2N	1E	3	NE,SW	63-07979	5/13/74	2.00
Hillcrest	3N	2E	20	SE,SE,NE	63-07282	12/2/69	4.12
Hilton	3N	2E	17	SE,NE,SW	63-03494	3/8/66	6.44
Hope	3N	1E	9	NE,SE,NE	63-11232	2/12/90	2.83
Hummel	3N	2E	18	SW,NE,SW	63-03172	10/14/59	2.22
Idaho	3N	2E	4	SWSW	63-07067	2/28/68	2.84
Island Woods #1	4N	1E	16	NE,NW,SW (lot 5)	63-11467	2/21/91	2.27
					63-12432	1/30/98	4.50
Island Woods #2	4N	1E	21	NE,NW,NW (lot 4)	63-11467	2/21/91	2.27
					63-12432	1/30/98	4.50
J.R. Flat	2N	2E	2	SW,NW,NW	63-10569	2/5/88	1.78
Joplin	4N	1E	27	NW,NW,SW	63-09204	1/9/79	4.00
Junker	3N	2E	32	SE,NE,NE	63-04414	7/1/43	1.11
Kirkwood	3N	2E	19	SW,NE,NE	63-03112	9/11/57	1.44
La Grange	3N	1E	34	NE,SW	63-09199	1/3/79	3.12
Lizaso Well	3N	1E	15	SE,SW	63-09384	5/27/80	1.00
Logger	3N	2E	24	NW,SW,NW	63-09219	3/20/79	2.23
Longmeadow	3N	2E	13	NW,SW,NW	63-02808	4/3/50	3.10
Mac	3N	2E	32	SW,NW,NW	63-11034	10/22/89	2.74
Maple Hills	3N	1E	14	SW,NE,NE	63-09671	2/25/81	2.12
Marden	3N	2E	14	NE,SE,NE	63-10386	9/19/86	1.11
Marden Collectors	3N	2E	14	SE,SE,NE	63-02892	2/7/52	15.00
Market	3N	2E	35	NE,NE,NW	63-11385	8/7/90	2.58
McMillan	4N	1E	28	SE,SW,SW	63-12140	10/19/94	3.50
Mesa #1	3N	2E	24	NE,SW,NE	63-03457	7/14/65	1.67
					63-10945	8/31/89	2.00
Mesa #2	3N	2E	24	NE,SW,NE	63-03457	7/14/65	1.67
					63-10945	8/31/89	2.00
Mesa #3	3N	2E	24	NE,SW,NE	63-10945	8/31/89	2.00
Mountain View	3N	2E	14	SW,NE,NE	63-02506	6/5/35	1.66
Orchid	3N	2E	14	SE,NE,NE	63-02576	4/26/38	1.90
Overland	3N	2E	19	NW,NE,NW	63-11951	10/14/92	0.85
Overland #6	3N	2E	19	NW,NE,NW	63-03562	11/7/66	1.47
Overland Estates	3N	1E	15	SW,SW	63-10391	11/14/86	0.30
Paradise North	3N	1E	15	NE,SE	63-09106	1/23/78	1.12
Pioneer	2N	2E	22	NW,NE	63-12043	7/23/93	4.46
					63-12138	8/19/94	3.90
					63-12139	8/19/94	4.90
Pleasant Valley	2N	2E	17	SE,NE	63-12043	7/23/93	4.46
					63-12138	8/19/94	3.90
					63-12139	8/19/94	4.90
Raptor	2N	2E	17	SE,NE	63-12043	7/23/93	4.46
					63-12138	8/19/94	3.90
					63-12139	8/19/94	4.90
Redwood Creek	4N	1E	7	SWNW (lot 2)	63-11878	6/15/92	0.99
					63-12192	3/31/95	5.00
					63-12452	4/15/98	4.50

UWID ALTERNATE POINTS OF DIVERSION

WELL NAME	TWN RGE SEC	TRACT	CURRENT ASSOCIATED WATER RIGHT NUMBER(s)	INTERFERENCE PRIORITY DATE	INTERFERENCE QUANTITY
Amity	3N 1E 36	NW,NW,NE	63-09223	4/3/79	4.23
Arctic #1	3N 2E 8	NE,NE,NE	63-02668	7/15/47	2.14
Arctic #2	3N 2E 8	NE,NE,NE	63-07204	3/13/69	1.82
B.I.F.	3N 2E 27	SE,NW,SE	63-04015	10/17/60	2.00
			63-07077	3/15/68	1.11
Barber #1	3N 3E 29	SE,NE	63-04395	6/1/50	0.75
			63-08385	11/6/77	0.49
			63-10150	7/1/83	0.48
			63-12464	7/13/98	0.30
Barber #2	3N 3E 28	SW,NW	63-10150	7/1/83	0.48
			63-12464	7/13/98	0.30
Bali Hai #1	3N 1E 3	SW,SE,NE	63-07589	4/20/73	4.40
			63-07658	1/8/73	1.06
Beacon	3N 2E 14	NW,SE,NW	63-03448	4/27/65	4.90
Bergeson	3N 2E 26	NW,NE,SE	63-10862	7/18/89	1.44
Bethel	3N 2E 7	NE,SW,SW	63-07348	7/14/70	6.60
Biggs	3N 2E 18	SE,SE,SE	63-02956	8/27/53	0.56
Broadway	3N 2E 22	SE,SE,SE	63-07479	8/20/71	7.00
Brookhollow No. 1	3N 1E 15	SE,NE	63-08265	2/23/76	2.37
Byrd	3N 2E 33	SW,NE,NW	63-04424	7/1/43	1.33
Cartwright	4N 2E 27	NW,SE	63-10533	9/9/87	0.52
Cassia	3N 2E 16	NE,NE,SE	63-11118	2/1/90	2.78
Cassia #2	3N 2E 16	NE,NE,SE	63-12363	9/9/96	4.50
Centennial	3N 2E 25	NW,NW,SE	63-08236	11/28/75	3.63
Central Park	3N 2E 2	NW,NE,NW	63-04752	1/1/47	1.11
Chamberlin #1	3N 2E 22	SE,NW,NE	63-03202	6/8/60	2.89
Chamberlin #2	3N 2E 22	SE,NW,NE	63-03292	5/21/62	2.26
Cliffside	3N 2E 15	SW,NW,NW	63-02703	6/23/48	5.00
Clinton	3N 2E 8	SW,NE,SW	63-11068	11/17/89	2.79
Cole	3N 1E 24	NE,NE,SE	63-08990	7/19/77	4.00
Country Club	3N 2E 28	SE,NW,NW	63-03073	1/4/56	2.00
Country Squire	3N 1E 23	NW,NW	63-09087	11/25/77	3.40
Countryman Estates	3N 1E 23	SE,NW	63-08011	7/18/74	3.00
Edgeview	3N 1E 16	SE,NE	63-11990	1/27/93	1.80
Empire	3N 2E 18	NE,SW,SE	63-02954	8/27/53	0.90
Fisk	3N 2E 6	SW,SE,SE	63-11558	6/24/91	2.67
Five Mile Estates W. #1	3N 1E 27	NW,SE	63-07896	11/13/73	0.25
Five Mile Estates W. #2	3N 1E 27	SE,NE	63-07998	6/25/74	1.27
Five Mile West #12	3N 1E 27	NW,SW	63-09198	1/2/79	2.45
Floating Feather	4N 1E 5	SESW	63-11090A	1/21/90	1.73
			63-12192	3/31/95	5.00
			63-12452	4/15/98	4.50
Foxtail	4N 1E 24	SE,SE	63-12334	3/8/95	0.38
			63-12362	9/30/96	2.22
			63-12516	4/13/99	4.00
Franklin Park	3N 2E 18	SW,NW,NE	63-03105	12/19/56	2.00
Frontier	4N 1E 34	SE,NE,SW	63-09855	12/23/81	3.34

N. SPREADSHEET 5: SUMMARY OF POST-CHANGE POINTS OF DIVERSION

Appendix A

APPENDIX A: MAP SHOWING UWID PLANNING AREA

(Large map prepared by COMPASS is provided separately)

Appendix A
United Water Idaho, Inc.
Integrated Municipal Application Package
Planning Area Map
(2050 Population Projections)

Map Creation Date: June 09, 2000

1:48000
1 inch to 4000 feet
0 4000 8000 12000

RECEIVED
JUN 16 2000
WATER RESOURCES
WESTERN REGION

- Irrigated Agriculture
- Idle Agriculture
- Feedlot - Stockyard
- Residential - Farmstead
- Public Ownership
- Certificated Service Area

- 2000 Certificated Service Area Boundary
- Demand Factor Area Boundary
- Area of Impact

COMMUNITY PLANNING ASSOCIATION
OF IDAHO
403 W. Idaho, Suite 100, Boise, ID 83725, (208) 333-1234
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