WATER MANAGEMENT &

CONSERVATION PLAN

BRASADA RANCH

POWELL BUTTE, OREGON

November, 2013

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EXECUTIVE SUMMARY
Purpose and Goals
The purpose of this plan is to analyze the water supply and water demand issues facing Brasada Ranch, to develop an agenda to respond to those issues, to provide guidelines for operation and expansion of the water system, and to meet the water right permit requirements of the State of Oregon Water Resources Department. Brasada Ranch is a developing destination resort in Crook County.

Brasada Ranch relies upon groundwater for all of its quasi-municipal water supply. Although groundwater supplies appear to be adequate at this time and for proposed future development, careful observation of the groundwater conditions, water usage, and pumping levels is warranted. It appears that existing water rights permit and water supplies will be adequate to meet ultimate needs of the resort, as defined by land use approvals.

The current storage capacity of 750,000 gallons for quasi-municipal use and fire protection is anticipated to be adequate through build-out. However, observation and monitoring of storage conditions is recommended to verify additional storage facilities are not necessary.

System, Sources and Water Rights
Brasada Ranch is a for-profit destination resort and residential community. Brasada Ranch is located approximately 14 miles northeasterly of Bend and approximately 14 miles southwesterly of Prineville on 1800 acres of property that lie along the west slopes of Powell Buttes. Development at Brasada Ranch was initiated in 2005 and continues today. Development plans for Brasada Ranch include approximately 1,125 single family, multi-family, and townhouse units, or individual rentable rooms. Various recreational amenities and standard commercial facilities are also proposed at Brasada Ranch. At the end of 2012, Avion Water Company, Inc. records indicate a total of 154 residential and commercial connections.

Avion Water Company, Inc. operates and maintains the quasi-municipal water system for Brasada Ranch. The company has employed a staff of skilled professionals to manage and operate the Resort quasi-municipal water utility system.

There are two existing groundwater wells (#1 and #2) supplying the quasi-municipal system, with one ground level reservoir located on the north end of the project on Miramonte Court for reliable gravity flow to most of the project. There is also a booster pump station to serve the highest pressure zone above elevation 3460 feet.

The distribution system was constructed between 2005 and 2012, and includes 8” and 12” PVC water mains. Due to the recent date of installation, the PVC piping is in good condition.

Currently Brasada Ranch quasi-municipal water system needs are served by the two wells under Permit G-15855, and irrigation water for the golf course is provided by Central Oregon Irrigation District under various rights.
Table E.S. 1, Water Right Summary

<table>
<thead>
<tr>
<th>Water Right</th>
<th>Type of Use, Rate</th>
<th>Permit Holder</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit G-15855</td>
<td>Quasi-Municipal, 3.34cfs</td>
<td>Eagle Crest, Inc.</td>
<td>Requires mitigation per Incremental Mitigation Plan</td>
</tr>
<tr>
<td>Transfer T-10488</td>
<td>Quasi-Municipal, 5.0cfs and 10.0cfs</td>
<td>Avion Water Co., Inc.</td>
<td>Not currently used on Brasada.</td>
</tr>
<tr>
<td>Transfer T-10205</td>
<td>Quasi-Municipal, 10.35cfs</td>
<td>Avion Water Co., Inc.</td>
<td>Not currently used on Brasada.</td>
</tr>
<tr>
<td>Transfer T-10911</td>
<td>Irrigation</td>
<td>Central Oregon Irrigation District</td>
<td>Golf course and landscape irrigation</td>
</tr>
<tr>
<td>Certificate 83571</td>
<td>Irrigation</td>
<td>Central Oregon Irrigation District</td>
<td>Golf course and landscape irrigation</td>
</tr>
<tr>
<td>Certificate 76714</td>
<td>Supplemental Irrigation</td>
<td>Central Oregon Irrigation District</td>
<td>Golf course and landscape irrigation</td>
</tr>
</tbody>
</table>

Findings and Recommendations

Brasada Ranch should continue to carefully monitor production and metered sales figures, particularly during peak season demand. Documentation of such usage data will be an essential tool in the on-going analysis of system capacities and needs.

Conservation measures identified in this plan should be implemented to the fullest extent possible, to maximize the value of capital infrastructure costs already incurred, and eliminate the need for additional infrastructure investment. New technologies for conservation methods should be reviewed for implementation and value to the Resort, as they become available.

Sources of Supply and Water Management Strategy

All Brasada Ranch water is supplied by groundwater wells. Conservation practices are used throughout the system to provide efficient and conservative use of groundwater resources.

Conservation Measures and Benchmarks

Table E.S. 2. Water Conservation Implementation Schedule

<table>
<thead>
<tr>
<th>Measure</th>
<th>Full Implementation Date</th>
<th>Percent Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Water Audit</td>
<td>Complete</td>
<td>100%</td>
</tr>
<tr>
<td>Metering</td>
<td>Complete &amp; on-going</td>
<td>100% for constructed lots</td>
</tr>
<tr>
<td>Leak Detection Program</td>
<td>On-going</td>
<td>On-going</td>
</tr>
<tr>
<td>Public Education</td>
<td>On-going</td>
<td>On-going</td>
</tr>
</tbody>
</table>

Curtailment Program

The aquifer that supplies the Brasada Ranch wells has proven to be stable. There has been very little observable change through the years of operation. Therefore, triggers for stages of alert are not anticipated to occur due to low water. However, equipment failures can cause a shortage of production that can trigger stages of alert.

In an emergency situation or long-term shortage in supply, behavioral changes are appropriate. Brasada Ranch should consider and adopt an emergency (curtailment) plan to implement in such an event. A curtailment plan is included for use at the Resort.

Additional time

No additional time is requested at this time for implementing conservation measures.
Figure 1. Overview Map
1. INTRODUCTION

1.1 System Description
Brasada Ranch is a for-profit destination resort and residential community. Brasada Ranch is located approximately 14 miles northeasterly of Bend and approximately 14 miles southwesterly of Prineville on 1800 acres of property that lie along the west slopes of Powell Buttes. Development at Brasada Ranch was initiated in 2005 and continues today. Development plans for Brasada Ranch include approximately 1,125 single family, multi-family, and townhouse units, or individual rentable rooms at buildout. Various recreational amenities and standard commercial facilities are also constructed or proposed for construction at Brasada Ranch. At the end of 2012, Avion Water Company, Inc. records indicate a total of 154 residential and commercial connections.

Development of Brasada Ranch will occur over an extended period of time, relative to market demand. The demand is expected to fluctuate, not only from year to year, but in the type of units or inventory as well. Land use approvals for the destination resort provide some flexibility in both the timing and type of units to be constructed. For example, a relatively small number of lots and units will be provided, with additional inventory constructed based upon sales activity. Similarly, single family lots or multi-family units will be interchanged or developed, in conformance with the demand of buyers. Although the type of unit can change, the total maximum density of 1,125 equivalent dwelling units cannot be exceeded because of explicit land use approvals. Destination resort development is further restricted by state and local land use designations and approvals, which prohibit resort expansion outside of current boundaries without further reviews and approvals.

Avion Water Company, Inc. operates and maintains the quasi-municipal water system for Brasada Ranch. The company has employed a staff of skilled professionals to manage and operate the Resort domestic water utility system.

Brasada Ranch is remote in relation to municipalities and water purveyors. No logical municipal connection or extension is feasible in the short term and an on-site water supply system has been provided. An Avion Water Company, Inc. water main may ultimately be extended to interconnect Brasada Ranch. However this report has been prepared under the assumption that the on-site groundwater supply must meet ultimate resort needs. The assumption of an independent on-site water system is appropriate and provides the best assurance of an adequate water supply.

There are two existing groundwater wells (#1 and #2) supplying the quasi-municipal system, with one ground level reservoir located on the north end of the project on Miramonte Court for reliable gravity flow to most of the project. There is also a booster pump station to serve the highest pressure zone above elevation 3460 feet.

The distribution system was constructed between 2005 and 2012, and includes 8” and 12” PVC water mains. Due to the recent date of installation, the PVC piping is in good condition. As the resort proceeds toward buildout, additional water mains will be constructed.

1.2 Purpose
The intent of this WMCP is to conform to the Oregon Administrative Rules (OAR) 690, division 86 rules. Permit G-15855 was issued in February 17, 2005. Permit G-15855 states that “within
two years of permit issuance, the permittee shall submit a new or updated Water Management and Conservation Plan.” A WMCP was completed in January of 2007 and submitted to OWRD. OWRD acknowledged receipt of the WMCP in a letter dated March 6, 2007. This letter stated that the required fee had not been submitted, and therefore the plan could not be reviewed. WHPacific and Brasada Ranch subsequently worked with OWRD on a time extension application for Permit G-15855 that received final approval in August of 2011. During this process, a new deadline for submission of the WMCP was January 31, 2012. Additional time was requested in January 2012, and OWRD extended the submittal deadline to February 22, 2013, understanding that the governmental review process may extend past this date.

In addition, on August 4, 2011 OWRD issued a final order approving an extension of time for Permit G-15855. The final order limits the use of Permit G-15855 to 1.68cfs until a WMCP is approved granting access to more water under the permit.

Previous Water Management and Conservation Plans
WHPacific completed the Brasada Ranch Water Management and Conservation Plan, Crook County, Oregon, For Groundwater Permit G-15855 in January 2007. This WMCP was submitted to OWRD. OWRD acknowledged receipt of the WMCP in a letter dated March 6, 2007, see discussion above.

Previous Master Plans
WHPacific completed the Powell Butte Resort Water Supply System Master Plan in January 2003. This WMCP utilizes the projected full buildout use data from the 2003 Water Master Plan Update extensively.

1.3 Proposed Progress Report and Update Schedule
OWRD approves WMCPs for a standard period of 10 years and requires the water supplier to submit a progress report at the five-year mark. We proposed to follow standard OWRD protocol and submit the next WMCP 10 years from OWRD approval date of this plan, with a progress report within five years.

1.4 Previous Benchmarks and Metering
No previous benchmarks were included in the previous WMCP, and previously submitted plan was not review by OWRD. The water system is fully metered at supply and users. Therefore, no additional time is requested to meet previous benchmarks or metering.

1.5 Information Sources
This Water Management and Conservation Plan was developed using testing, program, production and use data provided by Avion Water Company, Inc., the 2007 Brasada Ranch WMCP, and 2003 Powell Butte Resort Masterplan.

1.6 Affected Local Governments
1.7 OAR 690-086-0125 (5) requires a WMCP to include a list of affected local governments and their comments. The only local government having jurisdiction over Brasada Ranch is Crook County. A draft of this WMCP was sent to Crook County on April 10, 2013. Follow up phone calls and emails were made/sent in late September of 2013 and there was no response. Local governments have 30 days to respond, therefore no comments from Crook County have been made. Document Organization

See Table of Contents for organization of document.
### Table 2: Summary Checklist

<table>
<thead>
<tr>
<th>Item</th>
<th>OAR Reference</th>
<th>WMCP Section</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water Supplier Description</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Description of supplier’s source(s)</td>
<td>690-086-0140 (1)</td>
<td>2.1</td>
</tr>
<tr>
<td>✓ Delineation of current service area</td>
<td>690-086-0140 (2)</td>
<td>App. A</td>
</tr>
<tr>
<td>✓ Assessment of adequacy and reliability of existing supplies</td>
<td>690-086-0140 (3)</td>
<td>2.3</td>
</tr>
<tr>
<td>✓ Quantification of present and historic use</td>
<td>690-086-0140 (4)</td>
<td>2.4</td>
</tr>
<tr>
<td>✓ Summary of water rights held</td>
<td>690-086-0140 (5)</td>
<td>2.5</td>
</tr>
<tr>
<td>✓ Description of customers served and water use summary</td>
<td>690-086-0140 (6)</td>
<td>2.7</td>
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<tr>
<td>✓ Identification of interconnections with other suppliers</td>
<td>690-086-0140 (7)</td>
<td>2.8</td>
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<tr>
<td>✓ System schematic</td>
<td>690-086-0140 (8)</td>
<td>2.9</td>
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<tr>
<td>✓ Quantification of system leakage</td>
<td>690-086-0140 (9)</td>
<td>2.10</td>
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<tr>
<td><strong>Water Conservation Element</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ Progress report on previous WMCP</td>
<td>690-086-0150 (1)</td>
<td>3.1</td>
</tr>
<tr>
<td>✓ Documentation of water use measurement and reporting</td>
<td>690-086-0150 (2)</td>
<td>3.2</td>
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<tr>
<td>✓ List of measures already implemented or required under contract</td>
<td>690-086-0150 (3)</td>
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<tr>
<td>✓ Annual water audit</td>
<td>690-086-0150 (4a)</td>
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<tr>
<td>✓ Full metering of systems</td>
<td>690-086-0150 (4b)</td>
<td>3.5</td>
</tr>
<tr>
<td>✓ Meter testing and maintenance program</td>
<td>690-086-0150 (4c)</td>
<td>3.6</td>
</tr>
<tr>
<td>✓ Rate structure based on quantity of water metered</td>
<td>690-086-0150 (4d)</td>
<td>3.7</td>
</tr>
<tr>
<td>✓ Leak detection program</td>
<td>690-086-0150 (4e)</td>
<td>3.8</td>
</tr>
<tr>
<td>✓ Public education program</td>
<td>690-086-0150 (4f)</td>
<td>3.9</td>
</tr>
<tr>
<td>✓ Expansion or diversion affecting sensitive, threatened or endangered</td>
<td>690-086-0150 (5)</td>
<td>3.10</td>
</tr>
<tr>
<td>✓ Leak repair or line replacement program</td>
<td>690-086-0150 (6a)</td>
<td>3.8</td>
</tr>
<tr>
<td>✓ Technical and financial assistance programs</td>
<td>690-086-0150 (6b)</td>
<td>3.11</td>
</tr>
<tr>
<td>✓ Retrofit/replacement of inefficient fixtures</td>
<td>690-086-0150 (6c)</td>
<td>3.12</td>
</tr>
<tr>
<td>✓ Rate structure and billing practices that encourage conservation</td>
<td>690-086-0150 (6d)</td>
<td>3.13</td>
</tr>
<tr>
<td>✓ Reuse, recycling, non-potable opportunities</td>
<td>690-086-0150 (6e)</td>
<td>3.14</td>
</tr>
<tr>
<td>✓ Other measures, if identified by supplier</td>
<td>690-086-0150 (6f)</td>
<td>3.15</td>
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<tr>
<td><strong>Water Curtailment Element</strong></td>
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<tr>
<td>✓ Supply deficiencies and assessment</td>
<td>690-086-0160 (1)</td>
<td>4.1</td>
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<tr>
<td>✓ Stages of Alert</td>
<td>690-086-0160 (2)</td>
<td>4.2</td>
</tr>
<tr>
<td>✓ Triggers for each stage of alert</td>
<td>690-086-0160 (3)</td>
<td>4.3</td>
</tr>
<tr>
<td>✓ Curtailment actions</td>
<td>690-086-0160 (4)</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Water Supply Element</strong></td>
<td></td>
<td></td>
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<tr>
<td>✓ Delineation of current and future service areas</td>
<td>690-086-0170 (1)</td>
<td>App. A</td>
</tr>
<tr>
<td>✓ Population projections for service area</td>
<td>690-086-0170 (1)</td>
<td>2.4, 5.2</td>
</tr>
<tr>
<td>✓ Prepare schedule to fully exercise each permit</td>
<td>690-086-0170 (2)</td>
<td>5.3</td>
</tr>
<tr>
<td>✓ Prepare demand forecast</td>
<td>690-086-0170 (3)</td>
<td>2.4, 5.4</td>
</tr>
<tr>
<td>✓ Comparison of projected need and available sources</td>
<td>690-086-0170 (4)</td>
<td>5.5</td>
</tr>
<tr>
<td>✓ Analysis of alternative sources</td>
<td>690-086-0170 (5)</td>
<td>5.6</td>
</tr>
<tr>
<td>✓ Quantification of maximum rate and monthly volume</td>
<td>690-086-0170 (6)</td>
<td>5.7</td>
</tr>
<tr>
<td>✓ Mitigation actions under state and federal laws</td>
<td>690-086-0170 (7)</td>
<td>5.8</td>
</tr>
<tr>
<td><strong>Other Elements</strong></td>
<td></td>
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<tr>
<td>✓ List of affected local governments and their comments</td>
<td>690-086-0125 (5)</td>
<td>1.6</td>
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<tr>
<td>✓ Date for submittal of next update</td>
<td>690-086-0125 (6)</td>
<td>1.3</td>
</tr>
<tr>
<td>✓ Documentation, where additional time is requested to meet previous benchmarks or metering</td>
<td>690-086-0125 (7)</td>
<td>1.4</td>
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</tbody>
</table>
2. WATER SUPPLIER DESCRIPTION

2.1 Source Description

Table 3: Existing Source Summary

<table>
<thead>
<tr>
<th>Well Number</th>
<th>OWRD Well Log</th>
<th>Drilled Depth</th>
<th>Casing</th>
<th>Year Completed</th>
<th>Pump</th>
<th>Pumping Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CROO 51956</td>
<td>673ft</td>
<td>8” Steel</td>
<td>2002</td>
<td>125 HP Vertical Turbine</td>
<td>0.45 cfs* (202gpm)</td>
</tr>
<tr>
<td>2</td>
<td>CROO 53105</td>
<td>702ft</td>
<td>8” Steel</td>
<td>2006</td>
<td>250 HP Vertical Turbine</td>
<td>1.23 cfs (552gpm)</td>
</tr>
</tbody>
</table>

The combined capacity of the wells pumping into the domestic system (#1 and #2) is approximately 1.68 cfs (754 gpm) as currently configured.

2.2 Service Area

The service area for the Brasada Ranch water system is solely the Brasada Ranch resort. See appendix A for a map of the service area.

2.3 Supply Adequacy and Reliability Assessment

Adequacy of Existing Source to Meet Foreseeable Build-Out Demands

Table 4 summarizes the water supply information for the existing quasi-municipal wells at Brasada Ranch. Both existing wells discharge directly to the quasi-municipal water distribution system.

Table 4: Brasada Ranch Description of Existing and Proposed Wells

<table>
<thead>
<tr>
<th>Source</th>
<th>Quasi-Municipal Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Well #1</td>
<td>500 gpm*</td>
</tr>
<tr>
<td>Existing Well #2</td>
<td>500 gpm</td>
</tr>
<tr>
<td>Proposed Well #3 (not constructed)</td>
<td>500 gpm</td>
</tr>
<tr>
<td>TOTAL SOURCE CAPACITY</td>
<td>1500 gpm</td>
</tr>
</tbody>
</table>

*Existing Well #1 has a well capacity of 500 gpm and a current pumping capacity of 200 gpm. As the resort matures, the pumping capacity will be increased to 500 gpm.

The Table 4 total capacity compares very well with projected peak day demand. The ultimate peak day domestic portion of the quasi-municipal right requirement of 977 gpm can be met with existing Wells #1 and #2. However, to meet all the projected quasi-municipal demands for Brasada, additional supply will be required. Proposed Well #3 is expected to allow full perfection of water rights and provide a significant back-up or redundant supply and will able to supply peak day demand taking all projected quasi-municipal uses into account. Existing and
proposed wells should have ample capacity to meet the peak day demand at full buildout and offer a reasonable factor of safety for water supplies.

The projected peak hour demand at build out will exceed full build out instantaneous well pumping capacity. This peak hour demand will be provided by the equalization storage component of the existing 750,000 gallon bolted steel reservoir serving Brasada Ranch. Equalization storage is typically 10-25 percent of maximum day demand, which is projected to be 1,406,250 gallons at full build out. Equalization storage should therefore be between 140,000 and 352,000 gallons.

The emergency storage component of the storage volume typically includes standby storage and fire storage that are nested; that is, the emergency storage volume is as large as the larger of the standby or fire flow volume at a minimum. Standby storage for systems with multiple sources is at a minimum of 200 gallons per EDU, or 200gal x 1125EDUs = 225,000 gallons. Brasada Ranch falls under the jurisdiction of the Crook County Rural Fire Protection District and must meet the minimum requirements of this district. The Crook County Fire Marshall has recommended a minimum fire protection flow rate of 1500 gpm for commercial facilities and 1000 gpm for residential areas for a minimum duration of 2 hours. 1500 gpm X 120 minutes = 180,000 gallons. The minimum recommended emergency storage is the larger of the standby and fire storage volumes, 225,000 gallons.

To provide a reliable source of water, the minimum storage volume should be between 365,000 and 562,500 gallons plus any dead storage and a minimal operational storage volume to provide level sensor operation, water turnover, and excess pump cycling. The existing 750,000 gallons exceeds the minimum requirement and is sized to provide a standby supply of two days of average day demand.

An additional component of the system reliability is the requirement for Permit G-15855 requiring mitigation. In 2002 the Oregon Water Resources Commission adopted mitigation rules and the mitigation bank for the Deschutes basin. These required that all new water right permits to obtain mitigation for the impact to surface water flows. The priority date for Permit G-15855 is July 1, 2002, and the permit was issued in February of 2005. At the time the mitigation rules were adopted, a 200 cfs allocation cap was put in effect. Due to the timing of Permit G-15855, it is included within the 200 cfs allocation cap.

The specifics of the incremental mitigation requirements for this permit are discussed below in Section 5.8. The permit requires 203.2 acre-feet of mitigation in the General Zone of Impact. An Incremental Mitigation Plan is in place for water use under Permit G-15855. The Incremental Mitigation Plan has a mitigation of 50 acre-feet for 2005 through 2014. There are two types of mitigation credits available for the Deschutes Basin Mitigation Program:

1. Temporary mitigation credits which need to be purchased annually. Cost in 2012 was $105/credit, and current supply exceeds demand.
2. Permanent mitigation credits which are a one-time purchase. Cost in 2012 was $2000/credit, and permanent credits have limited availability. At current prices, the price of a permanent credit is roughly equivalent to 19 years of purchasing temporary credits. Due to high cost and limited availability of permanent credits, Brasada Ranch has elected to mainly mitigate with temporary credits. Brasada Ranch has purchased 1.8 permanent mitigation credits and annually purchases 48.2 temporary mitigation credits to complete the 50 credit mitigation obligation. See section 5.8 for future incremental mitigation obligation.
The temporary credits for mitigation of Permit G-15855 are obtained through the Deschutes River Conservancy’s (DRC) Groundwater Mitigation Bank on an annual basis. The Groundwater Mitigation Bank creates mitigation credits through instream leases and other mitigation projects. Thus far, there has been no problem obtaining the required temporary credits. WHPacific contacted the DRC regarding the availability outlook of temporary credits on September 24, 2013. The DRC stated that they “don’t foresee a problem supplying General Zone credits in the near term [5-year] at all.” However, the DRC said that they cannot guarantee the long term supply due to the one to five year nature of in-stream leases. That said, the General Zone is the best place to be for temporary or permanent mitigation credits. Currently the DRC supplies 570 temporary credits to various customers, while creating between 1700 and 2000 temporary credits each year; i.e. supply currently exceeds demand. Each year, as permanent mitigation credits become available, it is recommended that Brasada Ranch explore purchasing some of them to eliminate some of the long-term risk associated with obtaining temporary credits. As funds and permanent mitigation credits become available, Brasada will transition to permanent credits.

In summary, the current supply of temporary mitigation credits is adequate to supply Brasada annually and in the short term (likely the next 5 years). As the incremental obligation plan increases with resort development, the owners of Brasada Ranch should evaluate purchase of permanent mitigation credits as they become available.

2.4 Quantification of Use

**Historical and Projected Domestic Consumption**

Water consumption is the most critical component of water system design, and it must be carefully evaluated to assure adequate capacity in system components. All components must be designed to accommodate the ultimate peak project needs. The water system will be constructed in phases to comply with the market demand, and initial assumptions about the ultimate demand will determine the success of the system.

Quasi-municipal water consumption, or demand, will vary from month to month and with each hour of the day. The supply system must meet the peak instantaneous flow demand, which includes quasi-municipal use and fire protection.

Development at Brasada Ranch includes an 18-hole championship golf course. Irrigation of the golf course is accommodated by the Central Oregon Irrigation District (COID) through standard irrigation water rights. Golf course irrigation is not a part of this Water Management and Conservation Plan. Residential lawn and garden irrigation is provided by the quasi-municipal water system and is included.

The water right is quasi-municipal, and there are uses of the water on the project other than domestic service, including irrigation of open space and agricultural lands as well as creating aesthetic and wildlife water features. Current land use approvals include a provision that the resort creates wetlands throughout the project for wildlife habitat mitigation. Other quasi-municipal uses include dust abatement, temporary irrigation of landscaping for golf or equestrian events, resort construction activities, etc. Inclusion of these quasi-municipal uses results in an expected well source requirement of 3.34cfs. Brasada Resort has several hundred acres of open space available for irrigation, wetland enhancement, and other uses allowed under the quasi-municipal right.
Demand Data and Calculations

EXISTING
Current year 2012 number of services=154 services

Observed Annual Average Day Demand, ADD, includes lake fill:
Total year 2012 production data
39,606,486 gallons / 366 days * = 108,214 gpd = 75 gpm
*2012 was a leap year

Observed Annual Average Day Demand per Service, includes lake fill:
Total year 2012 production data
108,214 gpd / 154 services = 703 gpd/service

Estimated Annual Average Day Demand per Service, excluding lake fill:
Estimate 7,000,000 gallons for lake fill
39,606,486 gallons - 7,000,000 gallons = 32,606,486 gallons / 366 days = 89,089 gpd
89,089 gpd / 154 services = 579 gpd/service

Observed Maximum Month Demand:
September 2012 production data
6,424,350 gallons per month = 214,145 gpd = 148 gpm

FULL BUILD OUT
The projected domestic portion of water consumption for Brasada Ranch is based on consumption information from other Central Oregon destination resorts. The projected peak day domestic rate used in the design of the domestic water system was 1,250 gallons per equivalent dwelling unit (DU) day. This rate was used for all townhouse units, individual rentable rooms, and single family homesites. The actual usage at Eagle Crest and other Central Oregon resorts is in line with this projection. Table 5 below lists all anticipated structures and the projected population. Land use planning, including the Water Masterplan and Sewer Masterplan for Brasada Ranch stated a planned full occupancy of three (3) people per Equivalent Dwelling Unit. Currently, occupancy may be somewhat less. However, to remain consistent with resort planning documents, we are using the projected occupancy of three people per EDU. Table 6 summarizes the design assumptions and calculations for the Quasi-municipal demand and source requirement.

Table 5: Brasada Ranch Estimated Total Project Population

<table>
<thead>
<tr>
<th>BUILDING/FACILITY</th>
<th>ESTIMATED EQUIVALENT DWELLING UNITS</th>
<th>ESTIMATED PROJECT POPULATION***</th>
</tr>
</thead>
<tbody>
<tr>
<td>750 Single Family Homesites*</td>
<td>750</td>
<td>2,250</td>
</tr>
<tr>
<td>375 Townhouse/Multi-Family Units/Rentable Rooms*</td>
<td>375</td>
<td>1,125</td>
</tr>
<tr>
<td>Miscellaneous incl. recreational facilities, administrative and sales offices, a pro shop and other relatively minor uses**</td>
<td>0**</td>
<td>0**</td>
</tr>
<tr>
<td>TOTALS:</td>
<td>1,125*</td>
<td>3,375</td>
</tr>
</tbody>
</table>

*Note: Land use approvals provide flexibility on the type of units, but also establish a maximum number of residential units. The total number of units may not be exceeded, without further approvals.
**Note: Users of these miscellaneous and recreational facilities will be guests and residents of Brasada Ranch, and therefore they don’t count as additional EDUs.
***Note: Based on land use planning, water and sewer masterplans, the average occupancy is projected to be 3 people per home.
Projected Peak Day Demand (Residential/Domestic portion of Quasi-Municipal), MDD:
1,125 EDUs X 1,250gpd/EDU = 1,406,250gpd = 1.406MGD
1,406,250gpd / 1440min/day = 977gpm

Projected Peak Hour Demand (Residential/Domestic portion of Quasi-Municipal), PHD:
977gpm X 2.5 P.F. = 2442gpm

Projected Peak Day Demand (Other Non-domestic Quasi-municipal):
Wetland/Wildlife Water Feature Maintenance = 18 acres x 1/80 cfs/acre = 0.23cfs
Irrigated Open Space and Agricultural Lands = +/-70 acres x 1/80 cfs/acre = 0.88 cfs
Other (Dust Abatement, Temp. Irrigation, Construction Water, etc.) = 0.05cfs
Total Projected Quasi-municipal MDD (Excluding Domestic) = 0.23+.88+.05 = 1.16 cfs

Total Maximum Day Demand
Total MDD = 2.18 cfs (domestic services) + 1.16 cfs (Non-domestic Quasi-Municipal) = 3.34 cfs

**Table 6: Brasada Ranch Estimated Build-Out Water Demand and Source Requirement**

<table>
<thead>
<tr>
<th>WATER USE</th>
<th>ESTIMATED CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL/DOMESTIC PORTION OF QUASI-MUNICIPAL USE</td>
<td></td>
</tr>
<tr>
<td>Domestic Maximum Day Demand</td>
<td>977 gpm (MDD)</td>
</tr>
<tr>
<td>Domestic Peak Hour</td>
<td>2440 gpm (PHD), Provided by stored water in 750,000 gallon reservoir</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>1500gpm, Provided by stored water in 750,000 gallon reservoir</td>
</tr>
<tr>
<td>Ultimate Source Requirement for Residential Use</td>
<td>977 gpm = 2.18 cfs</td>
</tr>
<tr>
<td>COMMERCIAL/NON-DOMESTIC QUASI-MUNICIPAL USE</td>
<td></td>
</tr>
<tr>
<td>Wetland/Wildlife Water Feature Maintenance</td>
<td>103 gpm = 0.23 cfs</td>
</tr>
<tr>
<td>Irrigated Open Space and Agricultural Lands</td>
<td>395 gpm = 0.88 cfs</td>
</tr>
<tr>
<td>Other (Dust Abatement, Temp. Irrigation, Construction Water, etc.)</td>
<td>22 gpm = 0.05 cfs</td>
</tr>
<tr>
<td>Total Source Requirement for Non-Domestic Use</td>
<td>520 gpm = 1.16 cfs</td>
</tr>
<tr>
<td>TOTAL QUASI-MUNICIPAL SOURCE REQUIREMENT</td>
<td>2.18 cfs + 1.16 cfs = 3.34 cfs = 1500gpm</td>
</tr>
</tbody>
</table>

2.5 Summary of Water Rights
See Table 7 below for summary of water rights at Brasada Ranch.
<table>
<thead>
<tr>
<th>Application Number</th>
<th>Permit Number</th>
<th>Certificate Number</th>
<th>Transfer Number (if any)</th>
<th>Source</th>
<th>Type of Use</th>
<th>Priority Date</th>
<th>Source in Critical Ground Water Area?</th>
<th>Threatened or Endangered Species Affected?</th>
<th>Water Quality Listed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>G 15759</td>
<td>G 15842</td>
<td>---</td>
<td>---</td>
<td>Six wells in Deschutes River Basin</td>
<td>Quasi-Municipal</td>
<td>7/1/2002</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>G 15841</td>
<td>G 15802</td>
<td>---</td>
<td>---</td>
<td>Eleven wells, within the Deschutes River Basin</td>
<td>Quasi-Municipal</td>
<td>7/1/2002</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>G 15800</td>
<td>G 15826</td>
<td>---</td>
<td>---</td>
<td>Eleven wells, within the Deschutes River Basin</td>
<td>Quasi-Municipal</td>
<td>7/1/2002</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**ACTUAL DIVERSION**

<table>
<thead>
<tr>
<th>Year</th>
<th>Ave. Day (Gal)</th>
<th>Ave. Month (MG)</th>
<th>Observed Maximum Rate</th>
<th>Observed Annual Quantity Diverted to Date</th>
<th>Observed Maximum Rate</th>
<th>Observed Maximum Rate</th>
<th>Observed Maximum Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>123,415 gpd</td>
<td>3.754 MG</td>
<td>3.34 cfs (1500 gpm)</td>
<td>45.046 MG</td>
<td>3.34 cfs (1500 gpm)</td>
<td>3.34 cfs (1500 gpm)</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>94,892 gpd</td>
<td>2.886 MG</td>
<td>1.23 cfs</td>
<td>108,214 gpd</td>
<td>3.300 MG</td>
<td>N/A, no use on Brasada</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>108,214 gpd</td>
<td>3.300 MG</td>
<td>N/A, no use on Brasada</td>
<td>N/A, no use on Brasada</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- All data is for 12 months of the year, excluding the month of December.
- Average month calculation based on average days/month.

**Sources:**
- Deschutes River
- Crane Prairie Reservoir, a tributary of the Deschutes River
- Deschutes River
- Source in Critical Ground Water Area?
- Threatened or Endangered Species Affected?
- Water Quality Listed?
- Permit Number
- Application Number
- Transfer Number (if any)
- Certificate Number
- Source
- Type of Use
- Priority Date

---

**Table 7. Brasada Ranch Water Rights Inventory, 2012**

1. 2012 data excludes the month of December and is for 335 days.
2. Average month calculation based on average days/month.
2.6 Adequacy of Water Rights

Supply
Water supplies for quasi-municipal use within the resort are derived from groundwater wells. The Deschutes Formation aquifer is penetrated by the wells. All wells lie within the resort boundaries. Groundwater in the supplying aquifer is replenished from snow melt and precipitation recharge on the east slope of the Cascade Mountains.

OWRD issued Permit G-15855 in February 2005, which allows for year-round quasi-municipal use and a maximum rate/volume of “3.34 cubic feet per second, limited to a maximum annual volume of 508.0 acre feet (AF), further limited by the corresponding mitigation provided under the incremental mitigation development plan.” The allowable rate of 3.34 cfs is equivalent to 1500gpm.

As discussed above, full buildout of the resort will include up to 1,125 EDU’s with a peak day source requirement of 977gpm for residential use. The permitted rate of 1500gpm exceeds the peak day residential use source requirement. However, as mentioned above in section 2.4, we anticipate 1.16 cfs (521gpm) of non-domestic quasi-municipal use, for maximum total of 1,500gpm.

A time extension for permit G-15855 was issued by OWRD in August of 2011, which provides an extended Completion Date of October 1, 2059. A Claim of Beneficial Use should be completed as soon as the resort has achieved full build out, full beneficial use, and full implementation of the required mitigation.

The time extension has a 1.68cfs development limitation cap on it pending approval of this WMCP. See Section 5, “Water Supply Element”, below for discussion on projected date for exceeding cap. It should be noted that actual growth and development of the resort will be highly variable and dependent on economic conditions. This rate of resort development should be monitored.

Request for Assignment
By Oregon law all water belongs to the State. Use, diversion or storage of the State’s water is granted by permit or certificate. Water rights are appurtenant to the land. On Permit G-15855, the owner name and address on file with OWRD is still the original applicant:

Eagle Crest Inc.
1522 Cline Falls Road
Redmond, OR 97756

We recommend that a Request for Assignment form be completed for this water right permit to assign the permit to the current owner, Brasada Ranch Development, LLC. This will ensure correspondence regarding this water right is channeled to the correct owner.

2.7 Customers Served and Use Summary
The Brasada Ranch water system currently serves only the Brasada Ranch project. This development utilizes the water for various quasi-municipal uses. Development at Brasada Ranch includes an 18-hole championship golf course. Irrigation of the golf course is accommodated by the Central Oregon Irrigation District (COID) through standard irrigation water rights. Golf
course irrigation is not a part of this Water Management and Conservation Plan. Residential lawn and garden irrigation is provided by the quasi-municipal water system and is included.

Residential uses of the water will ultimately include 750 single-family homesites and 375 multi-family units, townhouse units, or individual rentable rooms, appurtenant landscaping, and miscellaneous uses including recreational facilities, administrative and sales offices, a golf pro shop, and other relatively minor uses. Other commercial non-residential demands include wetland and wildlife feature maintenance, irrigated open space (excluding golf course), dust abatement, temporary irrigation and construction water.

Initial review comments for this plan from OWRD requested that we list the number of services currently serving the two customer classes, and the current general water use characteristics of each of those customer classes. See table below:

### Table 8. Water Use Characteristics by Class

<table>
<thead>
<tr>
<th>Customer Class</th>
<th>Areas of Use</th>
<th>Season</th>
<th>Current Number of Accounts</th>
<th>Diurnal Use Pattern</th>
<th>Notes</th>
</tr>
</thead>
</table>
| Residential/Domestic Quasi-Municipal  | Single family and multi-family housing, and recreational facilities | Year-round    | 154                        | No study has been performed for Brasada Ranch diurnal use patterns, but it is expected that they generally follow typical American residential patterns. Inside use (year round):  
a) Low during night, approx. 11pm to 5am  
b) Highest use in morning, approx. 7am to 11am  
c) High evening use, approx. 6pm to 11pm  
Outside use (summer)  
a) High, approx. 5am to 10am                                                                                     | Small permanent population using a base demand, with high seasonal and weekend peaks due to large influx of visitors. |
| Commercial Quasi-Municipal            | Entire resort                      | Year-round    | 0 (see notes)              | Highly variable. Includes future wetland and water feature maintenance, irrigated open space (excluding golf course), dust abatement, temporary irrigation during vegetation establishment in landscaping, construction water                                                                 | No current permanent metered services, construction water, dust abatement, vegetation establishment have occurred using hydrants or domestic services. |

Please note that the above table represents best estimate of current conditions. As the resort develops, there will be permanent metered services installed for the Non-domestic quasi-municipal uses as water features, wetlands, and irrigated open space are developed.

### 2.8 Interconnections with Other Suppliers

Currently, the Brasada water system is not interconnected with any other suppliers, but is operated by Avion Water Company.

### 2.9 System Schematic

See Appendix A – Service Area Map, for System Schematic.
2.10 Quantification of System Leakage

In 2012, annual water sales were 39,345,882 gallons and metered production was 39,606,486 gallons. The sales figure represents 99.3% of metered production. Due to the newness of the water system, very little leakage is expected. It is worth noting that, based on discussions with the water system operator, Avion Water, there are some inaccuracies with sales figures that include:

- Access to meters in the winter when snow is on the ground is often not possible, typically November-January. During such times, water billings are estimated.
- Low occupancy and low use, especially during winter months.
- No use during hard freezes in winter months when homeowners are gone has resulted in broken meters. During a single weekend in 2010, 57 water meters broke, and there was a significant amount of unaccounted for water lost.

As resort occupancy increases, errors in the water sales figures and will be reduced significantly.

3. WATER CONSERVATION ELEMENT

3.1 Progress Report on Previous WMCP

The previous WMCP was not reviewed by OWRD as discussed above. Therefore there is no progress report on previous WMCP.

3.2 Water Use Measurement and Reporting

Avion Water Co., Inc. measures flow rate and total flow at Brasada Ranch via metering devices at resort wells. Total flow is also measured and documented monthly, subject to weather related restrictions on meter reading, at all service meters. Customers are billed monthly with invoices that indicate total monthly usage. In accordance with water permit requirements the company submits a report to the State Water Resources Department annually, documenting complete water usage measurements. The water system operator, Avion Water Co., operates the monitoring program so that it complies with the measurement standards in OAR Chapter 690, Division 85.

3.3 List of Measures Already Implemented or Required Under Contract

Currently, Avion Water Co., Inc. uses a variety of conservation measures to conserve water at Brasada Ranch. These include:

- Installation of meters for each service. In 2012, there were 154 connections, all metered.
- Avion Water Co., Inc. uses conservation pricing to customers; base rate with a uniform rate surcharge for each 100 cubic feet used.
- Implementation of architectural guidelines/restrictions in the resort residential building approval process restrict developed landscape areas, thereby limiting water-use landscape.
- Incorporation of low water use plumbing fixtures (shower heads and toilets) in resort facilities, and encouragement for the same in residential building guidelines for the resort residential lots.
- Review of annual water audit figures for residential and commercial accounts.

3.4 Annual Water Audit

Avion Water’s WMCP on file with OWRD states the following in regard to Avion’s annual water audit program:

“Annual water audits are already on file with OWRD as required by Avion’s water permits. With the current measuring systems in place Avion can determine
the total amount of water produced and the total amount of commercial and residential water sales. From these two numbers it can be determined the amount of water lost to leakage, meter error, new construction activities, and maintenance…Avion annually compares sales versus production numbers. If there are large discrepancies we begin an investigation as to why the discrepancy exists. We have never had a unaccounted for water percentage large enough to warrant further investigation. Additionally the monthly meter reads are entered into the billing system and reads that are high or low are produced in a report which are then investigated…We do not use well production meters we use a flow meter twice a year to confirm flow and keep track of production through our SCADA program (minutes ran x gpm). There is a letter attached to the WMCP from [the local Watermaster] accepting this method of measurement. We have two flow meters which are tested before each use in a controlled environment and if the reads differ they are both sent back to the manufacturer for calibration. Avion is not aware of any un-metered authorized or any type of unauthorized use of water.”

The Brasada Ranch system is essentially a new system where every portion passed a pressure test. The bulk of unaccounted-for water is from construction. In the past, a construction company would pay $700 for the use of a hydrant backflow prevention device, and take as much water as they needed for that month. As construction has decreased this practice has come to a halt. Avion is currently in the process of changing its policy with the Public Utility Commission. The new policy will provide a hydrant meter/ backflow assembly and charge by the cubic foot. Avion estimates that the new policy will go into effect in January or February of 2014. The implementation of the required metering of construction water will provide an estimate for the greatest proportion of unmetered uses. When used in conjunction with the annual water audit, this will provide a fairly clear picture of unaccounted for water use and leakage. See also section 3.2, Water Use Measurement and Reporting.

3.5 Full Metering of Systems
The Brasada water system is fully metered for residential and commercial users. The wells are fully metered. There are some unmetered uses that include fire hydrant flushing, truck fills from hydrants for construction water, dust abatement, street washing, and fire suppression.

3.6 Meter Testing and Maintenance Program
The Avion Water Co., Inc. 2011 Water Management and Conservation Plan states:

Avion Water has a meter testing and maintenance plan in place. The current billing program provides a monthly list of meters that have a large deviation from their previous readings. Those accounts are investigated and if necessary the meter is pulled, tested, and replaced if needed. The billing program also tracks when the customer account was created and when their current water meter was installed.

All of the meters on the Brasada water system have been installed since 2005. Typical expected useful life of water meters is 20 to 25 years, therefore few problems are anticipated with meters on the Brasada system for over a decade.

3.7 Rate Structure Based on Quantity Of Water Metered
Residential, and commercial water service is billed each month at the following base rates:
• $25.39 for 3/8"
• $30.47 for ½"
• $46.98 for 1” service meter
• $85.06 for 1½” service meter
• $152.36 for 2” service meter
• $247.58 for 3” service meter
• $406.28 for 4” service meter
• $634.81 for 6” service meter

A commodity charge for water consumption above the base is charged at $0.85 per 100 cubic feet. There are additional fire protection rates applied to commercial and industrial properties with large service lines. See Appendix E for current Naming Rates for Avion Water Co.

3.8 Leak Detection and Repair Program
Avion Water Company, Inc compares supply pumping records with metered service usage records to evaluate system losses. If losses greater than ten (10) percent are discovered, then an aggressive program of leak detection will be implemented for the transmission and distribution piping and valving systems. Random sampling and meter testing may also be necessary.

During water distribution system construction, all systems are pressure tested to assure watertight installations. Disinfection testing to assure water quality is also conducted. Since the system is so new and initial testing confirms the pipe is installed leak free, no leaks are anticipated for years.

3.9 Public Education Program
Avion Water Company, Inc. provides educational material to all of their customers, including those at Brasada Ranch, through pamphlets and annual Consumer Confidence Reports. The 2011 Avion Water Co., Inc. Water Management and Conservation Plan stated: “It is Avion's intention to provide ongoing education to our customers with respect to best watering practices, landscaping and planting techniques, and best watering times through media and newsletter resources. The goal of our efforts will be to gradually reduce poor water use practices through education.”

3.10 Expansion or Diversion Affecting Sensitive, Threatened Or Endangered
Currently Brasada Ranch has no plans to expand or initiate diversion of water that will affect any streamflow dependent species listed by any State or Federal agency as sensitive, threatened or endangered.

3.11 Technical and Financial Assistance Programs
The Avion Water Co., Inc. 2011 Water Management and Conservation Plan states:

Avion already provides technical support for any commercial or residential customer who is interested in assistance. Avion provides newsletters and pamphlets that provide assistance with conservation measures. The newsletters and pamphlets encourage our customers to conserve water. The PUC has not allowed for any financial assistance programs in Avion’s current rate structure.
3.12 Retrofit/Replacement of Inefficient Fixtures
Brasada Ranch is a new community. The first construction occurred in 2005. Resort facilities incorporated low water use plumbing fixtures (shower heads and toilets), and the use of these low water use fixtures is encouraged in residential building guidelines for the resort residential lots. Therefore there are no old fixtures with high uses.

3.13 Rate Structure and Billing Practices that Encourage Conservation
Water use is billed monthly as a base rate with a uniform rate surcharge for each 100 cubic feet used. Avion Water Co., Inc. bills Brasada Ranch customers the same rate as its other customers, and these prices are regulated by the Oregon Public Utility Commission. Avion Water Co., Inc. water rates are in-line with other local Central Oregon water utility rates.

3.14 Reuse, Recycling, Non-Potable Opportunities
Sewage contributions from Brasada Ranch are treated on an interim basis in a community septic tank and drainfield. In the future, as resort sewage contributions increase, an on-site wastewater treatment plant will be utilized. The wastewater plant is currently under construction. Treated sewage effluent will be irrigated on agricultural lands during the summer growing season. Treated sewage effluent is not utilized for irrigation requirements on the resort golf courses or large turf areas. Effluent reuse on resort golf courses was considered carefully during the initial design and master planning for the resort, and was deemed not feasible.

The Crook County Destination Resort ordinance requires that golf courses and other recreational amenities be provided in the first year of development. During the early years of resort development, there is a very low project population and essentially no sewage contribution to serve any irrigation requirement. Therefore, a reliable source for irrigation was required to meet the Phase I irrigation needs, regardless of long-term plans for effluent reuse.

Even at buildout of Brasada Ranch, the estimated sewage effluent volume is minimal in comparison to irrigation needs. At full buildout sewage effluent volumes are estimated to provide approximately 24 percent of the golf course irrigation demand. The minimal benefit from sewage effluent irrigation on the resort golf course is offset with potential concerns from buyers about human contact with sewage. Required warning signs for sewage effluent reuse are also negative.

The irrigation system for the golf course is centralized, meaning that sewage effluent contributions would affect the entire golf course, even though a small percentage of the irrigation requirement is met from effluent. An analysis of Oregon Department of Environmental Quality reuse regulations and the volume of effluent available confirm the earlier Brasada Ranch conclusion that effluent reuse for golf course irrigation is not feasible.

3.15 Other Measures, if Identified by Supplier
The Avion Water Co., Inc. 2011 Water Management and Conservation Plan states: “In 2007 Avion partnered with the Deschutes River Conservancy to start the Blue Water program. The program allows Avion customers to donate to the DRC through their monthly water bill to protect water in-stream on the middle reach of the Deschutes River.”

According to the Deschutes River Conservancy: “Blue Water offers four different donation levels starting at $1.60 per month and going up to $6.40 per month (at $1.60 increments), 100% of which goes to the DRC’s streamflow enhancement programs, such as leases and instream
transfers, on the Deschutes River above Lake Billy Chinook. In 2010, Blue Water created $14,554.30 in donations which helped to lease 855 million gallons of water back instream.”

4. WATER CURTAILMENT ELEMENT

4.1 Supply Deficiencies and Assessment
Because the Brasada Ranch resort has low occupancy, no supply deficiency has occurred. Typically supply deficiencies are related to mechanical breakdowns at wells, power outages, or maintenance. During these periods, adequate supply should be available from the existing reservoir. There are several scenarios which could generate a loss of ability to meet water demands. These scenarios include: natural disasters that could render the well(s) inoperable, damage to storage facilities, contamination of the groundwater supply, and power outages or electrical facilities destruction that diminish pumping capacity. Multiple source facilities and existing storage offset the risks of supply deficiencies. As noted previously, the Brasada Ranch resort is very well served even under conditions of restricted supply.

4.2 Stages of Alert
There are three stages of alert:
1. Mild Alert
2. Serious Alert
3. Critical Alert

4.3 Triggers For Each Stage of Alert

<table>
<thead>
<tr>
<th>TABLE 9</th>
<th>Water Shortage Stages/Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Reduction of Supply</td>
<td>Mild Alert Stage I</td>
</tr>
<tr>
<td>Condition</td>
<td>Wells are producing at no more than 90% capacity</td>
</tr>
<tr>
<td>Shortage Action</td>
<td>Notice to the public of potential supply shortage (Stage I Condition) - request for voluntary non-essential reduction in use. Outside watering restricted to limited number of days/time of day. Property owners and guests will be requested to limit car washing, shower times and other ordinary uses.</td>
</tr>
</tbody>
</table>
4.4 Curtailment Actions

In the event of any type of water shortage condition, the company should be ready to implement a plan of action. To do so, an evaluation of priorities for use of water in the event of a shortage is necessary. The following list of priorities for usage has been established for Brasada Ranch. In other words, in the case of water shortage, water uses at the bottom of the list would be restricted or prohibited as necessary to serve uses at the top of the list.

1. Minimum health and safety allocations for interior residential needs (including residential and overnight units).
2. Minimum health and safety allocations for resort operations (employees and visitors).
3. Landscaping.
5. Construction watering.
6. New customers, i.e. proposed projects or uses, without permits when a shortage is declared.

For the purpose of defining the health and safety allocation, research of community accepted estimates of interior residential use in the United States were reviewed. Based on that review Brasada Ranch has established a health and safety allotment of 68 gallons per person, per day. This quantity should be sufficient for customer’s interior use, without requiring habit changes. If mandatory rationing were to become necessary, in a severe or prolonged shortage, a health and safety allotment of 50 gallons per person, per day would be applied.

5. WATER SUPPLY ELEMENT

5.1 Delineation of Current and Future Service Areas

See attached service area map in APPENDIX A – SERVICE AREA MAP.

5.2 Population Projections for Service Area

In the 2012 water year, there were 154 active commercial, residential and landscaping water service accounts being served by the Brasada water system. The current average number of people per dwelling is unknown, as is the proportion of the services that are commercial. Long term land use planning and water master planning documents projected a peak day average of three (3) people per EDU, which is used in this WMCP.

An estimate of peak day population can be made from sewer records. Based on sewer records, the peak day sewer contribution is approximately 16,088 gpd in July of 2012. Typical domestic sewer use for Central Oregon Resorts is 50gpd/person. Therefore peak day population in 2012 was estimated to be 322.

Per land use approvals and master planning, full build-out will have 1,125EDUs and an approximate population of 3,375. The resort obtained a time extension on August 4, 2011 that
extends the development timeline for Permit G-15855 to October 1, 2059. This time extension caps the use at the developed 1.68cfs of the total 3.34cfs permit. The Time Extension Final Order states: “Appropriation of any water beyond 1.68 cfs under Permit G-15855 shall only be authorized upon issuance of a final order approving a Water Management and Conservation Plan”.

Development of Brasada Ranch will occur over an extended period of time, relative to market demand. It is expected to follow development patterns of other Central Oregon Resorts such as Sunriver and Black Butte Ranch. These communities have developed gradually over the last 40 years, and are still not at build out. The demand is expected to fluctuate, not only from year to year, but in the type of units or inventory as well. Land use approvals for the destination resort provide some flexibility in both the timing and type of units to be constructed. Destination resort development is restricted by state and local land use designations and approvals, which prohibit resort expansion outside of current boundaries without further reviews and approvals.

Three different methodologies are used to estimate projected population through time.

1. First we utilized information from the Deschutes County Coordinated Population Forecast, 2000-2025. The DCC Population Forecast calls for 11.5% growth per 5-year period through the year 2025 in non-urban County lands. This 11.5% over 5-years equates to 2.2% a year. At this rate, full buildout would not occur until year 2120 (115 years after opening in 2005), which appears to be overly conservative for the Brasada Ranch project given historical buildout data for other Central Oregon resorts.

2. We then looked at two different scenarios which predict full occupancy at the end of the 50 year time extension (year 2059) granted by OWRD. One of these took current year 2012 population estimate of 322 people and assumed even growth to buildout in 2059. This results in an annual growth rate of 5.1%.

3. The other scenario which assumes full build out in year 2059 and even growth from the 2009 estimated population of 100 people. This matches the growth rate discussed in the time extension application submitted to OWRD in 2011. This estimate results in an annual growth rate of 7.3%, which is known to be inconsistent with actual population data.

In discussions with Avion Water Co., an annual growth of approximately 5% is expected by the water purveyor. We therefore are proposing to use the annual growth rate of 5.1%, achieving full build out in 2059 (methodology 2, above). As mentioned above, actual growth rates will vary through time based on a myriad of factors.
5.3 Schedule to Fully Exercise each Permit

Table 10. Water Right Schedule

<table>
<thead>
<tr>
<th>Water Right</th>
<th>Type of Use, Rate</th>
<th>Date to Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permit G-15855</td>
<td>Quasi-Municipal, 3.34cfs</td>
<td>C-date is October 1, 2059, requires mitigation per Incremental Mitigation Plan. Projected date of full beneficial use is 2059.</td>
</tr>
<tr>
<td>Transfer T-10488</td>
<td>Quasi-Municipal, 5.0cfs and 10.0cfs</td>
<td>C-date is October 1, 2025 Note: Avion water right not currently used on Brasada.</td>
</tr>
<tr>
<td>Transfer T-10205</td>
<td>Quasi-Municipal, 10.35cfs</td>
<td>C-date is October 1, 2017 Note: Avion water right not currently used on Brasada.</td>
</tr>
<tr>
<td>Transfer T-10911</td>
<td>Irrigation</td>
<td>CBU received by OWRD 11/7/12. Note: Central Oregon Irrigation District right</td>
</tr>
<tr>
<td>Certificate 83571</td>
<td>Irrigation</td>
<td>Certificated 9/26/07 Note: Central Oregon Irrigation District right. Portion leased in-stream (IL-1225) during 2012 irrigation season.</td>
</tr>
<tr>
<td>Certificate 76714</td>
<td>Supplemental Irrigation</td>
<td>Certificated 2/8/01 Note: Central Oregon Irrigation District right. Portion leased in-stream (IL-1225) during 2012 irrigation season.</td>
</tr>
</tbody>
</table>

5.4 Demand Forecast
To utilize the 1.66cfs of undeveloped water above the OWRD 1.68cfs developed water cap, a projected date of when the resort’s water use will exceed the cap needs to be developed. To
develop an estimate of future domestic uses, we estimated EDUs based on population, and then calculated estimated peak day uses. To develop an estimate of non-domestic quasi-municipal uses, we estimated current peak day use of 18% as non-domestic assuming it is approximately 7.0MG of the total 39.6MG annual use. We then assumed constant growth rate to year 2059, which is 7.6% annual growth of non-domestic quasi-municipal use. Table 9, below, provides a summary of future uses. Based on the 5.1% domestic portion growth and 7.6% non-domestic portion growth assumptions, the 1.68cfs cap may not be exceeded until year 2047. We recommend continued monitoring of resort growth, annual water use, and projected water use to determine if the cap is likely to be exceeded sooner or later than the projected 2047 date. Factors that may contribute to reaching the cap sooner than projected would be accelerated population growth or accelerated development of non-domestic quasi-municipal uses.

Table 11. Projected Population Growth and Water Use

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>322</td>
<td>107</td>
<td>0.207</td>
<td>0.037</td>
<td>0.037</td>
<td>0.245</td>
</tr>
<tr>
<td>2017</td>
<td>5.1%</td>
<td>413</td>
<td>138</td>
<td>0.266</td>
<td>0.054</td>
<td>0.320</td>
</tr>
<tr>
<td>2022</td>
<td>5.1%</td>
<td>531</td>
<td>177</td>
<td>0.342</td>
<td>0.078</td>
<td>0.420</td>
</tr>
<tr>
<td>2027</td>
<td>5.1%</td>
<td>681</td>
<td>227</td>
<td>0.439</td>
<td>0.112</td>
<td>0.551</td>
</tr>
<tr>
<td>2032</td>
<td>5.1%</td>
<td>875</td>
<td>292</td>
<td>0.564</td>
<td>0.161</td>
<td>0.725</td>
</tr>
<tr>
<td>2037</td>
<td>5.1%</td>
<td>1123</td>
<td>374</td>
<td>0.724</td>
<td>0.233</td>
<td>0.957</td>
</tr>
<tr>
<td>2042</td>
<td>5.1%</td>
<td>1442</td>
<td>481</td>
<td>0.930</td>
<td>0.335</td>
<td>1.265</td>
</tr>
<tr>
<td>2047</td>
<td>5.1%</td>
<td>1852</td>
<td>617</td>
<td>1.194</td>
<td>0.484</td>
<td>1.678</td>
</tr>
<tr>
<td>2052</td>
<td>5.1%</td>
<td>2378</td>
<td>793</td>
<td>1.533</td>
<td>0.697</td>
<td>2.231</td>
</tr>
<tr>
<td>2057</td>
<td>5.1%</td>
<td>3054</td>
<td>1018</td>
<td>1.969</td>
<td>1.006</td>
<td>2.974</td>
</tr>
<tr>
<td>2059</td>
<td>5.1%</td>
<td>3375</td>
<td>1125</td>
<td>2.176</td>
<td>1.164</td>
<td>3.340</td>
</tr>
</tbody>
</table>

Brasada Ranch and its water system operator, Avion Water Co., will need to monitor development and water use to determine adequacy of extended completion date. Brasada Ranch will submit WMCP progress reports and WMCP Updates as required by OWRD. These reports and updates will include the latest water use and occupancy information. If the 2059 deadline is approaching within a few years and the resort is not near full buildout, an additional time extension may need to be applied for.

Based on the above projected water demand estimates, Permit G-15855 should be able to satisfy the water needs of the Brasada Ranch project. Currently, Brasada Ranch does not anticipate acquiring any additional new water rights within the next 20 years to meet anticipated water demands.

5.5 Comparison of Projected Need and Available Sources

Based on current water use and observed performance of the existing two wells, it is anticipated that build out water supplies will be met by a combination of the two existing wells along with a proposed Well #3. Currently Well #1 pumps at 202gpm with existing pumping equipment. This well has adequate capacity to pump 500gpm if the pumping equipment is upgraded. Well #2 has a pumping capacity of 552gpm. Total existing production is 754gpm (1.68cfs), which is the OWRD development limitation cap issued with the time extension. When the 1.68cfs cap needs to be exceeded due to resort growth, one of the following steps can be taken:
1. the new Well #3 will be constructed to pump at 500gpm at that time or,
2. Well #1 pumping equipment will be upgraded to allow it to pump at full well capacity of 500gpm.

As development continues to full buildout, the un-implemented option will be completed.

Based upon the best information available today, Brasada Ranch anticipates no capacity limitation using existing Well #1, existing Well #2, and proposed Well #3 for needed water supplies. Careful observation of the source aquifer in response to increased pumping, (as the resort grows), should be performed. If groundwater levels drop substantially, drilling new wells deeper would be considered, provided appropriate geologic and hydraulic conditions exist. If long-term reliable yield becomes jeopardized, alternative sources will be further considered.

5.6 Analysis of Alternative Sources
The only other viable option for supply to the resort is piped water from the Avion Water Company, Inc., Bend water system. The feasibility of a water main extension from Bend is dependent upon sharing costs with others and is only under consideration well into the future. This report has been prepared under the assumption that on-site groundwater wells must meet ultimate resort needs, providing the best assurance of an adequate water supply.

5.7 Quantification of Maximum Rate and Monthly Volume
See Section 2.4 above for maximum rate and monthly volume.

5.8 Mitigation Actions Under State and Federal Laws
The Deschutes Basin Mitigation Program requires mitigation for all new ground water permits in The Deschutes Basin starting in the year 2005. The mitigation program is based on the findings of the USGS Water Resources Investigations Report 00-4162. The mitigation program was developed to maintain flows for Scenic Waterways and senior water rights, restore flows in the Middle Deschutes River, and accommodate growth by allowing new groundwater development.

Permit G-15855 is required to satisfy the mitigation requirements of OAR 690-505-0610. The permit requires 203.2 acre-feet of mitigation in the General Zone of Impact. An Incremental mitigation plan is in place for water use under Permit G-15855. The Incremental Mitigation Plan has a mitigation of 50 acre-feet for 2005 through 2014. Brasada Ranch purchased 1.8 permanent mitigation credits and annually purchases 48.2 temporary mitigation credits. The Incremental Mitigation Plan over the coming years is summarized below.

**Table 12. Incremental Mitigation Plan**

<table>
<thead>
<tr>
<th>Incremental Step</th>
<th>Volume of Use (AF)</th>
<th>Amount of Mitigation (AF)</th>
<th>Source of Mitigation</th>
<th>Type of Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2005-2014</td>
<td>125.0</td>
<td>50.0</td>
<td>Mitigation Project MP-57 (1.8 credits) and 48.2 mitigation credits from the DRC Mitigation Bank or permanent source</td>
<td>Permanent &amp; temporary</td>
</tr>
<tr>
<td>2. 2015-2019</td>
<td>250.0</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 2020-2024</td>
<td>375.0</td>
<td>150.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 2025-2029</td>
<td>500.0</td>
<td>200.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 2030 on</td>
<td>508.0</td>
<td>203.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>508.0</td>
<td>203.2</td>
<td></td>
<td>50.0</td>
</tr>
</tbody>
</table>
APPENDIX B – OWRD WATER RIGHTS & WELL LOGS
STATE OF OREGON  
COUNTY OF CROOK  
PERMIT TO APPROPRIATE THE PUBLIC WATERS  

THIS PERMIT IS HEREBY IssUED TO  

EAGLE CREST, INC.  
PO BOX 1215  
REDMOND, OR 97756  

The specific limits and conditions of the use are listed below.  

APPLICATION FILE NUMBER: G-15789  

SOURCE OF WATER: SIX WELLS IN DESCHUTES RIVER BASIN  

PURPOSE OR USE: QUASI-MUNICIPAL USE  

MAXIMUM RATE/VOLUME: 3.34 CUBIC FEET PER SECOND, LIMITED TO A MAXIMUM ANNUAL VOLUME OF 508.0 ACRE FEET (AF), FURTHER LIMITED BY THE CORRESPONDING MITIGATION PROVIDED UNDER THE INCREMENTAL MITIGATION DEVELOPMENT PLAN  

PERIOD OF USE: YEAR ROUND  

DATE OF PRIORITY: JULY 1, 2002  

WELL LOCATIONS:  

WELL #1: SW ¼ NE ¼, SECTION 33, T16S, R14E, W.M.; 150 FEET NORTH & 150 FEET EAST FROM CENTER 1/4 CORNER, SECTION 33  

WELL #2: NE ¼ NW ¼, SECTION 33, T16S, R14E, W.M.; 150 FEET NORTH & 150 FEET EAST FROM NW 1/16TH CORNER, SECTION 33  

WELL #3: NE ¼ NW ¼, SECTION 33, T16S, R14E, W.M.; 660 FEET SOUTH & 150 FEET EAST FROM NORTHERLY W 1/16TH CORNER, SECTION 33  

WELL #4: NE ¼ NW ¼, SECTION 33, T16S, R14E, W.M.; 150 FEET SOUTH & 150 FEET EAST FROM NORTHERLY W 1/16TH CORNER, SECTION 33  

WELL #5: SE ¼ NW ¼, SECTION 28, T16S, R14E, W.M.; 150 FEET NORTH & 950 FEET EAST FROM C-W 1/16TH CORNER, SECTION 28  

WELL #6: SE ¼ NW ¼, SECTION 28, T16S, R14E, W.M.; 150 FEET SOUTH & 150 FEET EAST FROM NW 1/16TH CORNER, SECTION 28  

Application G-15789 Water Resources Department PERMIT G-15855
THE PLACE OF USE IS LOCATED WITHIN THE SERVICE BOUNDARY OF THE
EAGLE CREST RESORT; LOCATED WITHIN:

SOUTH HALF
SECTION 21
SOUTH HALF
SECTION 22
SW 1/4 NW 1/4
SOUTH HALF
SECTION 26
SECTION 27 ALL
SE 1/4 NW 1/4
EAST HALF
SECTION 28
NW 1/4 NE 1/4
SW 1/4 NE 1/4
SE 1/4 NE 1/4
NE 1/4 NW 1/4
SECTION 33
NW 1/4 NW 1/4
SECTION 34
TOWNSHIP 16 SOUTH, RANGE 14 EAST, W.M.

Measurement, recording and reporting conditions:

A. Before water use may begin under this permit, the
permittee shall install a meter or other suitable
measuring device as approved by the Director. The
permittee shall maintain the meter or measuring device
in good working order, shall keep a complete record of
the amount of water used each month and shall submit a
report which includes the recorded water use
measurements to the Department annually or more
frequently as may be required by the Director. Further,
the Director may require the permittee to report general
water use information, including the place and nature of
use of water under the permit.

B. The permittee shall allow the watermaster access to the
meter or measuring device; provided however, where the
meter or measuring device is located within a private
structure, the watermaster shall request access upon
reasonable notice.

Use of water under authority of this permit may be regulated if
analysis of data available after the permit is issued discloses
that the appropriation will measurably reduce the surface water

Application G-15789  Water Resources Department  PERMIT G-15855
flows necessary to maintain the free-flowing character of a scenic waterway in quantities necessary for recreation, fish and wildlife in effect as of the priority date of the right or as those quantities may be subsequently reduced. However, the use of ground water allowed under the terms of this permit will not be subject to regulation for Scenic Waterway flows so long as mitigation is maintained.

**GROUND WATER MITIGATION CONDITIONS**

Mitigation Obligation: 203.2 acre-feet in the General Zone of Impact (anywhere in the Deschutes Basin above the Madras gage, which is located on the Deschutes River below Lake Billy Chinook)

Mitigation Source: Mitigation Credits or a Mitigation Project, in accordance with the incremental development plan on file with the Department, meeting the requirements of OAR Chapter 690, Division 505 (Deschutes Ground Water Mitigation Rules).

The first stage of incremental development was met with 50.0 AF of mitigation, being 50.0 temporary mitigation credits from a chartered mitigation bank from MP-5.

Mitigation water must be legally protected instream for instream use within the General Zone of Impact and committed for life of the permit and subsequent certificate(s). Regulation of the use and/or cancellation of the permit, or subsequent certificate(s) will occur if the required mitigation is not maintained.

If mitigation is from a secondary right for stored water from a storage project not owned or operated by the permittee, the use of water under this right is subject to the terms and conditions of a valid contract, or a satisfactory replacement, with the owner/operator of the storage project, a copy of which must be on file in the records of the Water Resources Department prior to use of water.

The permittee shall provide additional mitigation if the Department determines that average annual consumptive use of the subject appropriation has increased beyond the originally

Application G-15789 Water Resources Department PERMIT G-15855
mitigated amount.

The permittee shall provide mitigation prior to each stage of development under the permit, as described in the incremental development mitigation plan on file with the Department, and in accordance with the standards of the Deschutes Ground Water Mitigation Rules, OAR Chapter 690, Division 505.

The permittee shall not increase the rate or amount of water diverted, as described in the incremental development mitigation plan, prior to increasing the corresponding mitigation.

The permittee shall seek and receive Department approval prior to changing the incremental mitigation development plan and related mitigation obligation for each stage of permit development.

The permittee shall report to the Department the progress of implementing the incremental mitigation development plan and related mitigation no later than April 1 of each year. This annual notification is not necessary if the permittee has completed development and submitted a Claim of Beneficial Use to the Department.

Within two years of permit issuance, the permittee shall submit a new or updated Water Management and Conservation Plan pursuant to OAR Chapter 690, Division 86.

Failure to comply with these mitigation conditions shall result in the Department regulating the ground water permit, or subsequent certificate(s), proposing to deny any permit extension application for the ground water permit, and proposing to cancel the ground water permit, or subsequent certificate(s).

STANDARD CONDITIONS

If substantial interference with a senior water right occurs due to withdrawal of water from any well listed on this permit, then use of water from the well(s) shall be discontinued or reduced and/or the schedule of withdrawal shall be regulated until or unless the Department approves or implements an alternative administrative action to mitigate the interference. The Department encourages junior and senior appropriators to jointly develop plans to mitigate interferences.

The wells shall be constructed in accordance with the General Standards for the Construction and Maintenance of Water Wells in Oregon. The works shall be equipped with a usable access port, and may also include an air line and pressure gauge adequate to

Application G-15789 Water Resources Department PERMIT G-15855
determine water level elevation in the well at all times. The use shall conform to such reasonable rotation system as may be ordered by the proper state officer.

Prior to receiving a certificate of water right, the permit holder shall submit the results of a pump test meeting the department's standards, to the Water Resources Department. The Director may require water level or pump test results every ten years thereafter.

Failure to comply with any of the provisions of this permit may result in action including, but not limited to, restrictions on the use, civil penalties, or cancellation of the permit.

This permit is for the beneficial use of water without waste. The water user is advised that new regulations may require the use of best practical technologies or conservation practices to achieve this end.

By law, the land use associated with this water use must be in compliance with statewide land-use goals and any local acknowledged land-use plan.

The use of water shall be limited when it interferes with any prior surface or ground water rights.

Complete application of the water to the use shall be made on or before October 1, 2009. If the water is not completely applied before this date, and the permittee wishes to continue development under the permit, the permittee must submit an application for extension of time, which may be approved based upon the merit of the application.

Within one year after complete application of water to the proposed use, the permittee shall submit a claim of beneficial use, which includes a map and report, prepared by a Certified Water Rights Examiner (CWRE).

Issued February 17, 2005

[Signature]

Phillip C. Ward, Director
Water Resources Department

Application G-15789        Water Resources Department        PERMIT G-15855
Basin 5                      Volume 1 DESCHUTES R MISC        District 11
huffmaam
REAL ESTATE TRANSACTIONS: Pursuant to ORS 537.330, in any transaction for the conveyance of real estate that includes any portion of the lands described in this permit, the seller of the real estate shall, upon accepting an offer to purchase that real estate, also inform the purchaser in writing whether any permit, transfer approval order, or certificate evidencing the water right is available and that the seller will deliver any permit, transfer approval order or certificate to the purchaser at closing, if the permit, transfer approval order or certificate is available.

CULTURAL RESOURCES PROTECTION LAWS: Permittees involved in ground-disturbing activities should be aware of federal and state cultural resources protection laws. ORS 358.920 prohibits the excavation, injury, destruction or alteration of an archeological site or object, or removal of archeological objects from public and private lands without an archeological permit issued by the State Historic Preservation Office. 16 USC 470, Section 106, National Historic Preservation Act of 1966 requires a federal agency, prior to any undertaking to take into account the effect of the undertaking that is included on or eligible for inclusion in the National Register. For further information, contact the State Historic Preservation Office at 503-378-4168, extension 232.

ASSIGNMENT OF PERMIT: Pursuant to ORS 537.220, this permit may be assigned to a party other than the permittee named hereon, if the land the permit is associated with changes ownership, or if the permittee is an organization whose name changes as a result of sale or merger. Request for Assignment forms are available from the Oregon Water Resources Department web site at http://www.wrd.state.or.us/, or may be requested from the Department at 503-986-0801 or Water Right Application Section, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR 97301-1271.

MAILING ADDRESS CHANGES: If the mailing address of the permittee named hereon changes, it is important that the Oregon Water Resources Department be informed of the change. Address changes must be submitted in writing with the permittee’s signature to Water Right Application Section, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR 97301-1271.
TOWNSHIP 16 RAGE 14
GROUNDWATER APPROPRIATION APPLICATION MAP

Note: This map was prepared for the

[Diagram of groundwater application area with various boundaries and depths marked]

Sec. 1, T. 16 N., R. 14 W., 5th P.

Received:

Jul 01 2002

[Stamp or signature]
10.00 30.00 673.00

How was seal placed? C Other:

Back fill placed from:

Filter pack from: Material:

Size:

14.00 0.00 30.00 33

10.00 30.00 673.00

(4) Proposed Use

☐ Domestic  ☐ Community  ☐ Industrial  ☐ Irrigation  ☐ Injection

☐ Livestock  ☐ Thermal  ☐ Other: QUASI-MUNICIPAL

(5) Bore Hole Construction

☐ Special Standards: Depth of completed well: 673.00 ft.

☐ Explosives Used: Amount:

☐ Bore Hole Construction Method

☐ Rotary Air  ☐ Rotary Mud  ☐ Cable  ☐ Auger

Other: 

(6) Casing / Liner

Casing Diameter From To Mtrl From To Gauge Mtrl Depth at which water was first found:

14.00 0.00 30.00 33

10.00 30.00 673.00

How was seal placed? C Other: 

Back fill placed from:

Filter pack from: Material:

Size:

10.00 2.00 30.00 .250 S X

8.00 0.00 673.00 .250 S X

(7) Perforation / Screens

Perforations:

Material

<table>
<thead>
<tr>
<th>FROM TO EST FLOW</th>
<th>SWL</th>
</tr>
</thead>
<tbody>
<tr>
<td>610.00 673.00 100.00 508</td>
<td></td>
</tr>
</tbody>
</table>

(8) Well Tests (Minimum testing time is one hour)

Type Yield Units Drawdown Stem at Duration

A 100.00 G 670.00 1.00

P 200.00 G 0.00 1.00

P 500.00 G 6.00 19.00

Temperature of Water: 65 F

Was water analysis done? ☐ Depth of artesian flow:

by whom?

Did any strata contain water unsuitable for use? ☐ Too Little ☐ Salty

☐ Muddy ☐ Odor ☐ Colored other:

Depth of strata:

RECEIVED

AUG 09 2006

WATER RESOURCES DEPT

SALEM, OREGON

(9) Location of Hole by legal description

County: CROO  Latitude: 44°8'38"  Longitude: 121°3'59"

Township: 16.00 S  Range: 14.00 E

Section: 33 NENW  Lot: 126

Tax Lot: 26000  3400  Subdivision: S POWELL BUTTE HWY POWELL BUTTE

MAP, with location identified, must be attached.

(10) Static Water Level

Feet below land surface: 506.0  Date: 10/02/2002

Artesian Pressure: Date:

(11) Water Bearing Zones

Depth at which water was first found: 610.00 ft.

From To est Flow swl

610.00 673.00 100.00 508

(12) Well Log

Ground Elevation: 3251 ft.

<table>
<thead>
<tr>
<th>Material</th>
<th>FROM</th>
<th>TO</th>
<th>swl</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY</td>
<td>2.00</td>
<td>18.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN</td>
<td>18.00</td>
<td>21.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN HARD</td>
<td>21.00</td>
<td>26.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY</td>
<td>26.00</td>
<td>40.00</td>
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</tr>
<tr>
<td>CINDERS LAVA</td>
<td>40.00</td>
<td>55.00</td>
<td></td>
</tr>
<tr>
<td>LAVA PUMICE</td>
<td>86.00</td>
<td>140.00</td>
<td></td>
</tr>
<tr>
<td>BASALT FRAC LAYERS</td>
<td>140.00</td>
<td>157.00</td>
<td></td>
</tr>
<tr>
<td>NO RETURNS</td>
<td>157.00</td>
<td>170.00</td>
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</tr>
<tr>
<td>BASALT RED BLACK</td>
<td>170.00</td>
<td>195.00</td>
<td></td>
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<tr>
<td>CINDERS LAVA BROWN</td>
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<td>305.00</td>
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<tr>
<td>LAVA BROWN</td>
<td>315.00</td>
<td>325.00</td>
<td></td>
</tr>
<tr>
<td>SANDSTONE</td>
<td>325.00</td>
<td>340.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY SOFT HARD LAYERS</td>
<td>340.00</td>
<td>435.00</td>
<td></td>
</tr>
<tr>
<td>LAVA RED BROWN</td>
<td>435.00</td>
<td>445.00</td>
<td></td>
</tr>
<tr>
<td>NO RETURNS</td>
<td>445.00</td>
<td>470.00</td>
<td></td>
</tr>
<tr>
<td>RED LAVA</td>
<td>470.00</td>
<td>503.00</td>
<td></td>
</tr>
<tr>
<td>LAVA FRAC</td>
<td>503.00</td>
<td>512.00</td>
<td></td>
</tr>
<tr>
<td>LAVA HARD</td>
<td>512.00</td>
<td>555.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN</td>
<td>555.00</td>
<td>565.00</td>
<td></td>
</tr>
</tbody>
</table>

Date Started: 09/23/2002  Date Completed: 10/02/2002

(unbonded) Water Well Constructor Certification:

I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.

Signed by: THOMAS R PECK  WWC #: 758

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

Signed by: JACK ABBAS  WWC #: 1720
STATE OF OREGON
Water Supply Well Report
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

(1) Owner
Name:
Street:
City:
State:
Zip Code:

(2) Type of Work
☐ New
☐ Alter (Recondition)
☐ Alter (Repair)
☐ Deepening
☐ Abandonment

(3) Drill Method
☐ Rotary Air
☐ Rotary Mud
☐ Cable
☐ Auger
Other:

(4) Proposed Use
☐ Domestic
☐ Community
☐ Industrial
☐ Irrigation
☐ Injection
☐ Livestock
☐ Thermal
☐ Other:

(5) Bore Hole Construction
☐ Special Standards
☐ Depth of completed well:
☐ Explosives Used
☐ Amount:
☐ Type:

<table>
<thead>
<tr>
<th>Hole</th>
<th>Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameter</td>
<td>From</td>
</tr>
<tr>
<td>Mtrl</td>
<td>From</td>
</tr>
<tr>
<td>Sacks/lbs</td>
<td></td>
</tr>
</tbody>
</table>

How was seal placed?
☐ Other:

Back fill placed from:
☐ Material:
☐ Size:

(6) Casing / Liner
Casing/
Liner Diameter | From | To |
Shoe Shoe
Gauge Mtrl Weld Thrd at used

(7) Perforation / Screens
Perforations:
Mtrl | From | To |
Width Height | # Slots | Dia. | t/p Size | Lnr | Method

Screens:
Mtrl | From | To |
S Size | # Slots | Dia. | t/p Size | Type | Gauge

(8) Well Tests
Type
Yield
Units
Drawdown
Stem at
Duration

Temperature of Water:
Was water analysis done?
☐ Depth of artesian flow:
by whom?

Did any strata contain water unsuitable for use?
☐ Too Little
☐ Salty
☐ Muddy
☐ Odor
☐ Colored other:

Depth of strata:

(9) Location of Hole by legal description
County:
Latitude:
Longitude:
Township:
Range:
Section:
Lot:
Block:
Tax Lot:
Subdivision:
Street Address of Well (or nearest address):

MAP, with location identified, must be attached.

(10) Static Water Level
Feet below land surface:
Date:
Artesian Pressure:
Date:

(11) Water Bearing Zones
Depth at which water was first found:
From
To
est Flow
swl

(12) Well Log
Ground Elevation:

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>swl</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAVA CLAY SEAMS</td>
<td>565.00</td>
<td>592.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY HARD</td>
<td>592.00</td>
<td>600.00</td>
<td></td>
</tr>
<tr>
<td>LAVA CLAY SEAMS</td>
<td>600.00</td>
<td>673.00</td>
<td>508</td>
</tr>
<tr>
<td>4 YRDS CEMENT</td>
<td>120.00</td>
<td>260.00</td>
<td></td>
</tr>
<tr>
<td>4.5 YRDS CEMENT</td>
<td>230.00</td>
<td>405.00</td>
<td></td>
</tr>
<tr>
<td>11 YRDS CEMENT</td>
<td>300.00</td>
<td>470.00</td>
<td></td>
</tr>
</tbody>
</table>

Date Started:
Date Completed:

(unbonded) Water Well Constructor Certification:
I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.
Signed by:
WWC #:

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed by:
WWC #:
Phone:
CROO 51956

STATE OF OREGON
Water Supply Well Report
(as required by ORS 537.765)

Instructions for completing this report are on the last page of this form.

(1) Owner
Name: EAGLE CREST INC
Street: PO BOX 1215
City: REDMOND
State: OR Zip Code: 97756

(2) Type of Work
X New
[ ] Alter (Recondition)
[ ] Alter (Repair)
[ ] Deepening
[ ] Abandonment

(3) Drill Method
X Rotary Air
[ ] Rotary Mud
[ ] Cable
[ ] Auger

(4) Proposed Use
[ ] Domestic
[ ] Community
[ ] Industrial
[ ] Irrigation
[ ] Injection
[ ] Livestock
[ ] Thermal
[ ] Other: QUASI-MUNICIPAL

(5) Bore Hole Construction
[ ] Special Standards
[ ] Explosives Used
Amount: Type:

<table>
<thead>
<tr>
<th>Hole Diameter From</th>
<th>To</th>
<th>Mtrl</th>
<th>From</th>
<th>To</th>
<th>Sacks/lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.00</td>
<td>0.00</td>
<td>30.00</td>
<td>CE</td>
<td>0.00</td>
<td>30.00</td>
</tr>
<tr>
<td>10.00</td>
<td>30.00</td>
<td>673.00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How was seal placed? C Other: 
Back fill placed from:
Filter pack from:

(6) Casing / Liner
Csg/
Liner Diameter From To Gauge Mtrl Weld Thrd at used
C
L

(7) Perforation / Screens
Perforations:

<table>
<thead>
<tr>
<th>SCS</th>
<th>Mtrl From</th>
<th>To Width Height #Slots Dia</th>
<th>t/pSize</th>
<th>Lnr Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>573.00</td>
<td>673.00</td>
<td>0.13</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Screens:

<table>
<thead>
<tr>
<th>Mtrl From</th>
<th>To S Size #Slots Dia</th>
<th>t/pSize</th>
<th>Type</th>
<th>Gauge</th>
</tr>
</thead>
</table>

(8) Well Tests (Minimum testing time is one hour)

<table>
<thead>
<tr>
<th>Type</th>
<th>Yield</th>
<th>Units</th>
<th>Drawdown</th>
<th>Stem at</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100.00</td>
<td>G</td>
<td>670.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>200.00</td>
<td>G</td>
<td>0.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>500.00</td>
<td>G</td>
<td>6.00</td>
<td>19.00</td>
<td></td>
</tr>
</tbody>
</table>

Temperature of Water: 66 F
Was water analysis done? Depth of artesian flow:
by whom?
Did any strata contain water unsuitable for use? Too Little Salty
Muddy Odor Colored other:

(9) Location of Hole by legal description
County: CROO
Latitude: 44°38’
Longitude: 121°3’59”
Township: 16.00 S
Range: 14.00 E
Section: 33 NENW
Lot: Block:
Tax Lot: 3800
Subdivision:
Street Address of Well (or nearest address):
S POWELL BUTTE HWY POWELL BUTTE
MAP, with location identified, must be attached.

(10) Static Water Level
Feet below land surface: 508.0
Date: 10 / 02 / 2002
Artesian Pressure:

(11) Water Bearing Zones
Depth at which water was first found: 610.00 ft.

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>est Flow</th>
<th>swl</th>
</tr>
</thead>
<tbody>
<tr>
<td>610.00</td>
<td>673.00</td>
<td>100.00</td>
<td>508</td>
</tr>
</tbody>
</table>

(12) Well Log
Ground Elevation: 3251 ft.

<table>
<thead>
<tr>
<th>Material</th>
<th>From</th>
<th>To</th>
<th>swl</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAND PUMICE</td>
<td>0.00</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY</td>
<td>2.00</td>
<td>18.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN</td>
<td>18.00</td>
<td>21.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN HARD</td>
<td>21.00</td>
<td>26.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY</td>
<td>26.00</td>
<td>40.00</td>
<td></td>
</tr>
<tr>
<td>CINDERS LAVA</td>
<td>40.00</td>
<td>55.00</td>
<td></td>
</tr>
<tr>
<td>LAVA PUMICE</td>
<td>86.00</td>
<td>140.00</td>
<td></td>
</tr>
<tr>
<td>BASALT FRAC LAYERS</td>
<td>140.00</td>
<td>157.00</td>
<td></td>
</tr>
<tr>
<td>NO RETURNS</td>
<td>157.00</td>
<td>170.00</td>
<td></td>
</tr>
<tr>
<td>BASALT RED BLACK</td>
<td>170.00</td>
<td>195.00</td>
<td></td>
</tr>
<tr>
<td>CINDERS LAVA BROWN</td>
<td>195.00</td>
<td>200.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY BROWN</td>
<td>200.00</td>
<td>280.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY HARD</td>
<td>280.00</td>
<td>305.00</td>
<td></td>
</tr>
<tr>
<td>BROKEN LAVA BASALT</td>
<td>305.00</td>
<td>315.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN</td>
<td>315.00</td>
<td>325.00</td>
<td></td>
</tr>
<tr>
<td>SANDSTONE</td>
<td>325.00</td>
<td>340.00</td>
<td></td>
</tr>
<tr>
<td>LAVA GRAY SOFT HARD LAYERS</td>
<td>340.00</td>
<td>436.00</td>
<td></td>
</tr>
<tr>
<td>LAVA RED BROWN</td>
<td>436.00</td>
<td>446.00</td>
<td></td>
</tr>
<tr>
<td>NO RETURNS</td>
<td>446.00</td>
<td>470.00</td>
<td></td>
</tr>
<tr>
<td>RED LAVA</td>
<td>470.00</td>
<td>503.00</td>
<td></td>
</tr>
<tr>
<td>LAVA FRAC</td>
<td>503.00</td>
<td>512.00</td>
<td></td>
</tr>
<tr>
<td>LAVA HARD</td>
<td>512.00</td>
<td>555.00</td>
<td></td>
</tr>
<tr>
<td>LAVA BROWN</td>
<td>555.00</td>
<td>566.00</td>
<td></td>
</tr>
</tbody>
</table>

Date Started: 09 / 23 / 2002
Date Completed: 10 / 02 / 2002

(unbonded) Water Well Constructor Certification:
I certify that the work I perform on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to the best knowledge and belief.
Signed by: THOMAS R PECK
WWC #: 758

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
Signed by: JACK ABBAS
WWC #: 1720

Page 1 of 2
ABBAS WELL DRILLING CO
Phone: 541-548-2787
STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0118)

(1) LAND OWNER
Owner Well I.D. 2.
First Name Last Name
Company Avion Water CO
Address 60813 Farrell Rd.
City Bend State OR Zip 97702

(2) TYPE OF WORK
New Well
Deepening
Conversion
Alteration (repair/recondition)
Abandonment

(3) DRILL METHOD
Rotary Air
Rotary Mud
Cable
Auger
Cable Mud
Reverse Rotary
Other

(4) PROPOSED USE
Industrial/Commercial
Domestic
Irrigation
Community
Thermal
Injection
Qua - Municipal

(5) BORE HOLE CONSTRUCTION
Depth of Completed Well 702.00 ft.
SEAL sack/s
Material From To
12 0 560 Bentonite Chips 0 3 3 S
10 560 702 Cement 3 145 66 S

How was seal placed:
Method:
Other Poured Dry

Filter pack:
Material From to ft. to ft. Material Size

Explosives used:
Yes Type

(6) CASING/LINER CONSTRUCTION
Casing Liner Dia From To Gauge Stl Plat Edh

Shoe Inside Outside Other Location of shoe(s)
Temp casing:
Yes Dia From To

(7) PERFORATIONS/Screens
Perforations Method Machine

Material From To
Sand Pumice Brown 0 1
Lava Gray 1 17
Basalt Clay Seams Brown 17 24
Lava Gray Hard 24 41
Cinders Red 41 52
Sandstone Sand Gravel Layers 52 140
Lava 140 175
Lava Basalt Broken 175 186
Lava Gray Fractured 186 195
Cinders Conglomerate 195 205
Basalt Conglomerate 205 245
Lava Creviced 245 270
Basalt 270 315
Sandstone Brown 315 345
Lava Poor Circulation 345 400
Lava Gray Hard 400 425
Lava Hard Fractured 425 460
Lava Basalt 460 505
Basalt Clay Seams Brown 505 570

Date Started 06-05-2006
Completed 06-19-2006

(8) WELL TESTS: Minimum testing time is 1 hour

Pump Bailer Air Flowing Artesian

Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)
300 700 2

Temperature 64 °F Lab analysis Yes By

Water quality concerns?
Yes (describe below)

From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County Crook Twp 16.00 S N/S Range 14.00 E E/W WM
Sec 33 NE 1/4 of the NW 1/4
Tax Lot 3600
Lot
Lat 44 ° 35' 54.000" or 44 ° 35' 54.3333
DMS or DD
Long -121 ° 42' 45.000" or -121 ° 42' 45.3333
DMS or DD
Street address of well
Nearest address

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(pH)
06-15-2006 595 700 300 517

WATER BEARING ZONES Depth water was first found 595

(11) WELL LOG
Ground Elevation 3,207

Material
Sand Pumice Brown 0 1
Lava Gray 1 17
Basalt Clay Seams Brown 17 24
Lava Gray Hard 24 41
Cinders Red 41 52
Sandstone Sand Gravel Layers 52 140
Lava 140 175
Lava Basalt Broken 175 186
Lava Gray Fractured 186 195
Cinders Conglomerate 195 205
Basalt Conglomerate 205 245
Lava Creviced 245 270
Basalt 270 315
Sandstone Brown 315 345
Lava Poor Circulation 345 400
Lava Gray Hard 400 425
Lava Hard Fractured 425 460
Lava Basalt 460 505
Basalt Clay Seams Brown 505 570

Date Started 06-05-2006
Completed 06-19-2006

License Number 758 Date 06-27-2006
Electronically Filed
Signed THOMAS R PECK (E-filed)

License Number 1720 Date 06-27-2006
Electronically Filed
Signed JACK ABBAS (E-filed)
Contact Info (optional)

ORIGINAL - WATER RESOURCES DEPARTMENT
THIS REPORT MUST BE SUBMITTED TO THE WATER RESOURCES DEPARTMENT WITHIN 30 DAYS OF COMPLETION OF WORK
Form Version: 0.88
APPENDIX C – WATER RECORDS
### Brasada 2010

<table>
<thead>
<tr>
<th>Month</th>
<th>Sales (ft³)</th>
<th>Use (gallons)</th>
<th>Production (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January-10</td>
<td>*</td>
<td>*</td>
<td>930,390</td>
</tr>
<tr>
<td>February-10</td>
<td>*</td>
<td>*</td>
<td>3,303,133</td>
</tr>
<tr>
<td>March-10</td>
<td>*</td>
<td>*</td>
<td>5,136,960</td>
</tr>
<tr>
<td>April-10</td>
<td>*</td>
<td>*</td>
<td>7,243,397</td>
</tr>
<tr>
<td>May-10</td>
<td>157,962</td>
<td>1,181,638</td>
<td>4,116,610</td>
</tr>
<tr>
<td>June-10</td>
<td>268,082</td>
<td>2,005,393</td>
<td>3,735,180</td>
</tr>
<tr>
<td>July-10</td>
<td>419,341</td>
<td>3,136,889</td>
<td>6,723,390</td>
</tr>
<tr>
<td>August-10</td>
<td>791,299</td>
<td>5,919,328</td>
<td>6,957,899</td>
</tr>
<tr>
<td>September-10</td>
<td>768,795</td>
<td>5,750,986</td>
<td>4,504,950</td>
</tr>
<tr>
<td>October-10</td>
<td>557,076</td>
<td>4,167,218</td>
<td>1,482,750</td>
</tr>
<tr>
<td>November-10</td>
<td>128,270</td>
<td>959,526</td>
<td>711,810</td>
</tr>
<tr>
<td>December-10</td>
<td>95,340</td>
<td>713,193</td>
<td>199,860</td>
</tr>
<tr>
<td><strong>SUBTOTAL=</strong></td>
<td><strong>3,186,165</strong></td>
<td><strong>23,834,171</strong></td>
<td><strong>45,046,328</strong></td>
</tr>
</tbody>
</table>

*Info unavailable due to billing program change*

### Brasada 2011

<table>
<thead>
<tr>
<th>Month</th>
<th>Sales (ft³)</th>
<th>Use (gallons)</th>
<th>Production (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January-11</td>
<td>133,949</td>
<td>1,002,008</td>
<td>2,559,030</td>
</tr>
<tr>
<td>February-11</td>
<td>19,194</td>
<td>143,581</td>
<td>804,420</td>
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<tr>
<td>March-11</td>
<td>130,000</td>
<td>972,468</td>
<td>619,380</td>
</tr>
<tr>
<td>April-11</td>
<td>115,942</td>
<td>867,306</td>
<td>2,860,756</td>
</tr>
<tr>
<td>May-11</td>
<td>260,445</td>
<td>1,948,264</td>
<td>3,020,760</td>
</tr>
<tr>
<td>June-11</td>
<td>481,310</td>
<td>3,600,449</td>
<td>4,811,790</td>
</tr>
<tr>
<td>July-11</td>
<td>664,310</td>
<td>4,969,384</td>
<td>6,238,680</td>
</tr>
<tr>
<td>August-11</td>
<td>626,216</td>
<td>4,684,421</td>
<td>5,352,630</td>
</tr>
<tr>
<td>September-11</td>
<td>1,677,751</td>
<td>12,550,450</td>
<td>4,360,529</td>
</tr>
<tr>
<td>October-11</td>
<td>296,521</td>
<td>2,218,131</td>
<td>1,997,250</td>
</tr>
<tr>
<td>November-11</td>
<td>256,200</td>
<td>1,916,509</td>
<td>1,310,160</td>
</tr>
<tr>
<td>December-11</td>
<td>139,900</td>
<td>1,046,525</td>
<td>700,290</td>
</tr>
<tr>
<td><strong>SUBTOTAL=</strong></td>
<td><strong>4,801,738</strong></td>
<td><strong>35,919,497</strong></td>
<td><strong>34,635,675</strong></td>
</tr>
</tbody>
</table>

### Brasada 2012

<table>
<thead>
<tr>
<th>Month</th>
<th>Sales (ft³)</th>
<th>Use (gallons)</th>
<th>Production (gallons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>January-12</td>
<td>1,041,146</td>
<td>7,788,313</td>
<td>964,830</td>
</tr>
<tr>
<td>February-12</td>
<td>9,041</td>
<td>67,631</td>
<td>1,059,660</td>
</tr>
<tr>
<td>March-12</td>
<td>134,103</td>
<td>1,003,160</td>
<td>1,243,680</td>
</tr>
<tr>
<td>April-12</td>
<td>153,115</td>
<td>1,145,380</td>
<td>2,378,490</td>
</tr>
<tr>
<td>May-12</td>
<td>433,480</td>
<td>3,242,656</td>
<td>3,985,620</td>
</tr>
<tr>
<td>June-12</td>
<td>692,765</td>
<td>5,182,242</td>
<td>7,569,150</td>
</tr>
<tr>
<td>July-12</td>
<td>696,500</td>
<td>5,210,182</td>
<td>6,154,536</td>
</tr>
<tr>
<td>August-12</td>
<td>779,563</td>
<td>5,831,537</td>
<td>5,088,060</td>
</tr>
<tr>
<td>September-12</td>
<td>705,176</td>
<td>5,275,083</td>
<td>6,424,350</td>
</tr>
<tr>
<td>October-12</td>
<td>441,175</td>
<td>3,300,218</td>
<td>3,391,320</td>
</tr>
<tr>
<td>November-12</td>
<td>116,162</td>
<td>868,952</td>
<td>1,063,950</td>
</tr>
<tr>
<td>December-12</td>
<td>57,553</td>
<td>430,526</td>
<td>282,840</td>
</tr>
<tr>
<td><strong>SUBTOTAL=</strong></td>
<td><strong>5,259,779</strong></td>
<td><strong>39,345,882</strong></td>
<td><strong>39,606,486</strong></td>
</tr>
</tbody>
</table>
APPENDIX D – CONSUMER CONFIDENCE REPORT & BLUE WATER PROGRAM
What is Blue Water? Blue Water gives Avion Water customers an opportunity to make direct contributions to the Deschutes River Conservancy, a local 501 c-3 non-profit working to restore streamflows and improve water quality in the Deschutes Basin. Your valuable support is directly increasing streamflow in Tumalo Creek, the Little Deschutes and in the Deschutes River.

What does my money do? Every dollar you donate through the Blue Water program goes directly to the DRC to support streamflow restoration on the Deschutes River during summer irrigation seasons when flows are critically low. For information on DRC programs visit: www.deschutesriver.org. Your Blue Water dollars improve instream flows in the Deschutes River for the benefit of fish, water quality and wildlife habitat. Just $1.00 can put 46,550 gallons of water back in the River!

How do I sign up? Sign up by filling in the enrollment form below and returning to Avion Water with your bill payment. If you pay your bill online you can enroll by sending the completed enrollment form to Avion Water in the envelope provided. You can opt out of the program at any time by calling Avion Water.

Middle Deschutes River at the Riverhouse 45 cfs

... and at 160 cfs (2012 protected flows)

How do I sign up? Sign up by filling in the enrollment form below and returning to Avion Water with your bill payment. If you pay your bill online you can enroll by sending the completed enrollment form to Avion Water in the envelope provided. You can opt out of the program at any time by calling Avion Water.

Monthly Contribution Levels

<table>
<thead>
<tr>
<th>RIVER OTTER</th>
<th>BLUE HERON</th>
<th>RAINBOW TROUT</th>
<th>SPOTTED FROG</th>
</tr>
</thead>
<tbody>
<tr>
<td>$6.40</td>
<td>$4.80</td>
<td>$3.20</td>
<td>$1.60</td>
</tr>
</tbody>
</table>

ENROLLMENT FORM

YES! I would like to ‘GIVE TO THE FLOW’ through the Blue Water program and help put water back into the Deschutes River. I agree to sign up for the selected level and pay the extra charge on my monthly water bill. Please return the completed form with your Avion Water bill.

NAME

AVION WATER ACCOUNT NUMBER

STREET ADDRESS

CITY, STATE, ZIP

DAYTIME PHONE/E-MAIL

You can discontinue at any time by contacting Avion Water. Information not sold or shared.

BLUEWATER LEVELS

Please choose one of these options:

- ☐️ River Otter $6.40
- ☐️ Blue Heron $4.80
- ☐️ Rainbow Trout $3.20
- ☐️ Spotted Frog $1.60

2011 Contributions:

$13,331.15 Donated

795 Acres and 1.05 Billion Gallons of Water Leased Instream

On-Line Pay Customers can enroll by sending this completed form directly to Avion Water Company, 60813 Parrell Rd, Bend, OR 97702
Federal standards regulate contaminants in order to protect drinking water quality. Avion Water Company-Brasada Ranch tested hundreds of regulated and unregulated contaminants. The most recent test results from 2011 and within the past 5 years are reported in the table below with only contaminants that were detected being listed.

### Primary Standards (directly related to the safety of drinking water)

<table>
<thead>
<tr>
<th>Inorganic Contaminants</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 - Fluoride</td>
<td>(ppm)</td>
<td>4</td>
<td>4</td>
<td>0.466</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>2011 - Nitrate</td>
<td>(ppm)</td>
<td>10</td>
<td>10</td>
<td>1.29</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Unregulated Contaminants</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>*2010 - Sodium</td>
<td>(ppm)</td>
<td>N/A</td>
<td>N/A</td>
<td>27.9</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

*Advisory only

<table>
<thead>
<tr>
<th>Radiological Contaminants</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009 - Gross Alpha</td>
<td>(pC/l)</td>
<td>15</td>
<td>0</td>
<td>0.0 - 1.5</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Radium</td>
<td>(pC/l)</td>
<td>5</td>
<td>0</td>
<td>0.0 - 0.7</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

Lead & Copper

<table>
<thead>
<tr>
<th>Lead &amp; Copper</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 - Copper</td>
<td>(ppm)</td>
<td>1.3</td>
<td>1.3</td>
<td>0.091</td>
<td>No</td>
<td>Household plumbing</td>
</tr>
<tr>
<td>2011 - Lead</td>
<td>(ppb)</td>
<td>0</td>
<td>15</td>
<td>2.0</td>
<td>No</td>
<td>Household plumbing</td>
</tr>
</tbody>
</table>

### Powell Butte View Estates  PWSID# 00671

Powell Butte View Estates water is now supplied by Avion-WC-Brasada Ranch Wells. Previous testing before 2012 is listed below that affected your drinking water.

<table>
<thead>
<tr>
<th>Inorganic Contaminants</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010 - Arsenic</td>
<td>(ppb)</td>
<td>10</td>
<td>0</td>
<td>2.0</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>2011 - Nitrate</td>
<td>(ppm)</td>
<td>10</td>
<td>10</td>
<td>1.19</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radiological Contaminants</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 - Radium</td>
<td>(pC/l)</td>
<td>5</td>
<td>0</td>
<td>0.8 - 2.4</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lead &amp; Copper</th>
<th>(Units)</th>
<th>MCL</th>
<th>MCLG</th>
<th>Range/Result</th>
<th>Violation</th>
<th>Likely source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011 - Copper</td>
<td>(ppm)</td>
<td>1.3</td>
<td>1.3</td>
<td>0.02</td>
<td>No</td>
<td>Household plumbing</td>
</tr>
</tbody>
</table>

### Cross Connections:

Cross connection within your water system most often occurs at your home. Cross connection is when the drinking water and non drinking water sources i.e.; irrigation, stock tanks, chemical sprayers, etc., cross paths and become interconnected. The garden hose is the most common cross connection, • connecting it directly to a hose-end sprayer to apply pesticide or fertilizer to your yard, • connecting it to a soap-and-brush attachment to wash your car, boat, or siding, • Letting the end of the hose lie in a puddle or pool of water on the ground, • a garden hose left emersed in a stock tank or water dish for animals. Pressure and back flow in your water system can occur and cause contamination. Please visit the EPA website:

[www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_crossconnectioncontrol.pdf](http://www.epa.gov/ogwdw/smallsystems/pdfs/guide_smallsystems_crossconnectioncontrol.pdf)

### Avion Water Company-Brasada Ranch

The 1996 amendments to the Safe Drinking Water Act require that all states conduct Source Water Assessments for public water systems within their boundaries. The assessments consist of (1) identification of the Drinking Water Protection area, i.e., the area at the surface that is directly above the part of the aquifer that supplies groundwater to our well. (2) identification of potential sources of pollution within the drinking water protection area, and (3) determining the susceptibility or relative risk to the well water form those sources. The purpose of the assessment is to provide water systems with information they need to develop a strategy to protect their water resource if they choose.

The Drinking Water Programs Of The Department of Human Services and Environmental Quality have completed a Source Water Assessment. A copy of the report is available for viewing by contacting the office at 541-382-5342 or visit the office at 60813 Parrell Rd., Bend, OR 97702.

**How to access more information on our water system**

On the internet type in HTTP://170.104.63.9, under the blue box that has Drinking Water Program choose WS ID Look Up, and in the box beside PWS Number: OR41 type in 01506 and click View Results. You can scroll to the bottom and choose options to browse information for Avion Water Company-Brasada Ranch.
Blue Water

Avion’s Blue Water Program gives back to the Deschutes River

Did you know that as much as 96% of the water from the middle section of the Deschutes River in Bend is diverted into irrigation canals during the summer months? This creates a dramatic reduction in streamflow in the Middle Deschutes leading to habitat degradation, water quality problems, and an unhealthy river system.

Avion Water Company, owned and operated by Jan Wick and his family, has partnered with the Deschutes River Conservancy (DRC) to create the Blue Water Program. Blue Water is designed to provide an opportunity for Avion Water customers to support the restoration of the Deschutes River through their monthly water bill.

Blue Water offers four different donation levels starting at $1.60 per month and going up to $6.40 per month (at $1.60 increments), 100% of which goes to the DRC’s streamflow enhancement programs, such as leases and instream transfers, on the Deschutes River above Lake Billy Chinook. In 2010, Blue Water created $14,554.30 in donations which helped to lease 855 million gallons of water back instream.

Download the Blue Water enrollment form and the 2011 Annual Report here.

The DRC would like to thank Avion Water Company for helping us achieve our mission.

Restoring streamflow and improving water quality in the Deschutes Basin

Deschutes River Conservancy, 700 NW Hill Street, Bend, OR 97701, 541.382.4077 | Contact Us | Site Map

http://www.deschutesriver.org/what-we-do/blue-water/
APPENDIX E – CURRENT WATER RATES FOR BRASADA RANCH
Containing Rules and Regulations
Governing Water Utility Service

NAMING RATES FOR

Avion Water Company, Inc.  
(name of utility)

60813 Parrell Road  
(address)

Bend, Oregon 97702  
(city, state, & zip code)

541-382-5342 (telephone)  
541-382-5390 (fax)  
(telephone numbers and type)

Serving water in the vicinity of

Parts of Deschutes & Crook Counties, Oregon

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Effective for Service on or after</th>
<th>April 1, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issued By</td>
<td>Avion Water Company, Inc.</td>
<td></td>
</tr>
<tr>
<td>Signed By</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SCHEDULE NO. 1

RESIDENTIAL AND COMMERCIAL METERED RATES

AVAILABLE: To customers of the Company in the areas of Crook and Deschutes Counties.

APPLICABLE: To all customers (excluding irrigation service and fire service).

### BASE RATE

<table>
<thead>
<tr>
<th>Service Meter Size</th>
<th>Monthly Base Rate</th>
<th>Usage Allowance</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/8 inch</td>
<td>$25.39</td>
<td>None</td>
</tr>
<tr>
<td>3/4 inch</td>
<td>$30.47</td>
<td>None</td>
</tr>
<tr>
<td>1 inch</td>
<td>$46.98</td>
<td>None</td>
</tr>
<tr>
<td>1 ½ inches</td>
<td>$85.06</td>
<td>None</td>
</tr>
<tr>
<td>2 inches</td>
<td>$152.36</td>
<td>None</td>
</tr>
<tr>
<td>3 inches</td>
<td>$247.58</td>
<td>None</td>
</tr>
<tr>
<td>4 inches</td>
<td>$406.28</td>
<td>None</td>
</tr>
<tr>
<td>6 inches</td>
<td>$634.81</td>
<td>None</td>
</tr>
</tbody>
</table>

### COMMODITY RATE

<table>
<thead>
<tr>
<th>COMMODITY RATE</th>
<th>PER</th>
<th>NUMBER OF UNITS</th>
<th>UNIT OF MEASURE</th>
<th>BASE USAGE ALLOWANCE</th>
<th>UNIT OF MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.85</td>
<td>Per</td>
<td>100</td>
<td>Cubic Feet</td>
<td>None</td>
<td>Cubic Feet</td>
</tr>
</tbody>
</table>

### SPECIAL PROVISIONS:

1. Water used during the construction of buildings, etc., shall be metered, whenever practical. Charges shall be made at the rates specified in this schedule. When setting of a meter is impractical, the amount of water used shall be estimated, and the charges shall be made at specified rates for the amounts so estimated.

2. City of Bend residents will be charged a monthly 3% franchise fee based off of a monthly total of all accounts recognized by the Oregon P.U.C. to set Avion’s rates.
October 17, 2011

Mr. Laura Wilkey
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271

Re: Brasada Ranch (Eagle Crest Permit G-15855)
Incremental Development Plan
Annual Update

Dear Laura:

We received your reminder for reporting water use related to incremental mitigation at Brasada Ranch.

Eagle Crest, Inc. has an Incremental Mitigation Plan in place for water use at Brasada Ranch for the quasi-municipal permit G-15855. The Brasada Ranch Incremental Mitigation Plan has a mitigation obligation of 50 acre-feet for 2005 to 2014. We have 1.8 permanent credits, and annually purchase 48 temporary credits from the Deschutes River Conservancy (DRC). The 50 acre-feet of mitigation equates to 125 acre-feet (40.7 million gallons) of actual use. We used approximately 28.3 million gallons in 2009/2010 under the quasi-municipal permit.

Please contact me with any questions or comments. We greatly appreciate your continued assistance with incremental mitigation planning and annual reporting at Brasada Ranch.

Sincerely,

WHPacific, Inc.

[Signature]

James E. Frost, P.E.
Senior Project Manage:

Cc: Alan VanVliet
Bob McDaniel

Enc: Reminder Letter from OWRD
October 4, 2011

James Frost, P.E.
WH Pacific, Inc.
123 SW Columbia Street
Bend, OR 97702

Re: Incremental Development Plan Update – Reminder - for Eagle Crest Ground Water Permit G-15855 (file G-15789)

Dear Jim:

On October 4, 2010, the Department approved a request to modify the incremental development plan for Eagle Crest’s groundwater permit G-15855. This permit has a mitigation obligation of 203.2 acre-feet in the General Zone of Impact. One of the permit conditions on the permit requires the applicant to report to the Department to progress of developing the incremental development plan by April 1 of each year. The last annual update on implementation of the incremental development plan was due to the Department no later than April 1, 2011. It does not appear that an update was submitted to the Department. Please submit the annual update to the Department. The annual update should also include the amount of water used (volume) during 2010 and the source of mitigation used during that period. This is an updated rule requirement adopted by the Department’s Commission in June, 2010, under OAR 690-522-0040.

The current incremental development plan is as follows:

<table>
<thead>
<tr>
<th>Incremental Step</th>
<th>Volume of Use (AF)</th>
<th>Amount of Mitigation (AF)</th>
<th>Source of Mitigation</th>
<th>Type of Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2005 – 2014</td>
<td>.250</td>
<td>50.0</td>
<td>Mitigation Project MP-57 (1.8 credits) and 48.2 mitigation credits from the DRC Mitigation Bank or a permanent source</td>
<td>Permanent &amp; temporary</td>
</tr>
<tr>
<td>2. 2015 – 2019</td>
<td>250.0</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 2020 – 2024</td>
<td>375.0</td>
<td>150.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 2025 – 2029</td>
<td>500.0</td>
<td>200.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 2030 on</td>
<td>308.0</td>
<td>203.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>508.0</td>
<td>203.2</td>
<td></td>
<td>50.0</td>
</tr>
</tbody>
</table>

Please submit the annual update on the incremental development plan by October 31, 2011. If you have any questions, please give me a call at (503) 986-0884.

Sincerely,

Laura Wilke
Flow Restoration Program Coordinator

c: Jeremy Giffin, Watermaster District 11
   Eagle Crest
   file G-15789
September 12, 2012

Mr. Laura Wilke
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1271

Re: Brasada Ranch (Eagle Crest Permit G-15855) Incremental Development Plan Annual Update 2011 Calendar Year Water Use

Dear Laura:

We received your reminder for reporting water use related to incremental mitigation at Brasada Ranch.

Eagle Crest, Inc. has an Incremental Mitigation Plan in place for water use at Brasada Ranch for the quasi-municipal permit G-15855. The Brasada Ranch Incremental Mitigation Plan has a mitigation obligation of 50 acre-feet for 2005 to 2014. We have 1.8 permanent credits, and annually purchase 48 temporary credits from the Deschutes River Conservancy (DRC). The 50 acre-feet of mitigation equates to 125 acre-feet (40.7 million gallons) of actual use. We used approximately 32.5 million gallons in the 2011 calendar year under the quasi-municipal permit.

Please contact me with any questions or comments. We greatly appreciate your continued assistance with incremental mitigation planning and annual reporting at Brasada Ranch.

Sincerely,

WHPacific, Inc.

James E. Frost, P.E.
Senior Project Manager

Cc: Chris Earnest
    Bob McDaniel
APPENDIX G – OWRD APPROVAL OF AVION WMCP
BEFORE THE WATER RESOURCES DEPARTMENT
OF THE
STATE OF OREGON

In the Matter of the Proposed Water Management and Conservation Plan for Avion Water Company, Inc., Deschutes County ) FINAL ORDER APPROVING A WATER MANAGEMENT AND CONSERVATION PLAN

Authority
OAR Chapter 690, Division 086, establishes the process and criteria for approving water management and conservation plans required under the conditions of permits, permit extensions and other orders of the Department. An approved water management plan may authorize the diversion and use of water under a permit extended pursuant to OAR Chapter 690, Division 315.

Findings of Fact

1. Avion Water Company, Inc. (Avion) submitted a Water Management and Conservation Plan (plan) to the Water Resources Department (Department) on April 7, 2011. The plan was required by a condition set forth under the City’s previously approved plan (Sp. Or. Vol. 63, Pg. 459 issued on March 11, 2005). The plan was also required by conditions set forth in the final orders approving extensions of time for Permit G-16025 and Permit G-16026.

2. The Department published notice of receipt of the plan on April 12, 2011, as required under OAR Chapter 690, Division 086. No comments were received.

3. The Department provided written comments on the plan to Avion on July 6, 2011, and in response, Avion submitted a final revised plan on September 6, 2011.

4. The Department reviewed the revised plan and finds that it contains all of the elements required under OAR 690-086-0125.

5. The projections of future water needs in the plan demonstrate a need for 5.0 cfs of water available under Permit G-16025 and for 10.0 cfs of water available under Permit G-16026 to meet demands anticipated in 20 years. These projections are reasonable and consistent with applicable land use plans.

6. Avion’s system is fully metered and their rate structure includes a base rate and volumetric charge. Unaccounted-for water is estimated at 6.6 percent.

This is a final order in other than a contested case. This order is subject to judicial review under ORS 183.484. Any petition for judicial review must be filed within the 60-day time period specified by ORS 183.484(2). Pursuant to ORS 536.075 and OAR 137-004-0080, you may petition for judicial review or petition the Director for reconsideration of this order. A petition for reconsideration may be granted or denied by the Director, and if no action is taken within 60 days following the date the petition was filed, the petition shall be deemed denied.
7. The plan includes 5-year benchmarks to continue implementation of the following conservation activities: an annual water audit; a meter testing and maintenance program; a rate structure that includes a base rate and volumetric charge; distribution of public education materials (via conservation pamphlets, annual newsletter, annual consumer confidence report and the media) that focus on water saving practices and water-wise landscaping; providing technical support for any commercial or residential customer interested in assistance with implementation of conservation measures. In addition, Avion has partnered with the Deschutes River Conservancy (DRC) to start the Blue Water program, which allows Avion customers to donate to the DRC through their monthly water bill to protect water in-stream on the middle reach of the Deschutes River.

8. The plan identifies ground water as the source of Avion’s water rights and accurately and completely describes that there is no designation of the source as being within a critical ground water area.

9. The water curtailment element included in the plan satisfactorily promotes water curtailment practices and includes a list of four stages of alert with concurrent curtailment actions.

10. The diversion of water under Permit G-16025 and Permit G-16026 will increase during the next 20 years and is consistent with OAR 690-086-0130(7), as follows:

   a. As evidenced by Finding of Fact #7 above, the plan includes a description of continued implementation of conservation measures that would provide water at a cost that is equal to or lower than the cost of other identified sources.

   b. Even with Avion’s conservation-related water savings expected by the activities described in Finding of Fact #7 above, based upon Avion’s projected water demand growth and the limitations in acquiring new surface water and/or ground water permits in the Deschutes Basin, it is apparent that increased use from ground water Permits G-16025 and G-16026 is the most feasible and appropriate water supply alternative to the supplier at this time.

   c. Avion is required to provide mitigation for Permit G-16025 and Permit G-16026 under the Deschutes Basin Ground Water Mitigation Rules and has filed an incremental mitigation plan with the Department.

Conclusion of Law

The Water Management and Conservation Plan submitted by Avion Water Company, Inc. is consistent with the criteria in OAR Chapter 690, Division 086.

Now, therefore, it is ORDERED:

1. The Avion Water Company, Inc. Water Management and Conservation Plan is approved and shall remain in effect until September 9, 2021, unless this approval is rescinded pursuant to OAR 690-086-0920.
2. The limitation of the diversion of water under Permit G-16025 established by the extension of time approved on March 25, 2011 is removed and, subject to other limitations or conditions of the permit, Avion Water Company, Inc. is authorized to divert up to 5.0 cfs under Permit G-16025.

3. The limitation of the diversion of water under Permit G-16026 established by the extension of time approved on March 25, 2011 is removed and, subject to other limitations or conditions of the permit, Avion Water Company, Inc. is authorized to divert up to 10.0 cfs under Permit G-16026.

4. Avion Water Company, Inc. shall submit an updated plan meeting the requirements of OAR Chapter 690, Division 086 (effective November 1, 2002) within 10 years and no later than March 9, 2021.


Dated at Salem, Oregon this 12th day of September, 2011.

Dwight French, Water Right Services Administrator for
PHILLIP C. WARD, DIRECTOR

Mailing date: SEP 13 2011
APPENDIX H – DRINKING WATER PROGRAM
Public Water System Compliance Information

November 30, 2012

The AVION WC - BRASADA RANCH in Crook County is classified as a "community" water supply and is identified on the Department of Human Services Drinking Water Program public water system inventory by Public Water System (PWS) Identification Number OR4101506. This classification is based on the system serving 55 residential connections and a population of 100 people.

Public water systems are subject to the requirements of Oregon Administrative Rules, Chapter 333 as administered by the Department of Human Services. The state rules are established as required by the federal Safe Drinking Water Act and Environmental Protection Agency.

For specific information regarding this water system, check data online at http://170.104.63.9 or contact:

JAN WICK
AVION WC - BRASADA RANCH OR4101506
541-382-5342

Assisting People to Become Independent, Healthy and Safe
An Equal Opportunity Employer
Introduction :: Data Search Options :: WS Name Look Up :: WS ID Look Up :: DWS Home :: Quick Data Links

OR41 01506 AVION WC - BRASADA RANCH Classification: COMMUNITY

Contact: JAN WICK
60813 PARRELL RD
BEND, OR 97702

Population: 100
Operating Period: January 1 to December 31

Certified Operator(s)
Required: Y
Distribution class: S
Treatment class: None
Filtration Endorsement Required: No

Phone: 541-382-5342
County: CROOK
Activity Status: ACTIVE May 19, 2006
Regulating Agency: CROOK COUNTY
Number of Connections: 55
Owner Type: PRIVATE
Licensed By: OHA
Approved Drinking Water Protection Plan: No
Source Water Assessment: No
Last Survey Date: Apr 25, 2011 - Outstanding Performer!

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State ID | Facility Name | Treatment Process | Treatment Objective | Filter Type |

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APPENDIX I – POPULATION ESTIMATING
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