4

Joshua R. Reeve G-18394
32301 E Loop Rd
Hermiston, OR 97838

Name
By
Address

Priority SEPTEMBER 28, 2016

County UMATILLA WM# 5

RELATED FILES

Application No. G-18394
Permit No.
Certificate No.

	Date	Volume	Page
DENIED			
MISFILED			
WITHDRAWN			
CANCELLED			

FEES PAID

Date	Amount	Receipt No.
9-28-16	1900.00	121446
8/17/18	810.00	127702
	Cert. Fee	

FEES REFUNDED

Date	Amount	Receipt No.

DEVELOPMENT

Completion Date
Extended to
Final Proof received
Proposed Cert. Mailed

ASSIGNMENTS

Date	To Whom	Address

REMARKS

MAP LOCATION

Rev. 04/03

KC 9/29/2016

MCCARTY Patricia E * WRD

From: MCCARTY Patricia E * WRD
Sent: Monday, August 20, 2018 11:22 AM
To: ashasteen@martenlaw.com; dmacdougal@martenlaw.com
Cc: MCCARTY Patricia E * WRD
Subject: Protest to G-18394 Reeve
Attachments: G-18394 Protest receipt.pdf; G-18394 Protest receipt ltr.pdf

Dear Ms. Shasteen,
Please see attached letter and receipt regarding the protest to G-18394.

Sincerely,
Patricia McCarty
Protest Program Coordinator
Oregon Water Resources Department
503-986-0820

Oregon
Kate Brown, Governor

Water Resources Department
North Mall Office Building
725 Summer St NE, Suite A
Salem, OR 97301
Phone (503) 986-0900
Fax (503) 986-0904
www.wrd.state.or.us

August 20, 2018

file copy
mailed 8-20-18

Joshua R. Reeve
32301 E. Loop Rd
Hermiston, OR 97838

Re: Receipt of protest on Application G-18394 in the name of Joshua R. Reeve

Dear Mr. Reeve,

Enclosed is a copy of the protest to the Proposed Final Order on Application G-18394 filed by West Extension Irrigation District. Water Resources is required to send you a copy, although you have likely received a copy from the District.

At this time, the Department understands that the District is not willing to reach a settlement agreement on the protests it files. You have the option to withdraw your application and re-file at another time, or wait for your application and the protest to be referred for a hearing. A referral for hearing is unlikely to occur within the next calendar year.

If you have any questions about your options or the next steps, please contact me directly at the number or email address below.

Sincerely,

Patricia McCarty

Patricia McCarty
Protest Program Coordinator
Water Right Services Division
503-986-0820
patricia.e.mccarty@oregon.gov

Oregon
Kate Brown, Governor

Water Resources Department
North Mall Office Building
725 Summer St NE, Suite A
Salem, OR 97301
Phone (503) 986-0900
Fax (503) 986-0904
www.wrd.state.or.us

August 20, 2018

file copy sent by email 8-20-18

Alexa Shasteen
Marten Law PLLC
1001 SW Fifth Avenue, Suite 2150
Portland, OR 97217

Re: Receipt of protest on Application G-18394 in the name of Joshua R. Reeve

Dear Ms. Shasteen and Mr. MacDougal,

Enclosed is receipt #127702 for check #4583 in the amount of $810.00 in payment of the fee to file the protest to the Proposed Final Order on Application G-18943.

Please contact me directly with any questions.

Sincerely,

Patricia McCarty

Patricia McCarty
Protest Program Coordinator
Water Right Services Division
503-986-0820
patricia.e.mccarty@oregon.gov

STATE OF OREGON
WATER RESOURCES DEPARTMENT

RECEIPT # 127702

725 Summer St. N.E. Ste. A
SALEM, OR 97301-4172
(503) 986-0900 / (503) 986-0904 (fax)

INVOICE # _____

RECEIVED FROM: Marten Law
BY: _____

APPLICATION	G-18394
PERMIT	
TRANSFER	

CASH: ☐ CHECK:# ☒ 4583 OTHER: (IDENTIFY) ☐ _____

TOTAL REC'D $ 810.00

1083 TREASURY 4170 WRD MISC CASH ACCT

0407	COPIES	$
_____	OTHER: (IDENTIFY) _____	$

0243 I/S Lease _____ 0244 Muni Water Mgmt. Plan _____ 0245 Cons. Water _____

4270 WRD OPERATING ACCT 47135

	MISCELLANEOUS				
0407	COPY & TAPE FEES				$
0410	RESEARCH FEES				$
0408	MISC REVENUE: (IDENTIFY) _____				$
TC162	DEPOSIT LIAB. (IDENTIFY) _____				$
0240	EXTENSION OF TIME				$
	WATER RIGHTS:	EXAM FEE		RECORD FEE	
0201	SURFACE WATER	$	0202	$	
0203	GROUND WATER	$	0204	$	
0205	TRANSFER	$			
	WELL CONSTRUCTION	EXAM FEE		LICENSE FEE	
0218	WELL DRILL CONSTRUCTOR	$	0219	$	
	LANDOWNER'S PERMIT		0220	$	
0223	OTHER (IDENTIFY) Protest Fees			$810.00	

0536 TREASURY 0437 WELL CONST. START FEE

0211	WELL CONST START FEE	$	CARD #	
0210	MONITORING WELLS	$	CARD #	
_____	OTHER (IDENTIFY) _____			

0607 TREASURY 0467 HYDRO ACTIVITY LIC NUMBER

0233	POWER LICENSE FEE (FW/WRD)		$
0231	HYDRO LICENSE FEE (FW/WRD)		$
_____	HYDRO APPLICATION		$

_____ TREASURY OTHER / RDX

FUND _____ TITLE _____
OBJ. CODE _____ VENDOR # _____
DESCRIPTION _____ $

RECEIPT: 127702 DATED: 8-17-18 BY: CWuethrich

Distribution – White Copy - Customer, Yellow Copy - Fiscal, Blue Copy - File, Buff Copy - Fiscal

STATE OF OREGON
WATER RESOURCES DEPARTMENT

RECEIPT # 127702

725 Summer St. N.E. Ste. A
SALEM, OR 97301-4172
(503) 986-0900 / (503) 986-0904 (fax)

INVOICE # _____

RECEIVED FROM: Marten Law
BY: _____

APPLICATION	G-18394
PERMIT	
TRANSFER	

CASH: ☐ CHECK:# ☒ 4583 OTHER: (IDENTIFY) ☐ _____

TOTAL REC'D $ 810.00

1083 TREASURY 4170 WRD MISC CASH ACCT

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4270 WRD OPERATING ACCT 47135

	MISCELLANEOUS				
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0410	RESEARCH FEES				$
0408	MISC REVENUE: (IDENTIFY) _____				$
TC162	DEPOSIT LIAB. (IDENTIFY) _____				$
0240	EXTENSION OF TIME				$
	WATER RIGHTS:	EXAM FEE		RECORD FEE	
0201	SURFACE WATER	$	0202	$	
0203	GROUND WATER	$	0204	$	
0205	TRANSFER	$			
	WELL CONSTRUCTION	EXAM FEE		LICENSE FEE	
0218	WELL DRILL CONSTRUCTOR	$	0219	$	
	LANDOWNER'S PERMIT		0220	$	
0223	OTHER (IDENTIFY) Protest Fees			$810.00	

0536 TREASURY 0437 WELL CONST. START FEE

0211	WELL CONST START FEE	$	CARD #	
0210	MONITORING WELLS	$	CARD #	
_____	OTHER (IDENTIFY) _____			

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0233	POWER LICENSE FEE (FW/WRD)		$
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_____	HYDRO APPLICATION		$

_____ TREASURY OTHER / RDX

FUND _____ TITLE _____
OBJ. CODE _____ VENDOR # _____
DESCRIPTION _____ $

RECEIPT: 127702 DATED: 8-17-18 BY: CWuethrich

Distribution – White Copy - Customer, Yellow Copy - Fiscal, Blue Copy - File, Buff Copy - Fiscal

MARTEN LAW 4583

Oregon Water Resources Department	
08/14/2018 G-18394 06140-00000 G-18394	
810.00	
RECEIVED AUG 17 2018 OWRD	
08/14/2018 000004583	810.00

MARTEN LAW

August 16, 2018

Patricia McCarty
Water Right Services Division
725 Summer Street NE, Suite A
Salem, OR 97301-1266

Re: ***Water Right Application G-18394 in the name of Joshua R. Reeve***
Comments and Protest of West Extension Irrigation District

Name of Protester: West Extension Irrigation District (WEID)
Address: P.O. Box 100
Irrigon, Oregon 97844
Telephone: (544) 922-3814

Protester's Attorneys: Alexa Shasteen
Douglas W. MacDougal

Marten Law PLLC
1001 SW Fifth Avenue, Suite 2150
Portland, OR 97204
(503) 243-2200

RECEIVED
AUG 17 2018
OWRD

Dear Ms. McCarty:

Joshua R. Reeve filed Application G-18394 (the Application) for the use of up to 0.062 cubic feet per second (cfs) of groundwater from an existing well in the Umatilla Basin for irrigation of 5 acres. On December 22, 2017, the Oregon Water Resources Department (OWRD) issued an Initial Review (IR) for the Application, which stated: "Not all determinations herein are favorable, therefore it is unlikely that Application G-18394 will be approved." The IR requested additional information required to process the application.

WEID Manager Bev Bridgewater submitted a comment letter dated January 16, 2018, which described the potential impact of G-18394 on WEID's senior surface water rights and requested OWRD's denial of the Application.

On April 10, 2018, OWRD issued a Proposed Final Order (PFO) recommending issuance of the draft permit. The PFO indicated that on February 1, 2018, the applicant made

changes to the proposed place of use by removing SENW 1.4 acres and NESW 0.7 acres, Section 7, Township 4 North, Range 29 East, W.M., from the application, reducing the rate of use to 0.036 cfs and the total place of use to 2.9 acres. The Department also corrected its IR to indicate its determination that a portion of the proposed place of use (SENW 1.4 acres and NESW 0.7 acres, Section 7, Township 4 North, Range 29 East, W.M.) has underlying groundwater rights evidenced by Certificate 42977. The PFO also indicated that no comments had been received on the Application. On April 28, 2018, Owen McMurtrey of GSI Water Solutions, Inc. contacted the Department to notify the department that WEID had submitted a comment. The Department determined there had been an oversight in processing, and issued a Superseding PFO on July 3, 2018, which incorporates its review of WEID's comment on the Application.

These comments and formal protest of the Application are filed in accordance with ORS 537.621(8) and OAR 690-310-0160.

I. Introduction

The Application proposes to appropriate water from the alluvial aquifer within Section 7, Township 4 N, Range 29 East. To approve the Application, OWRD must determine that the new appropriation will not cause injury to existing water rights, including surface water rights. ORS 537.153 – .160. OWRD's groundwater review concluded that the proposed use of groundwater would not have the potential for substantial interference (PSI) with surface water because the calculated impacts from pumping at the applicant's well are estimated to be less than 1 percent of the natural flow of the Umatilla River during all months of the year. OWRD erred in finding that no injury to existing rights will occur because it ignored the fact the cumulative impact of the new appropriation and existing groundwater pumping has the potential for substantial interference with flows in the Umatilla River. In fact, groundwater pumping in the basin has already had an actual and substantial effect on Umatilla River flows and WEID's senior rights.

It is well-documented that groundwater from the alluvial aquifer at the proposed point of appropriation flows toward and discharges into the Umatilla River above WEID's Threemile Falls diversion. Technical staff from the Oregon Water Resources Department have recognized this groundwater-surface water connectivity for more than a decade. As a 2003 report from OWRD's Groundwater Section describes: "In the Umatilla Basin the alluvial aquifer naturally discharges much of its water where the valley is constricted north of Butter Creek (*Figure 31*)." Oregon Water Resources Department Groundwater Section, *Ground Water Supplies in the Umatilla Basin* 26 (April 3, 2003, rev. Nov. 2, 2004) (the OWRD Report, attached as Exhibit 1).

WEID has senior water rights in the Umatilla River that are routinely not met, in large part due to cumulative impacts of groundwater wells capturing return flows that would otherwise flow to the Umatilla River. The appropriation of groundwater under Application G-18394 will contribute to these cumulative impacts and further exacerbate the impairment of WEID's senior water rights.

The history of WEID's concerns and its discussions with OWRD on the issue of substantial groundwater interference with WEID's surface water rights goes back at least a decade. Ten years ago, in March of 2006, John Koreny of HDR presented to OWRD his

analysis of "Groundwater Pumping in Umatilla Basin." His presentation, titled *Evaluation of West Extension's Umatilla River Water Supply*, showed a strong correlation between streamflow declines and groundwater pumping. He also presented these findings to the Confederated Tribes of the Umatilla Indian Reservation in May of that year. The correlations were based on earlier studies and estimates by others, and one of the recommendations in the presentation was to "Analyze Effects from Groundwater on the Umatilla River."

Following up on that plan, and in cooperation with OWRD's Karl Wozniak, HDR undertook a thorough study of the extent and distribution of wells in the Umatilla Basin, shallow and deep. John Koreny's November 15, 2007 Technical Memo, *Inventory of Groundwater Rights in the Umatilla Basin* (the HDR Report) was forwarded to the department with Bev Bridgewater's letter of February 22, 2008. Her letter summarized some of its key findings. The HDR Report identified a total of about 376 water rights for wells in the unconfined aquifer and shallow basalt aquifer in the basin, drawing an estimated 160 cfs of water during the irrigation season, totaling some 60,000 acre-feet of consumptive use. Based on a basic understanding of groundwater flow in the basin and "the scientific principles of the depletion of flow on hydraulically-connected river reaches by groundwater pumping," the HDR Report plainly stated that "the consumptive use of ground water that would have flowed into the Umatilla River by wells pumping from the unconfined aquifer reduces the flow in the river." (emphasis added). The letter from Ms. Bridgewater is enclosed as Exhibit 2, and the HDR Report is enclosed as Exhibit 3.

Then, Douglas MacDougal, counsel for WEID, wrote to OWRD about WEID's concern that widespread groundwater withdrawals from shallow, alluvial wells close to the Umatilla River were not being properly and conjunctively managed. The focus of the August 21, 2009 letter and its accompanying Technical Memorandum from GSI Water Solutions, Inc. (the GSI Memorandum) was on management of wells within a mile of the river. The letter from Mr. MacDougal is enclosed for your reference as Exhibit 4, and the GSI Memorandum is enclosed as Exhibit 5.

Although the GSI Memorandum focused primarily on wells within 1 mile of the Umatilla River, as it was particularly concerned with OWRD regulation of existing wells under Division 9 of Chapter 690 of the Oregon Administrative Rules, the conclusions of the memorandum are relevant to the issue of hydraulic connectivity of wells beyond one mile:

> [T]hese results indicate that groundwater pumping is likely having a larger effect on surface water flows of the Umatilla River than previously thought. As a result, there are probably many additional groundwater rights beyond those originally identified that have the potential for substantial interference with the Umatilla River, and should be conjunctively managed in favor of WEID's senior Umatilla River water rights.

GSI Memorandum, at 4.

These studies establish that groundwater pumping in the Umatilla Basin is having a substantial cumulative impact on flows in the Umatilla River. Although further study may be helpful in further quantifying the exact magnitude of that impact, existing evidence is sufficient to establish with considerable certainty that all wells in the basin's shallow alluvium have at least the potential for substantial interference with senior surface water rights.

The department's response following WEID's 2009 letter was generally constructive and helpful. But we also highlighted a more fundamental concern about cumulative impacts which has yet to be properly addressed by the department. The cumulative impacts of the myriad small wells, both near and far from the river, collectively and dramatically reduce the amount of water available to senior water right holders on the Umatilla River. Most of these shallow wells now fall below the department's regulatory radar because they are viewed individually and not cumulatively. OWRD regards each well myopically as if the well has no relationship to the other wells around it. But the impacts from all of the wells approved by OWRD accumulate over time causing substantial effects on flows in the river.

Despite the wealth of information demonstrating the hydraulic connectivity of the alluvial aquifer and the Umatilla River and the cumulative impacts of well pumping on river flows, OWRD continues to issue new well permits without consideration of cumulative impacts. For example, on February 2, 2016, OWRD issued a PFO for Application G-18115, proposing to award groundwater rights to Gerardo and Magda Sanguino despite WEID's comment letter which raised concerns regarding the substantial interference with WEID's senior water rights. On March 18, 2016, WEID filed a formal protest of the PFO for G-18115, which is still pending. This groundwater application is no different.

OWRD has failed to adequately address cumulative impacts of groundwater pumping on WEID's surface water rights, and the problem continues to worsen with the issuance of each new groundwater permit. Accordingly, OWRD has left WEID with no choice but to protest the issuance of this PFO to protect its rights from further injury.

II. Specific Grounds for Protest

A. Statement of WEID's Interest

WEID is the holder of senior surface water rights in the Umatilla River. Water Right Certificates 79924; 79925; 79928; 79930; 79927; and 79926 (held in name of Bureau of Reclamation for WEID's beneficial use). WEID also has an interest in the certificated right to use of "return flow from the irrigation systems along the Umatilla River using water stored in McKay Reservoir." Certificate 87872 (held in name of Bureau of Reclamation for WEID's beneficial use).

B. Impairment of WEID's Interest

As noted above, since 2006, WEID has been providing information to OWRD demonstrating that groundwater use in the basin is adversely impacting WEID's senior water rights. The OWRD Report, HDR Report, and GSI Memorandum – described above and attached hereto – among other studies, illustrate the hydraulic connection between

the Umatilla River and the shallow, alluvial aquifer currently proposed for further groundwater development. The use of groundwater proposed by Application G-18394 will further reduce the amount of water available to WEID's senior surface water rights, causing injury to WEID's legal interests and its practical ability to deliver water reliably and cost-effectively to its patrons.

Where there is hydraulic connection, OWRD's Division 9 rules require the agency to consider cumulative adverse impacts from groundwater use on surface water (including impacts from wells beyond a mile from surface water) when evaluating PSI. OAR 690-009-0040(5)(e). In evaluating the Application, however, OWRD failed to consider the cumulative impacts of groundwater pumping throughout the basin. In issuing the PFO, OWRD failed to adequately protect WEID's senior surface water rights, as required by statute and OWRD regulations.

C. Errors in the Proposed Final Order

1. OWRD failed to assess whether cumulative impacts from existing and proposed groundwater development may have the potential for substantial interference.

OWRD's Public Interest Review concluded that the proposed use of groundwater would not have the potential for substantial interference (PSI) with surface water because, while the proposed well is hydrologically connected to the Umatilla River, the calculated impacts from pumping at the applicant's well are estimated to be less than 1 percent of the natural flow of the Umatilla River during all months of the year. The Public Interest Review also noted under "[b]asis for aquifer hydraulic connection evaluation" that "[t]here are several canals within the area but no perennial streams within 1 mile of the applicant's well." The PFO merely states that "[t]he Department has determined that the proposed groundwater use will not have the potential for substantial interference with surface water. The Division 9 (Ground Water Interference with Surface Water) review is in the file and can be viewed on the Department's website." The department's analysis does not mention cumulative impacts at all.

Under OAR 690-310-0150(2), the PFO is required to "cite findings of fact and conclusions of law and shall include . . . an assessment of whether the proposed use would result in injury to existing water rights." Where there is hydraulic connection, OWRD's Division 9 rules require the agency to consider cumulative adverse impacts from groundwater use on surface water (including impacts from wells beyond a mile from surface water) when evaluating PSI. OAR 690-009-0040(5)(e).

In adopting the PFO, however, OWRD completely ignored the potential for injury to existing water rights as a result of cumulative impacts from the proposed groundwater well operating in conjunction with existing users. Particularly where the department has substantial, long-standing evidence of groundwater pumping having cumulative impacts on surface water rights, it is arbitrary and capricious for the department to simply ignore the possibility of cumulative impacts described by OAR 690-009-0040(5).

2. The conditions in the PFO will not protect existing users from injury.

OWRD's response to WEID's substantive comments regarding the Initial Review was completely inadequate. The entirety of the department's response to WEID's comment letter is as follows: "The Department has reviewed the comment and has determined that regulation and proper conditions imposed on the application will protect the resource and senior water right holders." The PFO goes on to find that "Groundwater will likely be available within the capacity of the resource, and if properly conditioned (and if authorized), the proposed use of groundwater will avoid injury to existing groundwater rights," ultimately concluding that "[t]he proposed use will not injure other water rights." However, while the conditions imposed on the PFO may address potential impacts on neighboring groundwater wells, they do not deal with potential substantial interference with surface water sources, despite the acknowledged hydraulic connection between the proposed use and the Umatilla River and the department's awareness of the cumulative impacts of the proposed use in conjunction with other appropriations in the area. The conditions in the PFO are inadequate to protect existing surface water users from injury since OWRD does not in fact regulate groundwater wells to meet surface water calls where such wells are located more than one mile from the deficient water source.

3. *OWRD failed to assess the potential for interception of return flows to which WEID is entitled.*

Under Certificate 87872, WEID has the right to capture return flows of water originally stored in McKay Reservoir and used on federal project lands above the WEID re-diversion point on the Umatilla River. The department did not analyze whether the appropriation of groundwater under G-18394 has the potential to intercept return flows from federal project lands which would otherwise return to the Umatilla River above WEID's diversion point, thereby depriving WEID of such return flows to which it is entitled. Despite the valid certificated water right for such return flows with a senior priority date of July 1, 1924, OWRD has yet to develop an enforceable protocol enabling WEID to protect its rights through a call on junior users intercepting such return flows. In the absence of such an enforceable protocol, the issuance of new groundwater rights with the potential to intercept return flows causes further injury to WEID and compromises the district's ability to utilize the return flows to which it is entitled under its senior certificated water right. OWRD erred in failing to assess the potential for appropriation under G-18394 to intercept return flows to which WEID is entitled. If appropriation under G-18394 would intercept return flows, such interception would reduce the amount of Umatilla River flows available to WEID, causing actual injury to the district's ability to reliably deliver water to its patrons.

4. *OWRD erred in presuming that the Application will ensure the preservation of the public welfare, safety, and health.*

Under OAR 690-310-0130, OWRD presumes that groundwater development is in the public interest where certain conditions are met. In this case, OWRD found the presumption to be established; however, OWRD erred in concluding that "[t]he proposed use will not injure other water rights." This conclusion was based on the combination of errors identified above, including the department's failure to consider (1) the potential for cumulative impacts to cause the potential for substantial interference with existing surface water rights and (2) the potential interception of return flows to which WEID is entitled. Accordingly, OWRD erred in finding the presumption to be met. The

Application is not in the public interest because the cumulative impacts of this appropriation and others in the basin will cause injury to holders of senior water rights in the Umatilla River, including WEID.

III. Conclusion

Approval of the Application is not in the public interest. We respectfully request that OWRD withdraw the PFO and issue a new PFO denying the Application.

Sincerely,

Alexa Shasteen
Douglas MacDougal
Attorneys for West Extension Irrigation District

Cc: Bev Bridgewater, West Extension Irrigation District

Enclosures

CERTIFICATE OF SERVICE

I hereby certify that on August 16, 2018, I served a true and correct copy of this ***Water Right Application G-18394 in the name of Joshua R. Reeve,* Comments and Protest of West Extension Irrigation District** on the applicant at the address listed below, by First Class U.S. Mail:

Joshua R. Reeve
32301 E Loop Rd
Hermiston, OR 97838

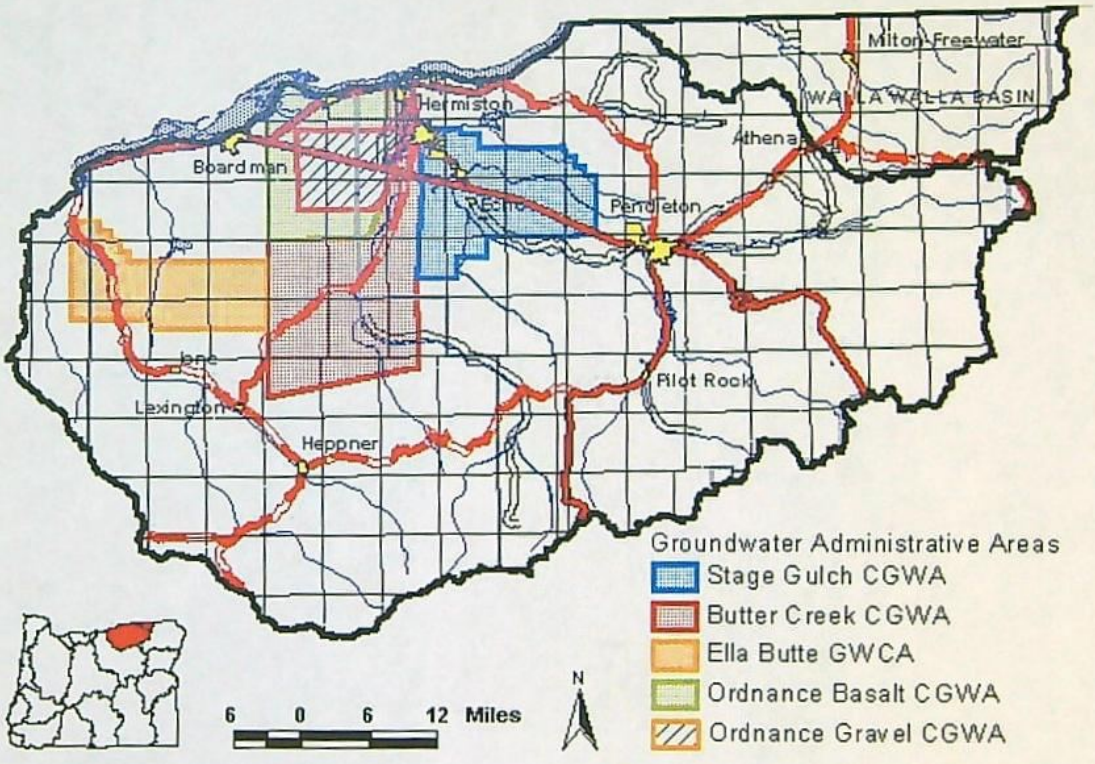
DATED: August 16, 2018

Attorneys for Protestant West Extension Irrigation District

Alexa Shasteen, OSB No. 170815
Douglas W. MacDougal, OSB No. 980778
Marten Law PLLC
1001 SW Fifth Avenue, Suite 2150
Portland, OR 97204
(503) 243-2200

Exhibit 1

Ground Water Supplies in the Umatilla Basin



presented by

Oregon Water Resources Department

Ground Water Section

April 3, 2003

Pendleton, Oregon

revised 11/2/2004

Table of Contents

GROUND WATER SUPPLIES IN THE UMATILLA BASIN

Introduction

Virtually every economic venture in the Umatilla Basin relies on a dependable water supply. Water is essential to farming and dairy operation, power generation, food processing and a variety of other industrial and commercial endeavors. Water is also essential for municipal expansion as well as rural residential development.

New appropriations of water from surface water sources in the Umatilla Basin are restricted or limited by available supplies or endangered and threatened species concerns. New water supplies from existing storage reservoirs and artificial recharge projects are also not currently available. Consequently, ground water is the logical alternative for meeting new water supply demands.

Oregon ground water statutes require that the Water Resources Commission and Water Resources Department manage ground water as a renewable resource. Overdraft, excessive water level declines, unstable water levels, and substantial interference with senior rights are to be prevented. Continued economic growth reliant on ground water supplies is unrealistic given these water management objectives. If the Basin is to continue growing, some very difficult decisions will have to be made relative to water resource management in the Basin. To be effective, those decisions need to be based on a thorough understanding of the conjoined ground water/ surface water system. A comprehensive Basin—wide ground water study is being planned to provide the necessary understanding.

This report provides a synopsis of our current understanding of ground water resources in areas of the Umatilla Basin. Appendices to the report provide background information on ground water concepts *(Appendix A)* and the geology of the Umatilla Basin *(Appendix B).*

CURRENT STATUS OF GROUND WATER SUPPLIES IN THE BASIN

Since the late 1960s, it has been apparent that development and management of ground water resources in the Umatilla Basin would require careful attention. Overdraft, unstable water levels, excessive declines, and other ground water problems exist or are developing in the basin.

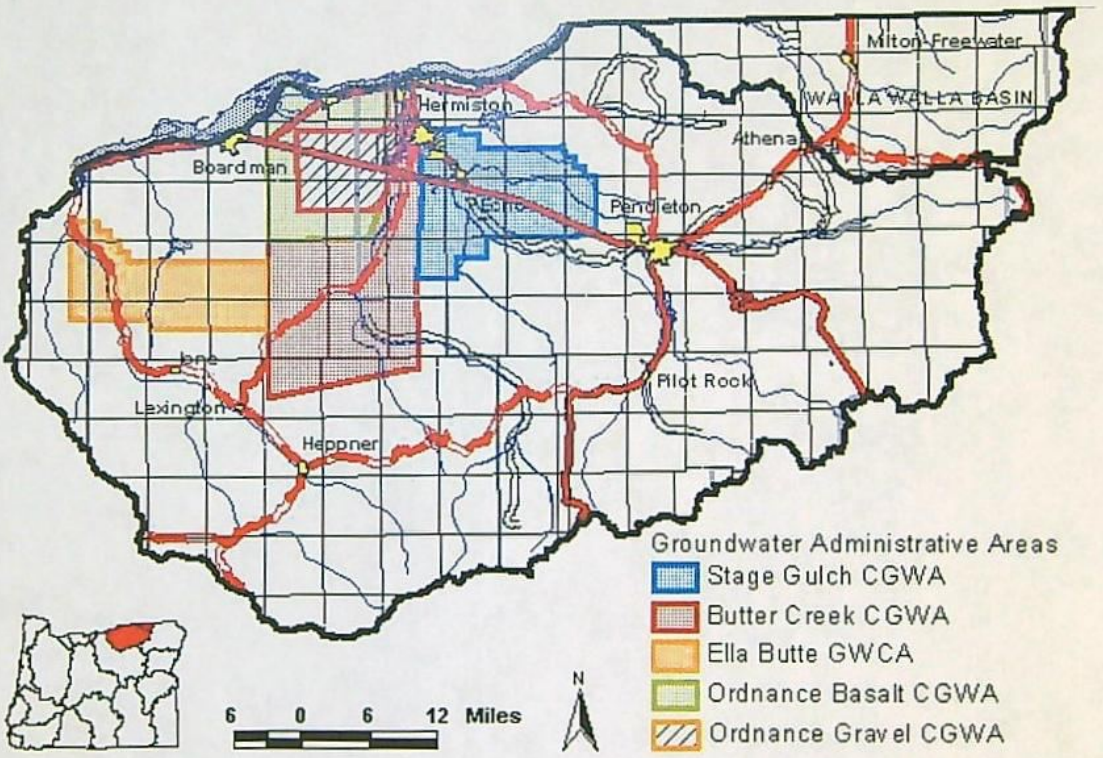


Figure 1 - Umatilla Basin map

In the mid 1970s, the Water Resources Commission began imposing control measures in the basin to correct overdraft and excessive declines. To that end, the Water Resources Commission created the Ordnance, Butter Creek and Stage Gulch Critical Ground Water Areas and restrictively classified ground waters within the basalt in the Ella Butte area *(Figure 1)*. These administrative actions, affecting an area of approximately 800 square miles, severely limit future ground water development and significantly reduce ground water use in much of the area. As a result of these administrative actions, the rate of water level decline has been significantly reduced in much of the controlled area and arrested in some parts. Within these areas, new permits to appropriate ground water are not issued.

Ground water overdraft continues to be a significant issue in the Umatilla Basin. Declines in ground water levels are evident in areas outside of the controlled areas and, to some extent, within the controlled areas. These declines are focused in and around the cities of Boardman, Adams, Athena, and Pendleton. In addition, declines persist within the Ella Butte and Ordnance areas and within parts of the Stage Gulch and Butter Creek Critical areas. This ground water instability is likely to be an indicator of overdraft. A ground water investigation conducted in the early 1980s suggested that ground water throughout the basin was already overdrafted at that time. This would suggest that some of the more recent economic development dependent upon ground water is in jeopardy and that new ground water-dependent economic development is unwise.

In addition to overdraft concerns, interference between ground water users is a significant issue in the Umatilla Basin. Users of the ground water resource are not isolated one from another. As one water user pumps water from the aquifer, water levels decline in response. Those declines cause lower water levels for other ground water appropriators using the same source. This phenomenon is called interference. Interference causes increased pumping lifts and increased costs for other users of the resource. In the more severe cases of interference, some users may not be able to pump enough water to satisfy their water rights.

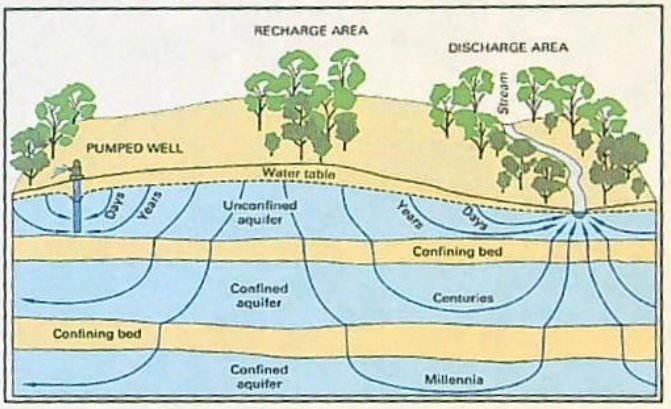


Figure 2 - Ground water flow

Just as ground water users are not isolated from each other, the ground water resource itself is not typically an isolated resource. Most, if not all, ground water in the state receives some amount of recharge annually from rainfall and snowmelt. Ground water then flows through the aquifer system to a discharge area where it leaves the flow system, usually to become surface water, providing base flow to streams long after the snows have melted off the highlands *(Figure 2)*. Where surface water is dependent upon ground water discharge, pumping ground water for beneficial uses may reduce discharge to surface water and, therefore, reduce surface water supplies. This may occur to the detriment of surface water rights and other surface water values such as fish and aquatic life habitat, aesthetics, pollution abatement and recreation. Interference with surface water supplies and rights as a result of ground water pumping is a significant issue in the Basin.

GROUND WATER RESPONSE TO DEVELOPMENT

Ground water levels are declining in areas throughout the Umatilla Basin, further highlighting the need for a basin-wide, comprehensive understanding of ground water resources. The following sections present our current knowledge of ground water supplies in areas of the Umatilla Basin. An understanding of ground water occurrence and supply problems within the basin will be improved by a brief introduction to ground water concepts which is provided in Appendix A.

Alluvial Aquifers and Shallow Basalt Aquifers of the Lower Umatilla Basin

A shallow unconfined aquifer occurs in the alluvial sediments of the lower Umatilla Basin. Multiple confined aquifers occur in the underlying basalt flows. The alluvial and shallowest basalt aquifers are the main sources of domestic water for rural residents in the area. The alluvial aquifer is also a major source of municipal water for the cities of Hermiston, Irrigon, and Boardman and an important source of irrigation water in the area between Boardman and Hermiston.

The main source of recharge to the alluvial aquifer comes from leaky canals and ditches. Additional recharge comes from applied irrigation water. In local areas, leakage from reservoirs and streams represents a significant component of recharge. Recharge from precipitation is a relatively small proportion of total recharge.

The principal water-producing zones of the alluvial aquifer in the lower Umatilla Basin occur in deposits of coarse sand and gravel that fill three east- to northeast-trending shallow troughs between Boardman and Cold Springs Reservoir. Well yields in these areas commonly exceed 1000 gallons per minute. However, ground water supplies are limited by the restricted aerial extent of the deposits. In the Ordnance area (discussed later in this report), excessive pumpage from the gravels led to water-level declines that required administrative restrictions on pumping. Water-level declines are unlikely in the gravels in the Boardman area as pumping will be buffered by capture of water from the Columbia River.

Regional flow in the alluvial aquifer is to the northwest with discharge to the Umatilla and Columbia rivers; however, flow directions vary considerably over space and time. The topography of the underlying basalt, seasonal pumping of high-capacity wells, and seasonal recharge from leaky canals are the main factors influencing flow direction. Seasonal reversals of flow are known to occur beneath the southern half of the Umatilla Ordnance Depot and may occur elsewhere.

The Umatilla River is hydraulically connected to the alluvial aquifer between the cities of Echo and Umatilla where the river is in contact with alluvial sediments. At Butter Creek, the river begins to progressively downcut

through the aquifer until it reaches basalt bedrock at Three-Mile Dam. These relationships suggest that natural discharge from the aquifer to the river occurs between Butter Creek and Three-Mile Dam. This is consistent with the known occurrence of natural springs in the lower reaches of the river. However, good estimates of the amount of interchange between the river and the aquifer are lacking.

Outside of the Umatilla lowlands, productive deposits of sand and gravel also occur in the narrow floodplains of the mainstem Umatilla River and some of its larger tributaries. These deposits typically occupy river valleys that are incised into the basalt bedrock. Ground water in these sediments is hydraulically connected to the adjacent streams and withdrawing it interferes with streamflow.

Productive water-bearing zones within Columbia River Basalt flows are generally limited to thin zones of broken or fractured rock at the top or base of individual basalt flows. The dense interiors of flows are relatively impermeable and confine ground water to discrete tabular aquifers. However, the geometry of the shallow basalt aquifers in the lower basin indicates that they are hydraulically connected to the alluvial aquifer, the Umatilla River, and the Columbia River where permeable zones in the basalts are exposed beneath the alluvial aquifer and in the beds of the rivers. As with the alluvial aquifer, pumping water out of these shallowest basalts interferes with stream flows.

Ordnance Critical Ground Water Areas

There are two critical ground water areas in the Ordnance area: the Ordnance Gravel Critical Ground Water Area and the Ordnance Basalt Critical Ground Water Area. The Ordnance Basalt Critical Ground Water Area is located west of Hermiston and includes 175 square miles of basalt aquifers near the Umatilla Chemical Depot and Irrigon. It is partially overlapped by the Ordnance Gravel Critical Ground Water Area that includes 82 square miles of alluvial aquifer in the Depot area. The controlling order for both areas was issued in 1976 and prohibits the issuance of new ground water rights. "Exempt uses" are allowed under the order. Exempt uses are smaller uses exempt from the water right permitting requirement and are therefore referred to as "exempt uses." Exempt uses include single or group domestic use up to 15,000 gallons per day, noncommercial irrigation of up to one-half acre, stock watering, and commercial and industrial use up to 5,000 gallons per day.

The stratigraphy for both areas can be generalized. Alluvial material is present from land surface to an average depth of 50 to 100 feet, attaining a maximum of about 200 feet. These materials vary spatially in thickness and composition but consist of sand, gravel, silt, and clay. These sediments are underlain by lava flows of the Columbia River Basalt Group. These flows are numerous and are not fully penetrated by local wells.

Ordnance Gravel Critical Ground Water Area

The aquifer in the Ordnance Gravel Critical Ground Water Area is unconfined and varies in saturated thickness from 15 to 125 feet. Depths to water are generally less than 100 feet below land surface. Irrigation development began in the 1950's and increased to some 45 wells by the early 1970's *(Figure 3)*. These diversions resulted in declines in the ground water resource that threatened the continued use of some well as shown in *Figure 4*.

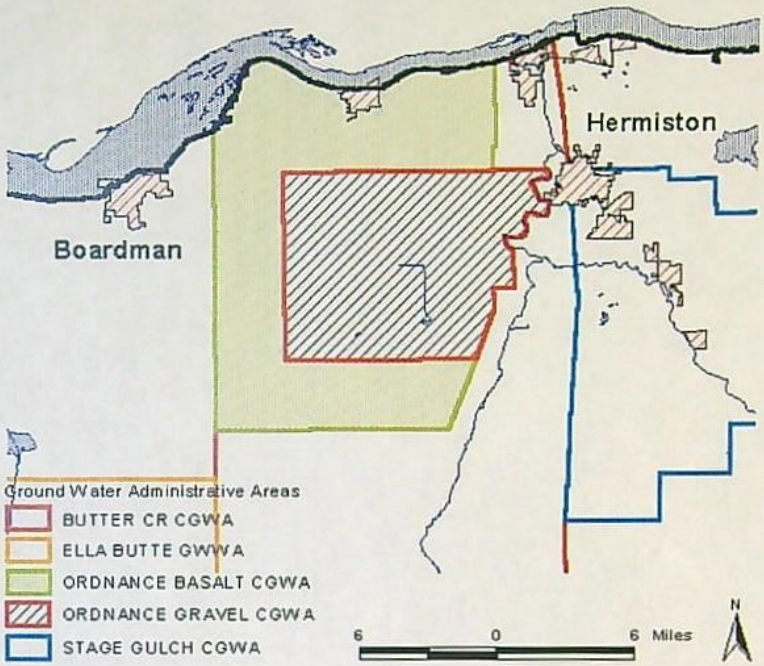


Figure 3 - Ordnance gravel CGWA

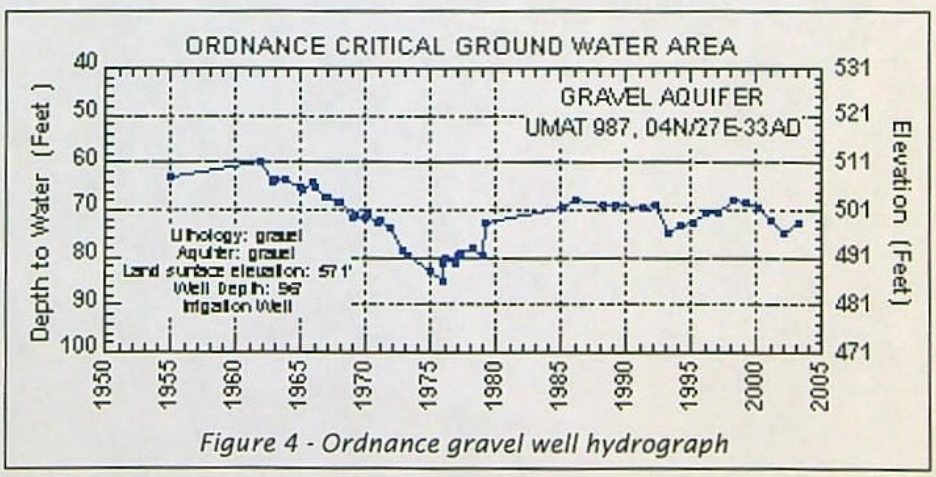


Figure 4 - Ordnance gravel well hydrograph

Although water level declines were only about 20 feet, declines were significant for wells where the aquifer was thin and prompted the administrative action that created the critical area.

The Ordnance Gravel Critical Ground Water Area contains two subareas. During the spring of 1977, several well owners in the Lost Lake/Depot subarea initiated a project to artificially recharge the shallow gravel aquifer south of Ordnance. The project uses an existing canal system, a dedicated

leaky recharge canal, and winter/spring water from the Umatilla River diverted near Echo. Water levels in many gravel wells have responded favorably. Historically, recharge has been at a rate of approximately 6000 acre-feet per year. However, access to water for recharge has been reduced in recent years in response to insufficient flows to meet instream water rights. Recharge amounts for the last four years have been less than 5000 acre-feet per year. This artificial recharge project is essential to stabilize aquifer levels and supplement irrigation supplies.

Currently, water levels in the critical area are fairly stable. Water use under permit remains high, and there is a slow, steady increase in exempt uses. Water levels in the critical area are better than in the mid-1970s prior to recharge project, but have dropped in recent years (*Figure 4*). More recharge or less water use is needed to correct current water level trends.

Ordnance Basalt Critical Ground Water Area

The administrative order for the Ordnance Basalt Critical Ground Water Area defines two basalt aquifers (*Figure 3).* Aquifers less than 400 feet deep are termed the shallow basalt aquifer and those more than 400 feet deep are the deep basalt aquifer. Local development of these ground water resources began in the 1940s at the Umatilla Army Depot (now, Umatilla Chemical Depot). Ground water development continued and peaked near current levels in the 1960s. Use is now largely for irrigation but also includes municipal use by the City of Irrigon and military purposes at the Depot.

There are several general differences between the shallow and deep basalt aquifers. In the critical area, the depth to water in deep basalt wells is generally about 300 feet while the depth in shallow basalt wells is less than 150 feet below land surface. In addition, the shallow basalt is more readily recharged and is less productive, and has smaller declines. Ground water in the shallow basalt aquifer is, at least in part, unconfined while the deep basalts are confined. The shallow basalt aquifer does not display the uniform water level response that the deep ones do. In these ways, the shallow basalt aquifer acts more like an alluvial resource than the deep basalt and is likely hydraulically connected to the alluvial ground water.

Declines in both the shallow and deep basalt aquifers prompted the administrative action that created the critical area. Pumping by about 13 deep basalt wells resulted in total declines of up to 100 feet *(Figure 5*). A similar number of shallow basalt wells produced smaller declines of 30 feet or less *(Figure 6).*

Available information indicates that the shallow basalt aquifer is stable in the critical area. Water use under existing permits appears far less than when the order was entered. Exempt uses have increased modestly. For these reasons, the outlook for the ground water resource in this aquifer is good.

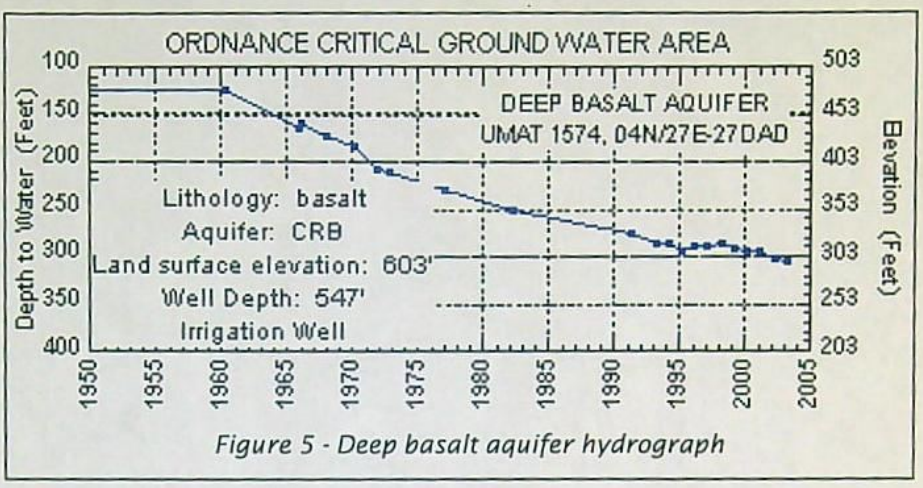


Figure 5 - Deep basalt aquifer hydrograph

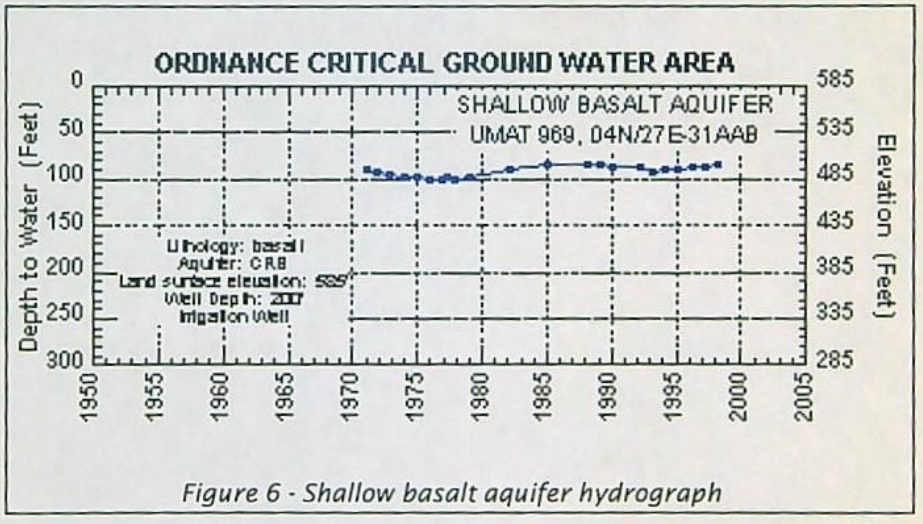


Figure 6 - Shallow basalt aquifer hydrograph

Water levels in the deep basalt aquifer are not currently stable. However, the rate of water level decline is currently less than in recent decades. The water level response is highly uniform among the wells. Water use under existing permits remains high. Given the depth of the aquifer, exempt uses of water are not likely to expand. Declines continue and have resulted in total lowering of water levels up to 180 feet *(Figure 5)*.

West of Ordnance

The 180 square-mile area west of Ordnance is also an area of basalt ground water concerns. The area of concern is bounded by the Columbia River to the north, Willow Creek on the west, the Ella Butte ground water classified area on the south, and the Ordnance basalt critical ground water area on the east *(Figure 1)*.

The basalt aquifers in this area west of Ordnance are several thousand feet thick and are, for the most part, confined. The deepest well in the area is about 1000 feet but most are less than 500 feet. Ground water flow in these

aquifers is toward the Columbia River. Recharge is generally very low but the presence of surface water from canal leakage and other artificial sources is locally important to shallow basalt aquifers.

As with all basalt aquifers, there is a vertical stratification that produces aquifers with different water levels (heads) with depth. Deeper wells at low elevation have been capable of strong artesian pressures. Shallower wells have water levels that vary but are usually less than 200 feet below land surface. Basalt hydrology is complex and site-specific conditions can be more variable than this generalization suggests. The distinction between shallow and deep basalt aquifers in the area is difficult to make. As a generalization, the deep basalts are considered to be those below about 400 feet below land surface. Deeper aquifers have been more prone to decline with use. Deeper wells are often capable of yields in excess of 1000 gallons per minute while shallower wells produce less.

Properly constructed wells do not commingle aquifers with different water levels. When wells commingle aquifers, they act to stress the aquifer not only when pumping occurs, but also when the wells are not pumped, which can exacerbate any water level instability in the aquifers. Improper well construction may be an issue in this area.

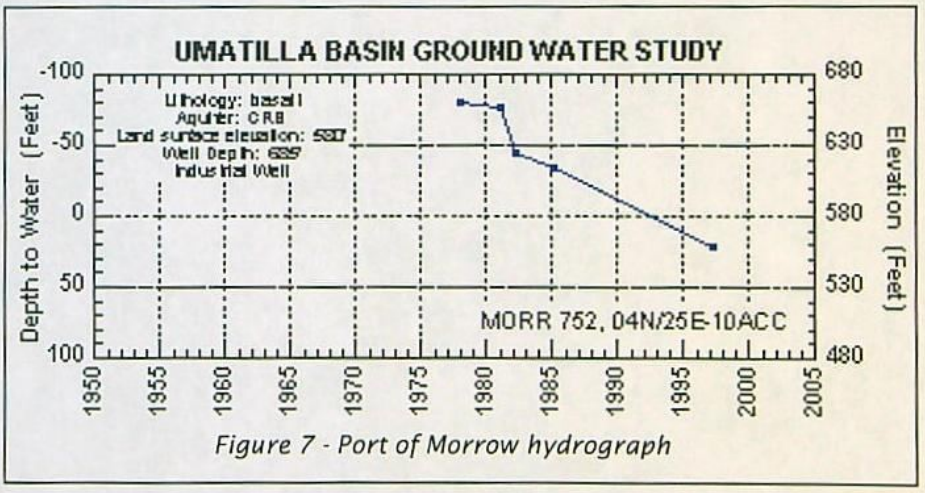


Figure 7 - Port of Morrow hydrograph

Current ground water development is primarily near the City of Boardman in a three-mile strip along the Columbia River. In this area, basalt aquifers provide a water source for municipal, industrial, irrigation, domestic, and other uses. Development of deep basalt aquifers has resulted in water level declines of tens of feet *(Figure 7)* while development of shallow basalt aquifers shows a high level of water level stability. The Port of Morrow is the largest user in this area and developed its permits to use more than 10 cubic feet per second (cfs) in the Port area. The Port has an additional permit to develop more than 8 cfs more from the deep aquifer through two wells near the Boardman Airport.

Ground water development outside of the Boardman area is minimal, although there is some industrial and irrigation uses. Water use permits will allow about 3 cfs of new agricultural use for dairy operations in the center of the area.

Future demand on the basalt aquifer resource is uncertain. Current uses are expected to continue and undeveloped permits will be developed. These will increase the current demand and likely cause additional water level decline. A recent application in the north-central part of the area seeks to divert 35 cfs through nine wells for irrigation. There is speculation that the Boardman Bombing Range is being phased out and that land may go into private control. Such changes could promote additional demand on the basalt ground water resources in the eastern third of the area.

Ella Butte Classified Ground Water Area

Development of the ground water resource of the basalt aquifer in the Ella Butte Classified Ground Water Area began in the late 1960s and 1970s (*Figure 8*). Ground water production supplements limited surface water supplies in Willow Creek. With the development of irrigation from ground water, dry land farmers could greatly increase yields for wheat, peas, barley, and other crops and could produce a crop every year, rather than every other year. Improvements in irrigation methods, such hand lines, wheel lines and center pivots, led to further development of the ground water resource. By the 1990s, signs of ground water level instability had developed in the basalts of the Ella Butte area.

Ground water levels in the basalt aquifers were fairly shallow in the Willow Creek valley and are generally deeper to the east. Water levels vary greatly depending on the depth and location of wells. Declines vary from 350 feet in an unused irrigation well located in the eastern portion of

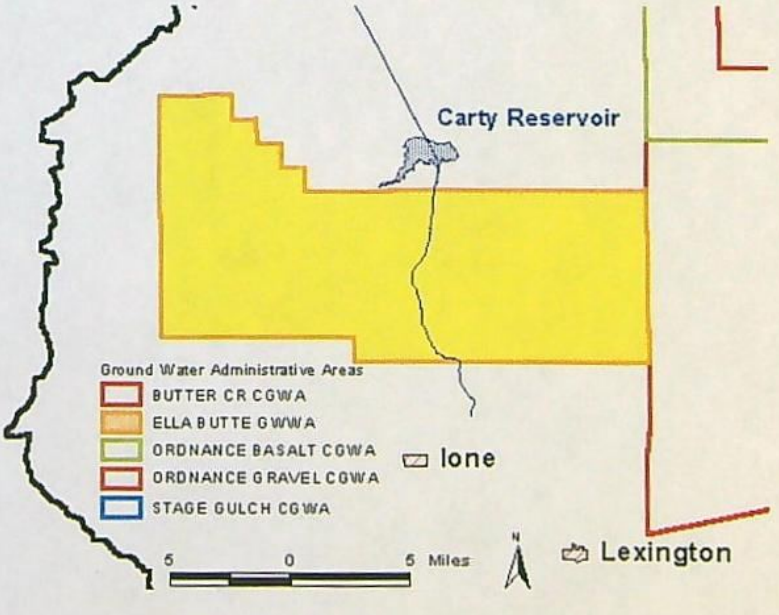


Figure 8 - Ella Butte classified GWA and well locations

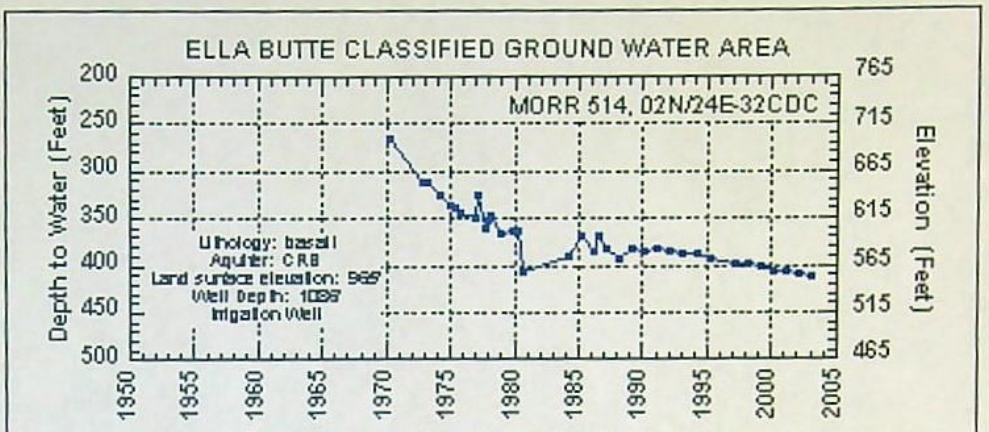


Figure 9- Deep basalt well hydrograph

the area to about 260 feet at a well in Willow Creek valley. Ground water levels in an irrigation well, located in the middle of the area, have declined about 150 feet *(Figure 9)*. Three shallow wells used for stock watering or domestic uses have shown 75 to 100 feet of decline *(Figure 10)* since use began about 30 years ago.

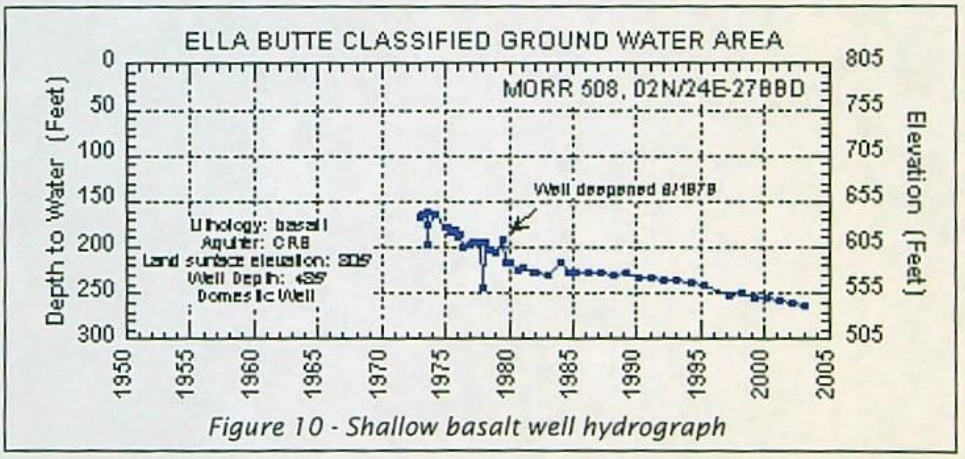


Figure 10 - Shallow basalt well hydrograph

In 1985, the Department initiated critical ground water area proceedings in the Ella Butte area and began the administrative rule process for designating the area in 1987. During the hearing process associated with rule development, testimony from the Ella Butte area indicated that annual pumping from the basalt aquifers was dropping and that a critical area designation was not required. In 1990, the Ella Butte area was classified by administrative rule for exempt uses only. Exempt uses include domestic use, stock-watering, and limited commercial or industrial. The classification prohibits additional large-scale uses such as irrigation or industrial.

Ground water levels are still declining in the Ella Butte Classified Ground Water Area. Recent changes to existing water rights in the Willow Creek area have resulted in 60 feet of decline in the last five years. Ground water

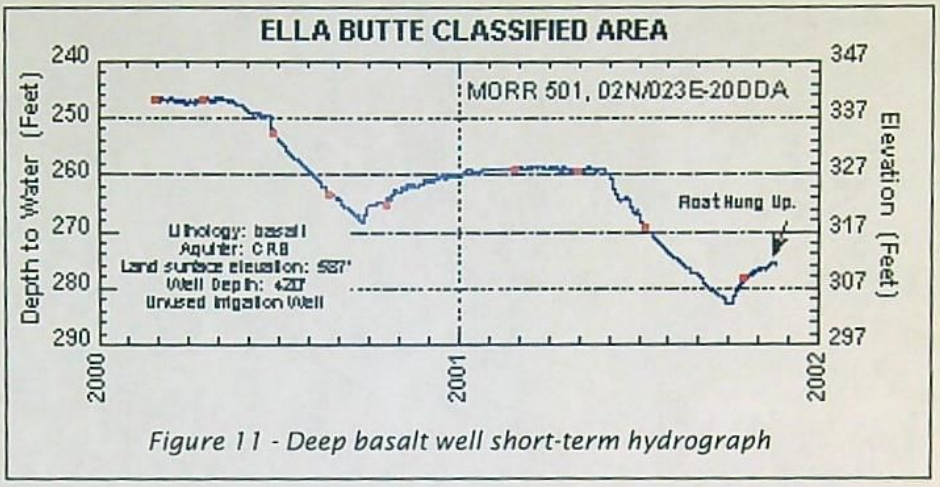


Figure 11 - Deep basalt well short-term hydrograph

levels in the central portion of the area have declined about 15 feet over the same time period. Water levels collected from an unused well in the area indicate that seasonal drawdown in 2000 exceeded the recovery the following winter *(Figure 11)*. The slope of the recovery was fairly flat for January through early May when irrigation began. This indicates that the aquifer had recovered as much as possible from the previous year's pumpage. Without reductions in ground water use, water levels will continue to decline.

Butter Creek Critical Ground Water Area

Development of the ground water resource in the Butter Creek Critical Ground Water area began in the 1950's generally as a supplement to limited surface water supplies. Use of ground water from the basalt aquifers increased in the late 1950s and early 1960s as farmers developed ground water as a primary source of water for irrigation *(Figure 12)*.

Ground water levels in the basalt aquifer in the early 1960s were fairly shallow. Some wells even flowed at land surface. By the mid-1960s, ground water levels had begun dropping. One well, located in the Echo Junction subarea, declined about 100 feet by the late 1960's *(Figure 13)*. By the mid 1970's, the ground water level was approaching 300 feet below land surface. Water level measurements in February 2003 show a total water level decline in the Echo Junction subarea to be in excess of 450 feet.

Ground water levels continue to decline in large portions of the Butter Creek Critical Ground Water Area. The critical area has been divided into "subareas" *(Figure 12)*. The Pine City and West subareas still have declines of three to five feet per year *(Figure 14)*. Recent, voluntary reductions in pumpage in the West Subarea may have stabilized ground water levels there. However, the reduction in pumpage was by a senior user and is not perma-

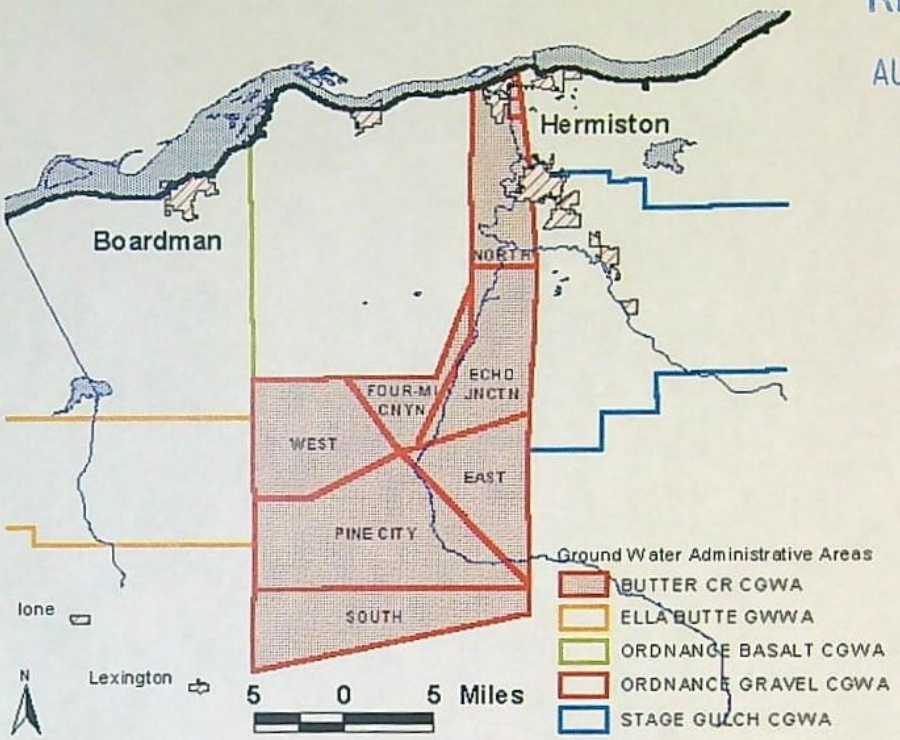


Figure 12 - Butter Creek CWGA

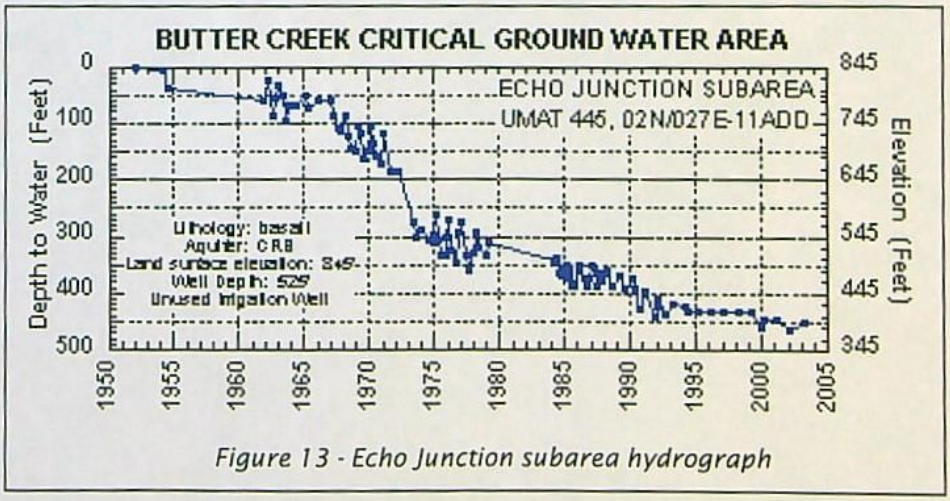


Figure 13 - Echo Junction subarea hydrograph

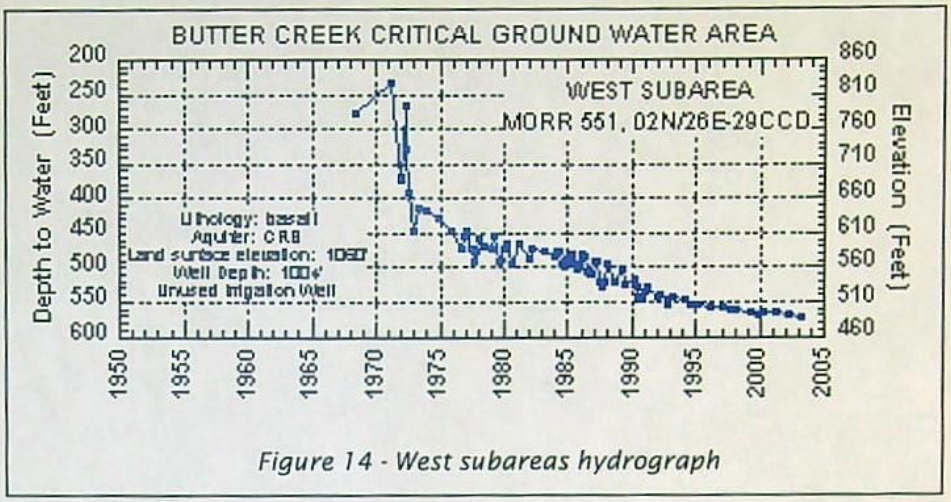


Figure 14 - West subareas hydrograph

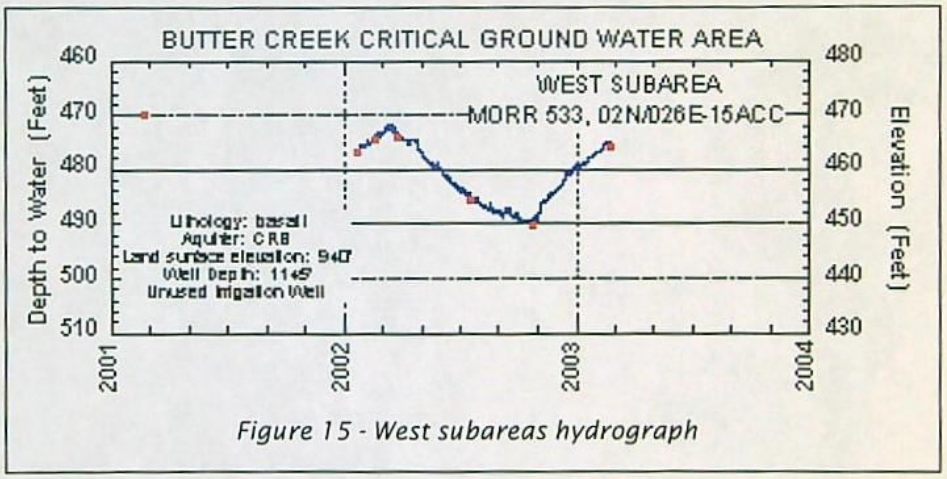


Figure 15 - West subareas hydrograph

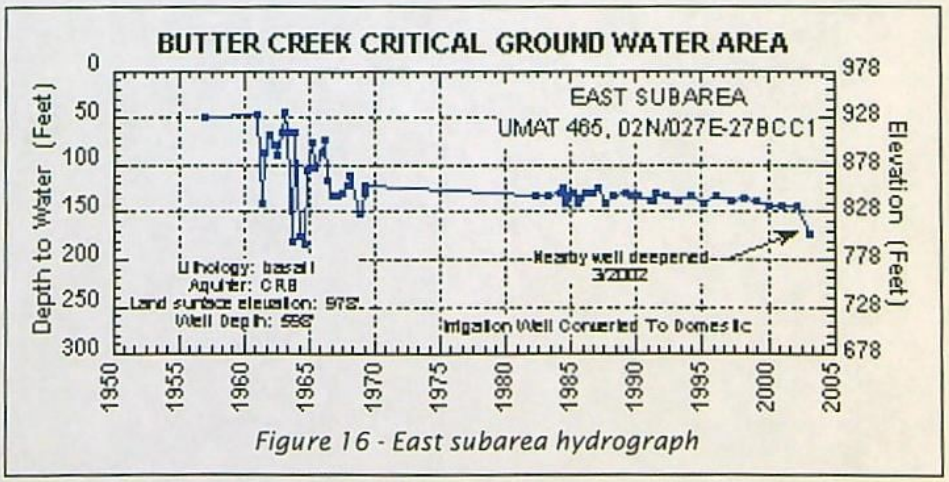


Figure 16 - East subarea hydrograph

nent. A water level recorder was installed on an unused irrigation well in the West Subarea *(Figure 15)*. The water level in this area is still rising when pumping begins in the spring, unlike the well in the Ella Butte area. If the wells were not started in the spring, ground water levels would continue to recovery from previous irrigation.

The North Subarea is also showing declines. All permitted uses, except the City of Umatilla, have been regulated off in the area. Water levels in the City of Umatilla's well have declined almost 50 feet. Domestic wells east of Hermiston have declined about 150 feet over the last 45 years. Well construction and additional new uses from domestic wells are also impacting ground water levels in the North Subarea.

In the East Subarea, the ground water level in one well *(Figure 16)* dropped about 30 feet as a result of the deepening of a nearby well. Monitoring of ground water levels will determine if the lowering of the water level will continue or whether it will stabilize at the new level. If declines continue, well reconstruction may be required.

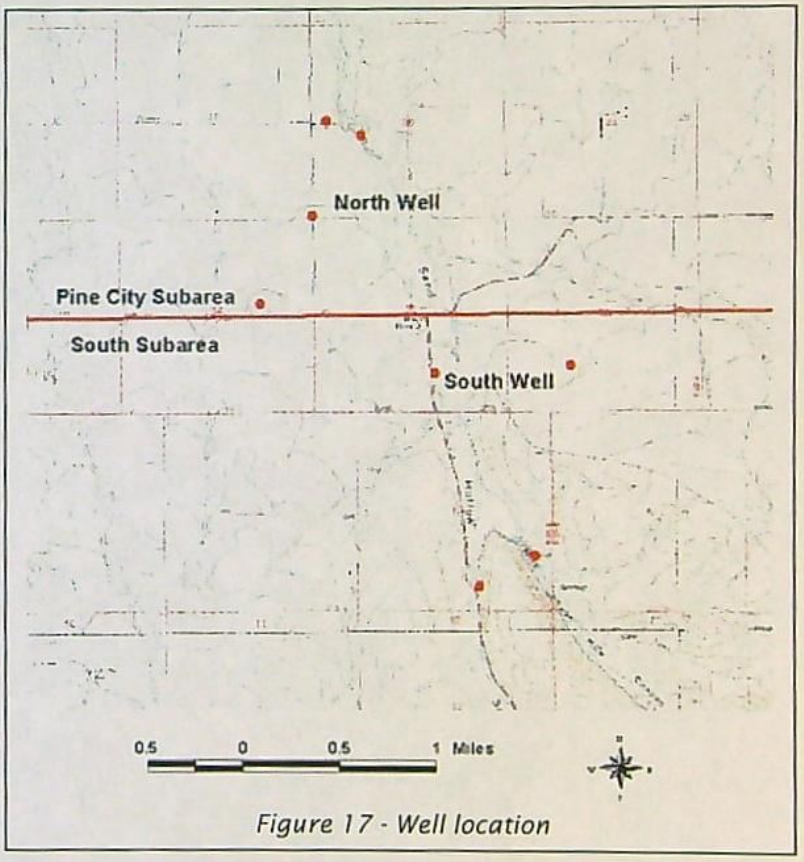


Figure 17 - Well location

Geologic structures such as faults or folds can interrupts ground water flow *(Figure 17)*. There is an east-west trending geologic structure that separates the South Subarea from the Pine City Subarea. Ground water level data collected from wells located on either side of the feature show the impact that geologic structures can have. The wells are about one mile apart and have very similar surface elevations. The water level for the southern well has been fairly stable over time compared with the water level for the northern well hydrograph *(Figure 18)*. In 1970, the water level in the northern well was about 260 feet below the water level in the southern well. The water level at the northern well is currently over 435 feet lower than at the southern well.

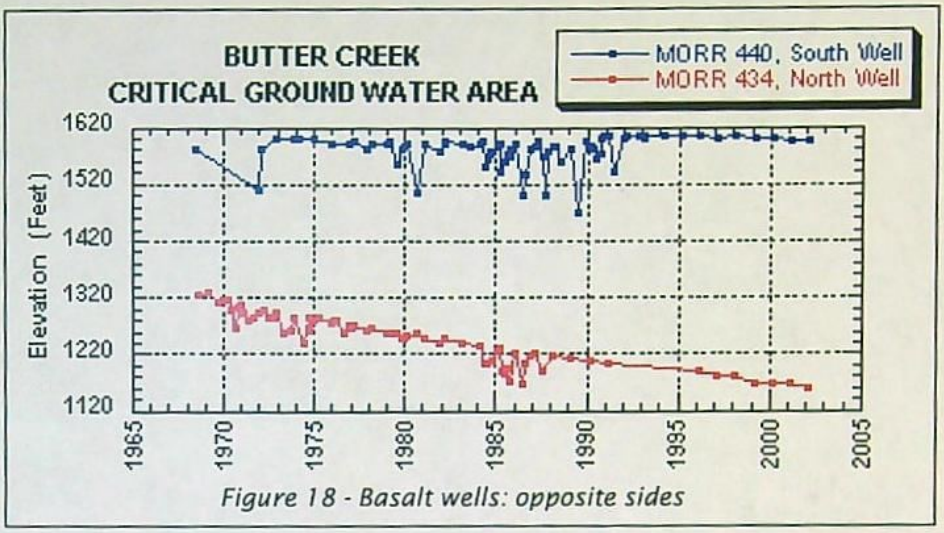


Figure 18 - Basalt wells: opposite sides

Water levels in large portions of the Butter Creek Critical Ground Water Area continue to decline. Without additional pumpage reductions, declines will continue until it is no longer economic to pump water.

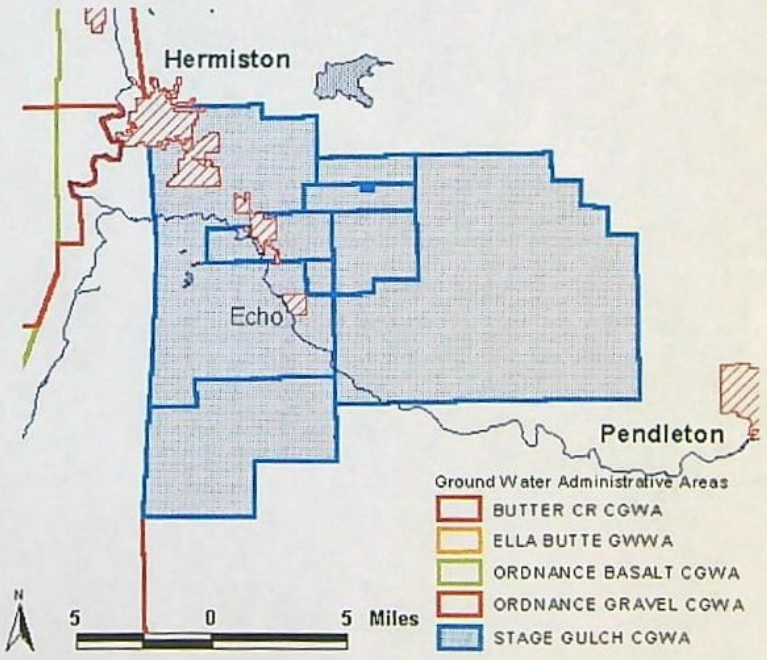


Figure 19 - Stage Gulch CGWA

Stage Gulch Critical Ground Water Area

The Department has been investigating ground water conditions in the Umatilla Basin since the late 1960s. The earliest work was concentrated in the Butter Creek and Ordnance areas, where extensive ground water devel-

opment, primarily for irrigation, first occurred. As additional development of ground water progressed through the 1970s in areas to the east and west of the Butter Creek and Ordnance areas, the scope of the Department's investigation expanded to include those areas. By the mid 1980s, it was clear that the same problems that had been documented in Butter Creek and Ordnance were occurring in these more recently developed areas.

The Stage Gulch Critical Area to the east of the Butter Creek area *(Figure 1)* was established in 1991 to address three issues developing in the confined basalt aquifers. These issues included excessive ground water level declines, substantial interference between wells, and overdraft of the ground water resource.

The Stage Gulch Critical Ground Water Area includes approximately 183 square miles *(Figure 19)*. Over 100 permitted basalt wells are located within the area.

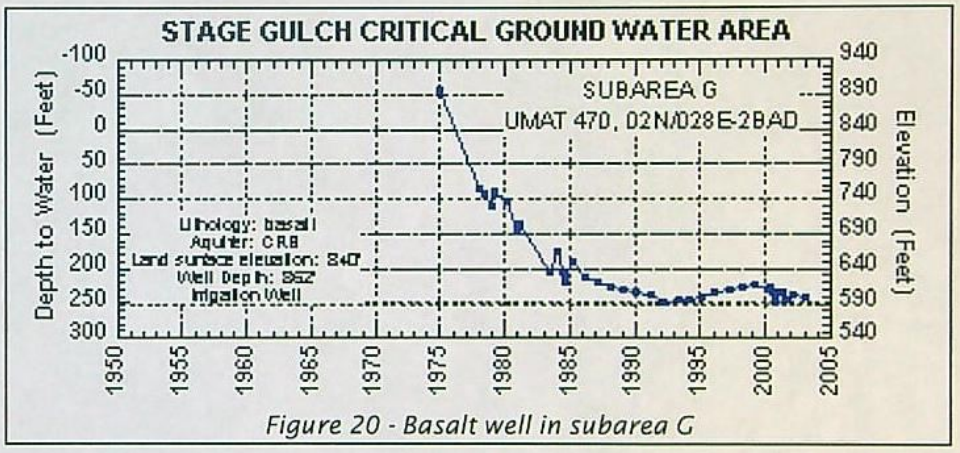


Figure 20 - Basalt well in subarea G

These wells are authorized for primary and supplemental irrigation of over 25,000 acres, municipal use for the cities of Hermiston, Stanfield and Echo and some industrial and manufacturing uses. The critical area is divided into eight subareas, each of which is managed separately.

Since the critical area was established, Department staff have continued to monitor water levels and water use at basalt wells. Several hydrographs illustrate water level trends in these wells. Figure 20 shows the water level data collected at a currently unused irrigation well in subarea G. This well flowed at land surface when first constructed. The water level declined quite rapidly, more than 20 feet per year, during the first decade of water use. The rate of decline decreased to about 8.4 feet per year from 1985 to 1992. Water use in the subarea decreased immediately following the critical area declaration. As a result, the water level rose about 26 feet between 1992 and 1999. Since then, pumpage has increased again, and the water level has declined about 20 feet. Since February 2000, the Department has continuously recorded water levels at this well. The hydrograph in Figure 21 shows the seasonal water level fluctuations, including the response to nearby pumping wells during the irrigation season and the subsequent recovery during the fall and winter months. Other wells in subarea G display water level trends similar to this well.

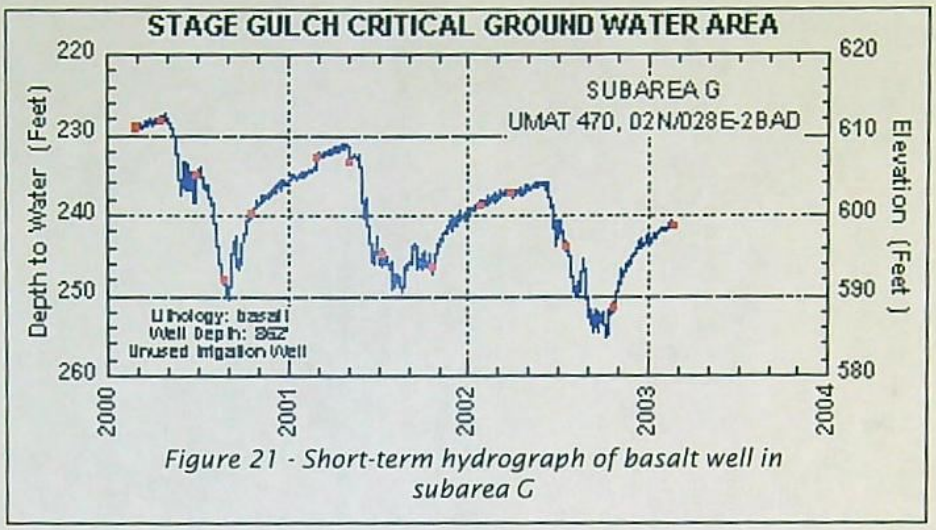


Figure 21 - Short-term hydrograph of basalt well in subarea G

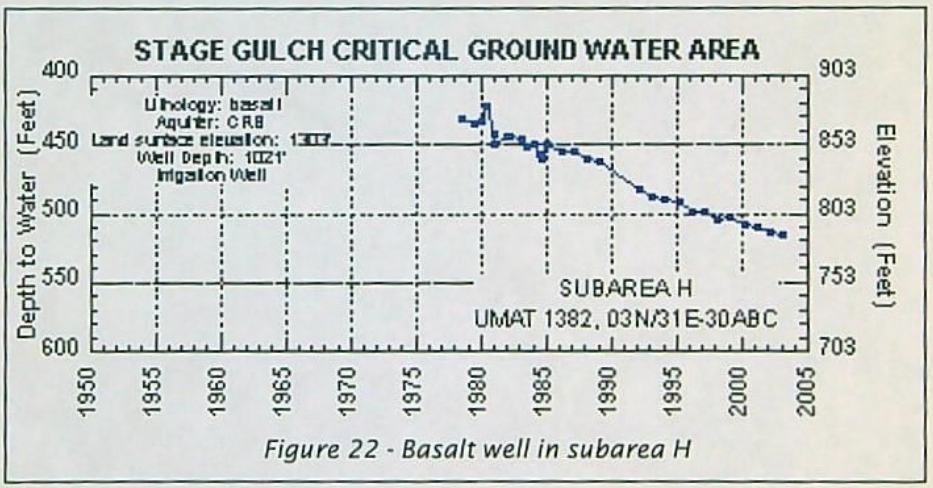


Figure 22 - Basalt well in subarea H

Wells in other subareas exhibit trends generally indicating water levels have not stabilized since the critical area was designated. Water levels continue to decline, but at a lower rate, following establishment of the critical area. Figure 22 is a hydrograph for an irrigation well within subarea H. Water levels at wells in this subarea declined about 2.5 to 4.5 feet per year in recent years. Data from the area generally suggest that, without further reductions in ground water use, water levels will continue to decline until it is no longer an economic source of water.

Pendleton Area

The City of Pendleton currently uses a combination of surface and ground water sources for municipal purposes. The proportion of the city's total water supply that comes from ground water is increasing. Eventually, the City is seeking authorization to develop up to 13 wells tapping the deep confined basalt aquifer.

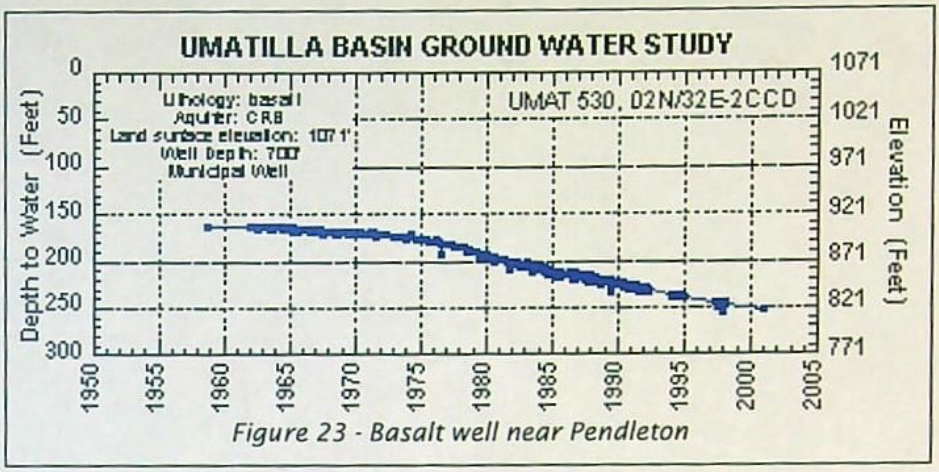


Figure 23 - Basalt well near Pendleton

The City's use from the first well began in 1946. Additional ground water use has grown through the decades as new wells were built. The City now has rights to pump 11.7 million gallons per day and the infrastructure to pump most of that rate. Additional wells are identified on permits but are not yet developed.

The development of deep basalt ground water has resulted in water level declines. The current decline rate is about three feet per year *(Figure 23)* and reflects the highest rate of decline to date. The decline in the City wells is highly uniform. For the most part, municipal pumping is causing the declines. However, other wells in the surrounding area also play a role, but the deep basalt aquifer is not developed by many of the nearby wells.

The City of Pendleton has built a new water treatment plant and plans to implement an aquifer storage and recovery (ASR) project. ASR will consist of injecting and storing a portion of the City's treated water in the deep basalt wells during times when water is available in the winter and spring. During the summer and fall, the stored water will be pumped out of the wells to supplement the surface water supply from the treatment plant to meet higher demands. The City is undertaking a pilot project to better understand the potential for ASR.

The goal of implementing the ASR strategy is to allow the City of Pendleton to continue using ground water while minimizing impacts to the regional ground water supply. By using stored treated water instead of natural ground water, the City expects to reduce the current natural ground water decline. Eventually, it may be possible to halt the decline or begin to see an increase in ground water levels.

Ground Water Conditions in Outlying Areas

Every winter since 1979, generally in late February, Department staff have collected water level data at numerous basalt and alluvial wells in the Umatilla Basin. The number of wells visited has varied over time, but has averaged about 275 in recent years. Most irrigation wells are idle at this

time and static water levels are generally at their annual high. All but approximately 45 of the wells measured are in one of the ground water management areas discussed previously in this document.

The wells located outside of the management areas include irrigation, domestic, municipal and unused wells scattered throughout the basin. Concentrations of such wells are in and around the cities northeast of Pendleton, the Pilot Rock area, and a broad area to the southwest which includes Ione, Lexington and Heppner. Some of these wells have long-term records while others have been added in more recent years in response to new permit issuance or concerns by staff or local water users regarding potential well interference or water level declines.

The Department received several complaints from the cities of Adams, Athena and Helix during the late 1980s. In general, the city wells were no longer able to produce the permitted or customary quantities of water, especially in mid to late summer when demand is highest. Upon investigation, the Department determined that the problems likely resulted from multiple causes, including well or pump problems, water level declines and pumping interference from other wells.

There are approximately 40 permitted wells in the vicinity of the cities of

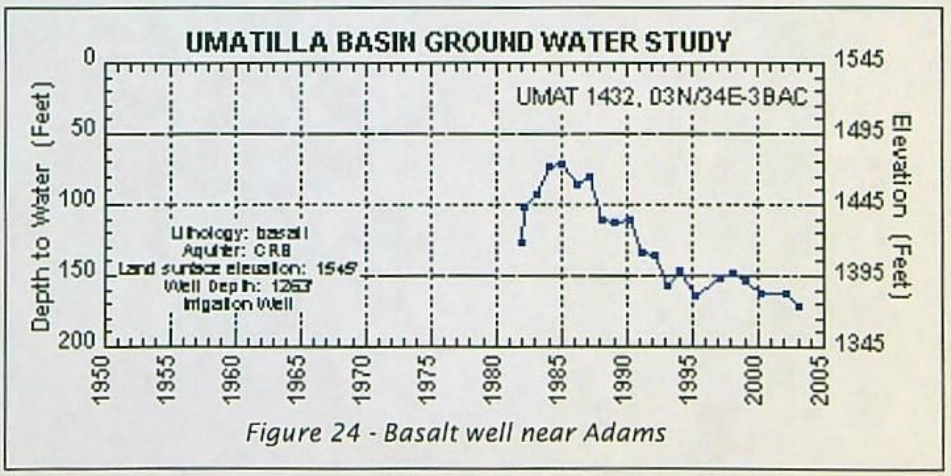


Figure 24 - Basalt well near Adams

Adams, Athena, Weston and Helix, most of which are used for irrigation. Several of these wells pump water in sufficient quantities, and are located close enough to municipal wells, such that measurable pumping interference is likely. The magnitude of the interference was estimated and determined not to be substantial. Therefore, no regulation of nearby junior water users was necessary.

The cities of Helix and Adams constructed new basalt wells in 1989. The city of Athena acquired an unused deep well in 1992, converted it to municipal use and obtained a new water use permit which allows additional use. These cities have not reported any significant problems with their wells subsequent to that time. However, water levels continue to decline at

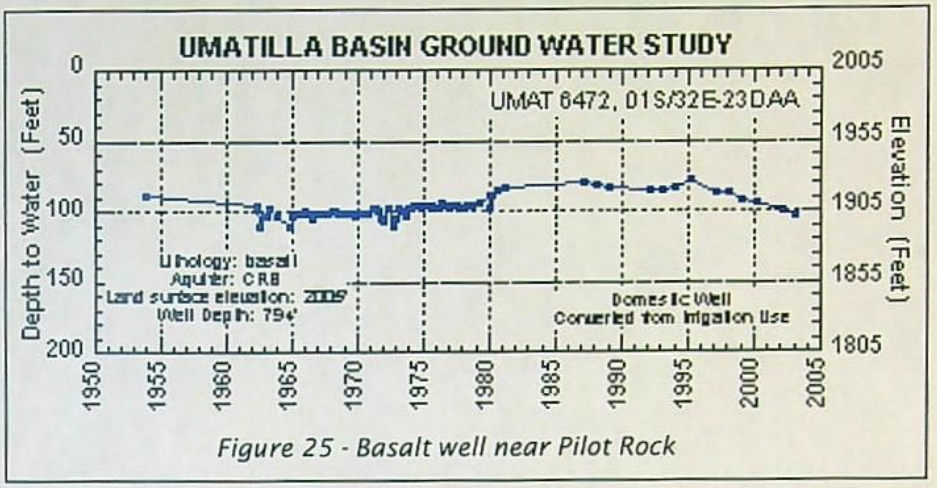


Figure 25 - Basalt well near Pilot Rock

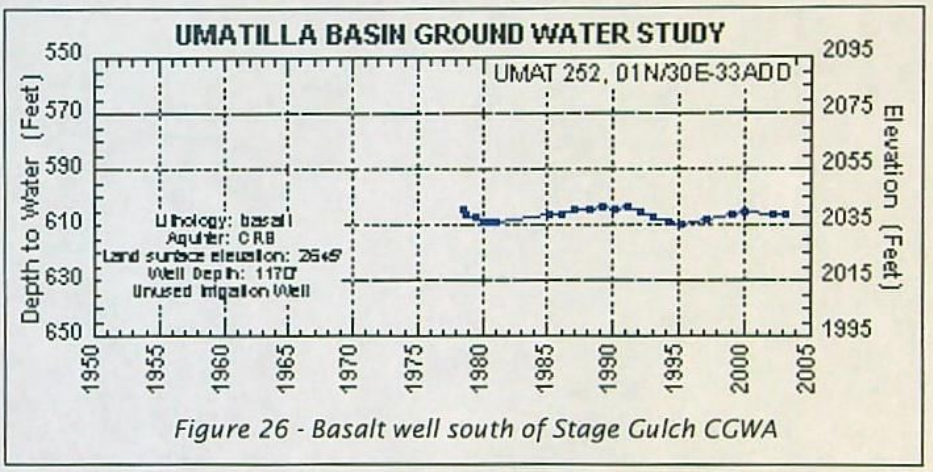


Figure 26 - Basalt well south of Stage Gulch CGWA

many wells in this area. Figure 24 is a hydrograph for an irrigation well near the city of Adams. Winter static water levels at this well have declined about 100 feet since 1985.

In the remainder of the outlying areas of the basin, with the exception of an area from Pilot Rock north to McKay Reservoir, development of the ground water resource is much less concentrated than in the above cited area. The following hydrographs *(Figures 25 and 26)* illustrate water level trends for selected wells in these outlying areas of the Umatilla Basin. In general, water levels in these areas exhibit a range from relatively stable to moderately declining. Water levels in more remote areas are likely responding to long-term climatic trends, while those in other areas may be influenced by both local water use patterns and the climatic trends.

Existing users of basalt wells frequently express concerns regarding potential well interference and ground water availability whenever new uses of ground water are proposed in their area. The Department shares these concerns, given the past and ongoing water level trends in the more heavily developed parts of the basin. Currently, there are pending ground water applications which propose to use significant quantities of water in areas south of the Stage Gulch and Butter Creek critical ground water areas. Water users within the critical

areas have protested these applications. Ground water staff are recommending water level measurement and decline conditions to be included in these permits, if issued. Staff currently recommend these or similar conditions for nearly all new permits for basalt wells in the basin. Water level data collected to fulfill such permit requirements will supplement such data collected by Department staff, and may be used in making future management decisions regarding the basalt ground water resource in the Umatilla Basin.

The Next Step

Oregon statutes require the Water Resources Department to manage ground water as a renewable resource. Among other things, the Department is charged with maintaining reasonably stable ground water levels and preventing overdraft, substantial interference between ground water users, and substantial interference with surface water.

Economic activity within the Umatilla Basin is increasing steadily and will require additional supplies. Ground water will continue to be targeted as a source to accomodate this economic growth. Reliance on ground water for those supplies may be unrealistic given today's water management objectives. To be effective, those decisions need to be based on a thorough understanding of the conjoined ground water/surface water system. A comprehensive Basin wide ground water study is being planned to provide the necessary understanding. In its conceptual form, the U.S. Geological Survey would be engaged as a cost share cooperator with the Water Resources Department in conducting the study. The Department is soliciting partners from the Basin to assist in the formulation of a study plan and in the financing the study. Following its completion, those same partners will be called upon to assist in developing a comprehensive ground water management plan for the Basin that makes maximum supplies of water available for economic growth without compromising the statutorily adopted values and goals of sustainable ground water management.

APPENDIX A

Basic Ground Water Concepts

Ground Water Occurrence

Water that fills void spaces in naturally occurring Earth materials is called ground water. Void spaces, or pores, can be present in Earth materials for a variety of reasons, but there are only two or three that are important in the Umatilla Basin.

The first of these is intergranular porosity *(Figure 27)*. Water can fill the pore spaces between the silt, sand and gravel particles that make up the alluvial deposits. Alluvial deposits can be made up of as much as 30 or 35% pore space. So alluvium can contain significant quantities of water.

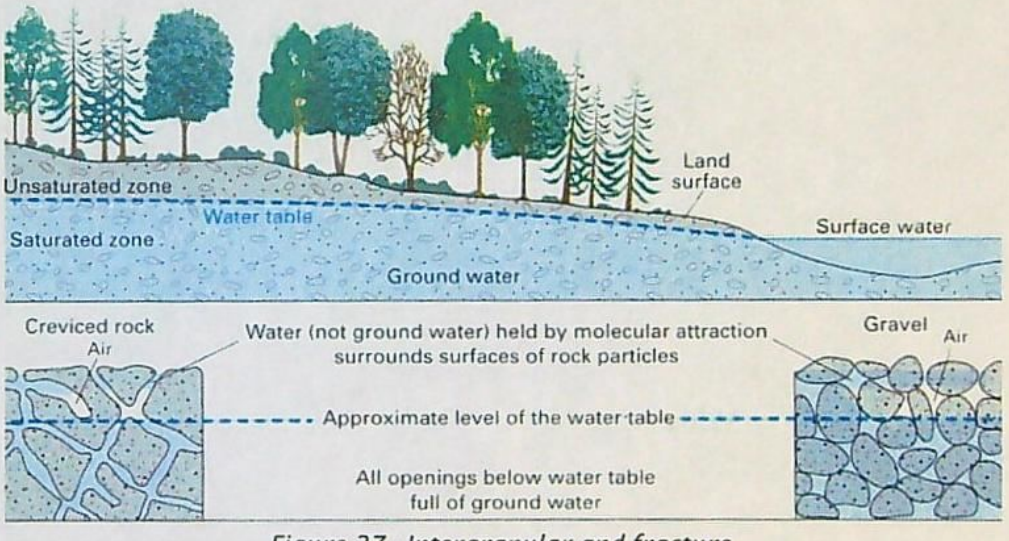


Figure 27 - Intergranular and fracture

The second is fracture porosity. Fractures can be quite open, providing an avenue through which water can readily flow, or be "tight", not allowing water to flow readily. Fractures typically do not make up a large proportion of the rock material and, therefore, do not account for very much storage of water. Also, fractures are usually discontinuous, making them unreliable as sources or conduits of water.

The third is interflow zones *(Figure 28)*. The upper surface of each basalt flow is typically weathered, creating some porosity. Often, basalt flow tops were exposed long enough for alluvial or lacustrine deposits or soils to form on them which also contain porosity. Frequently, the bottom of the basalt

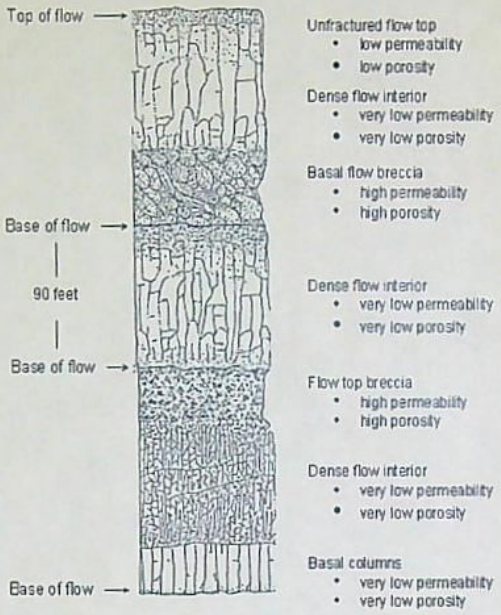


Figure 28

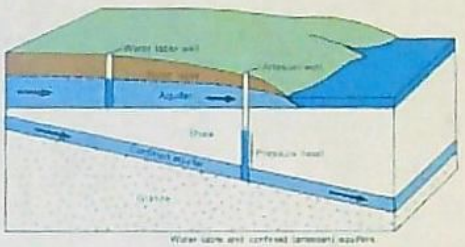


Figure 29 - Aquifer types

flows is quite rubbly leaving relatively large pore spaces in which water can accumulate. These flow tops, overlying soils or sediments, and overlying rubbly flow bottoms comprise what are called interflow zones. These interflow zones can be quite porous and permeable. However, interflow zones make up a relatively small proportion of the total column of basalt. While they store more water that fractures systems, they do not store as much as intergranular porosity.

Aquifer Types

Water can exist underground in either confined aquifers or unconfined aquifers *(Figure 29).* Both are present in the Umatilla Basin.

In unconfined aquifers, the upper surface of the saturated zone is called the water table. The water table may be near land surface or at considerable depth. But the distinguishing characteristic of an unconfined aquifer is that the overlying earth materials are porous and permeable so that atmospheric pressure is readily transmitted through them. The result is that the upper surface of the zone of saturation is at atmospheric pressure. Ground water in the Basin alluvium is unconfined.

This is not the case in a confined aquifer. Earth materials overlying confined aquifers have low porosity and permeability such that there is no efficient connection between the atmosphere and the upper surface of the saturated zone. Because of the confining layer, the pressure at the upper surface of the zone of saturation is greater than atmospheric. In some cases the pressure can be so great that when the confining layer is breached by drilling a well, water is forced all the way to land surface and the well

flows. Ground water in the Basin basalts is generally confined.

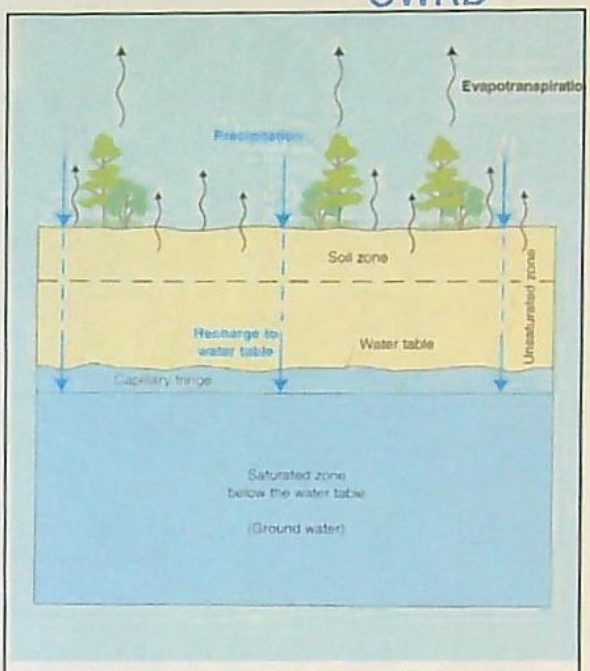


Figure 30 - Recharge and discharge

Ground Water Flow Systems

Recharge

Ground water owes its existence to water present at land surface. That water percolates downward through porous earth materials to saturate void space underground. This process is called recharge *(Figure 30)*. The source of recharge water can be completely natural such as rain fall or snow melt. Water can also percolate through the bed of streams to recharge underlying aquifers.

However, artificial sources of recharge also can be significant. Unlined irrigation canals and unsealed surface water impoundments provide recharge water. In some places, such hydraulic structures are intentionally designed to leak specifically for the purpose of recharging underlying aquifers.

Basin alluvium is readily recharged by water present at land surface in excess of that which is evapotranspired by plants. Some recharge in the alluvium is by way of precipitation, but significant amount also result from canal leakage, irrigation practices and at times from stream leakage.

Basin basalts are not so easily recharged because they are confined aquifers. It is currently thought that most, if not all, recharge to the basalts occurs in the higher elevations of the Basin. There, the edges of the basalt flows are exposed as are the interflow zones. Streams crossing those interflow zones then lose some of their water which percolates down dip to the lowlands where it is tapped by wells drilled through the confining layers. Some additional amount of recharge to the basalts also occurs because of faulty well construction that in some places allows water from shallower aquifers to fall down into the deeper basalts by way of the well bores.

The Umatilla Basin is arid. Down in the lowlands where the unconfined aquifer exists, precipitation is only about 8 to 10 inches annually in Hermiston. Only in the months of November through February does the precipitation exceed potential evapotranspiration around Hermiston. Higher elevations receive more precipitation and there are additional

months where precipitation exceeds potential evapotranspiration. It is difficult to maintain the resource if only this natural recharge is available and if the resource is heavily used.

The basalts recharge in an area where precipitation is somewhat greater. However, the recharge mechanism is very inefficient and it takes a long time (probably thousands of years) for the recharged water to flow down to where it is being withdrawn and used.

Discharge

If ground water recharges naturally, it must also discharge. If it did not, water would accumulate until it everywhere reached land surface. Ground water slowly percolates through the aquifers and out into streams, lakes or wetlands. In some cases it does not quite reach land surface, but approaches only into the root zone of plants that then evapotranspire the water as fast as it arrives. These are natural discharge processes that are ongoing largely unseen. It is this natural discharge that maintains stream flow when the winter snows have melted of the mountains.

Ground water can, of course, also be subject to artificial discharge processes. The most common of these is the pumping of water from wells.

In the Umatilla Basin the alluvial aquifer naturally discharges much of its water where the valley is constricted north of Butter Creek *(Figure 31)*. Pumping discharge, of course, occurs in many places.

Natural discharge from the basalts is diffuse and not readily observed. However, by mapping the heads (Figure 32) elevation to which the water

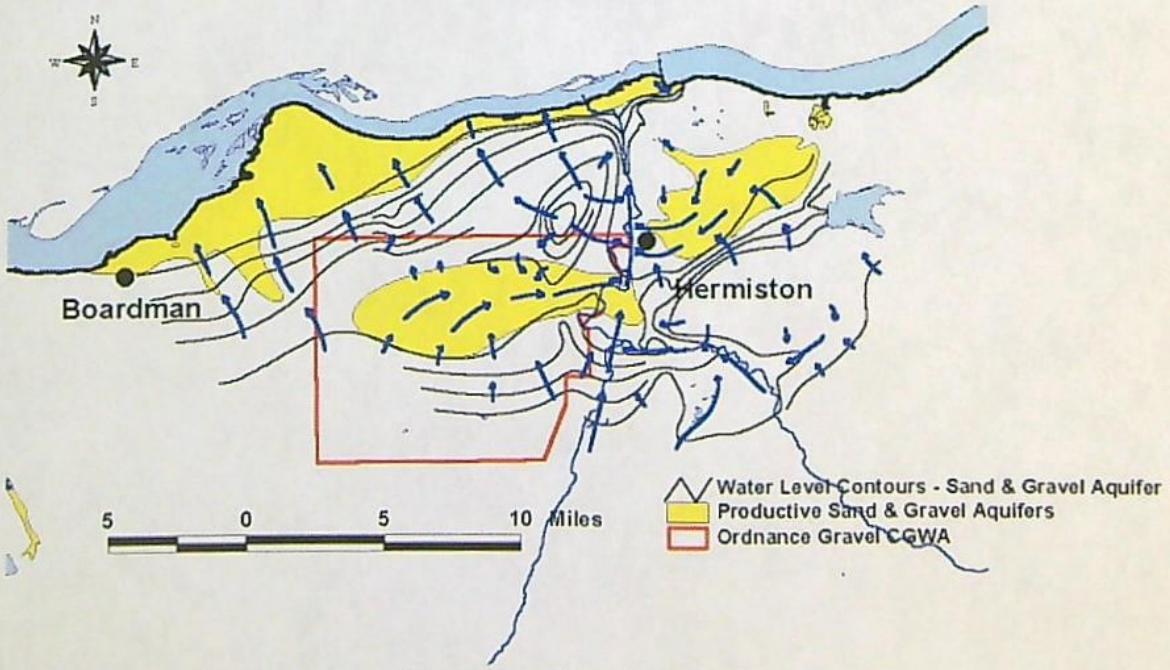


Figure 31 - Alluvial aquifer flow

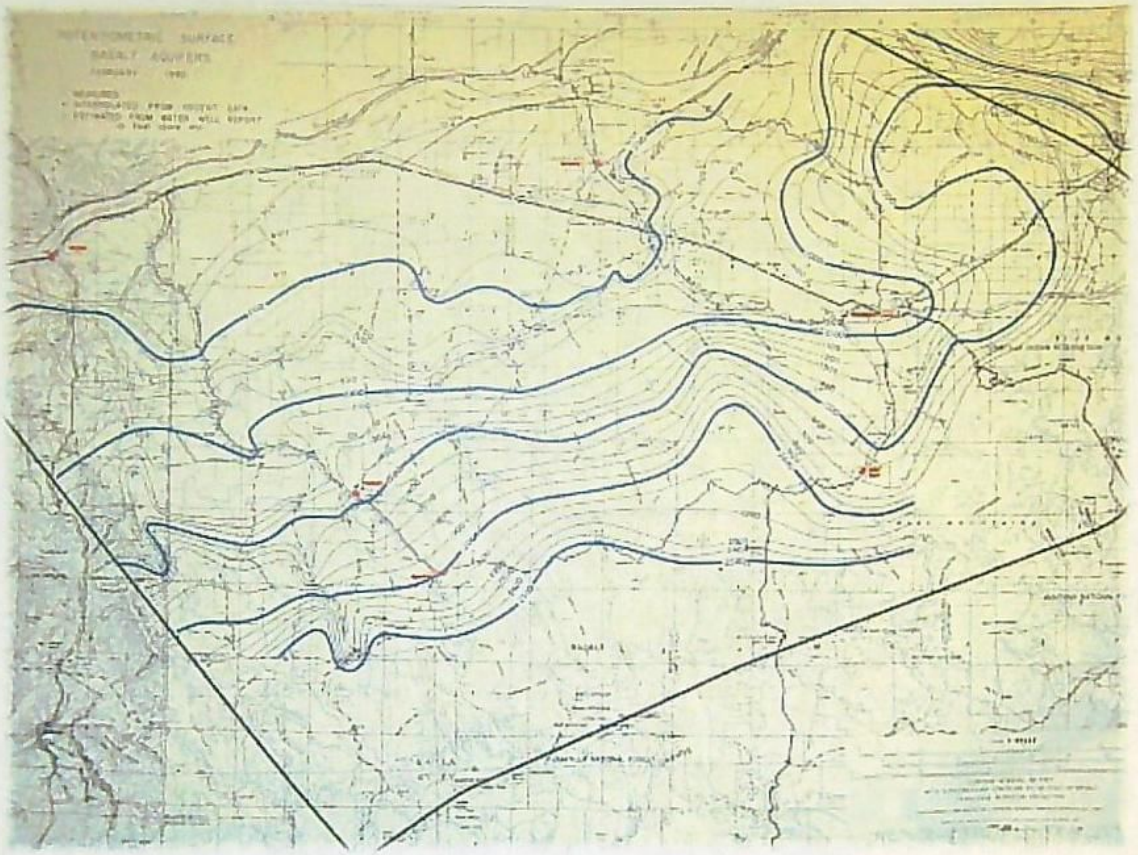


Figure 32 - Basalt aquifer flow

level in this confined aquifer rises when the confining layer is penetrated) in the basalt, it is possible to infer where recharge is occurring. This was done in the early 1980's. Water generally flows perpendicular to the contours indicating discharge to the Umatilla and Columbia Rivers.

Flow

Ground water flow is generally from areas of higher elevation to those of lower elevation. Flow is always down the hydraulic gradient as defined by the three dimensional distribution of heads within the aquifer. However, flow is seldom in a straight line. Water will be diverted by faults and folds and by spatial changes in the hydraulic properties of the aquifers.

APPENDIX B

Geology of the Umatilla Basin

The Umatilla Basin is comprised of two major geologic features – the Deschutes- Umatilla Plateau and the Blue Mountains. The Deschutes-Umatilla Plateau is a broad upland plain formed by flow upon flow of basalt. The flows dip gently northward from the Blue Mountains to the Columbia River. Events that gave rise to these geologic features are described below and a simplified geologic map of the basin is provided as Figure 33 .

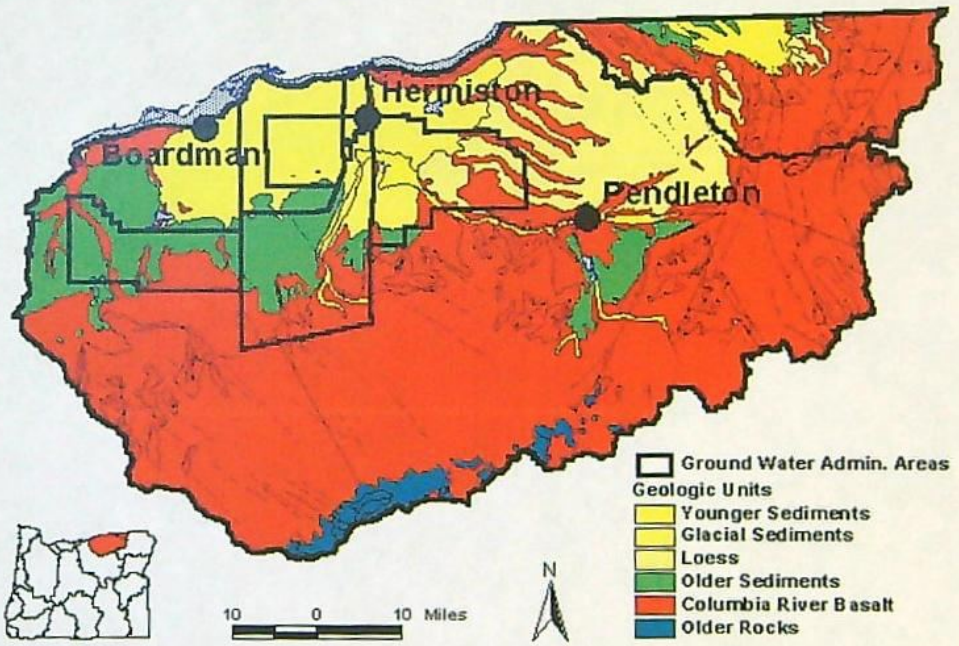


Figure 33 - Simple geology of Umatilla Basin

Beginning about 16 million years ago and continuing over a six million year period, enormous volcanic eruptions poured out basaltic lava flows from fissures in the Earth's crust in eastern Oregon and Washington and in Idaho. These lava flows spread out over vast areas, some flowing as far west as the Pacific Ocean. The rocks formed by these eruptions are collectively referred to as the Columbia River Basalt Group, or less formerly as the Columbia River Basalts.

Over time, scores of eruptions occurred resulting in basalt layers stacked one on top of another. The eruptions occurred sporadically over time but on average 50,000 to 100,000 years elapsed between eruptions. In all, these eruptions built up a sequence of basalt lava flows totaling over 10,000 feet in thickness in some places. These basalt flows form the dominant rock units in the Umatilla Basin.

Coincident with this volcanic activity, regional uplifting formed the Blue Mountains along the south and east borders of the basin. This uplifting folded and faulted the basalts. Large arch-shaped folds (anticlines) form the uplands. Broad U-shaped folds (synclines) form deposition basins between the upland areas.

Throughout much of the Umatilla Basin, the Columbia River Basalt has been overlain by sedimentary deposits. Glacially-derived silts were deposited by wind on top of the basalt-dominated landscape. These wind blown silts have been stripped away in some places and replaced by riverbed and flood deposits, or alluvial deposits. Consisting of sands, gravels, and boulders, these deposits occur in the stream valleys and are extensive in the lower part of the basin.

Exhibit 2

West Extension Irrigation District

P. O. Box 100; Irrigon, OR 97844-0100
541-922-3814 (ph) 541-922-9775 (fax)
westex@oregontrail.net

February 22, 2008

Phil Ward, Director
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

RE: Impacts to West Extension Irrigation District Water Supply from Ground Water Pumping

Dear Director Ward:

Thank you for meeting with us in 2007 to hear our concerns regarding the diminishing water supply for West Extension Irrigation District's (WEID) patrons. At the meeting, among other issues, we raised the matter of ground water pumping by junior water right holders and the impact of such pumping on WEID's water supply from the Umatilla River. WEID retained HDR Engineering, Inc. (HDR) to complete an inventory of the amount of ground water rights that are allocated within the Umatilla Basin below Pendleton pumping water from the unconfined aquifer. HDR coordinated with OWRD Hydrogeologist Karl Wozniak on this study. Key points of the memorandum include the following:

- Within the Umatilla Basin below Pendleton, HDR identified a total of about 400 water rights for wells in the unconfined aquifer and shallow basalt aquifer that authorize the use of water for approximately 13,400 acres of primary irrigation and 19,800 acres of supplemental irrigation.

- Based on a crop irrigation requirement of 2.55 acre-feet per acre, and assuming that supplemental rights are used at 50 percent of primary rights, this equates to an estimated consumptive use of 60,000 acre-feet annually or about 160 cfs during the irrigation season.

- As depicted in Figures 9 to 11 and the summary table on Page 6, the vast majority of wells in the unconfined and shallow basalt aquifers (over 375 wells) are not conjunctively managed by the Department under OAR Chapter 690, Division 9 (Division 9) as hydraulically-connected junior water rights impacting senior surface water rights. Approximately 70 of these wells are within 1 mile of the Umatilla River and all 375 are within 5 miles.

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- The results of this study are similar and complementary to the inventory of water rights in the Umatilla Basin completed by Karl Wozniak.

While WEID appreciates the Department's conjunctive management efforts under Division 9 to date, the attached memorandum suggests that the effort is falling short. Given the significant amount of consumptive use by hydraulically connected junior ground water right holders, WEID requests OWRD redouble its efforts to protect WEID's senior water rights consistent with Oregon law and the Oregon Water Resources Commission's Groundwater Management Policy under OAR 690-410-010. To maintain the status quo would abrogate the Department's fundamental responsibility to protect senior water rights and would only leave WEID with the option of requesting relief through department regulatory process.

As you recall from our previous meeting, WEID relies on the Umatilla River for irrigation at a gravity-flow diversion located at Three-Mile Falls Dam. Using reasonable estimates of ground water consumptive use, the analysis presented in the enclosed technical memorandum shows a depletion of ground water in the shallow aquifer connected to the Umatilla River of about 60,000 AF. WEID is bearing the brunt of the burden caused by this situation. Our live flow from the Umatilla River has dropped from over 80,000 AF in the middle of the century to below 20,000 AF during recent years (documented in HDR's previous report). Because of this situation, WEID can no longer depend on the river for a reliable supply. As a result of reduced river flow available for appropriation or exchange, WEID has instituted a rotation system; has, at times, cut deliveries; and has become increasingly dependent on water pumped up from the Columbia River. While abundant, Columbia River water is very expensive to lift and pump, about $32/acre-foot (and these costs increase every year). WEID's patrons are facing hardship from both water shortages and increased pumping costs.

While WEID has faced hardship and curtailment, there has been a vast increase in the amount of ground water rights allocated in the Umatilla Basin. Almost all of the ground water rights have a junior priority to WEID's Umatilla River surface water rights. WEID contends that most, if not all, of the ground water wells identified in the Technical Memorandum intercept water in the shallow, unconfined aquifer that would otherwise flow into the Umatilla River. To the extent that this contention is true, they are reducing the water that WEID is entitled to use, and the Department should be protecting the water for use under WEID's senior water right. Under this method of administration, the junior ground water users that are not administered by the Department get a full supply, while WEID (the senior right) faces shortages and curtailment.

WEID further notes that the wells cited in the attached Technical Memorandum deplete live flows needed for Umatilla River fisheries. The United States, the Confederated Tribes of the Umatilla Indian Reservation, and the State of Oregon have gone to great lengths and spent a significant amount of money to restore and protect those fisheries. WEID believes that actions to protect its rightful water supply will also further the goals of fish restoration and protection.

WEID understands that the Department has many issues in front of it. However, WEID's continued existence depends on efficiently resolving the factors associated with reduced stream flow available for appropriation or exchange. The attached memorandum and previous studies by OWRD and others (cited in the memo) demonstrates that ground water use is a major contributing factor to these reduced stream flows.

We look forward to working with you to develop a cooperative remedy.

Please contact me if you have any questions and to set up a meeting as needed to discuss the attached memorandum.

Sincerely,

Bev Bridgewater

West Extension Irrigation District
Bev Bridgewater, Manager

Enclosure

Cc: Jerry Rodgers, OWRD - Salem
Mike Ladd, OWRD- Pendleton
Tim Personius, Bureau of Reclamation- Boise
Ron Eggers, Bureau of Reclamation- Portland
Aaron Skirvin, CTUIR
Rick George, CTUIR
Douglas MacDougal, Schwabe, Williamson & Wyatt
John Koreny, HDR Engineering, Inc.
Adam Sussman, GSI Water Solutions, Inc.
Eric Glover

Exhibit 3

HDR | ONE COMPANY *Many Solutions*℠

Technical Memo

To: Bev Bridgewater, West Extension Irrigation District	
From: John Koreny, RG, PH Dave Minner, EIT	Project: West Extension Irrigation District
CC: Douglas MacDougal, Schwabe, Williamson & Wyatt Adam Sussman, GSI Water Solutions Eric Glover	
Date: November 15, 2007	Job No: 13027

RE: Inventory of Ground Water Rights in the Umatilla Basin

INTRODUCTION

This technical memorandum reports on an inventory of the ground water rights in the Umatilla Basin, focusing on the Middle and Lower Umatilla Basin (roughly from McKay Creek to the mouth of the Umatilla River). The ground water right information is from the State of Oregon WRIS water right database. The purpose of the study was to provide information that could be used in the process to identify ground water rights that may be affecting the flow in the Umatilla River.

DESCRIPTION OF HYDROGEOLOGY AND GROUND WATER SUPPLY

There is an extensive amount of ground water pumping in the Umatilla Basin as reported by other investigations (Wozniak, 2007; Reclamation, 2005; Graham, 2002; Grondin et al, 1995). Ground water provides a supply for irrigation, municipal, industrial, commercial and domestic uses. There are two primary aquifers types in the Umatilla Basin.

- An unconfined aquifer near the surface composed of alluvial deposits in the center of the basin (shown in yellow on Exhibit 1) or fanglomerate in the south of the basin. Shallow basalt wells may also be part of the unconfined aquifer.
- A deeper basalt aquifer that is present throughout most of the basin.

The ground water flow paths in the shallow unconfined aquifer are presented on Exhibit 1. Ground water flows towards and into the Umatilla River throughout most of the Middle and Lower Basin. The Middle and Lower Basin is roughly defined as the area including and below McKay Creek. The Upper Basin is roughly defined as the area above McKay Creek and Pendleton. There is a ground water flow divide that causes ground water to flow towards and into the Columbia River in the northern edge of the basin. Based on this understanding and based on the scientific principle of the depletion of flow on hydraulically-connected river reaches by ground water pumping (Theis, 1940; Bredehoeft et al., 1982), the consumptive use of ground water that would have flowed into the Umatilla River by wells pumping from the unconfined aquifer reduces the flow in the river. To the extent that this water would have been used to meet the irrigation diversion requirements of surface water right holders with a senior-priority date and causes a water shortage for those senior water right holders, those wells are impacting the supply of surface water users with senior-priority water rights.

Our study area included all of the Umatilla basin (excluding the Willow Creek and the Walla Walla sub-basin) but focused on the Middle and Lower Basin, since this is the area where ground water use is most-likely to affect the natural flow in the river and the water supply relied on for the supply for surface water users and for instream flow. The area within three miles of the Columbia River was removed from the study area because ground water in these areas is known to flow directly to the Columbia River.

METHOD TO INVENTORY GROUND WATER RIGHTS

The State of Oregon WRIS water rights database was obtained for the Umatilla Basin (excluding the Willow Creek and the Walla Walla sub-basin) and queried to identify the location and type of ground water rights, point of diversions (PODs) and place of use (POU) for both primary and supplemental rights. The information presented in this memorandum is solely derived from the WRIS database. It was not within the scope of the project to independently examine individual water right certificates or other documents within the Oregon Water Resource Department (OWRD) water right files. The study only focused on water rights for irrigation, industrial, municipal or commercial uses and did not include domestic use or other water rights with non-consumptive uses (like fish hatcheries). Water rights were assigned to representative aquifers in the basin (alluvial, shallow basalt and deep basalt) by matching water rights and PODs to well logs. Shallow basalt was identified as the aquifer type for a well completed in basalt at a depth of less than 200 feet, since this type of well is likely to obtain water and to be in hydraulic connection with the shallow unconfined aquifer. Most of this work had already been completed by Mr. Karl Wozniak with OWRD and by Ms. Kate Ely with the CTUIR. HDR's analysis in this regard was limited to supplementing the work done by Mr. Wozniak and Ms. Ely for water rights that had not already been matched to aquifers. The hydrogeologic information needed to match water rights and PODs to well logs to identify which aquifer supplies water to the right was obtained from the reports referenced in the Bibliography at the end of the text.

SUMMARY OF RESULTS

Analysis of Water Rights in Middle and Lower Umatilla Basin

The result of the inventory is presented on Tables 1 to 6 and on Figures 1 to 11 for the Middle and Lower Umatilla Basin area. The following discussion focuses on water rights in the alluvial and shallow basalt, since these are most-applicable to the uses of ground water from the unconfined aquifer that may impact the flow in the Umatilla River.

Table 1 shows that there are about 271 alluvial PODs and 127 shallow basalt PODs for a total of 398 PODs in the Middle and Lower Umatilla Basin area. Assuming that one POD represents one well-this represents about 398 wells. Table 2 shows the distance of the PODs from the Umatilla River and indicates that about 70 PODs (wells) completed in the alluvial and shallow basalt are located within one mile of the river and the vast majority are located within 5 miles of the river. The locations of these PODS are shown on Figure 1.

Table 3 shows that the PODs in the alluvial and shallow basalt aquifers represent about 378 water rights. The breakdown between the number of water rights and the type of right (primary and supplemental) and the distance from the Umatilla River for these rights are presented on Table 4. Table 5 shows the combined instantaneous flow rate on the water right for rights that have non-irrigation uses, and the information on the table shows that non-irrigation uses are not a significant water use category for the alluvial and shallow basalt aquifers (about 32 cfs total maximum instantaneous use). Table 6 shows that all of the irrigated acres for the sum of PODs in the alluvial and shallow basalt aquifer is about 13,400 acres for primary rights and 19,800 acres for supplemental rights. The majority of these acres are located within 5 miles of the Umatilla River. The spatial distribution of primary and supplemental rights for alluvial and shallow basalt aquifers in the Middle and Lower Umatilla Basin are presented on Figures 2 and 3. Figures 1, 2 and 3 and Exhibit 1 show that many of the PODs and water right acres used for irrigation are within the ground water flow paths that would contribute flow to the Umatilla River, and so the use of many of these wells would cause some interference with the flow in the river.

Figures 4 through 6 presents the same information for the PODs and water rights completed in the deep basalt aquifer. Figures 7 and 8 present the same breakdown for aquifer types (alluvial and shallow basalt and deep basalt) for the entire basin. The same tables referenced above are also presented in Appendix A for the entire Umatilla Basin (instead of just the Middle and Lower Basin) in Tables 7 to 12. Appendix B presents more comprehensive details on the location, name, address, water right id number and other information for the designation of water rights by aquifer type and distance from the river.

Estimate of Consumptive Use by Wells in the Unconfined Aquifer in the Middle and Lower Umatilla Basin

An analysis was completed to estimate the consumptive use of water for irrigation for acres served by wells located in the unconfined aquifer (alluvial and shallow basalt) using the water right acreage information compiled on Table 6. The crop water requirement for these irrigated acres was calculated using the following process:

1. Dr. Donald Horneck at the Oregon State University agricultural extension in Hermiston was contacted for a distribution of crop types by acre for Umatilla and Morrow County. This information was summarized to obtain an average crop distribution for the major crop types, shown the table below.
2. The crop evapotranspiration for these acres were determined from the Bureau of Reclamation Agrimet database http://www.usbr.gov/pn/agrimet/ using the average of the crop evapotranspiration requirements for the Hermiston and Echo recording stations from 1990 to 2006.
3. The effective precipitation (the precipitation during the irrigation season that meets the crop ET) was obtained from the Hermiston precipitation recording station using the procedure outlined in USDA Technical Bulletin 1275.

4. An average crop irrigation requirement (CIR) was obtained by reducing the crop ET by effective precipitation. This CIR value was multiplied by the number of acres listed on the water rights. The computed CIR by month is shown on the table below.

Average crop distribution for Umatilla and Morrow County

Crop	Acres	Percentage
Wheat	37,459	18%
Field Corn	12,900	6%
Sweet Corn	8,420	4%
Alfalfa	76,660	35%
Popular trees	25,799	11%
Apples	1,191	1%
Onions	6,280	3%
Potato	28,000	13%
Peas	15,160	7%
Beans	7,159	4%
Total	**219,028**	**100%**

Computed crop irrigation requirement (CIR) for Umatilla Basin

	May	Jun	Jul	Aug	Sep	Oct	Total
Crop Irrigation Requirement (feet)	0.42	0.64	0.73	0.51	0.22	0.04	2.55

The irrigation acreage associated with the water rights shown on Table 6 was multiplied by the CIR of 2.55 ft/acre to obtain the following estimates of consumptive use by ground water wells.

Estimated consumptive use by ground water wells in the Umatilla Basin pumping from the unconfined aquifer

Water Right Type	Aquifer Type	Irrigated Acreage (acres)	Crop Irrigation Requirement (ft)	Consumptive Use Factor	Estimated Consumptive Use (acre-ft)
Primary	Alluvial	11,307	2.55	1.0	28,800
Primary	Shallow Basalt	2,123	2.55	1.0	5,400
Supplemental	Alluvial	18,188	2.55	0.5	23,000
Supplemental	Shallow Basalt	1,595	2.55	0.5	2,500
Total	--	**33,200**	--	--	**60,000**

In order to obtain a total consumptive use estimate for the unconfined aquifer it is necessary to estimate how often supplemental rights are used for irrigation. We have assumed that supplemental rights are used at 50% of the consumptive use for primary rights. Based on this assumption, the total consumptive use associated with ground water rights in the unconfined aquifer is estimated at 60,000 AF. This is equal to approximately 80 cfs annually or 160 cfs during a six month irrigation season.

This estimate compares well with estimates from previous studies as described below:

- Roache (2005) estimated that ground water pumping in the alluvial aquifer ranged from 35,000 to 45,000 acre-feet/year (afy). This is equal to approximately 48 to 62 cfs annually or 96 to 124 cfs during a six-month irrigation season.
- Grondin et al. (1995) estimated that ground water pumping in the alluvial aquifer ranges from 65,000 to 98,000 acre-feet/year (afy). This is equal to approximately 90 to 140 cfs annually or 180 to 280 cfs during a six-month irrigation season.
- Graham (2002) estimated a reduction in return flow ranging from 26,000 to 52,000 acre-feet. This is equal to approximately 40 to 70 cfs annually or 80 to 140 cfs during a six-month irrigation season.

COMPARISON TO OWRD LIST OF HYDRAULICALLY-CONNECTED WELLS

A list was obtained from Mr. Mike Ladd of OWRD in Pendleton that included the wells that OWRD has determined are eligible for administration as hydraulically-connected wells that interfere with flow in the Umatilla River. The list is attached as Appendix C. The location of these water rights is shown on Figure 9. A comparison was made to determine which wells located within the alluvial aquifer and shallow basalt are regulated by OWRD. The comparison is shown on Appendix B in the last column of the spreadsheet table. The table below is a summary from the last column in Appendix B and shows that 254 wells completed in the alluvial aquifer and 122 wells completed in the shallow basalt aquifer are not on the list of administered hydraulically-connected wells that may interfere with flow in the Umatilla River. Figures 10 and 11 shows the locations of the wells in the alluvial and shallow basalt unconfined aquifer that are not regulated or administered by OWRD.

List of water rights that are located within the alluvial aquifer and shallow basalt aquifer that are not on OWRD's list for administration as hydraulically-connected wells.

Distance from Umatilla River	Alluvial Aquifer Water Rights	Shallow Basalt Aquifer Water Rights	Total
0 – 0.5 miles	15	17	32
0.5 – 1.0 miles	29	9	38
1.0 – 2.0 miles	29	17	46
2.0 – 5.0 miles	114	55	169
>5.0 miles	67	24	91
Total	**254**	**122**	**376**

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Table 1 Count of PODs by aquifer type within the Middle and Lower Umatilla Basin

	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Undetermined	Total
Total	271	127	398	198	52	648

Table 2 Count of PODS by aquifer type, distance from Umatilla River, and use class for Middle and Lower Umatilla Basin

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Un-determined	Total
Primary	0.0 <= x < 0.50	28	16	44	11	2	57
	0.50 <= x < 1.0	19	7	26	11	11	48
	1.0 <= x < 2.0	22	19	41	27	5	73
	2.0 <= x < 5.0	117	49	166	59	17	242
	x >= 5.0	45	16	61	64	12	137
Primary Total		231	107	338	172	47	557
Supplemental	0.0 <= x < 0.50	8	6	14	4	1	19
	0.50 <= x < 1.0	5	2	7			7
	1.0 <= x < 2.0	3	1	4	6		10
	2.0 <= x < 5.0	14	5	19	6	4	29
	x >= 5.0	10	6	16	10		26
Supplemental Total		40	20	60	26	5	91
Grand Total		271	127	398	198	52	648

Table 3 Count of water rights by aquifer type for Middle and Lower Umatilla Basin

	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Combined Source	Un-determined	Total
Total	263	115	378	204	23	23	628

Table 4 Count of water rights, distance from Umatilla River and aquifer type for Middle and Lower Umatilla Basin

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Combined Source	Un-determined	Total
Primary	0.0 <= x < 0.50	25	16	41	10		2	53
	0.50 <= x <1.0	21	5	26	11	1	4	42
	1.0 <= x < 2.0	24	13	37	20	4	3	64
	2.0 <= x < 5.0	86	44	130	58	13	8	209
	5.0 <= x	53	16	69	69	2	3	143
Primary Total		209	94	303	168	20	20	511
Supplemental	0.0 <= x < 0.50	11	5	16	6		1	23
	0.50 <= x <1.0	7	4	11				11
	1.0 <= x < 2.0	3	1	4	8	1		13
	2.0 <= x < 5.0	21	5	26	8		2	36
	5.0 <= x	12	6	18	14	2		34
Supplemental Total		54	21	75	36	3	3	117
Grand Total		263	115	378	204	23	23	628

Table 5 Combined instantaneous flow rate (CFS) based on water right permit limit and distance from Umatilla River and aquifer type for Middle and Lower Umatilla Basin valid for the date of June 1st

Use Category	Miles from Umatilla River	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Un-determined	Total (CFS)
Non-Irrigation	0.0 <= x < 0.50	8.95	0.26	9.21	6.21		15.43
	0.50 <= x < 1.0	0.51	0.60	1.11	11.17		12.28
	1.0 <= x < 2.0	11.04	1.69	12.73	21.37	0.87	34.98
	2.0 <= x < 5.0	2.36	3.78	6.14	9.88	0.45	16.47
	5.0 <= x	1.93	1.12	3.05	10.52	0.45	14.01
Non-Irrigation Total		24.80	7.45	32.25	59.15	1.77	93.16

Table 6 Irrigated acres and distance from Umatilla River and aquifer type for combined PODs in the Lower and Middle Umatilla Basin

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Total Unconfined	Deep Basalt	Un determined	Total (ac)
Primary	0.0 <= x < 0.50	696	244	940	125	25	1,091
	0.50 <= x < 1.0	1,109	104	1,213	81	33	1,328
	1.0 <= x < 2.0	1,501	311	1,812	1,654	517	3,985
	2.0 <= x < 5.0	4,262	943	5,205	6,953	1,343	13,502
	5.0 <= x	3,737	519	4,256	24,756	5	29,018
Primary Total		11,307	2,123	13,340	33,571	1,924	48,926
Supplemental	0.0 <= x < 0.50	1,078	255	1,333	1,326	35	2,695
	0.50 <= x < 1.0	753	204	957	440	19	1,418
	1.0 <= x < 2.0	1,308	48.	1,356	2,552	58	3,968
	2.0 <= x < 5.0	8,695	328	9,023	9,149	166	18,338
	5.0 <= x	6,352	758	7,110	8,150	0	15,261
Supplemental Total		18,188	1,595	19,783	21,618	279	41,682
Grand Total		29,495	3,719	33,214	55,189	2,204	90,609

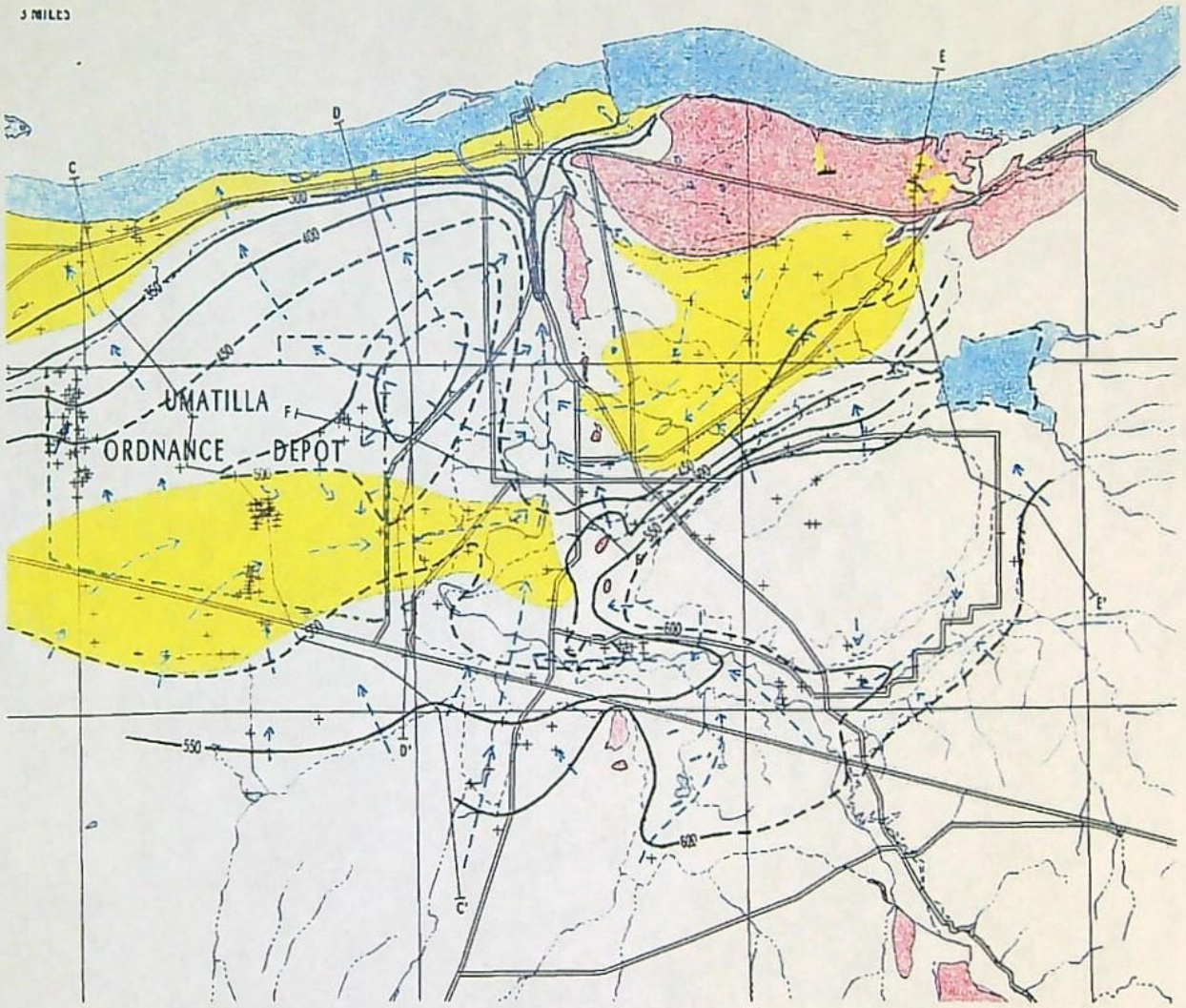

Exhibit 1 **Ground water flow directions in the shallow unconfined alluvial aquifer in the Middle and Lower Umatilla Basin (Source: Grondin et al., 1995).**

APPENDIX A

SUMMARY WATER RIGHT TABLES FOR ENTIRE UMATILLA BASIN

(EXCLUDING WALLA WALLA AND WILLOW CREEK SUB-BASINS)

Note: These tables are for the Umatilla Basin, excluding Willow Creek and the Walla Walla sub-basins.

Table 7 PODs by aquifer type for Umatilla Basin.

	Alluvial	Shallow Basalt	Deep Basalt	Undetermined	Grand Total
Total	277	234	461	85	1057

Table 8 Count of PODs by aquifer type, distance from Umatilla River, and use class for Umatilla Basin.

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Deep Basalt	Undetermined	Grand Total
Primary	0.0 <= x < 0.50	30	42	35	9	116
	0.50 <= x < 1.0	19	14	28	12	73
	1.0 <= x < 2.0	22	22	40	8	92
	2.0 <= x < 5.0	119	66	117	31	333
	x >= 5.0	47	50	192	19	308
Primary Total		237	194	412	79	922
Supplemental	0.0 <= x < 0.50	8	11	7	2	28
	0.50 <= x < 1.0	5	2	2		9
	1.0 <= x < 2.0	3	2	7		12
	2.0 <= x < 5.0	14	12	9	4	39
	x >= 5.0	10	13	24		47
Supplemental Total		40	40	49	6	135
Grand Total		277	234	461	85	1057

Table 9 Count of water rights by aquifer type for Umatilla Basin.

	Alluvial	Shallow Basalt	Deep Basalt	Combined Source	Undetermined	Grand Total
Total	270	217	506	29	47	1069

Table 10 Count of water rights by use class, distance from Umatilla River and aquifer type for entire Umatilla Basin.

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Deep Basalt	Combined Source	Undetermined	Grand Total
Primary	0.0 <= x < 0.50	27	42	40		7	116
	0.50 <= x < 1.0	21	11	27	2	4	65
	1.0 <= x < 2.0	24	16	31	4	4	79
	2.0 <= x < 5.0	88	58	117	15	21	299
	5.0 <= x	55	49	229	5	7	345
Primary Total		215	176	444	26	43	904
Supplemental	0.0 <= x < 0.50	11	10	9		2	32
	0.50 <= x < 1.0	7	4	2			13
	1.0 <= x < 2.0	3	2	9	1		15
	2.0 <= x < 5.0	22	12	11		2	47
	5.0 <= x	12	13	31	2		58
Supplemental Total		55	41	62	3	4	165
Grand Total		270	217	506	29	47	1069

Table 11 Combined instantaneous flow rate (CFS) based on water right permit limit and distance from Umatilla River and aquifer type for Umatilla Basin valid for the date of June 1st

Use Category	Miles from Umatilla River	Alluvial	Shallow Basalt	Deep Basalt	Undetermined	Total (CFS)
Non-Irrigation	0.0 <= x < 0.50	9.06	2.33	41.26	0.19	52.85
	0.50 <= x < 1.0	0.51	0.60	16.48	0.00	17.59
	1.0 <= x < 2.0	11.04	1.69	48.07	0.87	61.68
	2.0 <= x < 5.0	2.36	3.84	10.08	0.45	16.73
	5.0 <= x	2.11	2.10	28.52	0.45	33.17
Non-Irrigation Total		25.09	10.56	144.41	1.96	182.02

Table 12 Irrigated acres by use class, distance from Umatilla River and aquifer type for the PODs in the Umatilla Basin.

Use Class	Miles from Umatilla River	Alluvial	Shallow Basalt	Deep Basalt	Undetermined	Total (ac)
Primary	0.0 <= x < 0.50	699	426	236	60	1,422
	0.50 <= x < 1.0	1,109	225	234	42	1,611
	1.0 <= x < 2.0	1,501	397	2,433	521	4,853
	2.0 <= x < 5.0	4,276	1,470	9,871	1,388	17,006
	5.0 <= x	4,187	1,766	37,753	274	43,982
Primary Total		11,774	4,285	50,529	2,287	68,876
Supplemental	0.0 <= x < 0.50	1,078	339	1,343	36	2,797
	0.50 <= x < 1.0	753	229	496	19	1,499
	1.0 <= x < 2.0	1,308	98	2,629	59	4,095
	2.0 <= x < 5.0	8,697	415	10,134	166	19,413
	5.0 <= x	6,352	1,123	16,853	60	24,388
Supplemental Total		18,190	2,205	31,455	341	52,193
Grand Total		29,964	6,490	81,985	2,629	121,069

Note: The total estimated primary ground water right acres on Table 12 for all aquifer types is 68,876 acres for primary rights and 52,193 acres for supplemental rights. This estimates compare well with Karl Wozniak's (2007) recent estimates of 96,260 acres for primary ground water rights and 78,692 acres for supplemental rights (shown on Wozniak's Table 1). We did not include the Willow Creek sub-basin and areas along the Columbia River, which is why our ground water right acreage estimate is *smaller* than Mr. Wozniak's 2007 estimate.

APPENDIX B

WATER RIGHTS SUMMARY INFORMATION

(Information provided electronically in attached file "Appendix B.xls")

APPENDIX C

OWRD LIST OF GROUND WATER RIGHTS THAT ARE ADMINISTERED AS HYDRAULICALLY-CONNECTED WELLS IN THE UMATILLA BASIN

(List received from Mike Ladd, OWRD, Pendleton)

Alluvial and Shallow Basalt PODs per quarter quarter

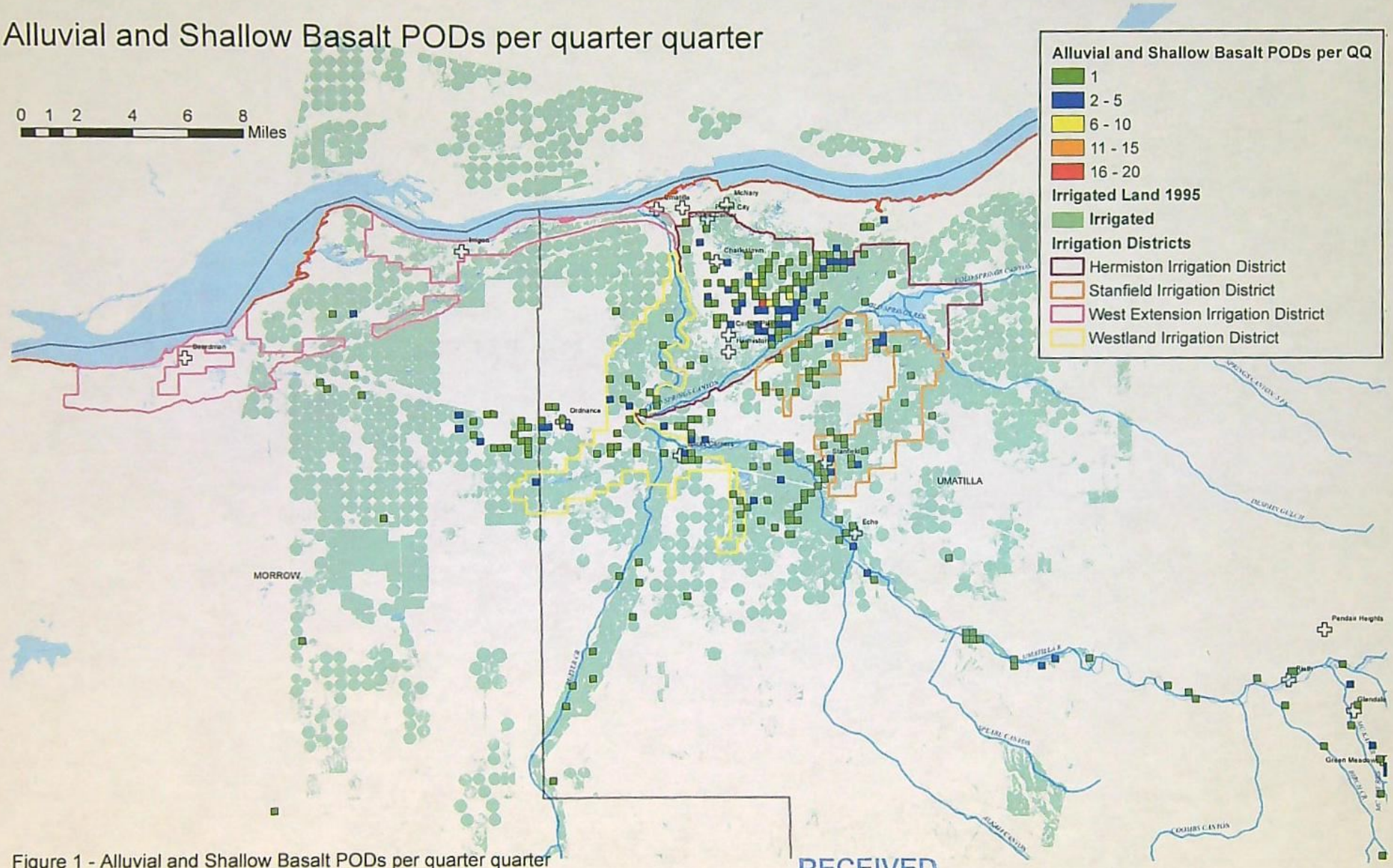

Figure 1 - Alluvial and Shallow Basalt PODs per quarter quarter

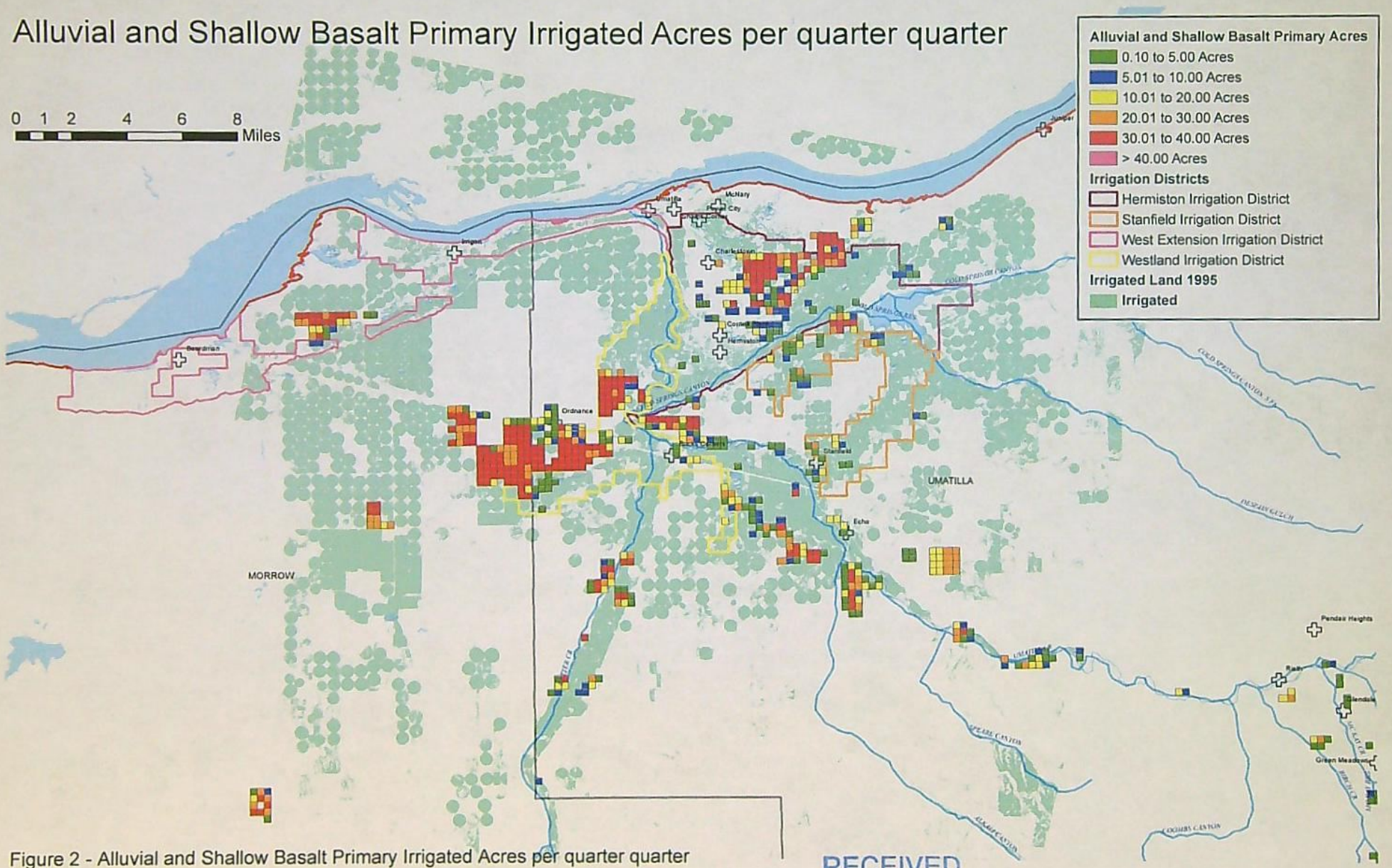

Figure 2 - Alluvial and Shallow Basalt Primary Irrigated Acres per quarter quarter

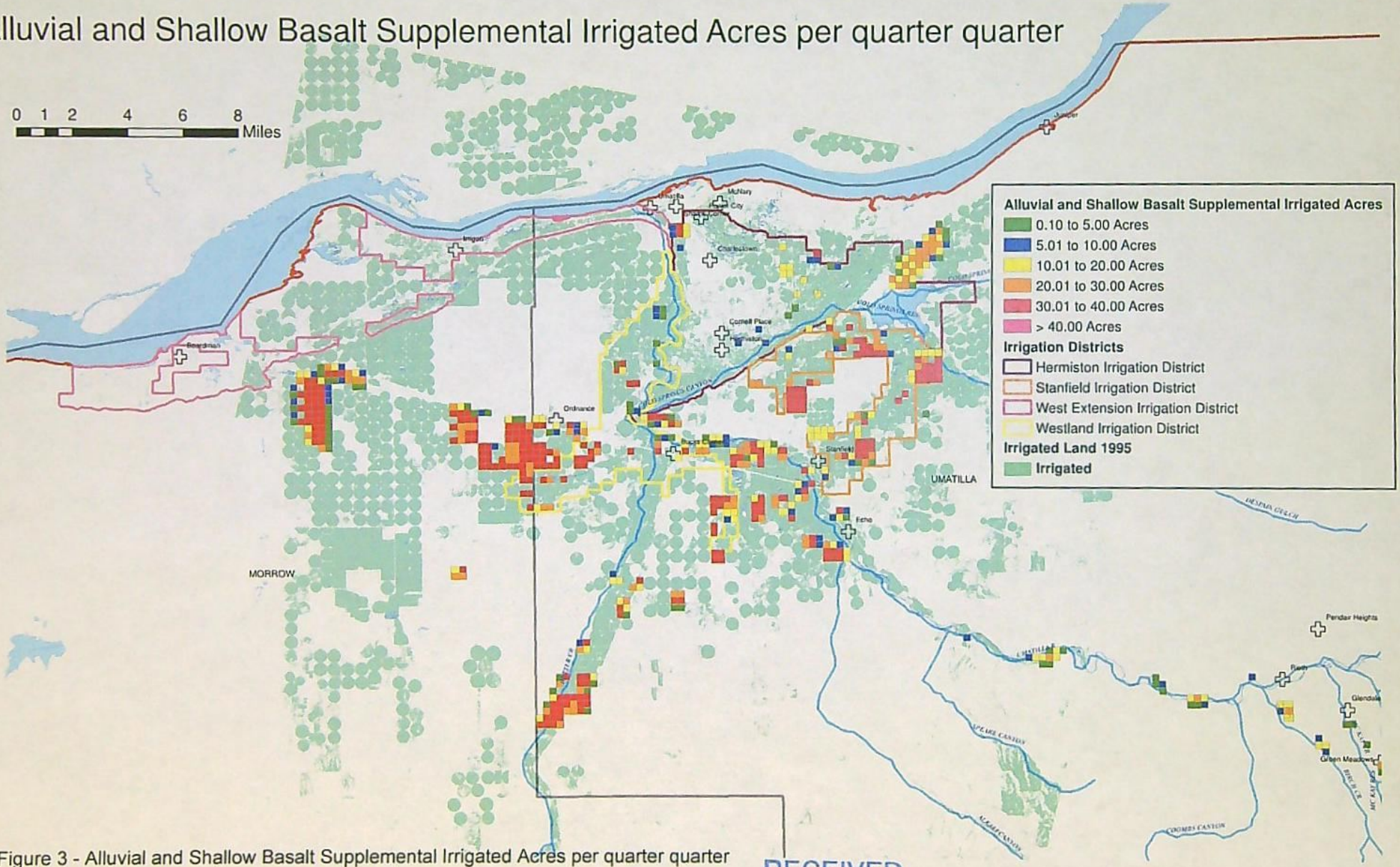

Figure 3 - Alluvial and Shallow Basalt Supplemental Irrigated Acres per quarter quarter

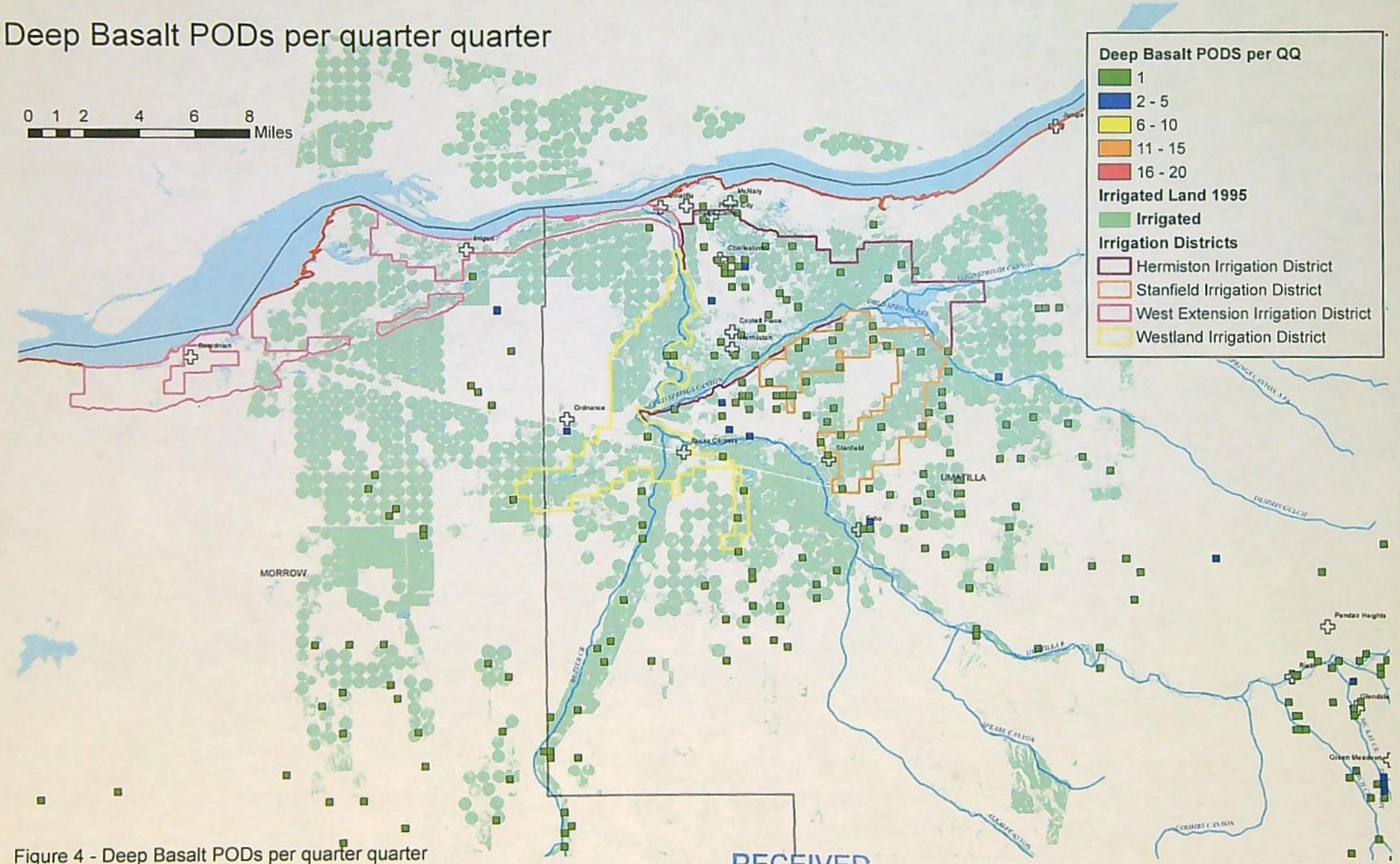

Figure 4 - Deep Basalt PODs per quarter quarter

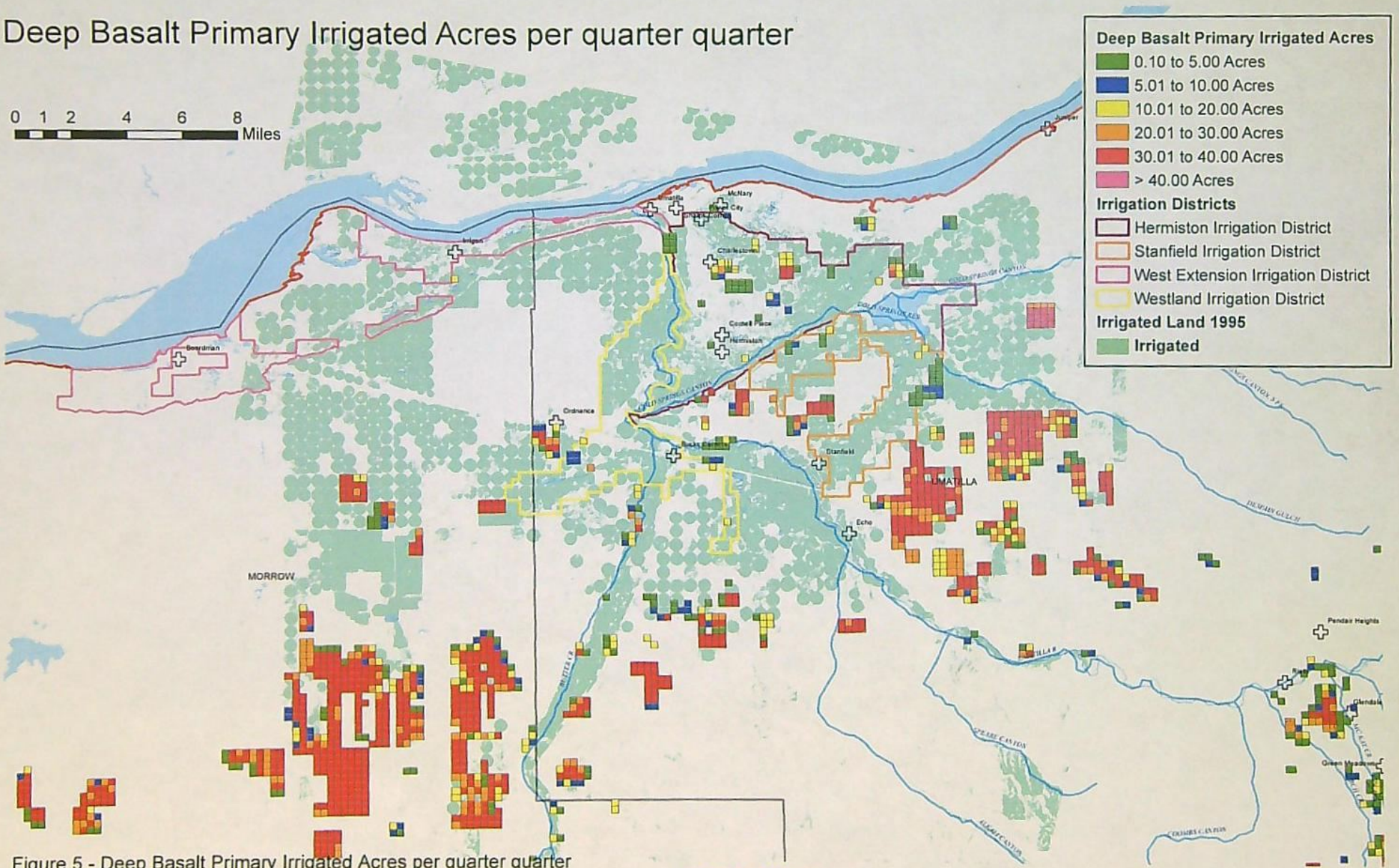

Figure 5 - Deep Basalt Primary Irrigated Acres per quarter quarter

Deep Basalt Supplemental Irrigated Acres per quarter quarter

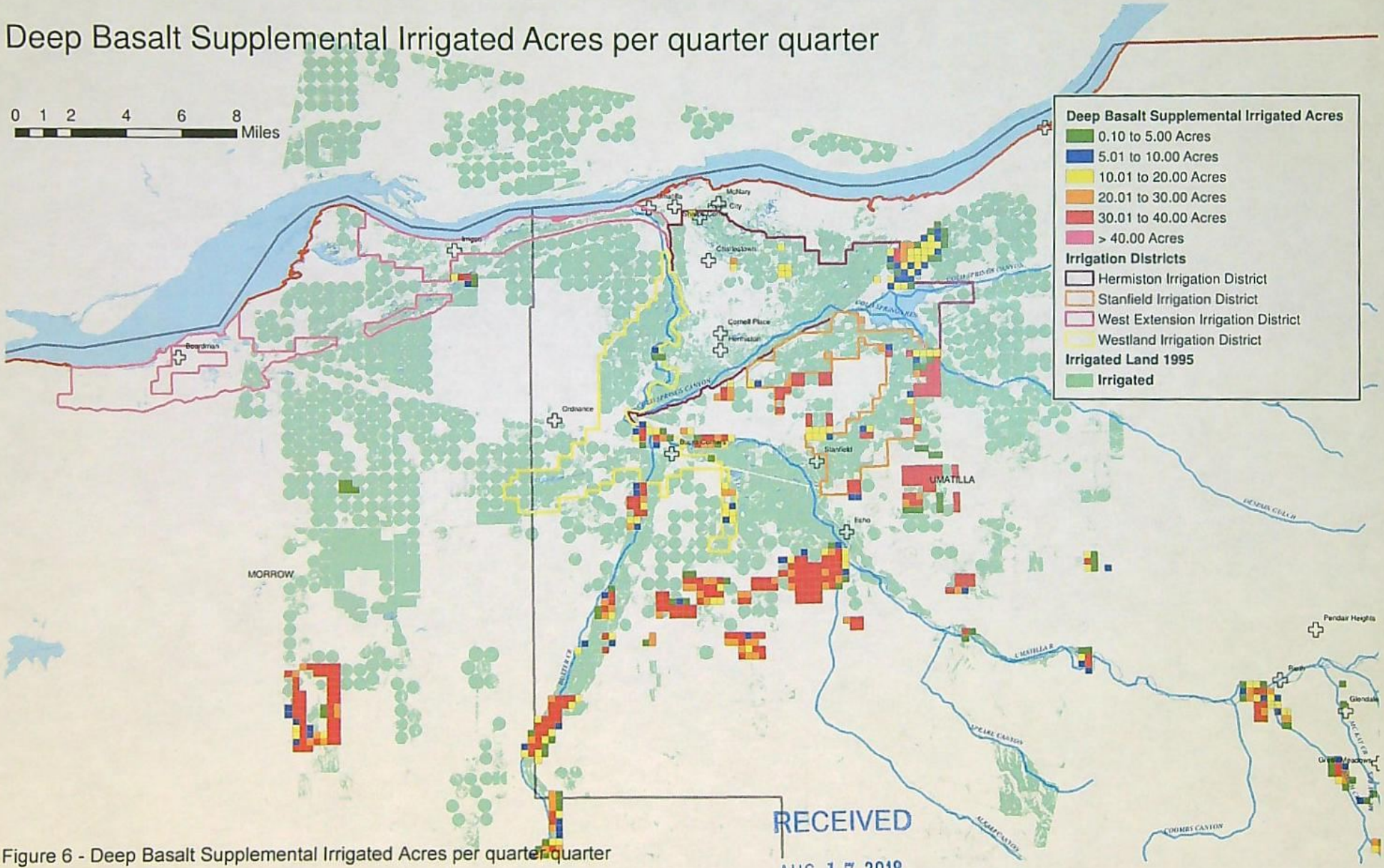

Figure 6 - Deep Basalt Supplemental Irrigated Acres per quarter quarter

Alluvial and Shallow Basalt PODs per quarter quarter

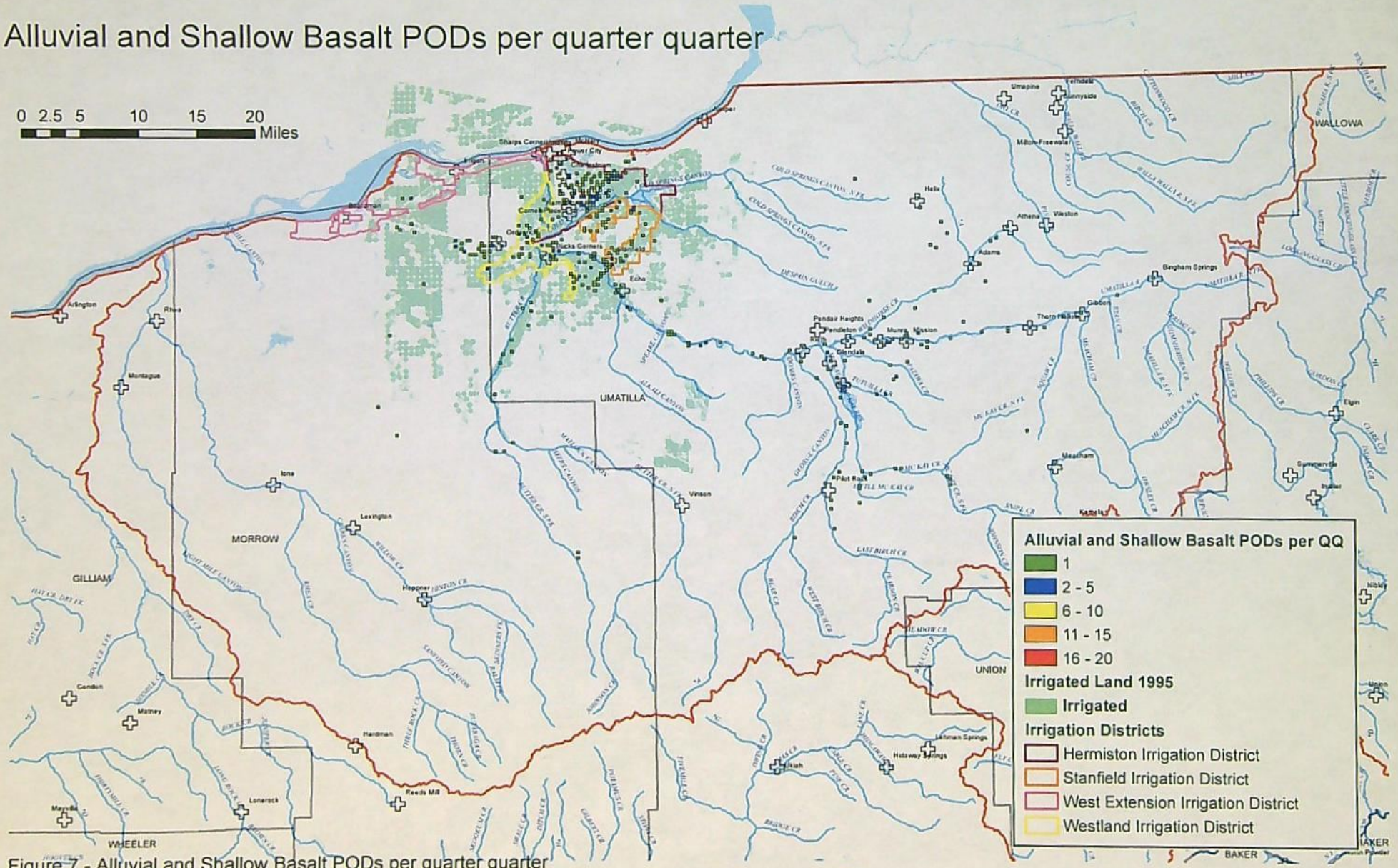

Figure 7 - Alluvial and Shallow Basalt PODs per quarter quarter

Deep Basalt PODs per quarter quarter

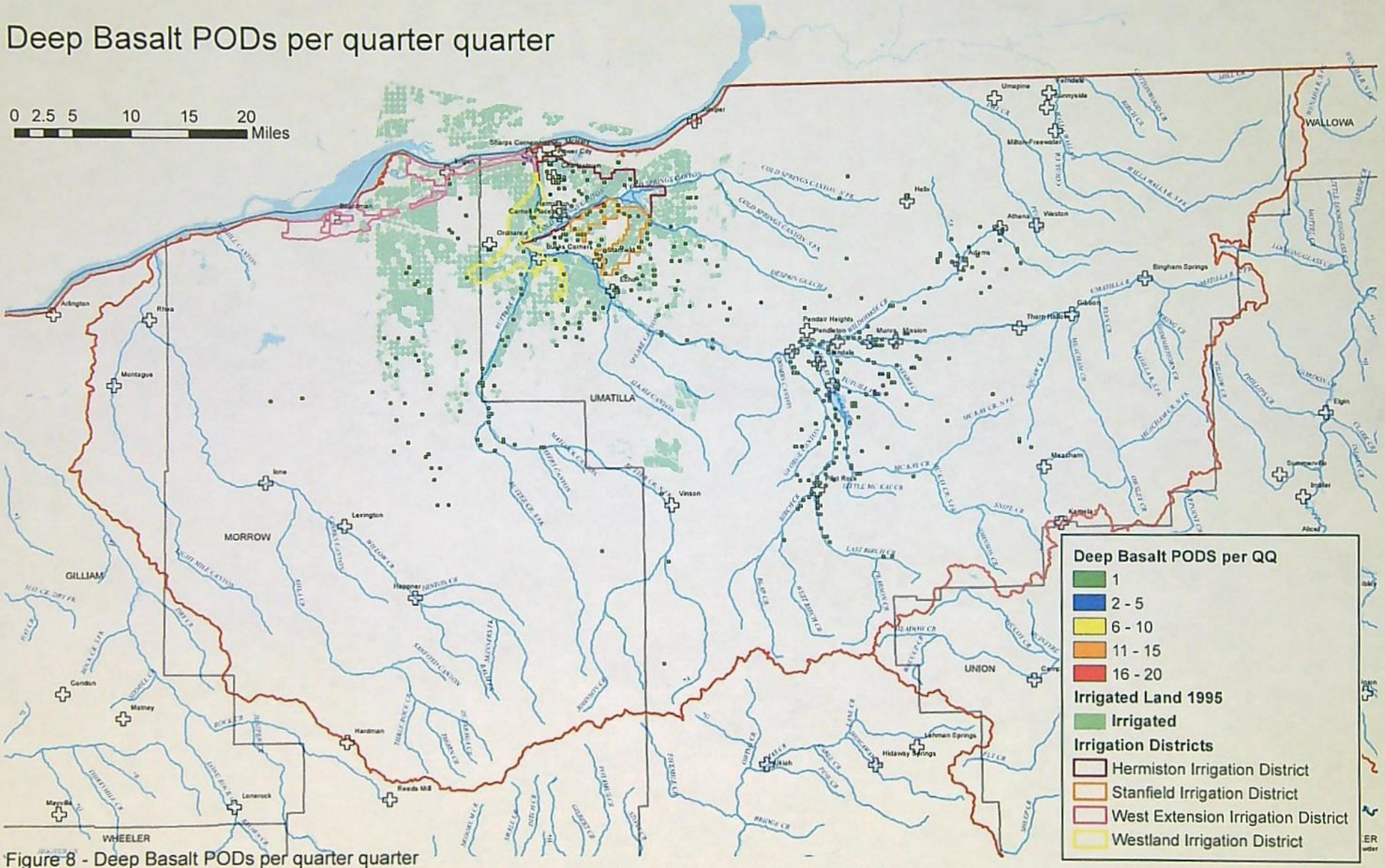

Figure 8 - Deep Basalt PODs per quarter quarter

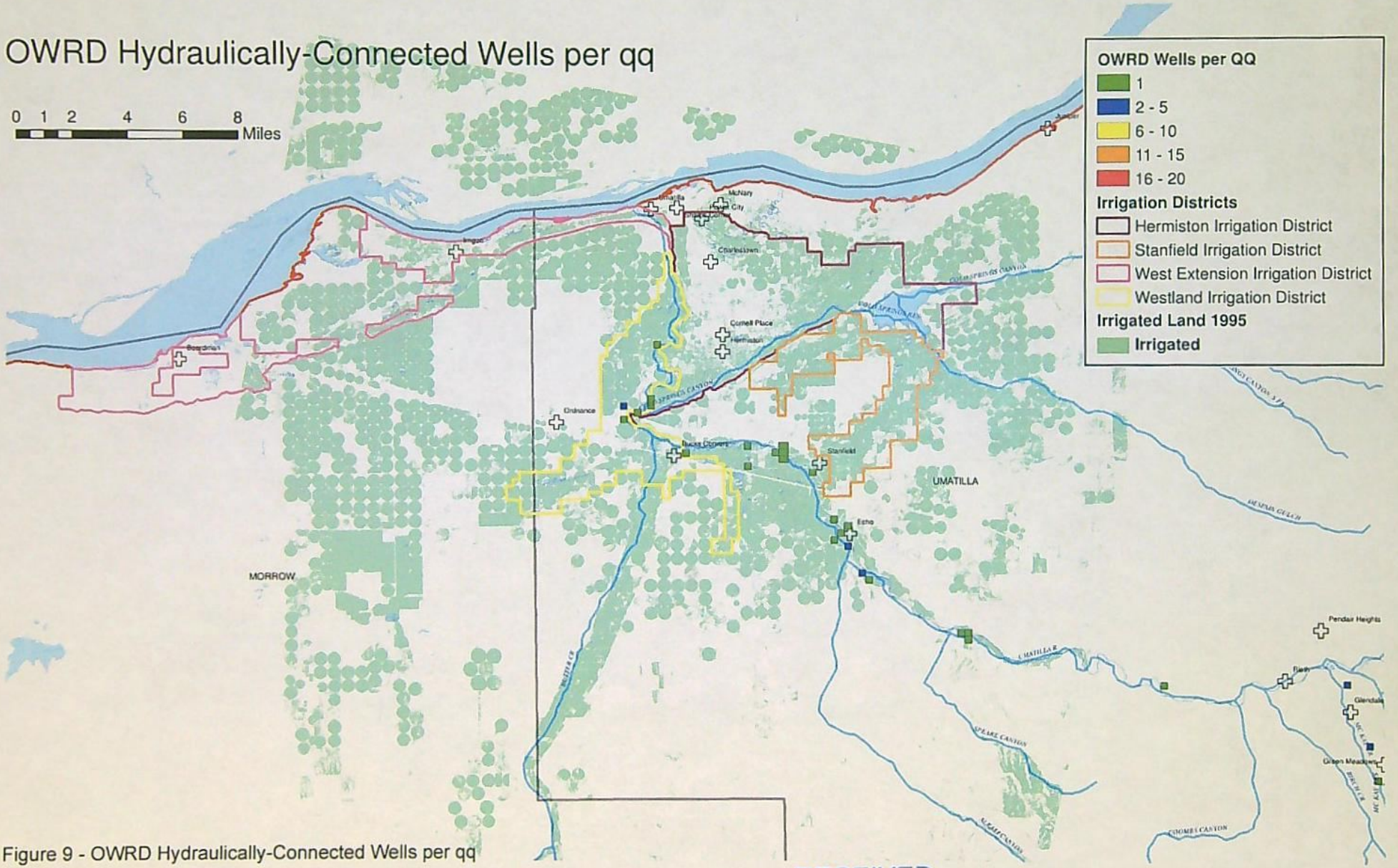

Figure 9 - OWRD Hydraulically-Connected Wells per qq

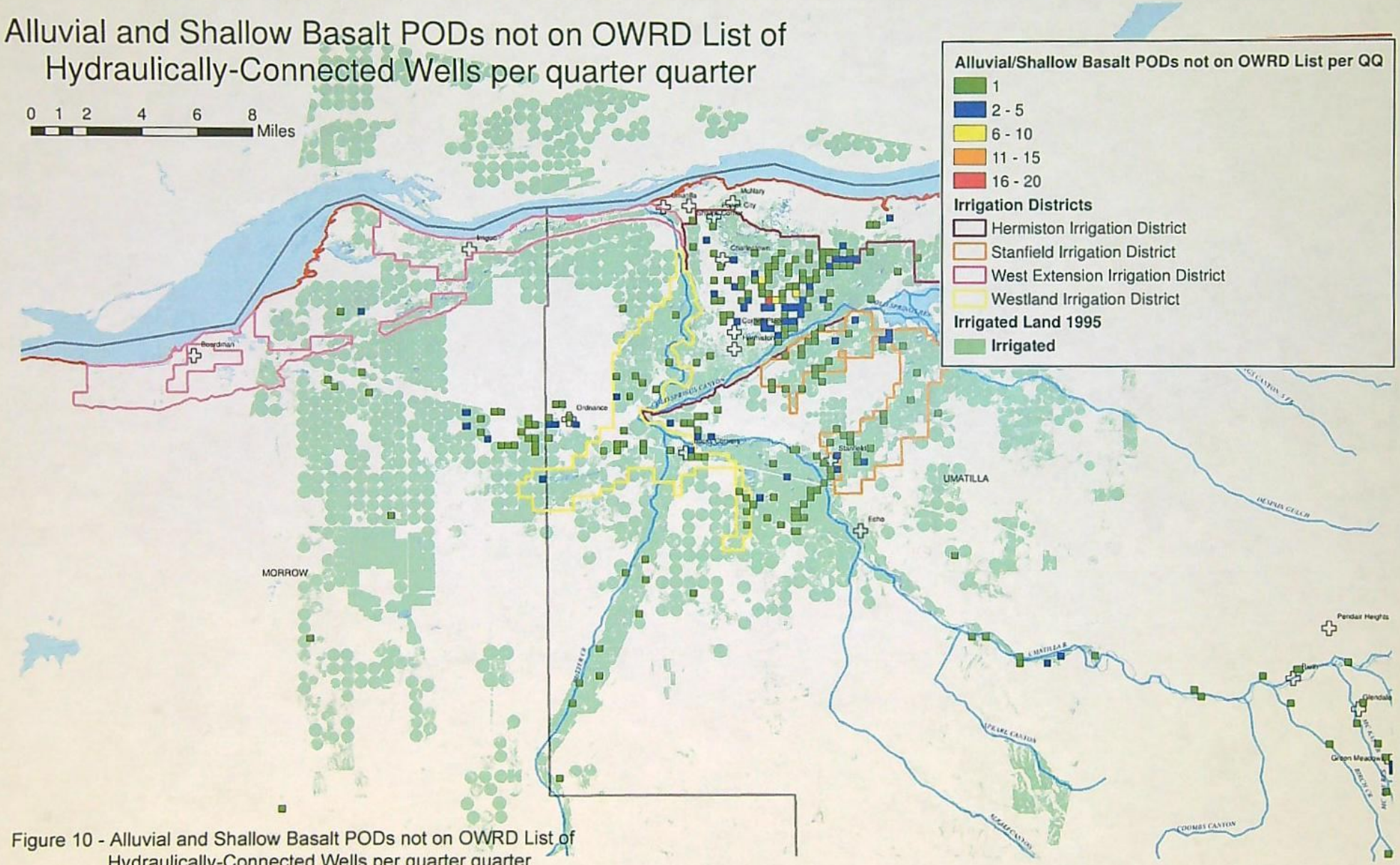

Figure 10 - Alluvial and Shallow Basalt PODs not on OWRD List of Hydraulically-Connected Wells per quarter quarter

Alluvial and Shallow Basalt PODs not on OWRD List of Hydraulically-Connected Wells per quarter quarter

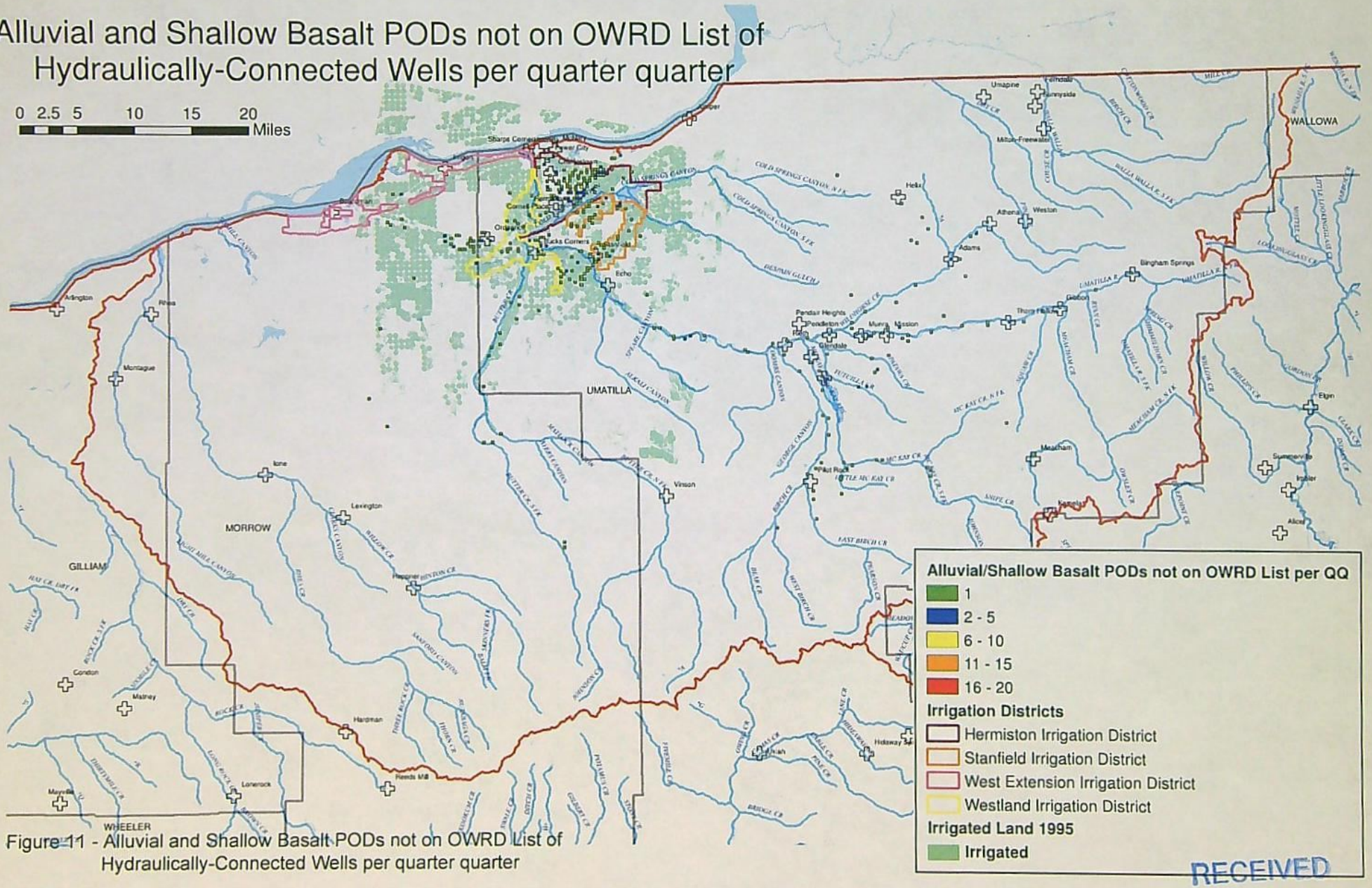

Figure 11 - Alluvial and Shallow Basalt PODs not on OWRD List of Hydraulically-Connected Wells per quarter quarter

Exhibit 4

SCHWABE, WILLIAMSON & WYATT
ATTORNEYS AT LAW

FILE

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August 21, 2009

Mr. Phil Ward
Director
Oregon Water Resources Department
725 Summer Street, NE, Suite A
Salem, OR 97301-1271

Re: West Extension Irrigation District Ground Water Concerns

Dear Phil:

On behalf of West Extension Irrigation District (WEID), we are forwarding for OWRD's review and information a technical memorandum dated August 12, 2009 prepared by GSI Water Solutions, Inc. It regards the impact on the Umatilla River of the use of water from certain alluvial wells in the Umatilla River basin that OWRD does not currently conjunctively manage.

WEID is concerned that some groundwater withdrawals from shallow, alluvial wells close to the Umatilla River are not being conjunctively managed by OWRD even though the agency's administrative rules provide OWRD with the authority to do so. These wells, many with junior water rights, reduce surface water flow in the Umatilla River. Altogether, the combined diversion of water under these rights has a cumulative impact on Umatilla River flows. The net effect of these withdrawals is the continued depletion of the river to the prejudice of senior rights, including those of WEID.

In February of 2008, WEID forwarded to the Department a draft report prepared by John Koreny of HDR, Inc. on the groundwater rights in the Umatilla Basin. That report vividly depicted the dense population of groundwater wells in the lower Umatilla Basin. Only a small handful of those wells are currently the subject of conjunctive regulation by OWRD. The overwhelming majority are not conjunctively managed, evidently because, considered individually, OWRD has not deemed them eligible for regulation under Division 9 of Chapter 690 of the Oregon Administrative Rules. Yet their *cumulative* impact on the river is undoubtedly profound. Moreover, even considered individually, OWRD's Division 9 analysis of these wells is more than a decade old. Better information on key groundwater parameters is now available. The use of conservative parameters and application of some limiting assumptions have for years excluded many wells that are appropriate for Division 9 regulation. The GSI report, which investigated only a small sample of close-in alluvial wells, shows this to be the case.

For its analysis, GSI picked wells that are less than one mile from Umatilla River and draw water from the alluvial aquifer. Using the Jenkins model, and updated but still-conservative parameters for hydraulic connectivity, storage coefficient and saturated aquifer thickness, the wells selected by GSI all show the potential for substantial interference (PSI) as defined by Division 9. The analysis also shows that regulation of those wells would afford effective and timely relief for surface water rights, such as those held by WEID. But for years OWRD has not conjunctively managed these wells.

How did this happen? In the 1990s, OWRD evidently used the Jenkins model referred to in Division 9 to create a list of wells that it would and would not conjunctively manage near the Umatilla River. But OWRD's unique application of the Division 9 tests arbitrarily limited the number of wells that OWRD could otherwise conjunctively manage. It appears that this analysis has not since been reopened or updated to reflect both better science and the realities of the basin. These (and many other) wells remain unregulated for the benefit of senior surface water rights. The unfortunate result is the annual depletion of the Umatilla River flows by junior groundwater users.

WEID's view is that the department should critically reexamine the effect of the alluvial wells proximate to the Umatilla River, taking particular care to evaluate the cumulative effect of the withdrawals. We urge the department to look at the GSI report as an example of a fresh view of the problem.

While the wells identified in the GSI report show clear need for conjunctive management, the larger issue, again, suggested in both GSI and HDR reports, is that of the cumulative impact of the many wells near the river. These wells collectively have the potential for substantial interference with the Umatilla River flows in a way that no individual well has. WEID suggests that OWRD examine the cumulative adverse impacts of these wells with particular attention. Division 9 provides clear guidance to OWRD to consider cumulative adverse impacts on streamflow or surface water supply as a factor in determining the potential for substantial interference. *See* OAR 690-009-0040(5)(e).

WEID and its consultants welcome the opportunity to meet with OWRD to further discuss these findings and to assist in answering any questions the Department may have, either with respect to the GSI report or the HDR report.

We appreciate your consideration of these matters.

Very truly yours,

Douglas W. MacDougal

DWM:njm
Enclosure
cc: West Extension Irrigation District (w/encl)
Adam P. Sussman (w/encl)
John Koreny (w/encl)

Exhibit 5

GSI Water Solutions, Inc.

Technical Memorandum

August 12, 2009

TO: Bev Bridgewater, West Extension Irrigation District
Douglas MacDougal, Schwabe Williamson & Wyatt

FROM: Adam Sussman, GSI Water Solutions, Inc.
Ted Ressler, GSI Water Solutions, Inc.

Introduction

GSI Water Solutions, Inc. (GSI) developed this technical memorandum at the request of West Extension Irrigation District (WEID) in an effort to identify groundwater rights that should be conjunctively managed in favor of WEID's senior Umatilla River water rights. This technical memorandum identifies groundwater rights that have the potential for substantial interference with the Umatilla River, but that have not previously been conjunctively regulated by OWRD, and describes the process GSI used to identify these groundwater rights. To be clear, this is a small sample of the groundwater rights that OWRD should regulate in favor of WEID's senior surface water rights. This memo, in combination with the 2007 technical memorandum developed by John Koreny and provided to Oregon Water Resources Department (OWRD), make it clear that OWRD could do more to protect WEID's surface water rights.

Background

In the 1990's, OWRD conducted an analysis of the groundwater rights within a mile of the Umatilla River to identify rights that should be conjunctively managed with surface water. We have learned from talking with OWRD staff that OWRD followed the process in OAR 690-009-0050 for determining whether groundwater rights should be regulated to protect senior surface water rights. This process directs OWRD to 1) determine whether the groundwater right would have the potential for substantial interference (PSI) with surface water, and 2) if OWRD finds PSI for wells greater than 500 feet from the surface water supply, to determine whether regulation of the groundwater use would provide relief to the surface water supply "in an effective and timely manner." The results of OWRD's analysis are provided in Attachment 1.

OWRD's analysis was a good first effort, but additional analysis is required for several reasons. First, OWRD's analysis to determine whether a specific groundwater right had PSI did not consider at least one element of this test, whether the rate of appropriation is greater than one percent of the discharge that is equaled or exceeded 80 percent of the time. Second, when

determining timely relief, OWRD's analysis applied the criterion of stream depletion of 25 percent after 30 days, as demonstrated by stream depletion model developed by C.T. Jenkins (Jenkins Model). It is unclear whether this criterion should be used for determining timely relief, particularly since WEID often needs to make a "call" to satisfy its 1909 water rights by July 1 and WEID patrons need water through the end of October. Finally, OWRD's analysis did not consider the cumulative impacts of groundwater rights identified to have stream depletions of less than 25 percent after 30 days.

In 2008, HDR Engineering, Inc. developed a technical memorandum for WEID that provided an inventory of groundwater rights in the Umatilla Basin. In that report, registered geologist John Koreny concluded that there were numerous groundwater rights in the alluvial and shallow basalt aquifers adjacent to the Umatilla River, and estimated the annual consumptive use of water under these rights at 60,000 acre-feet. The HDR report provided a "Water Rights Summary" of the existing groundwater rights and wells. (See Koreny's Appendix B provided electronically.) The groundwater rights/wells were divided into categories according to whether they appeared to develop water from an alluvial or basalt aquifer, and the distance from the well to the Umatilla River. (See Appendix C of Koreny's memo.) WEID submitted the Koreny memo to OWRD with a cover letter dated February 22, 2008. The letter requested OWRD to make additional efforts to protect WEID's senior surface water rights from reduced stream flows caused by the use of junior groundwater rights hydraulically connected to the Umatilla River. To date, OWRD has not responded to WEID's letter, or the request contained therein, and has made no additional effort to protect WEID's senior surface water rights.

Review and Selection Process

GSI began its analysis of existing groundwater rights in the area of WEID's point of diversion on the Umatilla River, by reviewing the groundwater rights identified in Appendix B of Koreny's technical memo. Second, we eliminated all wells that Koreny determined to be greater than one mile from the Umatilla River, since OWRD will not regulate water rights associated with such wells, except through a critical groundwater area designation. Next, for the purposes of this analysis, we excluded wells in the basalt aquifer, a confined aquifer (as determined by OWRD), and wells associated with supplemental irrigation water rights. We compared the resulting list of "alluvial wells" within one mile of the river to the list of groundwater rights that we understand OWRD to manage conjunctively with Umatilla River surface water rights. (See Appendix C of Koreny's memo.)

We then identified groundwater rights not currently managed conjunctively that would have the potential for substantial interference with the Umatilla River under OAR 690-009-0040(4)(c). To do this, we reviewed the rights associated with wells less than one mile from the Umatilla River to determine whether the rates of appropriation were greater than one percent of the river discharge that is equaled or exceeded 80 percent of the time. Again, this is the portion of the PSI determination that OWRD failed to conduct during its 1990s review of these groundwater rights. GSI took a very conservative approach by comparing the maximum authorized rates of appropriation to the natural streamflow *in August* in the Umatilla River *at the mouth* (48.10 cfs), as reported by OWRD's water availability report. **Table 1** identifies the rights that were determined to have PSI under this analysis, but that were not included in OWRD's list of groundwater rights with PSI. This is important because these rights should be regulated in favor of WEID's senior surface water right if regulation would provide WEID with effective and timely relief.

Table 1. Groundwater Rights within 1 mile of Umatilla River with rates exceeding 0.481 cfs (1 percent of discharge that is equaled or exceeded 80 percent of the time)

Permit #	Max. Rate (cfs)	Distance from Umatilla R. (per HDR) (miles)	Permit Holder
G-4972	1.0	0.211	Lane Pollock
G-2592	2.22	0.986	Thomas Huddleston
G-3851	2.11	0.609	Lawrence Pedro
G-4006	2.46	0.599	Malcolm Skinner
G-1675	1.05	0.842	Robert Blanc
G-4337	1.15	0.831	JB Land LLC James Purswell
G-4944	0.992	0.48	Ronald Baker
G-5045	0.82	0.831	JB Land LLC
Total	11.802		

In addition to not determining PSI based on rate, OWRD's analysis of the existing groundwater rights excluded from conjunctive management those rights that did not show stream depletion greater than 25 percent of the rate of appropriation within 30 days, according to the Jenkins Model. We are, however, not aware of any requirement that OWRD must use a 25 percent depletion standard to determine effective and timely relief for senior surface water rights. Due to the cumulative impacts of multiple groundwater rights indirectly diverting water from the Umatilla River, regulation of multiple groundwater rights, all with impacts of less than 25 percent, could provide additional effective and timely relief to WEID. In addition, since WEID often needs to make a "call" to satisfy its 1909 water rights by July 1 and WEID patrons need water through the end of October (a period of 123 days), additional regulation of a groundwater right with estimated stream depletions based on *more than* 30 days of pumping could also provide relief to WEID's senior surface right in a timely and efficient manner.

For the eight groundwater rights determined to have the potential for substantial interference as shown in Table 1, GSI conducted an analysis similar to OWRD's original conjunctive management analysis to determine the percent of stream depletion after 30 days. Please note that although some of the model parameters may differ from those used by OWRD in their original analysis, the primary aquifer parameters of hydraulic conductivity, storage coefficient, and saturated aquifer thickness that GSI used in the Jenkins model are on the low end of the reported range suggested for the alluvial aquifer (Wozniak et al, 1995): hydraulic conductivity of 1,000-4,000 ft/day, storage coefficient of 0.15-0.25, and maximum saturated thickness of 40-100 feet. The aquifer hydraulic parameters we used in our analysis are provided in Table 2 below.

Table 2. Jenkins model parameters

Parameter Description	Parameter Value	Data Source
Pumping rate	Varies by well (see Table 3)	Maximum authorized rate of appropriation by water right
Perpendicular distance from the well to the Umatilla River	Varies by well (see Table 3)	From HDR report
Saturated thickness of the aquifer	Varies by well (22-59 feet)	State Water Well Reports and general aquifer water level of ~498 ft MSL (IRZ, 2006)
Aquifer hydraulic conductivity	1000 ft/d	Wozniak et al. (1995)
Aquifer storage coefficient	0.2	Wozniak et al. (1995)
Duration of pumping	30 days	Duration of pumping used in OWRD's original analysis

The results of the Jenkins model for the selected water rights are provided in Table 3. As shown, the stream depletion for 4 of these groundwater rights significantly exceeds the original criterion established by OWRD (25% at 30 days) and in combination, the stream depletion for the remaining 4 groundwater rights total 65% depletion.

Although we realize there are limitations to the Jenkins model, these results indicate that groundwater pumping is likely having a larger effect on surface water flows of the Umatilla River than previously thought. As a result, there are probably many additional groundwater rights beyond those originally identified that have the potential for substantial interference with the Umatilla River, and should be conjunctively managed in favor of WEID's senior Umatilla River water rights.

Table 3. Jenkins model results for selected groundwater rights

Permit #	Max. Rate (cfs)	Distance from Umatilla R. (per HDR) (miles)	Permit Holder	% Stream Depletion after 30 days
G-4972	1.0	0.211	Lane Pollock	75%
G-2592	2.22	0.986	Thomas Huddleston	13%
G-3851	2.11	0.609	Lawrence Pedro	42%
G-4006	2.46	0.599	Malcolm Skinner	40%
G-1675	1.05	0.842	Robert Blanc	19%
G-4337	1.15	0.831	JB Land LLC James Purswell	8.8%
G-4944	0.992	0.48	Ronald Baker	55%
G-5045	0.82	0.831	JB Land LLC	24.7%
Total	11.802			

References

IRZ, 2006. Conceptual Hydrogeology of Alluvial Aquifers and Echo Meadows Aquifer Recharge Activities. Umatilla Basin Regional Aquifer Recovery Assessment Task 1.A & 1.C.

Wozniak, et al. 1995. Hydrogeology, Groundwater Chemistry and Land Uses in the Lower Umatilla Basin Groundwater Management Area. Oregon Department of Environmental Quality, Oregon Water Resources Department, & Oregon Health Division.

Appl. No.	Permit No.	Aquifer type (A=alluv B=basalt)	Confined or Unconf.? C/U/S S=semi	Distance to mainstem Umatilla (approx.)	Hydraulic Conn. assumed? 040(2)	Pot for subst interference assumed? 040(4 a - d)	Hydr. conn. determined/ adj. reach? 040(1)	Pot for subst interference determined? 040(5)	Time for 25% stream relief, in days (est.) 050(2)(a)
G-5738	G-4972	A	S	1650 ft.	No	No	Yes	No	
G-5734	G-5034	A	U	2650 ft.	No	No	Yes	No	
G-5732	G-4962	B	C	1750 ft.	No	No	No	No	
G-5720	G-4948	A	U	1050 ft.	Yes	Yes	(Yes)	(Yes)	≤14
G-5681	G-4947	A	U	1300 ft.	Yes	Yes	(Yes)	(Yes)	≤20
G-5599	G-5045	A	U	3400 ft.	No	No	Yes	No	
G-4613	G-4337	Same well							
G-5397	G-6879	A	U	3850 ft.	No	No	Yes	No	
G-5304	G-5044	A	U	1900 ft./#1	No	No	Yes	No	
				2350 ft./#2	No	No	Yes	No	
G-5078	G-4794	A	U	2800 ft.	No	No	Yes	No	
G-5111	G-4852	A	U	4800 ft.	No	No	Yes	No	
G-5043	G-4753	A	U	150 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-5038	G-4748	A	U	2650 ft.	No	No	Yes	No	
G-4676	G-4404	A	U	400 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-4478	G-4220	A	U	3350 ft.	No	No	Yes	No	
G-4306	G-4067	A	U	200 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-4297	G-4059	B	C	1000 ft.	No	No	No	No	
G-4246	G-4006	A	U	2650 ft.	No	No	Yes	No	
G-4135	G-3895	B	C	3150 ft.	No	No	No	No	
G-3688	G-3492	Same well							
G-4103	G-3851	A	U	3900 ft.	No	No	Yes	No	
G-4077	G-3868	A	U	150 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-3991	G-3745	A	U	850 ft.	Yes	Yes	(Yes)	(Yes)	≤9
G-3782	G-3567	A	U	1100 ft.	Yes	Yes	(Yes)	(Yes)	≤15
G-3753	G-3543	A	U	1000 ft.	Yes	Yes	(Yes)	(Yes)	≤11
G-3334	G-3131	B	C	4-4500 ft.	No	No	No	No	
G-3241	G-3044	B	C	1600 ft.	No	No	No	No	
G-3225	G-3034	A	U	6000 ft.	No	No	Yes	No	

Appl. No.	Permit No.	Aquifer type (A=alluv B=basalt)	Confined or Unconf.? C/U/S S=semi	Distance to mainstem Umatilla (approx.)	Hydraulic Conn. assumed? 040(2)	Pot for subst interference assumed? 040(4 a - d)	Hydr. conn. determined/ adj. reach? 040(1)	Pot for subst interference determined? 040(5)	Time for 25% stream relief, in days (est.) 050(2)(a)
G-7142	G-6592	A	U	1800 ft.	No	No	Yes	No	
G-7168	T-6416	A	C/S	650 ft.	No	No	No	No	
G-7353	G-6781	A	U	12200 ft.	No	No	Yes	No	
G-7420	G-6877	A	U	730 ft.	Yes	Yes	(Yes)	(Yes)	≤7
G-7493	G-6969	B	C	1450 ft.	No	No	No	No	
G-7728	G-7367	A	U	1540 ft.	No	Yes	Yes	(Yes)	≤26
G-7799	G-7231	B	C	2400 ft.	No	No	No	No	
G-7965	G-7399	A	U	270 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-8015	G-8470	A	U	2300 ft.	No	No	Yes	No	
G-8574	G-7913	A	U	4500 ft.	No	No	Yes	No	
G-8976	G-8369 #1	A	U	750 ft.	Yes	Yes	(Yes)	(Yes)	≤7
	G-8369 #2	A	U	1100 ft.	Yes	Yes	(Yes)	(Yes)	≤15
G-10648	G-9913	B	C	1230 ft.	No	No	No	No	
G-9760	G-9653	B	C	2800 ft.	No	No	No	No	
G-10864	G-10222	A	U	9700 ft.	No	No	Yes	No	
G-11032	G-10196	A	U	2800 ft.	No	No	Yes	No	
G-11077	G-10234	A	U	9300 ft.	No	No	Yes	No	
G-11132	G-10305	A	U	2300 ft.	No	No	Yes	No	
G-11182	G-10292	A	U	10100 ft	No	No	Yes	No	
(see Appl. G-11444 below).				14900 ft/s2	No	No	Yes	No	
G-11350	G-10538	A	U	1200 ft.	Yes	Yes	(Yes)	(Yes)	≤16
G-11444	G-11148	A	U	10100 ft.	No	No	Yes	No	
G-11457	G-10664	A	U	2150 ft.	No	No	Yes	No	
G-11458	G-10709	A	U	650 ft/#1	Yes	Yes	(Yes)	(Yes)	≤5
				4700 ft./#2	No	No	Yes	No	
G-11891	G-10935	A	U	4550 ft.	No	No	Yes	No	
G-7380	G-6831	(same well)							
G-11294	G-10971	B	C	1100 ft.	No	No	No	No	
G-12455	G-11435	B	C	950 ft.	No	No	No	No	

Appl. No.	Permit No.	Aquifer type (A=alluv B=basalt)	Confined or Unconf.? C/U/S S=semi	Distance to mainstem Umatilla (approx.)	Hydraulic Conn. assumed? 040(2)	Pot for subst interference assumed? 040(4 a - d)	Hydr. conn. determined/ adj. reach? 040(1)	Pot for subst interference determined? 040(5)	Time for 25% stream relief, in days (est.) 050(2)(a)
G-12464	G-11412	B	C	930 ft.	No	No	No	No	
G-7655	G-7099	B	C	1075 ft.	No	No	No	No	
G-2481	G-2291	B	C	8200 ft.	No	No	No	No	
G-6069	G-7184	A	U	950 ft.	Yes	Yes	(Yes)	(Yes)	≤10
G-6095	G-5776	A	U	6700 ft.	No	No	Yes	No	
G-7031	G-6095	A	U	7300 ft./#1	No	No	Yes	No	
				7000 ft./#2	No	No	Yes	No	
G-6792	G-6792	B	C	2400 ft.	No	No	No	No	
G-6790	G-6672	A	U	1250 ft.	Yes	Yes	(Yes)	(Yes)	≤16
G-6767	G-6848	B	C	2400 ft.	No	No	No	No	
G-6681	G-6233	A	U	430 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-6677	G-6229	A	U	10100 ft.	No	No	Yes	No	
*Well is same as for Appl. G-11444 and G-11182 above.									
G-6475	G-6099	A	U	2900 ft./#1	No	No	Yes	No	
				650 ft./#2	Yes	Yes	(Yes)	(Yes)	≤5
G-7125	G-6339	A	U	800 ft. #1	Yes	Yes	(Yes)	(Yes)	≤7
		A	U	1100 ft. #3	Yes	Yes	(Yes)	(Yes)	≤15
G-6439	G-6042	B	C	4800 ft.	No	No	No	No	
G-6409	G-6730	A	U/S	1800 ft.	No	No	Yes	No	
G-6310	G-6790	A	U/S	1750 ft.	No	No	Yes	No	
G-6258	G-7821	A	U	3200 ft.	No	No	Yes	No	
G-6277	G-5909	A	U	1300 ft.	Yes	Yes	(Yes)	(Yes)	≤20
G-6153	G-6097	A	U	6000 ft.	No	No	Yes	No	
G-5988	G-5051	B	C	650 ft.	No	No	No	No	
G-5947	G-6785	A	U	220 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G- 5940	G-5040	A	S/C	570 ft.	No	No	No	No	
G-5917	G-5626	A	U	1000 ft.	Yes	Yes	(Yes)	(Yes)	≤11
G-5879	G-6727	A	S/U*	950 ft.	No	No	No*	No	
*35 ft of claystone appears to be a confining bed at this well, but it is unreported on some other nearby well logs.									

Appl. No.	Permit No.	Aquifer type (A=alluv B=basalt)	Confined or Unconf.? C/U/S S=semi	Distance to mainstem McKay Cr. (approx.)	Hydraulic Conn. assumed? 040(2)	Pot for subst interference assumed? 040(4 a - d)	Hydr. conn. determined/ adj. reach? 040(1)	Pot for subst interference determined? 040(5)	Time for 25% stream relief, in days (est.) 050(2)(a)
G-9245	G-8675	A*	U	520 ft./#1	Yes	Yes	(Yes)	(Yes)	≤5
		A*	U	420 ft./#2	Yes	Yes	(Yes)	(Yes)	N/A
* No well logs located, but application indicated depths of 15 ft (#1) and 25 ft. (#2).									
U-688	U-621	B	C/S	300 ft.	No	No	No	No	
G-2244	G-2066	B	C/S	200 ft.	No	No	No	No	
G-11050	G-10209	A*	U	240 ft./#1	Yes	Yes	(Yes)	(Yes)	N/A
		A*	U	180 ft./#2	Yes	Yes	(Yes)	(Yes)	N/A
* No well logs located, but earlier review by Groundwater staff indicated hydraulic connection. Wells reported 14 ft. deep.									
G-9350	G-8728	B	C/S	500 ft.	No	No	No	No	
G-481	G-394	A	U	275 ft.	Yes	Yes	(Yes)	(Yes)	N/A

Appl. No.	Permit No.	Aquifer type (A=alluv B=basalt)	Confined or Unconf.? C/U/S S=semi	Distance to mainstem Umatilla (approx.)	Hydraulic Conn. assumed? 040(2)	Pot for subst interference assumed? 040(4 a - d)	Hydr. conn. determined/ adj. reach? 040(1)	Pot for subst interference determined? 040(5)	Time for 25% stream relief, in days (est.) 050(2)(a)
G-3074	G-2876	A	U	3600 ft.	No	No	Yes	No	
G-2929	G-2718	A*	C/S	1200 ft.	No	No	No	No	
*No well log; other well logs in area often produce from alluvium which is partially confined beneath cemented claystone.									
G-2755	G-2560	B	C	2000 ft.	No	No	No	No	
G-2696	G-2501	A	U/S	1650 ft.	No	No	Yes	No	
G-2141	G-1977	A	U	5700 ft.	No	No	Yes	No	
G-1890	G-1729	A	U	2700 ft.	No	No	Yes	No	
G-1824	G-1675	A	U	2850 ft.	No	No	Yes	No	
G-1373	G-1293	A	U	1100 ft.	Yes	Yes	(Yes)	(Yes)	≤15
G-1176	G-1056	?*	?*	750 ft.	No*	No*	No*	No*	
*No well log in files; no information on well in application file. Well could develop either basalt or alluvium.									
G-1047	G-910	A	U	500 ft.	Yes	Yes	(Yes)	(Yes)	N/A
G-351	G-300	B*	C*	1900 ft.	No	No	No	No	
*Minimal information on well log, however, depth and location indicate a basalt well is likely.									
G-65	T-5847	A	U	300 ft.	Yes	Yes	(Yes)	(Yes)*	N/A
*Certificate 67233 confirms transfer of right perfected under Permit G-10, and also states distribution will be with Umatilla River.									
G-42	G-44	A	U	2650 ft.	No	No	Yes	No	
U-492	U-444	A	U	850 ft.	Yes	Yes	(Yes)	(Yes)	≤9
U-471	U-427	B	C	1400 ft.	No	No	No	No	
U-320	U-291	A	U	450 ft.	Yes	Yes	(Yes)	(Yes)	N/A
U-207	U-187	B	C	1300 ft.	No	No	No	No	
U-206	U-186	B	C	1100 ft.	No	No	No	No	
GR-3899	GR-3542	A	U	600 ft.	Yes	Yes	(Yes)	(Yes)	≤5
G-7112	T-6532	A	U	12000 ft./#1	No	No	Yes	No	
				9600 ft./#2	No	No	Yes	No	
G-7125	G-6339	A	U	800 ft./#1	Yes	Yes	(Yes)	(Yes)	≤7
				1100 ft./#3	Yes	Yes	(Yes)	(Yes)	≤15
G-4427	G-4171	A	S	4450 ft.	No	No	Yes	No	

Oregon Water Resources Department

Water Right Services Division

Water Right Application G-18394 in the name of JOSHUA R. REEVE	)))	SUPERSEDING PROPOSED FINAL ORDER

This Proposed Final Order supersedes the Proposed Final Order issued April 10, 2018.

Summary: The Department proposes to issue an order approving Application G-18394 as amended, and a permit consistent with the attached draft permit.

Authority

The application is being processed in accordance with Oregon Revised Statute (ORS) 537.615 through 537.628, and 390.826, and Oregon Administrative Rule (OAR) Chapter 690, Divisions 5, 8, 9, 33, 300, 310, 400, 410, and Umatilla Basin Program OAR 690-507. These statutes and rules can be viewed on the Oregon Water Resources website: http://www.oregon.gov/owrd/pages/law/index.aspx

The Department's main page is http://www.oregon.gov/OWRD/pages/index.aspx

The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525 if:

a) The proposed use is allowed in the applicable basin program established pursuant to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);
b) Water is available;
c) The proposed use will not injure other water rights; and
d) The proposed use complies with the rules of the Commission. ORS 537.621(2); OAR 690-310-0150(2)(b)

All four criteria must be met for a proposed use to be presumed to ensure the preservation of the public welfare, safety and health. When the criteria are met and the presumption is established the Department must further evaluate the proposed use, any comments received information available in its files or received from other interested agencies and any other available information to determine whether the presumption is overcome. OAR 690-310-0140

If the Department determines that the presumption is established and not overcome, the Department shall issue a proposed final order recommending issuance of the permit subject to any appropriate modifications or conditions.

FINDINGS OF FACT

Application History

1. On September 28, 2016, Joshua R. Reeve filed a complete application for the following water use:
   Amount of Water: 0.062 cubic foot per second (CFS)
   Use of Water: irrigation of 5.0 acres
   County: Umatilla County
   Location: within Section 7, Township 4 North, Range 29 East, W.M.

2. On December 22, 2017, the Department mailed the applicant notice of its Initial Review, determining that "**Not all determinations herein are favorable, therefore it is unlikely that Application G-18394 will be approved.**" The applicant did not notify the Department to stop processing the application within 14 days of that date.

3. On December 26, 2017, the Department gave public notice of the application in its weekly notice. The public notice included a request for comments, and information for interested persons about obtaining future notices and a copy of the Proposed Final Order. One written comment was received within 30 days.

4. The Department's continuing evaluation revealed that the following correction to the Initial Review is necessary to accurately reflect the submitted application. The Department has determined a portion of the proposed place of use (SENW 1.4 acres and NESW 0.7 acre, Section 7, Township 4 North, Range 29 East, W.M.) has underlying groundwater rights evidenced by Certificate 42977.

5. On February 1, 2018, the applicant made the following changes to the proposed place of use by removing SENW 1.4 acres and NESW 0.7 acres, Section 7, Township 4 North, Range 29 East, W.M., from the application, thus reducing the rate of use to 0.036 CFS and the total place of use to 2.9 acres.

6. On April 10, 2018, the Department issued the Proposed Final Order (PFO) and Draft Permit.

7. On April 18, 2018, Owen McMurty of GSI Water Solutions, Inc. provided documentation that the PFO omitted the receipt of a comment within the public comment period from Bev Bridgewater, Manager of the West Extension Irrigation District.

8. The Department has reviewed the comment and has determined that regulation and proper conditions imposed on the application will protect the resource and senior water right holders.

Presumption Criteria (a) Consistency with Basin Program

9. The proposed use is allowed under the Umatilla Basin Program (OAR 690-507). ORS 537.621(3)(b); OAR 690-310-0150(2)(b)

Presumption Criteria (b) Water Availability

10. An assessment of groundwater availability has been completed by the Groundwater/Hydrology section. A copy of this assessment is in the file. Groundwater will likely be available within the capacity of the resource, and if properly conditioned (and if authorized), the proposed use of groundwater will avoid injury to existing groundwater rights. ORS 537.621(3)(c); OAR 690-310-0150(2)(c)

Presumption Criteria (c) Injury Determination

11. The proposed use will not injure other water rights. ORS 537.621(3)(d); OAR 690-310-0150(2)(e)

Presumption Criteria (d) Whether the use complies with rules of the Commission

12. Documentation has been submitted from the relevant land-use planning jurisdiction that indicates the proposed use is allowed outright. ORS 537.621(3)(b); OAR 690-310-0150(2)(b)

13. The proposed groundwater use is not within a designated critical groundwater area. ORS 537.620(4)(a), 537.621(3)(a); OAR 690-310-0150(2)(a)

14. The Department has determined that the proposed groundwater use will not have the potential for substantial interference with surface water. The Division 9 (Ground Water Interference with Surface Water) review is in the file and can be viewed on the Department's website. ORS 537.621(3)(b); OAR 690-009-0040(4).

15. The proposed use complies with rules of the Water Resources Commission not otherwise described above.

Determination of Presumption that a proposed groundwater use will ensure the preservation of the public welfare, safety and health

Based on the review of the presumption criteria (a)-(d) above, the presumption has been established. ORS 537.621(3)(g); OAR 690-310-0150(2)(g)

Further evaluation of the proposed use

16. One written comment was received from Bev Bridgewater, Manager of the West Extension Irrigation District, by the close of the comment period. OAR 690-310-0140(3).

17. Information available in Department files, received from other interested agencies, and other available information does not provide a preponderance of evidence that the proposed use would not ensure the preservation of the public welfare, safety and health under ORS 537.525; OAR 690-310-0140(3)

Other Criteria and Requirements

18. The proposed use is not located within or above a Scenic Waterway, as designated under ORS 390.826. 537.620(4)(a), 537.621(3)(a); OAR 690-310-0150(2)(a)

19. The amount requested, 0.036 CFS, is necessary for the proposed use. ORS 537.621(3)(c); OAR 690-310-0150(2)(b)

20. The applicant proposed to apply water when needed and use the most efficient method of water application for the crop being irrigated (drip and low pressure sprinklers). These measures are adequate at this time. OAR 690-310-0150(2)(j)

CONCLUSION OF LAW

The proposed use would ensure the preservation of the public welfare, safety and health as described in ORS 537.525.

When issuing permits, ORS 537.628(1) authorizes the Department to include limitations and conditions which have been determined necessary to protect the public welfare, safety and health. The attached draft permit is conditioned accordingly.

PROPOSED ORDER

The Department recommends approval of Application G-18394 as amended, and issuance of a permit consistent with the attached draft permit.

DATED July 3, 2018

Dwight French
Water Right Services Division Administrator, for
Thomas M. Byler, Director
Oregon Water Resources Department

Protests

Under the provisions of ORS 537.153(7) (for surface water) or ORS 537.621(8) (for groundwater), you can protest this Proposed Final Order. Protests must be received in the Water Resources Department no later than **August 17, 2018**. Protests must be in writing, and must include the following:

- Your name, address, and telephone number;
- A description of your interest in the Proposed Final Order, and, if you claim to represent the public interest, a precise statement of the public interest represented;
- A detailed description of how the action proposed in the Proposed Final Order would impair or be detrimental to your interest;
- A detailed description of how the Proposed Final Order is in error or deficient, and how to correct the alleged error or deficiency;
- Any citation of legal authority to support your protest, if known;
- To affect the department's determination that the proposed use in this application will, or will not, ensure the preservation of the public welfare, safety and health as described in ORS 537.525, ORS 537.621(2)(b) requires that a protest demonstrate, by a preponderance of evidence any of the following: (a) One or more of the criteria for establishing the presumption are, or are not, satisfied; or (b) The specific aspect of the public welfare, safety and health under ORS 537.525 that would be impaired or detrimentally affected, and specifically how the identified aspect of the public welfare, safety and health under ORS 537.525 would be impaired or be adversely affected;
- If you are the applicant, the protest fee of $410 required by ORS 536.050; and
- If you are not the applicant, the protest fee of $810 required by ORS 536.050 and proof of service of the protest upon the applicant.
- If you are the applicant, a statement of whether or not you are requesting a contested case hearing.

Requests for Standing

Under the provisions of ORS 537.153(7) (for surface water) or ORS 537.621(8) (for groundwater), persons other than the applicant who support a Proposed Final Order can request standing for purposes of participating in any contested case proceeding on the Proposed Final Order or for judicial review of a Final Order.

Requests for standing must be received in the Water Resources Department no later than **August 17, 2018**. Requests for standing must be in writing, and must include the following:

- The requester's name, mailing address and telephone number;
- If the requester is representing a group, association or other organization, the name, address and telephone number of the represented group;
- A statement that the requester supports the Proposed Final Order as issued;
- A detailed statement of how the requester would be harmed if the Proposed Final Order is modified; and
- A standing fee of $230. If a hearing is scheduled, an additional fee of $580 must be submitted along with a petition for party status.

After the protest period has ended, the Director will either issue a Final Order or schedule a contested case hearing. The contested case hearing will be scheduled only if a protest has been submitted and either:

- upon review of the issues, the director finds that there are significant disputes related to the proposed use of water, or
- the applicant requests a contested case hearing within 30 days after the close of the protest period.

If you do not request a hearing within 30 days after the close of the protest period, or if you withdraw a request for a hearing, notify the Department or the administrative law judge that you will not appear or fail to appear at a scheduled hearing, the Director may issue a Final Order by default. If the Director issues a Final Order by default, the Department designates the relevant portions of its files on this matter, including all materials that you have submitted relating to this matter, as the record for purpose of proving a prima facie case upon default.

You may be represented by an attorney at the hearing. Legal aid organizations may be able to assist a party with limited financial resources. Generally, partnerships, corporations, associations, governmental subdivisions or public or private organizations are represented by an attorney. However, consistent with OAR 690-002-0020 and OAR 137-003-0555, an agency representative may represent a partnership, corporation, association, governmental subdivision or public or private organization if the Department determines that appearance of a person by an authorized representative will not hinder the orderly and timely development of the record in this case.

Notice Regarding Service Members: Active duty service members have a right to stay proceedings under the federal Service Members Civil Relief Act. 50 U.S.C. App. §§501-597b. You may contact the Oregon State Bar or the Oregon Military Department for more information. The toll-free telephone number for the Oregon State Bar is: 1 (800) 452-8260. The toll-free telephone number of the Oregon Military Department is: 1 (800) 452-7500. The Internet address for the United States Armed Forces Legal Assistance Legal Services Locator website is: http://legalassistance.law.af.mil

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- If you have any questions about statements contained in this document, please contact Lisa Graham at 503-986-0808 or Elisabeth.A.Graham@oregon.gov.
- If you have questions about how to file a protest or if you have previously filed a protest and you want to know the status, please contact Patricia McCarty at 503-986-0820.
- If you have any questions about the Department or any of its programs, please contact our Water Resources Customer Service Group at 503-986-0801.
- Address any correspondence to : Water Right Services Division
  725 Summer St NE, Suite A
  Fax: 503-986-0901 Salem, OR 97301-1266

STATE OF OREGON

COUNTY OF UMATILLA

DRAFT PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS DRAFT PERMIT IS HEREBY ISSUED TO

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

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

APPLICATION FILE NUMBER: G-18394

SOURCE OF WATER: WELL 4N/27 E-7 (UMAT 2791) IN HERMISTON IRRIGATION DITCH BASIN

PURPOSE OR USE: IRRIGATION OF 2.9 ACRES

MAXIMUM RATE: 0.036 CUBIC FOOT PER SECOND

PERIOD OF USE: MARCH 1 THROUGH OCTOBER 31

DATE OF PRIORITY: SEPTEMBER 28, 2016

WELL LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
4 N	29 E	WM	7	SW NE	120 FEET NORTH AND 100 FEET EAST FROM C1/4 CORNER, SECTION 7

The amount of water used for irrigation under this right, together with the amount secured under any other right existing for the same lands, is limited to a diversion of ONE-EIGHTIETH of one cubic foot per second and 3.0 acre-feet for each acre irrigated during the irrigation season of each year.

THE PLACE OF USE IS LOCATED AS FOLLOWS:

Twp	Rng	Mer	Sec	Q-Q	Acres
4 N	29 E	WM	7	SW NE	2.1
4 N	29 E	WM	7	NW SE	0.8

1. Measurement Devices, and Recording/Reporting of Annual Water Use Conditions:

A. Before water use may begin under this permit, the permittee shall install a totalizing flow meter at each point of appropriation. The permittee shall maintain the device in good working order.

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

C. The Director may require the permittee to keep and maintain a record of the volume of water diverted, and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water-use information, the periods of water use and the place and nature of use of water under the permit.

D. The Director may provide an opportunity for the permittee to submit alternative measuring and reporting procedures for review and approval.

2. Annual Measurement Condition:

The Department requires the water user to obtain, from a qualified individual (see below), and report annual static water levels for each well on the permit. The static water level shall be measured in the month of March. Reports shall be submitted to the Department within 30 days of measurement.

The permittee shall report an initial March static water-level measurement once well construction is complete and annual measurements thereafter. Annual measurements are required whether or not the well is used. The first annual measurement will establish a reference level against which future measurements will be compared. However, the Director may establish the reference level based on an analysis of other water-level data. The Director may require the user to obtain and report additional water levels each year if more data are needed to evaluate the aquifer system.

All measurements shall be made by a certified water rights examiner, registered professional geologist, registered professional engineer, licensed well constructor or pump installer licensed by the Construction Contractors Board. Measurements shall be submitted on forms provided by, or specified by, the Department. Measurements shall be made with equipment that is accurate to at least the standards specified in OAR 690-217-0045. The Department requires the individual performing the measurement to:

A. Associate each measurement with an owner's well name or number and a Department well log ID; and

B. Report water levels to at least the nearest tenth of a foot as depth-to-water below ground surface; and

C. Specify the method of measurement; and

D. Certify the accuracy of all measurements and calculations reported to the Department.

The water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s) if any of the following events occur:

A. Annual water-level measurements reveal an average water-level decline of three or more feet per year for five consecutive years; or

B. Annual water-level measurements reveal a water-level decline of 15 or more feet in fewer than five consecutive years; or

C. Annual water-level measurements reveal a water-level decline of 25 or more feet; or

D. Hydraulic interference leads to a decline of 25 or more feet in any neighboring well with senior priority.

The period of restricted use shall continue until the water level rises above the decline level which triggered the action or the Department determines, based on the permittee's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or causing substantial interference with senior water rights. The water user shall not allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit. If more than one well is involved, the water user may submit an alternative measurement and reporting plan for review and approval by the Department.

3. **Groundwater Condition:**

Groundwater production shall only be from the alluvial groundwater reservoir.

4. **Well Identification Tag Condition:**

Prior to using water from any well listed on this permit, the permittee shall ensure that the well has been assigned an OWRD Well Identification Number (Well ID tag), which shall be permanently attached to the well. The Well ID shall be used as a reference in any correspondence regarding the well, including any reports of water use, water level, or pump test data.

STANDARD CONDITIONS

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.

If the number, location, source, or construction of any well deviates from that proposed in the permit application or required by permit conditions, this permit may be subject to cancellation, unless the Department authorizes the change in writing.

If substantial interference with surface water or 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 well(s) shall be constructed and maintained in accordance with the General Standards for the Construction and Maintenance of Water Supply Wells in Oregon. The works shall be equipped with a usable access port adequate to determine water-level elevation in the well at all times.

If the riparian area is disturbed in the process of developing a point of appropriation, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed.

The use may be restricted if the quality of downstream waters decreases to the point that those waters no longer meet state or federal water quality standards due to reduced flows.

Where two or more water users agree among themselves as to the manner of rotation in the use of water and such agreement is placed in writing and filed by such water users with the watermaster, and such

rotation system does not infringe upon such prior rights of any water user not a party to such rotation plan, the watermaster shall distribute the water according to such agreement.

Prior to receiving a certificate of water right, the permit holder shall submit to the Water Resources Department the results of a pump test meeting the Department's standards for each point of appropriation (well), unless an exemption has been obtained in writing under OAR 690-217. The Director may require water-level or pump-test data every ten years thereafter.

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.

Construction of the well shall begin within five years of the date of permit issuance. The deadline to begin construction may not be extended. This permit is subject to cancellation proceedings if the construction deadline to begin is missed.

Complete application of the water shall be made within five years of the date of permit issuance. If beneficial use of permitted water has not been made before this date, the permittee may submit an application for extension of time, which may be approved based upon the merit of the application.

Within one year after making beneficial use of water, the permittee shall submit a claim of beneficial use, which includes a map and report, prepared by a Certified Water Rights Examiner.

Issued

DRAFT - THIS IS NOT A PERMIT

_____

Dwight French
Water Right Services Division Administrator, for
Thomas M. Byler, Director
Oregon Water Resources Department

Mailing List for PFO Copies

Application G-18394

PFO Date July 3, 2018

Original mailed via CERTIFIED MAIL to applicant:

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

Copies Mailed

By: SP
(SUPPORT STAFF)
on: 7-3-18
(DATE)

Protest, 8/17/2018

Standing Dates checked

_____

SENT VIA AUTO EMAIL:

1. WRD - Greg Silbernagel - # 5

Copies sent to:

2. WRD - File # G-18394
3. Stanfield Irrigation District; PO Box 416; Stanfield OR 97875
4. Hermiston Irrigation District; 366 Hurlburt Ave; Hermiston OR 97838

SPECIALIST: Lisa Graham

Water Rights Section – Application Comment Evaluation Form

Comment Date: January 16, 2018 Caseworker: Lisa Graham

Application Number: G-18394

Name of Commentor: Bev Bridgewater, West Extension Irrigation District

Description: Commentor is concerned that the cumulative impacts to senior water users will reduce the amount of ware available to WEID's senior water rights.

Evaluation of Comment: The Department reviewed the comments made by WEID and has determined that regulation and proper conditions imposed on this application will protect the resource and senior water right needs.

Finding for PFO: The Department considered the comments made by WEID.

West Extension Irrigation District

P. O. Box 100; Irrigon, OR 97844-0100
541-922-3814 (ph) 541-922-9775 (fax)
bbridge@oregontrail.net

January 16, 2018

Elisabeth Graham
Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, OR 97301

Re: Comments on IR for Groundwater Permit Application G-18394

Dear Ms. Graham;

Joshua Reeve filed Application G-18394 (the Application) for the use of up to 0.06 cubic feet per second of groundwater from a well in the Umatilla Basin for irrigation of 5.0 acres. On December 22, 2017, the Oregon Water Resources Department (OWRD) issued an Initial Review (IR) for the Application, which included favorable initial determinations for the requested rate of 0.06 cfs, pending resolution of a conflict with an existing groundwater right. West Extension Irrigation District (WEID) is providing the following comments on that IR.

reduced to 0.036 cfs ÷ 2.9 ac. (about 11 gpm during IR season)

info from GW review.

The Application proposes to appropriate water from the alluvial aquifer within Section 7, Township 4 N, Range 29 East. OWRD's groundwater review concluded that the proposed use of groundwater would not have the potential for substantial interference (PSI) with surface water because the calculated impacts from pumping at the applicant's well are estimated to be less than 1 percent of the natural flow of the Umatilla River during all months of the year. However, it is well documented that groundwater from the alluvial aquifer at the proposed point of appropriation flows toward and discharges into the Umatilla River above WEID's Threemile Falls diversion. WEID has senior water rights that are routinely not available and the appropriation of groundwater under Application G-18394 will exacerbate the impairment of WEID's senior water rights.

where is this documented?

they get water first/priority date = just have to make the call to WM.

Since 2006, WEID has been providing information to OWRD demonstrating that groundwater use is adversely impacting WEID's senior water rights. OWRD's Division 9 rules authorize the agency to consider cumulative adverse impacts from groundwater use on surface water when evaluating PSI.

exactly when?

• what exactly is the communication?

WEID has received communication from the Department that it is working on strategies to address WEID's concerns about impacts on river flow from groundwater development. Once again, I urge OWRD to consider the cumulative impacts to senior water users on the Umatilla River when evaluating groundwater applications in this area. The use of groundwater proposed by Application G-18394 will reduce the amount of water available to WEID's senior surface water rights and should be denied.

Sincerely,

Beverly J. Bridgewater

Bev Bridgewater
Manager, West Extension Irrigation District

CC: Doug Woodcock, Deputy Director
Mike Ladd, Region Manager, District 5
Greg Silbernagel, District 5 Watermaster

GRAHAM Elisabeth A * WRD

From:	Bev Bridgewater <bbridge@oregontrail.net>
Sent:	Wednesday, January 24, 2018 11:49 AM
To:	GRAHAM Elisabeth A * WRD
Cc:	LADD Michael F * WRD; SILBERNAGEL Greg M; Douglas Woodcock
Subject:	Comment letter G-18394
Attachments:	WEID Comment G-18394.pdf

Please find the West Extension Irrigation District's comment letter regarding G-18394 attached.

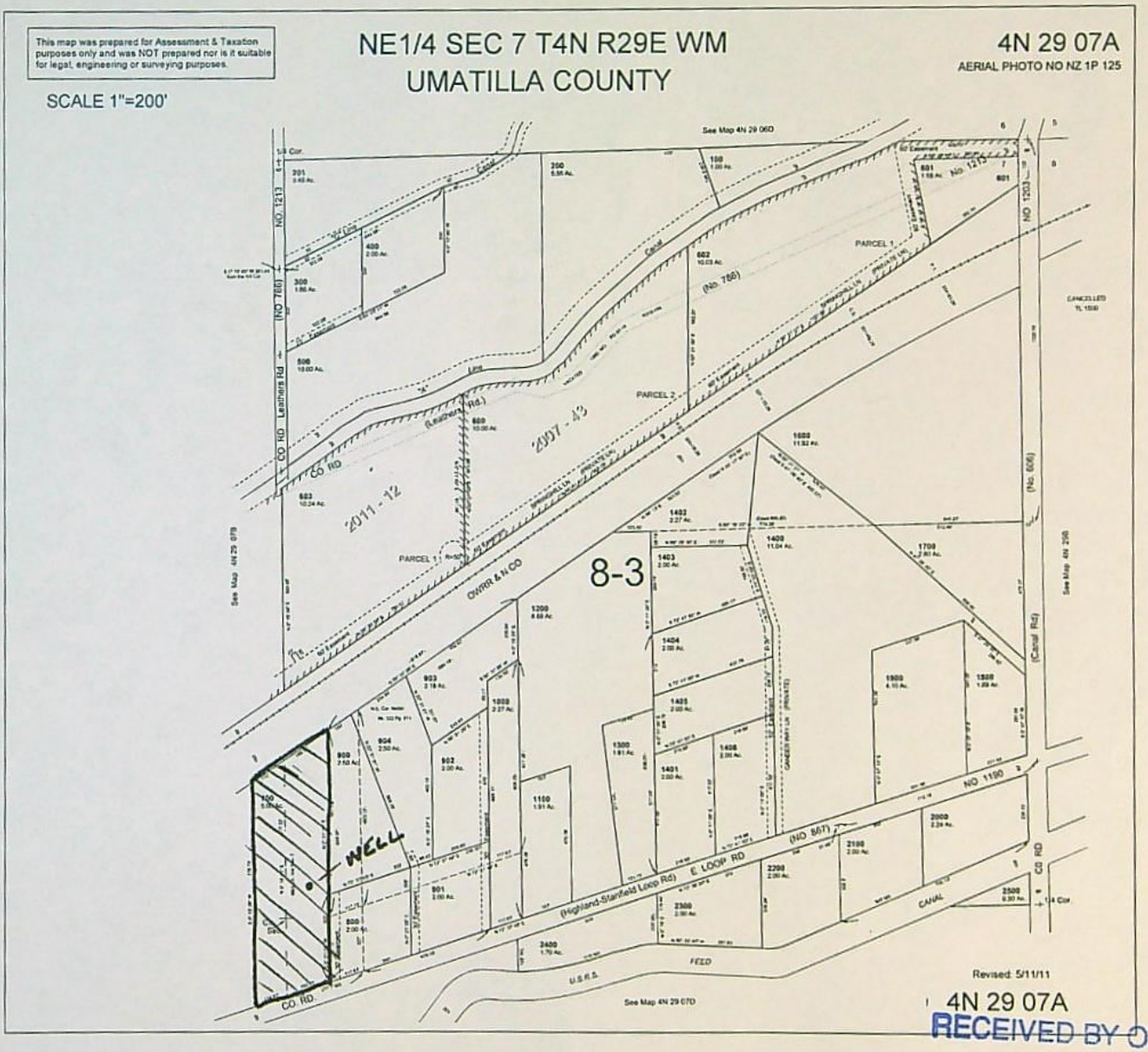
The District continues to ask OWRD to consider the cumulative impacts of these types of actions to the Umatilla River during their decision-making process.

Thank you.

Bev Bridgewater, District Manager

West Extension Irrigation District

↑ N



RECEIVED BY OWRD

SEP 28 2016

SALEM, OR

Acres to be irrigated all in section 7

.8ac NW/SE
.7ac NE/SW
1.4ac SE/NW
2.1ac SW/NE

Well located 120 ft north and 100 ft east from center of section 7

G-18394

Final Order Checklist for Standard Applications

Reminder: use a different colored pen for changes and Date and Initial changes.

Application #: G-18394 Applicant: JOSHUA R. REEVE
Basin # 7

X Name and/or address changed or assignment received? ☒ No ☐ Yes _____

X PFO Date [redacted] 7.3.18 Protest Period Ended 8.17.18

X PFO conclusions require modification due to typos, errors or omission of conditions: ☒ No ☐ Yes

If so: -

X If PFO requires modification; include FO MOD hearing rights ☒ NA ☐ Yes

X MU or QM: ☒ NA ☐ **change construction finding to 20 years in Permit**

Copy to: ☐ NCR ☒ WM5 ☒ Hydrographics (If SW, GW w/PSI, or SWW)
☐ Agent _____
☐ CWRE _____
☒ A.L.O. Stanfield IR Dist ; Hermiston IR District
☐ Commenter(s) _____
☐ WMCP Yes cc: Kerri Cope and Chris Kowitz
☐ Ann Reece (if application is for an Irrigation District)

X Was a standing paid for? ☒ No ☐ Yes (if yes and no protest, refund standing fee) _____

__ Fees

Exam Fee Required	1450-	Recording Fee Required	450-
Exam Fee Paid -	1450-	Recording Fee Paid -	450-
Still Owed =	0	Still Owed =	

__ FO w/Draft permit: still need X FO w/ Permit # G-18099 __ FO to deny
Refund $_____

__ Recording Fees
__ Easement
__ Storage Water Contract
__ Approved Dam Plans & Specs
__ Land Use Approval
__ Well Construction Approval

Name: Elisabeth A. Graham **Date Completed:** 8.15.19 **Peer Reviewer** _____ **Date:** _____

The purpose of this checklist is to be used as a working document by the Department staff to aid in the production of the related Initial Review, Proposed Final Order, or Final Order. It is not intended to be a complete record of all factors which were considered to produce the document, nor is it intended to serve any purpose other than that stated above. The related Initial Review, Proposed Final Order, or Final Order is intended to stand alone as the record of factors considered in its production.

Reminder: use a different colored pen for changes and Date and Initial changes.

PFO Checklist for Standard Application

Application # G-18394 Applicant: JOSHUA R. REEVE

Basin # 7

X IR requested additional information? ☐NA ☒Yes conflict w/ underlying acres

X Add'l info received? ☐NA ☒Yes applicant removed acres 1·1·18 (*)

X IR Date 12·22·17 Noticed on 12·26·17 Comment Deadline 1·25·18

X Electronic /Written comments? ☒No ☒Yes Comment Eval? ☒NA ☐No ☒Yes *

X Allowed Use/Rate/Season IR/0.036 CFS & 2.9ac / 3·1-10·31 Limit: 1/80 Duty: 3

N/A Make specific finding in PFO if ☐rate/limit higher than standard ☐duty higher than standard

X DIV 9 ☐NA ☐will likely be available ☐will not likely be available ☒will, if conditioned

☒No PSI Table C4a Not filled out ☐No PSI Table C4a filled out – Highest impact? _____ Month? _____

☐PSI per 690-009-0040(4) ☐PSI per 690-009-0040(5) WELL _____ Has PSI with _____

PSI caused from: ☐¼ mile ☐> 5CFS ☐Instream Q ☐> 1% of 80% ☐Interference > 25%

Groundwater Conditions: B2 (c) only from alluvial ; 7 N ; Med.

X Conditions -

☐ **Small** ≤0.1 CFS ≤ 9.2 AF ☒ **Medium** > 0.1 CFS but < 0.25 CFS. > 9.2 AF but < 100 AF ☐ **Large** ≥ 0.25 CFS ≥ 100 AF

X SW availability ☒NA ☐80% ☐50% _____

X Division 33 ☒NA ☐NO ☐UPPER COLUMBIA (not allowed 4/15-9/30) OAR 690-033-0120
☐LOWER COLUMBIA OAR 690-033-0220
☐STATEWIDE OAR 690-033-0330

X SWW ☒NA ☐above ☐within _____

X Land Use ☒allowed outright ☐ decision obtained ☐being pursued ☐not being pursued

X Needed before permit: ☒NA ☐Fees ☐evidence of well repair ☐LU ☐easement ☐plans/ specs ☐ storage contract

X Changes from IR determinations

(*) 0.7 NESW > Removed 5.0 - 2.1 = 2.9 acres

1.4 SENW

X Notes n/a

* Issued superseding PFO

Revised 8/24/2017

Copy to: ☐NCR WM 5
☐Agent _____
☐CWRE _____
☐A.L.O. _____
☐Commenter(s) _____
☐Hydrographics (If SW, GW w/PSI, or SWW)

EXAM FEE REQUIRED	1450-	RECORDING FEE REQUIRED	450-
EXAM FEE PAID	1450-	RECORDING FEE PAID	450-
STILL OWED	0	STILL OWED	0

Name: Elisabeth A. Graham_ Date Completed: 3·20·18 Initials: EAG Peer Reviewer: bp Date: 3/22/18 am 4-14-18

The purpose of this check list is to be used as a working document by the Department staff to aid in the production of the related Initial Review, Proposed Final Order or Final Order. It is not intended to be a complete record of all factors which were considered to produce the document, nor is it intended to serve any purpose other than that stated above. The related Initial Review, Proposed Final Order, or Final Order is intended to stand alone as the record of factors considered in its production.

(UMAT 2791)

IR Checklist for Standard Application

Reminder: use a different colored pen for changes and Date and Initial changes.

Application #: G-18394 Applicant JOSHUA R. REEVE

Basin # 7 Priority Date: September 28, 2016

X Requested Use/Rate/Season IR/0.06 cfs & 5.0 ac / 3-1-10-31 Limit _____ Duty _____

Allowed use/Rate/Season IR/0.06 cfs & 5.0 ac / 3-1-10-31 Limit 1/80 Duty 3

X DIV 9: ☐NA ☐will likely be available... ☐will not likely be available... ☒will, if properly condition...

☒No PSI OR well _____ has PSI with _____

PSI caused from: ☐¼ mile ☐ > 5 CFS ☐ Instream Q ☐ > 1% of 80% ☐ Interference > 25%

☐Reduce rate to avoid PSI

☒GW conditions B2(c) only from alluvial; 7N, Med.

X Conditions _____

☐**Small** ≤ 0.1 CFS, ≤ 9.2 AF ☒**Medium** > 0.1 CFS but < 0.25 CFS, > 9.2 AF but< 100 AF ☐**Large** ≥ 0.25 CFS, ≥ 100 AF

- use at least Medium for: Siltcoos Lake, stored water contract, and Sandy Basin ground water.
- use Large for: Tenmile Lake, NU or other temp control, and gov. entities, HC exceptions; and if GW in South Salem Hills, or 10+ acres in Stage Gulch CGWA; Large-7g, Large-7i for 7g/7i.

X ORS 538 prohibits use ☐No ☐Yes (stop processing and return app and fees)

X Stream is withdrawn ☒NA not 89 ☐No ☒yes, allows use/season Umatilla

X Use is ☒allowed ☐not allowed ☐limited ☒OAR ☐Compact 690-507-0070(3)(d)(B)

X SW availability ☒NA ☐80% ☐50% _____ WID: _____

☐Use DWF's 6/21/05 non-standard W/A memo if the source is: trib to Drews Res, Snake R, Columbia R, North Umpqua R below Rock Cr, or within drainages of Lost R, Chehalem Cr, or Champoeg Cr (including Mission Cr and Case Cr)

X DIVISION 33: ☒NA ☐No ☐UPPER COLUMBIA (not allowed 4/15 - 9/30) OAR 690-033-0120 ☐LOWER COLUMBIA OAR 690-033-0220 ☐STATEWIDE OAR 690-033-0330

X Use is within a Priority WAB? ☒NA ☐No ☐Yes

X 4D Rules apply? ☒NA ☐No ☐Yes

X SWW: ☒NA ☐above ☐within _____

X POU conflict? ☐No ☐No, different sources ☐No, make up a deficiency in rate ☐No, existing not at max. rate ☐Yes _____

X Use is supplemental, checked for primary rights w/ diff source ☒NA ☐No ☐yes, limits _____

X App w/in a District boundary ☐No ☒Yes, cc: Stanfield IR Dist. & Hermiston IR Dist.

X Land use: ☒allowed ☐outright ☐not allowed ☐being pursued ☐not being pursued ☐decision obtained ☐receipt only ☐N/A

X MU or QM: ☒NA ☐will complete construction within 20 years ☐Chris or Kerri reviewed and added recommendations _____

X Storage contract ☒NA ☐BOR ☐Doug Co ☐Corp of Eng ☐needed ☐obtained _____

X POD is within North Umpqua or Tenmile Lake for domestic use and the spreadsheet was updated ☒NA ☐ Yes

X Forms ☒NA ☐HC except (receipts/well logs attached) ☐spring description ☐Form M

Application #: G-18394 Applicant JOSHUA R. REEVE

X Authorized agent specified ☒ No ☐ Yes

X Copy to ☐ SWR ☒ WM # 5 ☐ ALO ☐ City _____
☐ NCR ☐ agent ☐ district (w/in 5-mile muni wells)
☐ Hydrographic (if SW, GW with PSI, or SWW) ☐ CWRE _____

irrigation districts: ① Stanfield : PO Box 416; Stanfield OR 97875
② Hermiston : 366 Hurlburt Ave.; Hermiston OR 97838

X Fees 0.06 CFS Base 1150-
_____ AF Up to 1 CFS 300-
_____ Add'l CFS _____
_____ well(s)/POD(s) Up to 20 AF _____
_____ Add'l AF @ $1 _____
_____ use(s) Add'l____ POD/POA____use + _____
Exam Fee Required 1450- Rec Fee Req'd 450-
Exam Fee Paid 1450- Rec Fee Paid 450-
Still Owed/Refund 0 Owed before Permit 0

X App/map meet min. required ☒ Yes ☐ No ☐ ALO info ☐ map ☐ legal _____
X Req'd before PFO: ☒ NA ☐ LU approve/pursue ☐ ALO info ☐ exam fees
X Req'd before permit: ☒ NA ☐ recording fees ☐ well repair ☐ LU ☐ easement ☐ plans/specs ☐ storage contract
X Letter format: ☒ good ☐ limited ☐ bad ☐ bad w/ rate reduction opportunity
X Scanned images exist for application form and map

Name: Elisabeth A. Graham Date Completed: _____ Initials: _____ Peer Reviewer _____ Date: _____

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Point of Diversion Characteristics

Right:	App: G 18394 *
Name:	JOSHUA REEVE

TRSQQ: 04.00N-29.00E-07-SWNE

County: Umatilla
Basin: Umatilla
WM District: 5
WM Region: NC
Withdrawn Area: UMATILLA
WAB: UMATILLA R > COLUMBIA R - AT MOUTH (221)
Priority WAB: COLD SPRS WASH @ mouth (OWRD: Fair, ODFW: Poor) (30710340)
Rule 4D: Rules apply
Groundwater Restricted Area: Critical - Stage Gulch
Scenic Water Way:
Division 33: UPPER COLUMBIA
Water Quality Limited:

Place of Use Conflict Report

The following rights have acreage in the same quarter-quarter as App: G 18394 *

Right	Name	Decree	App	Permit	Cert	Priority	Status	Use	T-R-S-QQ	DLC	Gov't Lot	Acres
CERT:87035 CF CR *	STANFIELD IRRIGATION DISTRICT	UMATILLA RIVER (S)			87035	3/8/1905	NC	DO	04.00N-29.00E-07-NWSE			
								DO	04.00N-29.00E-07-NWSE			
								IR	04.00N-29.00E-07-NWSE			11.0000
								IR	04.00N-29.00E-07-NWSE			14.3000
								LV	04.00N-29.00E-07-NWSE			
								LV	04.00N-29.00E-07-NWSE			
CERT:42977 OR *	JOHN WESTON		G-5603	G-4935	42977	8/20/1971	NC	IR	04.00N-29.00E-07-NESW			3.8000
								IR	04.00N-29.00E-07-SENW			3.7000
CERT:49823 OR *	RAYMOND R PERKINS		G-7845	G-7380	49823	2/25/1977	NC	IR	04.00N-29.00E-07-SWNE			7.9800
								IR	04.00N-29.00E-07-NWSE			0.0200
CERT:76114 CF *	KENNETH W BROWN		G-10981	G-10065	76114	5/31/1983	NC	IR	04.00N-29.00E-07-NESW			1.3000
								IS	04.00N-29.00E-07-NESW			7.4000
PERMIT: R 15049 *	LEON KENNEDY		R-87913	R-15049		6/24/2013	NC	MP	04.00N-29.00E-07-SENW			
CERT:86377 CF CR *	U.S. BUREAU OF RECLAMATION		S-9668	S-7400	86377	7/1/1924	NC	IS	04.00N-29.00E-07-NESW			7.4000
								IS	04.00N-29.00E-07-NWSE			11.0000
								IS	04.00N-29.00E-07-NWSE			14.3000
CERT:86203 CF *	STANFIELD IRRIGATION DISTRICT		S-41015	S-30789	86203	6/23/1965	NC	IR	04.00N-29.00E-07-NESW			7.4000
CERT:82226 OR *	LEON KENNEDY		S-49637	S-41304	82226	8/25/1972	NC	IR	04.00N-29.00E-07-SWNE			4.1000
								IR	04.00N-29.00E-07-SENW			24.0000
APP: S 87472 *	RAY KOPACZ		S-87472			9/22/2009	NC	IS	04.00N-29.00E-07-NWSE			14.3000
								IS	04.00N-29.00E-07-NWSE			11.0000
								IS	04.00N-29.00E-07-NESW			7.4000

G-18394

Division 507
UMATILLA BASIN PROGRAM

690-507-0070
Columbia-Umatilla Plateau Subbasin

(3) Groundwater: Appropriation and use of groundwater in the Columbia-Umatilla Plateau subbasin shall comply with the following provisions:

(c) Groundwater resources of the **basalt aquifer** in the Stage Gulch Groundwater Study Area are closed to further appropriation by Proclamation of the Director dated January 31, 1985.

G-18394
Chapter 690
Division 507
UMATILLA BASIN PROGRAM
690-507-0070
Columbia-Umatilla Plateau Subbasin

(3) Groundwater: Appropriation and use of groundwater in the Columbia-Umatilla Plateau subbasin shall comply with the following provisions:

(a) Groundwater resources of the basalt aquifer and shallow gravel aquifer within the Ordnance Critical Groundwater Area are closed to further appropriation by Order of the Director dated April 2, 1976;

(b) Groundwater resources of the basalt aquifer within the Butter Creek Critical Groundwater Area are closed to further appropriation by Order of the Director dated August 18, 1986;

(c) Groundwater resources of the basalt aquifer in the Stage Gulch Groundwater Study Area are closed to further appropriation by Proclamation of the ~~Director~~ dated January 31, 1985.

(d) Classification: Permits to use groundwater may be issued only for the following classified uses:

(A) The groundwater resources of the basalt aquifer in the Ella Butte Groundwater Study Area described in the Proclamation of January 31, 1985, are classified for statutorily exempt uses (see definition) only. This classification terminates the critical groundwater area determination proceeding initiated January 31, 1985, and the Proclamation of the same date issued for the Ella Butte study area;

(B) The groundwater resources of the Columbia-Umatilla Plateau outside the Ordnance and Butter Creek Critical Groundwater Areas and the Ella Butte and Stage Gulch Groundwater Study Areas are classified for statutorily exempt groundwater uses (see definition), irrigation, municipal, industrial, power development, low temperature geothermal, mining, fish life, wildlife, recreation, pollution abatement, and artificial groundwater recharge;

(C) Groundwater from the basalt reservoir in a five-mile radius around any municipal well of the cities of Heppner, Helix, Ione, Lexington, and Pendleton is classified for municipal, group domestic and statutorily exempt groundwater uses (see definition) only. Other uses may be permitted if it is documented that a barrier to groundwater movement separates a proposed well from municipal wells and there will be no interference with municipal wells. Applications for other uses of groundwater within a five-mile radius of a municipal well shall automatically be referred to the Commission for review and consideration of public interest unless the affected city affirms that it is in favor of the proposed appropriation. This classification applies only when the affected city(ies) have a full-time conservation program in effect;

(D) Subject to the more strict controls imposed by the existing State Gulch Proclamation or issuance of a critical area order for the Stage Gulch Groundwater Study Area, groundwater from the basalt reservoir in a five-mile radius around any municipal well of the cities of Echo, Hermiston, Pendleton, Stanfield, and Umatilla is classified for municipal, group domestic and statutorily exempt groundwater uses (see definition) only. Other uses may be permitted if it is documented that a barrier to groundwater movement separates a proposed well from municipal wells and there will be no interference with municipal wells. Applications for other uses of groundwater within a five-mile radius of a municipal well shall automatically be referred to the Commission for review and consideration of public interest unless the affected city affirms that is in favor of the proposed appropriation. This classification applies only when the affected city(ies) have a full-time conservation program in effect.

(e) Permits issued to appropriate groundwaters that may be hydraulically connected with surface water shall be specially conditioned. The condition shall specify that when exercise of the permit unduly interferes with surface water, the permit will be regulated in favor of the surface water source.

Print Report

Oregon Water Resources Department
Attribute Report

Report Date: Nov 30, 2017

General:

TRSQQ:	WM4.00N29.00E7SWNE
DLC:	-
Latitude:	45.8424165119
Longitude:	-119.2359976297
Buffer (ft):	1
Elevation (ft):	621
Basin Name:	Umatilla
Basin Plan:	-Columbia-Umatilla Plateau
County:	Umatilla
WM District:	5
WM Region:	NORTH CENTRAL
ODFW Region, District:	Northeast Region, Umatilla District
Irrigation District AOI:	STANFIELD IRRIGATION DISTRICT HERMISTON IRRIGATION DISTRICT
Irrigation District, Other:	
Dams (Permit):	-
Water Rights:	Platcard for WM4.00N29.00E7
Well Logs:	Logs for WM4.00N29.00E7

Rules:

Withdrawn Authority:	**UMATILLA**, *OAR 690-507-0070(2)(a)* - Including tributaries during June 1 – October 31, except for domestic, livestock, fish, wildlife, water from storage.
Groundwater Retricted:	Stage Gulch, Critical, undefined
GW Retricted Subunit:	A
GW ODEQ Management Area:	Lower Umatilla Basin
GW Umatilla Muni Wells (5mile):	Hermiston Stanfield
Rule 4D:	Rules apply

Division 33 (Area, Watershed, species):	**UPPER COLUMBIA**, *Hunt Ditch-Umatilla River*, Pacific Lamprey, Steelhead, Redband Trout
Irrigation Season of Use:	**Umatilla River** Adj. Status: Adjudicated Subarea: undefined Irr. Season: Mar 1 to Nov 1; tribs throughout year Duty: 3 Rate: 1/80
Water Quality Limited Pollutant 2012:	-
Fish Habitat 2014:	-
Is in Deschutes Study Area:	-
Deschutes Zone Impact:	-
Deschutes Zone Overlay:	-
Scenic Water Way:	-

Hydrography:

OWRD Streamcode:	-
Waterbody Name:	-
HUC 10:	1707010313
HUC Watershed:	Hunt Ditch-Umatilla River
WAB Wshed Order:	1
WAB Analysis:	UMATILLA R > COLUMBIA R - AT MOUTH
Streamflow:	OWRD Opportunities: Fair ODFW Needs: Poor Combined Priority: Not a priority
Gaging Station Data:	-

Sources:

General
Oregon Public Land Survey Quarter-quarters. Bureau of Land Management, Oregon Water Resources Department.. n.d. 1:24,000.
Donated Land Claims. Oregon Water Resources Department. January 1, 1995. 1:100,000.
Elevation. ESRI World Elevation. February 2000. 1:121,000.
OWRD Administrative Basins. Oregon Water Resources Department. January 1, 1995.
Oregon Counties. Bureau of Land Management (BLM), Oregon State Office.. January 1, 2008.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date **November 13, 2017**

FROM: Groundwater Section **J. Hackett**
Reviewer's Name

SUBJECT: Application G- **18394** Supersedes review of _____
Date of Review(s)

PUBLIC INTEREST PRESUMPTION; GROUNDWATER

OAR 690-310-130 (1) *The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525.* Department staff review groundwater applications under OAR 690-310-140 to determine whether the presumption is established. OAR 690-310-140 allows the proposed use be modified or conditioned to meet the presumption criteria. **This review is based upon available information and agency policies in place at the time of evaluation.**

A. GENERAL INFORMATION: Applicant's Name: **Joshua Reeve** County: **Umatilla**

A1. Applicant(s) seek(s) **0.062** cfs from **1** well(s) in the **Umatilla** Basin, _____ subbasin

A2. Proposed use **Irrigation** Seasonality: **March 1 – October 31**

A3. Well and aquifer data (**attach and number logs for existing wells; mark proposed wells as such under logid**):

Well	Logid	Applicant's Well #	Proposed Aquifer*	Proposed Rate(cfs)	Location (T/R-S QQ-Q)	Location, metes and bounds, e.g. 2250' N, 1200' E fr NW cor S 36
1	UMAT 2791	1	Alluvium	0.062	4N/29E-7 SW-NE	120' N, 100' E fr C1/4 cor S 7
2						
3						
4						
5						

* Alluvium, CRB, Bedrock

Well	Well Elev ft msl	First Water ft bls	SWL ft bls	SWL Date	Well Depth (ft)	Seal Interval (ft)	Casing Intervals (ft)	Liner Intervals (ft)	Perforations Or Screens (ft)	Well Yield (gpm)	Draw Down (ft)	Test Type
1	617	85	24	2/13/1974	105	0-20	0 – 57			20		A

Use data from application for proposed wells.

A4. **Comments:** _____

A5. ☒ **Provisions of the** Umatilla Basin rules relative to the development, classification and/or management of groundwater hydraulically connected to surface water ☐ **are**, *or* ☒ **are not**, activated by this application. (Not all basin rules contain such provisions.)
Comments: _____

A6. ☐ **Well(s) #** _____, _____, _____, _____, _____, tap(s) an aquifer limited by an administrative restriction.
Name of administrative area: _____
Comments: _____

B. GROUNDWATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data**, I have determined that groundwater* for the proposed use:

a. ☐ **is** over appropriated, ☐ **is not** over appropriated, *or* ☒ **cannot be determined to be** over appropriated during any period of the proposed use. * This finding is limited to the groundwater portion of the over-appropriation determination as prescribed in OAR 690-310-130;

b. ☐ **will not** *or* ☐ **will** likely be available in the amounts requested without injury to prior water rights. * This finding is limited to the groundwater portion of the injury determination as prescribed in OAR 690-310-130;

c. ☐ **will not** *or* ☐ **will** likely to be available within the capacity of the groundwater resource; or

d. ☒ **will, if properly conditioned**, avoid injury to existing groundwater rights or to the groundwater resource:
   i. ☒ The permit should contain condition #(s) **7N; medium water-use reporting**;
   ii. ☒ The permit should be conditioned as indicated in item 2 below.
   iii. ☐ The permit should contain special condition(s) as indicated in item 3 below;

B2. a. ☐ **Condition** to allow groundwater production from no deeper than _____ ft. below land surface;

b. ☐ **Condition** to allow groundwater production from no shallower than _____ ft. below land surface;

c. ☒ **Condition** to allow groundwater production only from the **alluvial** groundwater reservoir ~~between approximately _____ ft. and _____ ft. below land surface;~~

d. ☐ **Well reconstruction** is necessary to accomplish one or more of the above conditions. The problems that are likely to occur with this use and without reconstructing are cited below. Without reconstruction, I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Groundwater Section.

Describe injury –as related to water availability– that is likely to occur without well reconstruction (interference w/ senior water rights, not within the capacity of the resource, etc): _____

B3. **Groundwater availability remarks:** There are many low-use alluvial residential and irrigation wells in the area surrounding the applicant's property and several small, recent water rights with groundwater POAs, generally < 10 acres with post-2000 priority dates. Well logs in the area indicate approx. 50 – 150 ft of alluvial material overlying basalt. Alluvial wells generally yield 40 – 100 gpm (0.09 – 0.22 cfs) which is sufficient for these small-parcel water rights. Water levels in nearby alluvial wells show no signs of declines (see attached hydrograph). Therefore it is likely that the alluvial groundwater system can support the proposed rate and use of this application.

C. GROUNDWATER/SURFACE WATER CONSIDERATIONS, OAR 690-09-040

C1. **690-09-040 (1):** Evaluation of aquifer confinement:

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1	**Alluvium**	☐	☒
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: Reported water level in applicant's well rose above water-bearing zone, suggesting some confinement. However, the shallow alluvial aquifer locally acts as an unconfined system.

C2. **690-09-040 (2) (3):** Evaluation of distance to, and hydraulic connection with, surface water sources. All wells located a horizontal distance less than ¼ mile from a surface water source that produce water from an unconfined aquifer shall be assumed to be hydraulically connected to the surface water source. Include in this table any streams located beyond one mile that are evaluated for PSI.

Well	SW #	Surface Water Name	GW Elev ft msl	SW Elev ft msl	Distance (ft)	Hydraulically Connected? YES	NO	ASSUMED	Potential for Subst. Interfer. Assumed? YES	NO
1	1	**Umatilla River**	**590**	**410**	**19000**	☒	☐	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: There are several canals within the area but no perennial streams within 1 mile of the applicant's well.

Water Availability Basin the well(s) are located within: #221: UMATILLA R > COLUMBIA R – AT MOUTH

C3a. **690-09-040 (4):** Evaluation of stream impacts for each well that has been determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. Limit evaluation to instream rights and minimum stream flows that are pertinent to that surface water source, and not lower SW sources to which the stream under evaluation is tributary. Compare the requested rate against the 1% of 80% *natural* flow for the pertinent Water Availability Basin (WAB). If Q is not distributed by well, use full rate for each well. Any checked ☒ box indicates the well is assumed to have the potential to cause PSI.

Well	SW #	Well < ¼ mile?	Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐
		☐	☐			☐		☐		☐

C3b. **690-09-040 (4):** Evaluation of stream impacts by total appropriation for all wells determined or assumed to be **hydraulically connected and less than 1 mile** from a surface water source. **Complete only if Q is distributed among wells**. Otherwise same evaluation and limitations apply as in C3a above.

	SW #		Qw > 5 cfs?	Instream Water Right ID	Instream Water Right Q (cfs)	Qw > 1% ISWR?	80% Natural Flow (cfs)	Qw > 1% of 80% Natural Flow?	Interference @ 30 days (%)	Potential for Subst. Interfer. Assumed?
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐
			☐			☐		☐		☐

Comments: ______________________________

C4a. **690-09-040 (5):** Estimated impacts on **hydraulically connected surface water sources greater than one mile** as a percentage of the proposed pumping rate. Limit evaluation to the effects that will occur up to one year after pumping begins. This table encompasses the considerations required by 09-040 (5)(a), (b), (c) and (d), which are not included on this form. Use additional sheets if calculated flows from more than one WAB are required.

Non-Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS		0	0	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0	0
Interference CFS		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Distributed Wells													
Well	SW#	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													

(A) = Total Interf.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(B) = 80 % Nat. Q	292.0	548.0	697.0	984.0	569.0	187.0	82.70	48.10	56.60	67.90	101.0	215.0
(C) = 1 % Nat. Q	2.92	5.48	6.97	9.84	5.69	1.87	0.827	0.481	0.566	0.679	1.01	2.15

(D) = (A) > (C)												
(E) = (A / B) x 100	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

(A) = total interference as CFS; (B) = WAB calculated natural flow at 80% exceed. as CFS; (C) = 1% of calculated natural flow at 80% exceed. as CFS; (D) = highlight the checkmark for each month where (A) is greater than (C); (E) = total interference divided by 80% flow as percentage.

Basis for impact evaluation: Impacts to the Umatilla River from pumping at the applicant's well were calculated for the first year of pumping. A prorated pumping rate of 0.032 cfs was used to spread the annual duty of 15 Acre-Feet over the 240 day irrigation season. A hydraulic conductivity of 500 ft/day, which is appropriate for coarse sand and gravel, and a specific yield of 0.2 were used in the calculation. Modeling results indicate that pumping impacts will be less than 1% of the natural flow in the Umatilla River during all months of the year.

C4b. **690-09-040 (5) (b) The potential to impair or detrimentally affect the public interest is to be determined by the Water Rights Section.**

C5. ☐ **If properly conditioned**, the surface water source(s) can be adequately protected from interference, and/or groundwater use under this permit can be regulated if it is found to substantially interfere with surface water:

i. ☐ The permit should contain condition #(s)_____;

ii. ☐ The permit should contain special condition(s) as indicated in "Remarks" below;

C6. **SW / GW Remarks and Conditions:**

References Used:

Wozniak, K.C., 1995, Hydrogeology of the Lower Umatilla Basin, in Grondin and others, Hydrogeology, Groundwater Chemistry and land uses in the Lower Umatilla Basin Groundwater Management Area, Oregon Department of Environmental Quality

Hunt, B., 1999, Unsteady stream depletion from ground water pumping: Ground Water, v. 37, no. 1, p. 98-102

D. WELL CONSTRUCTION, OAR 690-200

D1. **Well #:** _____ **Logid:** _____

D2. **THE WELL does not appear to meet current well construction standards based upon:**

a. ☐ review of the well log;
b. ☐ field inspection by _____;
c. ☐ report of CWRE _____;
d. ☐ other: (specify) _____

D3. **THE WELL construction deficiency or other comment is described as follows:** _____

D4. ☐ **Route to the Well Construction and Compliance Section for a review of existing well construction.**

Water Availability Tables

UMATILLA R > COLUMBIA R - AT MOUTH
UMATILLA BASIN

Water Availability as of 11/13/2017

Watershed ID #: 221 (Map) Exceedance Level: 80%

Date: 11/13/2017 Time: 2:12 PM

Water Availability Calculation | Consumptive Uses and Storages | Instream Flow Requirements | Reservations | Water Rights | Watershed Characteristics

Water Availability Calculation

Monthly Streamflow in Cubic Feet per Second
Annual Volume at 50% Exceedance in Acre-Feet

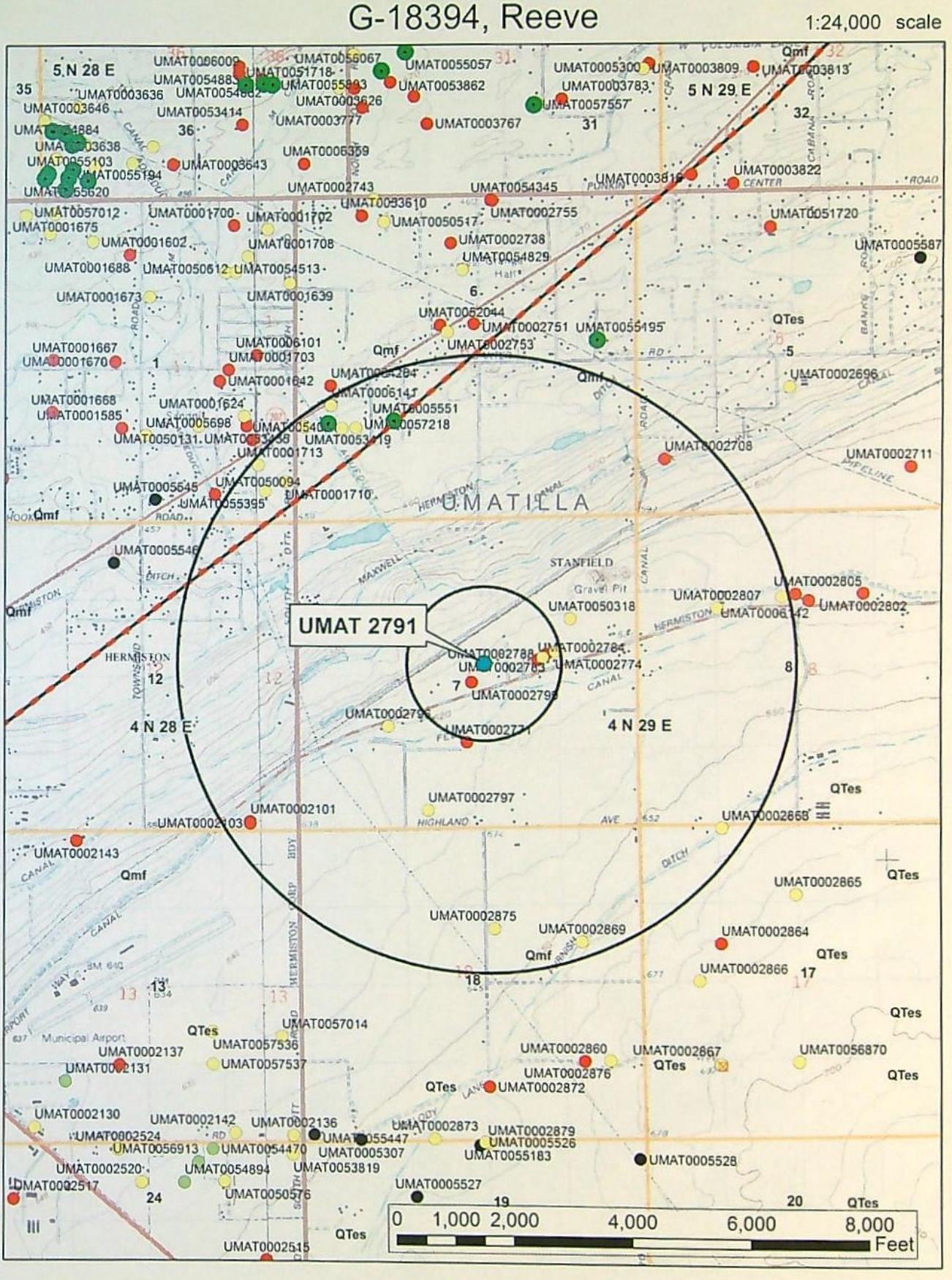
Month	Natural Stream Flow	Consumptive Uses and Storages	Expected Stream Flow	Reserved Stream Flow	Instream Flow Requirement	Net Water Available
JAN	292.00	384.00	-92.10	0.00	250.00	-342.00
FEB	548.00	473.00	75.40	0.00	250.00	-175.00
MAR	697.00	612.00	85.40	0.00	250.00	-165.00
APR	984.00	860.00	124.00	0.00	250.00	-126.00
MAY	569.00	1,130.00	-565.00	0.00	250.00	-815.00
JUN	187.00	793.00	-606.00	0.00	250.00	-856.00
JUL	82.70	421.00	-338.00	0.00	120.00	-458.00
AUG	48.10	314.00	-266.00	0.00	85.00	-351.00
SEP	56.60	238.00	-182.00	0.00	250.00	-432.00
OCT	67.90	138.00	-70.10	0.00	300.00	-370.00
NOV	101.00	188.00	-86.80	0.00	300.00	-387.00
DEC	215.00	357.00	-142.00	0.00	250.00	-392.00
ANN	424,000.00	357,000.00	150,000.00	0.00	169,000.00	80,600.00

Detailed Report of Instream Flow Requirements

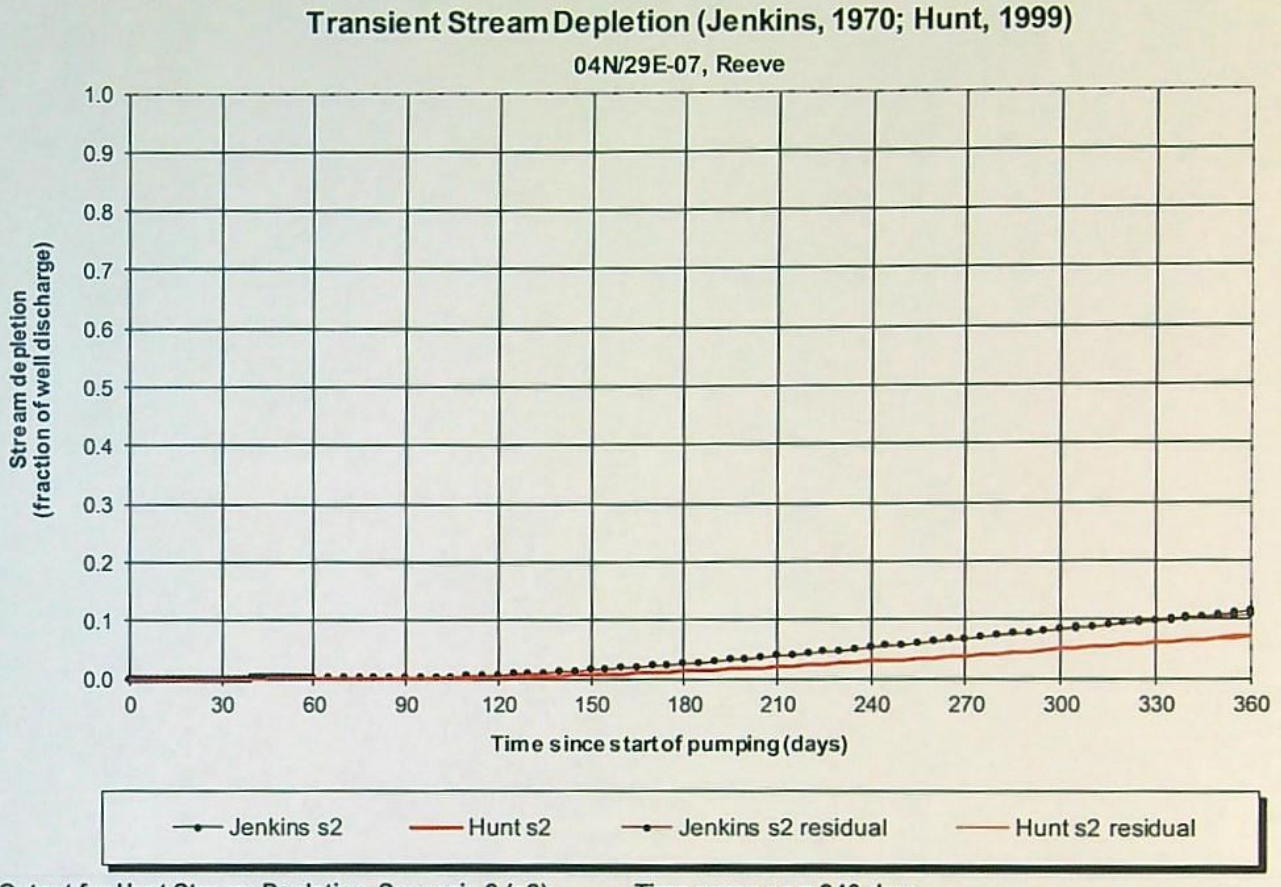
Instream Flow Requirements in Cubic Feet per Second

Application #	Status	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MF221A	CERTIFICATE	250.00	250.00	250.00	250.00	250.00	250.00	120.00	85.00	250.00	300.00	300.00	250.00
Maximum		**250.00**	**250.00**	**250.00**	**250.00**	**250.00**	**250.00**	**120.00**	**85.00**	**250.00**	**300.00**	**300.00**	**250.00**

Well Location Map



Modeled pumping impacts from applicant's well on Umatilla River

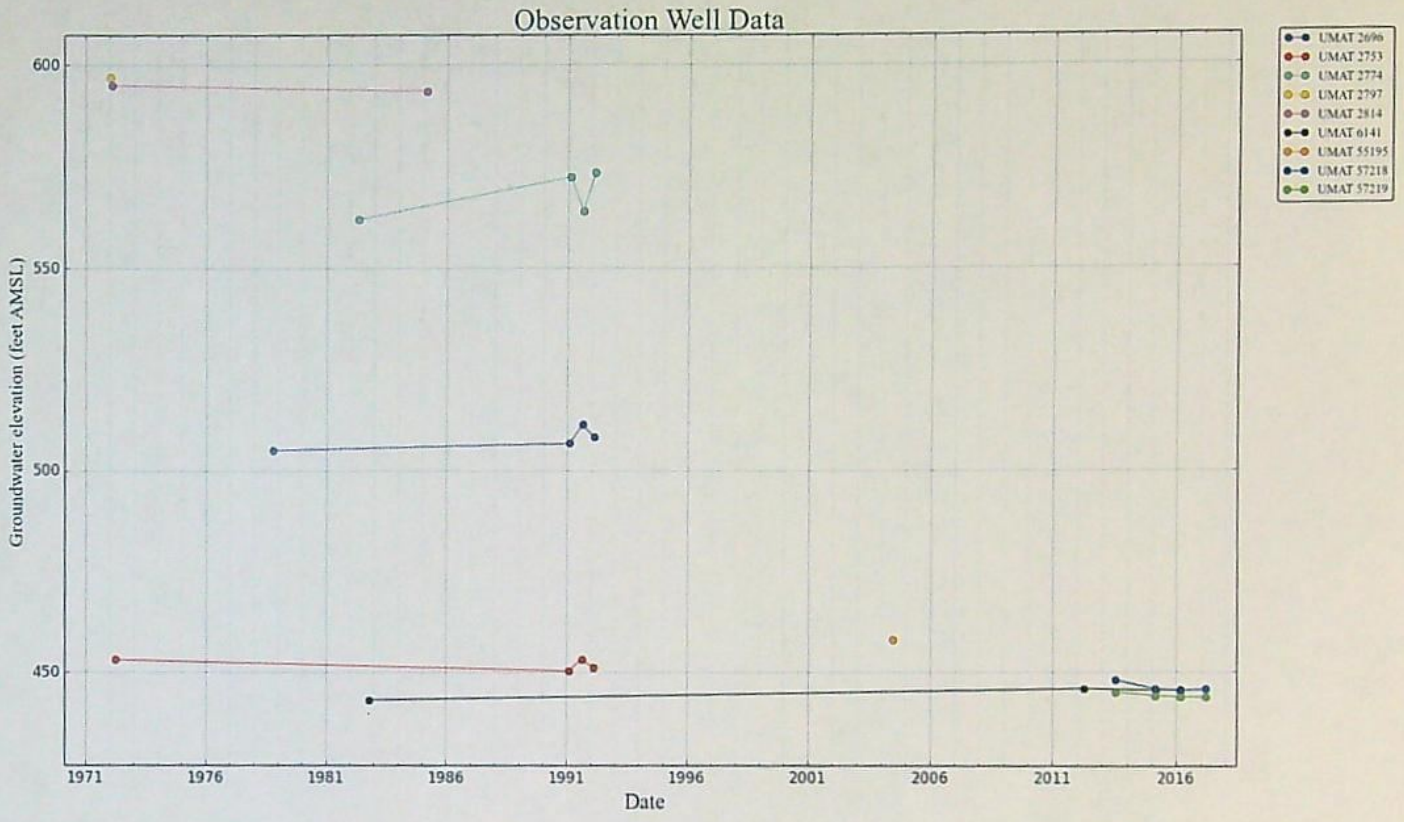


Output for Hunt Stream Depletion, Scenerio 2 (s2): Time pump on = 240 days

Days	30	60	90	120	150	180	210	240	270	300	330	360
Qw, cfs	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032
Jenk SD s2 %	0.00	0.01	0.15	0.61	1.42	2.51	3.82	5.25	6.75	8.27	9.66	10.72
Jen SD s2 cfs	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.002	0.002	0.003	0.003	0.003
Hunt SD s2 %	0.00	0.00	0.05	0.25	0.64	1.23	2.00	2.90	3.90	4.96	6.02	6.95
Hunt SD s2 cfs	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001	0.002	0.002	0.002

Parameters:		Scenario 1	Scenario 2	Scenario 3	Units
Net steady pumping rate	Qw	0.0315	0.0315	0.0315	cfs
Distance to stream	a	19000	19000	19000	ft
Aquifer hydraulic conductivity	K	500	500	500	ft/day
Aquifer thickness	b	80	80	80	ft
Aquifer transmissivity	T	40000	40000	40000	ft*ft/day
Aquifer storage coefficient	S	0.2	0.2	0.2	
Stream width	ws	75	75	75	ft
Streambed hydraulic conductivity	Ks	1	1	1	ft/day
Streambed thickness	bs	3	3	3	ft
Streambed conductance	sbc	25	25	25	ft/day
Stream depletion factor (Jenkins)	sdf	1805	1805	1805	days
Streambed factor (Hunt)	sbf	11.875	11.875	11.875	

Water Levels in Nearby Wells



WATER RESOURCES DEPARTMENT

MEMO November 11, 2017

TO: **Application G-** 18394

FROM: **GW:** J. Hackett
(Reviewer's Name)

SUBJECT: Scenic Waterway Interference Evaluation

☐ YES
The source of appropriation is within or above a Scenic Waterway

☑ NO

☐ YES
Use the Scenic Waterway condition (Condition 7J)

☐ NO

☐ Per ORS 390.835, the Groundwater Section is **able** to calculate ground water interference with surface water that contributes to a Scenic Waterway. The calculated interference is distributed below.

☐ Per ORS 390.835, the Groundwater Section is **unable** to calculate ground water interference with surface water that contributes to a scenic waterway; **therefore, the Department is unable to find that there is a preponderance of evidence that the proposed use will measurably reduce the surface water flows necessary to maintain the free-flowing character of a scenic waterway.**

DISTRIBUTION OF INTERFERENCE

Calculate the percentage of consumptive use by month and fill in the table below. If interference cannot be calculated, per criteria in 390.835, do not fill in the table but check the "unable" option above, thus informing Water Rights that the Department is *unable to make a Preponderance of Evidence finding.*

Exercise of this permit is calculated to reduce monthly flows in _____ Scenic Waterway by the following amounts expressed as a proportion of the consumptive use by which surface water flow is reduced.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Groundwater Application Review Summary Form

Application # G- 18394

GW Reviewer J. Hackett **Date Review Completed:** 11/13/2017

Summary of GW Availability and Injury Review:

[ ] Groundwater for the proposed use is either over appropriated, will not likely be available in the amounts requested without injury to prior water rights, OR will not likely be available within the capacity of the groundwater resource per Section B of the attached review form.

Summary of Potential for Substantial Interference Review:

[ ] There is the potential for substantial interference per Section C of the attached review form.

Summary of Well Construction Assessment:

[ ] The well does not appear to meet current well construction standards per Section D of the attached review form. Route through Well Construction and Compliance Section.

This is only a summary. Documentation is attached and should be read thoroughly to understand the basis for determinations and for conditions that may be necessary for a permit (if one is issued).

E-2 Standard Application Completeness Checklist

Minimum Requirements (OAR 690-310-0040)(ORS 537.400)

Yes No This is the checklist used by WRD staff

Application G-18394 County UMATILLA Priority Date Sept. 28 2016

Township 4N Range 27E 29E Section 7

Amount 28gpm/15AF Use IRR WM Dist. # 5

Applicant Name JOSHUA R REEVE

Receipt No. 121446 Caseworker Assigned: ☐ Barbe ☐ Kim ☒ Lisa

☒ Contact info: Applicant/Organization Name and Mailing Address

☒ Signature (in ink) of *all* applicants or the applicant's authorized agent (include title or authority if for an organization or corporation).

☒ Property ownership: Does the applicant own all the land for the proposed project? Y / N

If No:

☐ The affected landowner's name and mailing address must be listed

☐ A signed statement declaring the existence of either written authorization or an easement permitting access to land crossed by the proposed ditch canal or other work must be submitted.

N/A *For a SW Application*: Source of water must be indicated.

N/A If the source is stored water, is the stored water component filled out and does the applicant own the reservoir or include a non-expired agreement for stored water? (ORS 537.400)
***NOTE:** A surface water application cannot be filed at the same time as a Reservoir or Alt Reservoir if it will be for the use of the stored water under the PROPOSED Reservoir application, Exp. Secondary (E2).*

N/A If for stored water not under contract, is the source authorized under a permit, certificate, or decree?

Permit or Certificate issued? Y / N Permit or Certificate # _____

☒ *For a GW Application*: Well Development Tables completed and/or a well log report included (if existing)

☒ Proposed water use

☒ Amount of water from *each* source in GPM, CFS, or AF

☒ Period of use indicated

☐ If for supplemental irrigation, primary acreage or underlying permit or certificate number listed (*Primary and Supplemental Irrigation counts as 2 uses*)

☒ Water Management Section (*Estimates if the water system has not been designed*)

N/A Resource Protection Section (*N/A for Groundwater*)

N/A *For all standard reservoir applications:* Preliminary plans and specifications including dam height, width, crest width and surface area for each reservoir.

☑ Project schedule (If system is already completed, indicate "existing.")

☒ N/A Supplemental data sheets enclosed (if needed)

- ☐ Form M (Municipal or Quasi-Municipal)
- ☐ Spring Description Sheet (if source is a spring)

☒ A completed **Land-Use Form** or receipt signed and dated by the appropriate planning department officials. *Please be certain that the Land-Use form lists all lands involved and all uses proposed. Date of signature must be within the past 12 months.*

☒ A **Legal Description** of all the properties involved where water is diverted, crossed, and used. The Legal description includes a metes and bounds or other government survey description. A copy of the deed, land sales contract or title insurance policy can provide this information, or applicant may submit a lot book report prepared by a title company. Copies of tax bills are not acceptable.

☐ The proposed source **IS / IS NOT** (circle one) restricted or withdrawn from further appropriation. *NOTE: If it is withdrawn under ORS 538, then return application and fees. If it is withdrawn by other means, accept the application and a negative IR will be issued.*

☐ The **map** must meet all the minimum requirements of OAR 690-310-0050.

- ☒ Township, Range, Section
- ☐ Location of main canals, ditches, pipelines or flumes (if POA/POD is outside of POU)
- ☒ Place of use, ¼-¼'s and tax lot clearly identified (1/4 1/4 revised)
- ☒ Even map scale not less than 4" = 1 mile (1"= 1320 ft.); examples: 1" = 100 ft., 1" = 200 ft.
- ☒ Location of *each* diversion point, well or dam by reference to a recognized public land survey corner. Multiple wells shall be uniquely labeled, and identified on well logs if existing.
- ☒ Reference corner on map
- ☒ North Directional Symbol
- ☒ Number of acres per ¼-¼ if for irrigation, nursery, or agriculture
- ☐ For a standard reservoir application to store ≥ 9.2 acre feet AND having a dam height ≥ 10 feet, map must be prepared by a CWRE

☐ **Fees:**

Base Fee	$ ~~1450~~	Permit Recording Fees	$ 450
1st CFS @ $300	$ _____	Mitigation Fee	$ _____
0 add'l CFS @ $300 ea	$ _____		
0 AF up to 20 AF @ $30 ea	$ _____	Rec Fee Total	$ _____
0 add'l AF @ $1 ea	$ _____	Rec Fee Paid	$ _____
0 add'l ☐pod/poa ☐use @ _____ ea	$ _____		
0 add'l res @ $125 ea	$ _____		
Exam Fee Total	$ 1450	Total Fees	$ 1900
Exam Fee Paid	$ 450	Paid	$ 1900
		Amount Due	$ —

Reviewed by: C Holmes Date: 9/28/16

Oregon Water Resources Department

Water Right Services Division

Water Right Application G-18394 in the name of JOSHUA R. REEVE	)))	PROPOSED FINAL ORDER

Summary: The Department proposes to issue an order approving Application G-18394, as amended, and a permit consistent with the attached draft permit.

Authority

The application is being processed in accordance with Oregon Revised Statute (ORS) 537.615 through 537.628, and 390.826, and Oregon Administrative Rule (OAR) Chapter 690, Divisions 5, 8, 9, 33, 300, 310, 400, 410, and Umatilla Basin Program OAR 690-507. These statutes and rules can be viewed on the Oregon Water Resources website: http://www.oregon.gov/owrd/pages/law/index.aspx

The Department's main page is http://www.oregon.gov/OWRD/pages/index.aspx

The Department shall presume that a proposed groundwater use will ensure the preservation of the public welfare, safety and health as described in ORS 537.525 if:

a) The proposed use is allowed in the applicable basin program established pursuant to ORS 536.300 and 536.340 or given a preference under ORS 536.310(12);
b) Water is available;
c) The proposed use will not injure other water rights; and
d) The proposed use complies with the rules of the Commission. ORS 537.621(2); OAR 690-310-0150(2)(b)

All four criteria must be met for a proposed use to be presumed to ensure the preservation of the public welfare, safety and health. When the criteria are met and the presumption is established the Department must further evaluate the proposed use, any comments received information available in its files or received from other interested agencies and any other available information to determine whether the presumption is overcome. OAR 690-310-0140

If the Department determines that the presumption is established and not overcome, the Department shall issue a proposed final order recommending issuance of the permit subject to any appropriate modifications or conditions.

FINDINGS OF FACT

Application History

1. On September 28, 2016, Joshua R. Reeve filed a complete application for the following water use:
   Amount of Water: 0.062 cubic foot per second (CFS)
   Use of Water: irrigation of 5.0 acres
   County: Umatilla County
   Location: within Section 7, Township 4 North, Range 29 East, W.M.
   Source of Water: Well 4N/27 E-7 (UMAT 2791) in Hermiston Irrigation Ditch Basin

2. On December 22, 2017, the Department mailed the applicant notice of its Initial Review, determining that "**Not all determinations herein are favorable, therefore it is unlikely that Application G-18394 will be approved.**" The applicant did not notify the Department to stop processing the application within 14 days of that date.

3. On December 26, 2017, the Department gave public notice of the application in its weekly notice. The public notice included a request for comments, and information for interested persons about obtaining future notices and a copy of the Proposed Final Order. No written comments were received within 30 days.

4. The Department's continuing evaluation reveals that the following correction to the Initial Review is necessary to accurately reflect the applicant's Application for a Permit to use Groundwater. The Department has determined a portion of the proposed place of use (SENW 1.4 acres and NESW 0.7 acres, Section 7, Township 4 North, Range 29 East, W.M.) has underlying groundwater rights evidenced by Certificate 42977.

5. On February 1, 2018, the applicant made the following changes to the proposed place of use by removing SENW 1.4 acres and NESW 0.7 acres, Section 7, Township 4 North, Range 29 East, W.M., from the application. Thus reducing the rate of use to 0.036 CFS and the total place of use to 2.9 acres.

Presumption Criteria (a) Consistency with Basin Program

6. The proposed use is allowed under the Umatilla Basin Program (OAR 690-507). ORS 537.621(3)(b); OAR 690-310-0150(2)(b)

Presumption Criteria (b) Water Availability

7. An assessment of groundwater availability has been completed by the Groundwater/Hydrology section. A copy of this assessment is in the file. Groundwater will likely be available within the capacity of the resource, and if properly conditioned (and if authorized), the proposed use of groundwater will avoid injury to existing groundwater rights. ORS 537.621(3)(c); OAR 690-310-0150(2)(c)

Presumption Criteria (c) Injury Determination

8. The proposed use will not injure other water rights. ORS 537.621(3)(d); OAR 690-310-0150(2)(e)

Presumption Criteria (d) Whether the use complies with rules of the Commission

9. Documentation has been submitted from the relevant land-use planning jurisdiction that indicates the proposed use is allowed outright. ORS 537.621(3)(b); OAR 690-310-0150(2)(b)

10. The proposed groundwater use is not within a designated critical groundwater area. ORS 537.620(4)(a), 537.621(3)(a); OAR 690-310-0150(2)(a)

11. The Department has determined that the proposed groundwater use will not have the potential for substantial interference with surface water. The Division 9 (Ground Water Interference with Surface Water) review is in the file and can be viewed on the Department's website. ORS 537.621(3)(b); OAR 690-009-0040(4).

12. The proposed use complies with rules of the Water Resources Commission not otherwise described above.

Determination of Presumption that a proposed groundwater use will ensure the preservation of the public welfare, safety and health

Based on the review of the presumption criteria (a)-(d) above, the presumption has been established. ORS 537.621(3)(g); OAR 690-310-0150(2)(g)

Further evaluation of the proposed use

13. No comments were received by the close of the comment period. OAR 690-310-0140(3).

14. Information available in Department files, received from other interested agencies, and other available information does not provide a preponderance of evidence that the proposed use would not ensure the preservation of the public welfare, safety, and health under ORS 537.525; OAR 690-310-0140(3)

Other Criteria and Requirements

15. The proposed use is not located within or above a Scenic Waterway, as designated under ORS 390.826. 537.620(4)(a), 537.621(3)(a); OAR 690-310-0150(2)(a)

16. The amount requested, 0.036 CFS, is necessary for the proposed use. ORS 537.621(3)(c); OAR 690-310-0150(2)(b)

17. The applicant proposed to apply water when needed and use the most efficient method of water application for the crop being irrigated (drip and low pressure sprinklers). These measures are adequate at this time. OAR 690-310-0150(2)(j)

CONCLUSION OF LAW

The proposed use would ensure the preservation of the public welfare, safety and health as described in ORS 537.525.

When issuing permits, ORS 537.628(1) authorizes the Department to include limitations and conditions which have been determined necessary to protect the public welfare, safety and health. The attached draft permit is conditioned accordingly.

PROPOSED ORDER

The Department recommends approval of Application G-18394, as amended, and issuance of a permit consistent with the attached draft permit.

DATED April 10, 2018

Dwight French
Water Right Services Division Administrator, for
Thomas M. Byler, Director
Oregon Water Resources Department

Protests

Under the provisions of ORS 537.153(7) (for surface water) or ORS 537.621(8) (for groundwater), you can protest this Proposed Final Order. Protests must be received in the Water Resources Department no later than **May 25, 2018**. Protests must be in writing, and must include the following:

- Your name, address, and telephone number;
- A description of your interest in the Proposed Final Order, and, if you claim to represent the public interest, a precise statement of the public interest represented;
- A detailed description of how the action proposed in the Proposed Final Order would impair or be detrimental to your interest;
- A detailed description of how the Proposed Final Order is in error or deficient, and how to correct the alleged error or deficiency;
- Any citation of legal authority to support your protest, if known;
- To affect the department's determination that the proposed use in this application will, or will not, ensure the preservation of the public welfare, safety and health as described in ORS 537.525, ORS 537.621(2)(b) requires that a protest demonstrate, by a preponderance of evidence any of the following: (a) One or more of the criteria for establishing the presumption are, or are not, satisfied; or (b) The specific aspect of the public welfare, safety and health under ORS 537.525 that would be impaired or detrimentally affected, and specifically how the identified aspect of the public welfare, safety and health under ORS 537.525 would be impaired or be adversely affected;
- If you are the applicant, the protest fee of $410 required by ORS 536.050; and
- If you are not the applicant, the protest fee of $810 required by ORS 536.050 and proof of service of the protest upon the applicant.
- If you are the applicant, a statement of whether or not you are requesting a contested case hearing.

Requests for Standing

Under the provisions of ORS 537.153(7) (for surface water) or ORS 537.621(8) (for groundwater), persons other than the applicant who support a Proposed Final Order can request standing for purposes of participating in any contested case proceeding on the Proposed Final Order or for judicial review of a Final Order.

Requests for standing must be received in the Water Resources Department no later than **May 25, 2018**. Requests for standing must be in writing, and must include the following:

- The requester's name, mailing address and telephone number;
- If the requester is representing a group, association or other organization, the name, address and telephone number of the represented group;
- A statement that the requester supports the Proposed Final Order as issued;
- A detailed statement of how the requester would be harmed if the Proposed Final Order is modified; and
- A standing fee of $230. If a hearing is scheduled, an additional fee of $580 must be submitted along with a petition for party status.

After the protest period has ended, the Director will either issue a Final Order or schedule a contested case hearing. The contested case hearing will be scheduled only if a protest has been submitted and either:

- upon review of the issues, the director finds that there are significant disputes related to the proposed use of water, or
- the applicant requests a contested case hearing within 30 days after the close of the protest period.

If you do not request a hearing within 30 days after the close of the protest period, or if you withdraw a request for a hearing, notify the Department or the administrative law judge that you will not appear or fail to appear at a scheduled hearing, the Director may issue a Final Order by default. If the Director issues a Final Order by default, the Department designates the relevant portions of its files on this matter, including all materials that you have submitted relating to this matter, as the record for purpose of proving a prima facie case upon default.

You may be represented by an attorney at the hearing. Legal aid organizations may be able to assist a party with limited financial resources. Generally, partnerships, corporations, associations, governmental subdivisions or public or private organizations are represented by an attorney. However, consistent with OAR 690-002-0020 and OAR 137-003-0555, an agency representative may represent a partnership, corporation, association, governmental subdivision or public or private organization if the Department determines that appearance of a person by an authorized representative will not hinder the orderly and timely development of the record in this case.

Notice Regarding Service Members: Active duty service members have a right to stay proceedings under the federal Service Members Civil Relief Act. 50 U.S.C. App. §§501-597b. You may contact the Oregon State Bar or the Oregon Military Department for more information. The toll-free telephone number for the Oregon State Bar is: 1 (800) 452-8260. The toll-free telephone number of the Oregon Military Department is: 1 (800) 452-7500. The Internet address for the United States Armed Forces Legal Assistance Legal Services Locator website is: http://legalassistance.law.af.mil

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- If you have any questions about statements contained in this document, please contact Lisa Graham at 503-986-0808 or Elisabeth.A.Graham@oregon.gov.
- If you have questions about how to file a protest or if you have previously filed a protest and you want to know the status, please contact Patricia McCarty at 503-986-0820.
- If you have any questions about the Department or any of its programs, please contact our Water Resources Customer Service Group at 503-986-0801.
- Address any correspondence to : Water Right Services Division
  725 Summer St NE, Suite A
  Fax: 503-986-0901 Salem, OR 97301-1266

STATE OF OREGON

COUNTY OF UMATILLA

DRAFT PERMIT TO APPROPRIATE THE PUBLIC WATERS

THIS DRAFT PERMIT IS HEREBY ISSUED TO

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

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

APPLICATION FILE NUMBER: G-18394

SOURCE OF WATER: WELL 4N/27 E-7 (UMAT 2791) IN HERMISTON IRRIGATION DITCH BASIN

PURPOSE OR USE: IRRIGATION OF 2.9 ACRES

MAXIMUM RATE: 0.036 CUBIC FOOT PER SECOND

PERIOD OF USE: MARCH 1 THROUGH OCTOBER 31

DATE OF PRIORITY: SEPTEMBER 28, 2016

WELL LOCATION:

Twp	Rng	Mer	Sec	Q-Q	Measured Distances
4 N	29 E	WM	7	SW NE	120 FEET NORTH AND 100 FEET EAST FROM C1/4 CORNER, SECTION 7

The amount of water used for irrigation under this right, together with the amount secured under any other right existing for the same lands, is limited to a diversion of ONE-EIGHTIETH of one cubic foot per second and 3.0 acre-feet for each acre irrigated during the irrigation season of each year.

THE PLACE OF USE IS LOCATED AS FOLLOWS:

Twp	Rng	Mer	Sec	Q-Q	Acres
4 N	29 E	WM	7	SW NE	2.1
4 N	29 E	WM	7	NW SE	0.8

Measurement Devices, and Recording/Reporting of Annual Water Use Conditions:

A. Before water use may begin under this permit, the permittee shall install a totalizing flow meter at each point of appropriation. The permittee shall maintain the device in good working order.

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

C. The Director may require the permittee to keep and maintain a record of the volume of water diverted, and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water-use information, the periods of water use and the place and nature of use of water under the permit.

D. The Director may provide an opportunity for the permittee to submit alternative measuring and reporting procedures for review and approval.

Annual Measurement Condition:

The Department requires the water user to obtain, from a qualified individual (see below), and report annual static water levels for each well on the permit. The static water level shall be measured in the month of March. Reports shall be submitted to the Department within 30 days of measurement.

The permittee shall report an initial March static water-level measurement once well construction is complete and annual measurements thereafter. Annual measurements are required whether or not the well is used. The first annual measurement will establish a reference level against which future measurements will be compared. However, the Director may establish the reference level based on an analysis of other water-level data. The Director may require the user to obtain and report additional water levels each year if more data are needed to evaluate the aquifer system.

All measurements shall be made by a certified water rights examiner, registered professional geologist, registered professional engineer, licensed well constructor or pump installer licensed by the Construction Contractors Board. Measurements shall be submitted on forms provided by, or specified by, the Department. Measurements shall be made with equipment that is accurate to at least the standards specified in OAR 690-217-0045. The Department requires the individual performing the measurement to:

A. Associate each measurement with an owner's well name or number and a Department well log ID; and

B. Report water levels to at least the nearest tenth of a foot as depth-to-water below ground surface; and

C. Specify the method of measurement; and

D. Certify the accuracy of all measurements and calculations reported to the Department.

The water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s) if any of the following events occur:

A. Annual water-level measurements reveal an average water-level decline of three or more feet per year for five consecutive years; or

B. Annual water-level measurements reveal a water-level decline of 15 or more feet in fewer than five consecutive years; or

C. Annual water-level measurements reveal a water-level decline of 25 or more feet; or

D. Hydraulic interference leads to a decline of 25 or more feet in any neighboring well with senior priority.

The period of restricted use shall continue until the water level rises above the decline level which triggered the action or the Department determines, based on the permittee's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or causing substantial interference with senior water rights. The water user shall not allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit. If more than one well is involved, the water user may submit an alternative measurement and reporting plan for review and approval by the Department.

Groundwater Condition:

Groundwater production shall only be from the alluvial groundwater reservoir.

Well Identification Tag Condition:

Prior to using water from any well listed on this permit, the permittee shall ensure that the well has been assigned an OWRD Well Identification Number (Well ID tag), which shall be permanently attached to the well. The Well ID shall be used as a reference in any correspondence regarding the well, including any reports of water use, water level, or pump test data.

STANDARD CONDITIONS

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.

If the number, location, source, or construction of any well deviates from that proposed in the permit application or required by permit conditions, this permit may be subject to cancellation, unless the Department authorizes the change in writing.

If substantial interference with surface water or 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 well(s) shall be constructed and maintained in accordance with the General Standards for the Construction and Maintenance of Water Supply Wells in Oregon. The works shall be equipped with a usable access port adequate to determine water-level elevation in the well at all times.

If the riparian area is disturbed in the process of developing a point of appropriation, the permittee shall be responsible for restoration and enhancement of such riparian area in accordance with ODFW's Fish and Wildlife Habitat Mitigation Policy OAR 635-415. For purposes of mitigation, the ODFW Fish and Wildlife Habitat Mitigation Goals and Standards, OAR 635-415, shall be followed.

The use may be restricted if the quality of downstream waters decreases to the point that those waters no longer meet state or federal water quality standards due to reduced flows.

Where two or more water users agree among themselves as to the manner of rotation in the use of water and such agreement is placed in writing and filed by such water users with the watermaster, and such

rotation system does not infringe upon such prior rights of any water user not a party to such rotation plan, the watermaster shall distribute the water according to such agreement.

Prior to receiving a certificate of water right, the permit holder shall submit to the Water Resources Department the results of a pump test meeting the Department's standards for each point of appropriation (well), unless an exemption has been obtained in writing under OAR 690-217. The Director may require water-level or pump-test data every ten years thereafter.

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.

Construction of the well shall begin within five years of the date of permit issuance. The deadline to begin construction may not be extended. This permit is subject to cancellation proceedings if the construction deadline to begin is missed.

Complete application of the water shall be made within five years of the date of permit issuance. If beneficial use of permitted water has not been made before this date, the permittee may submit an application for extension of time, which may be approved based upon the merit of the application.

Within one year after making beneficial use of water, the permittee shall submit a claim of beneficial use, which includes a map and report, prepared by a Certified Water Rights Examiner.

Issued

DRAFT - THIS IS NOT A PERMIT

_____

Dwight French
Water Right Services Division Administrator, for
Thomas M. Byler, Director
Oregon Water Resources Department

Mailing List for PFO Copies

Application G-18394

PFO Date April 10, 2018

Original mailed via CERTIFIED MAIL to applicant:

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

Copies Mailed

By: SP
(SUPPORT STAFF)
on: 4-10-18
(DATE)

Protest, 5/25/2018

Standing Dates checked

_____

SENT VIA AUTO EMAIL:

1. WRD - Greg Silbernagel - # 5

SENT VIA EMAIL:

2. WRD – Hydrographics

Copies sent to:

3. WRD - File # G-18394
4. Stanfield Irrigation District; PO Box 416; Stanfield OR 97875
5. Hermiston Irrigation District; 366 Hurlburt Ave; Hermiston OR 97838

SPECIALIST: Lisa Graham

GRAHAM Elisabeth A * WRD

Subject: FW: G-18394

From: Josh Reeve [mailto:reevejosh@hotmail.com]
Sent: Thursday, February 01, 2018 12:40 PM
To: GRAHAM Elisabeth A * WRD
Subject: Re: G-18394

Please remove the underlying lands from this application.

I did receive the IR, and passed the letter to the previous owners.

What is the next step, and how long until I find out?

Thanks,
Josh

On Jan 30, 2018, at 3:20 PM, GRAHAM Elisabeth A * WRD <Elisabeth.A.Graham@oregon.gov> wrote:

> Hi Josh,
>
> We will need to head in one of two directions, either the underlying lands need to be canceled or they need to be removed from your application. It is up to you on which direction you would like to go. The form you will need to cancel the underlying lands is here: http://www.oregon.gov/owrd/PUBS/docs/forms/cancel_part_aff.pdf . If you would like to remove them from your application an email stating the lands to be removed is acceptable.
>
> If needed this is the main Forms page: http://www.oregon.gov/owrd/Pages/pubs/forms.aspx
>
> On the letter that was sent to the previous land owners, should I look for it to be returned?
>
> Hopefully you were able to view the original IR email.
>
> Please let me know if you have any additional questions or concerns.
>
> Sincerely,
> **Lisa Graham** | Water Right Application Specialist
> **Water Resources Department** | 725 Summer St. NE, Suite A | Salem, Oregon 97301
> Ph: 503 986-0808 | Fax: 503 986-0901
> Email: Elisabeth.A. Graham@oregon.gov | Web:http://www.wrd.state.or.us

---

From: Josh Reeve [mailto:reevejosh@hotmail.com]
Sent: Friday, January 26, 2018 7:31 PM
To: GRAHAM Elisabeth A * WRD
Subject: Re: G-18394

Thank you

GRAHAM Elisabeth A * WRD

From: PAULSON Lafe E * WRD
Sent: Friday, December 01, 2017 12:52 PM
To: GRAHAM Elisabeth A * WRD; WRD_DL_wriserror
Subject: RE: cert 42977 vs app G-18394
Attachments: 4n2907c.pdf

Hi Lisa,

All of the information we have puts the east edge of the POU on the QQ line. I looked up the tax map (attached) to see if our QQ projection was not lining up with the other layers, and found that that was not the case.
WRIS and mapping were reviewed, and are up to standard.

Thanks,

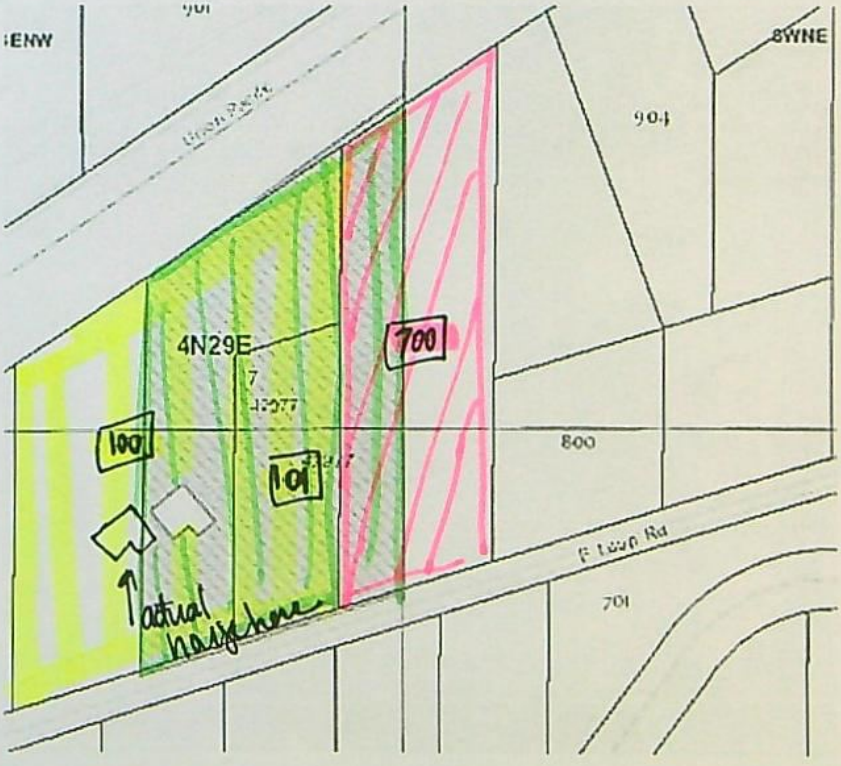
Lafe

From: GRAHAM Elisabeth A * WRD
Sent: Friday, December 01, 2017 11:12 AM
To: WRD_DL_wriserror
Subject: cert 42977 vs app G-18394

Hi there,

http://apps.wrd.state.or.us/apps/wr/wrinfo/wr_details.aspx?snp_id=95374

Could you take a look at Cert 42977's mapping. It appears to be off by one tax lot even though the map shows it against the QQ line, believe it should cover tax lot 100 and 101.



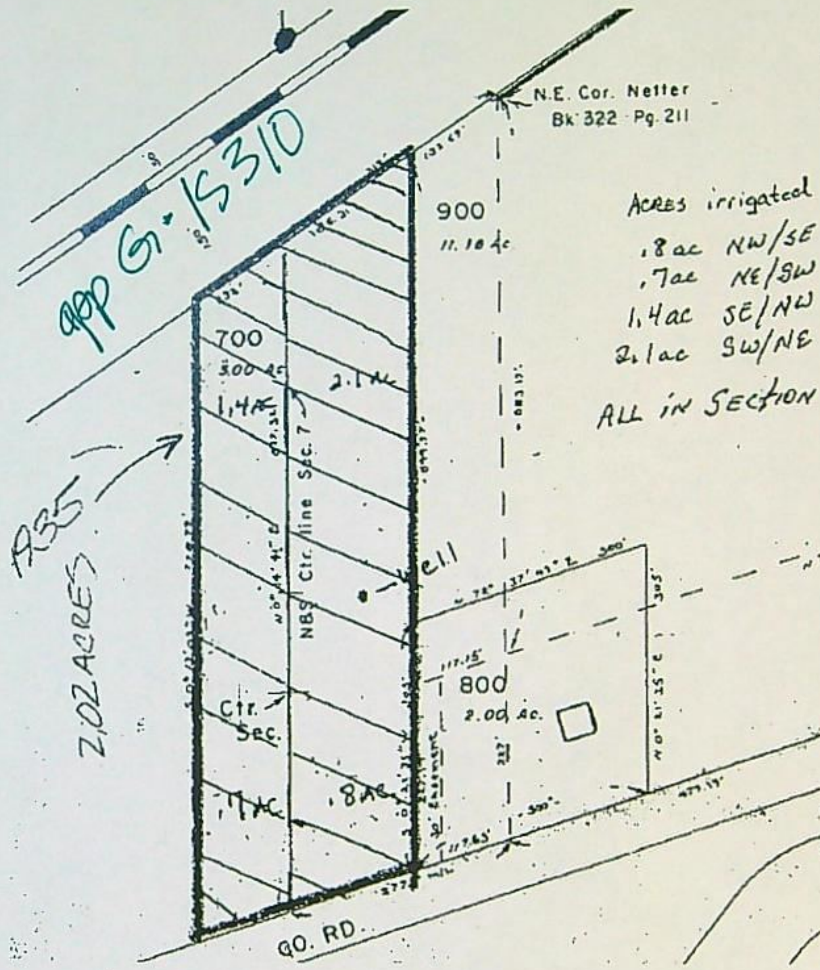
I am currently processing G-18394 which is for all of tax lot 700.

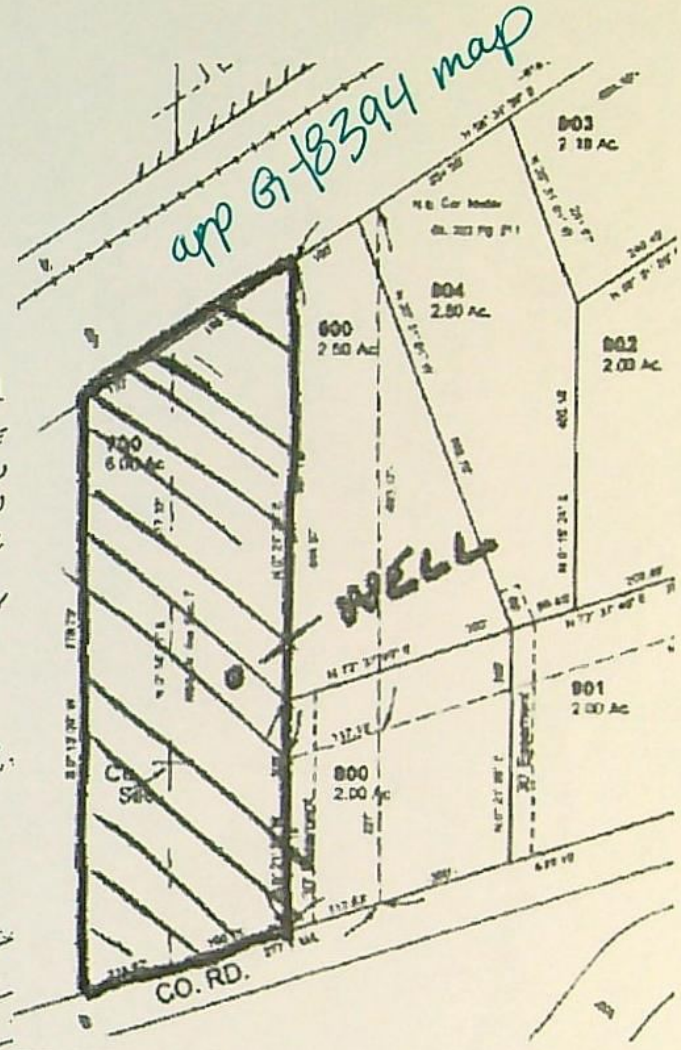
Let me know if you have any questions.

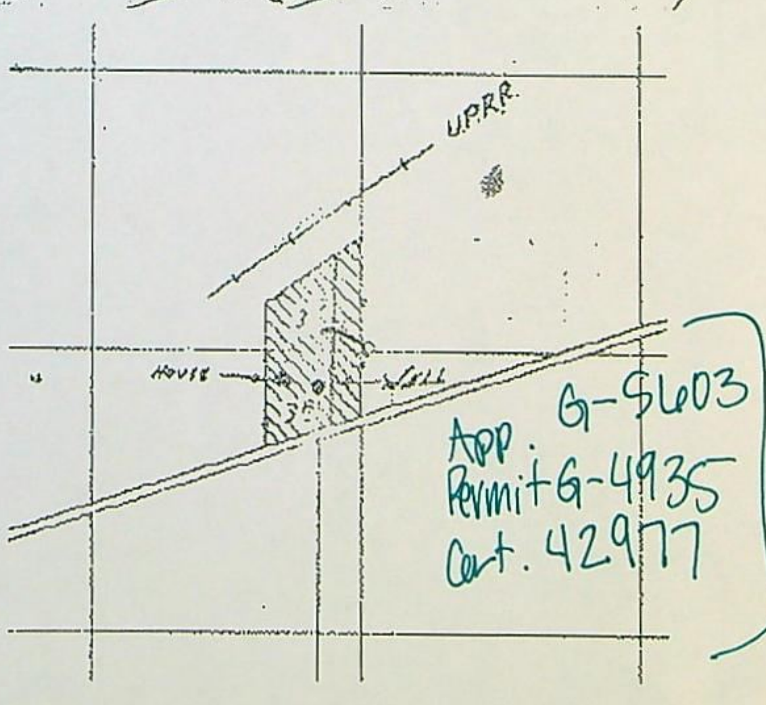
Cheers,

Lisa Graham | Water Right Application Specialist

Water Resources Department | 725 Summer St. NE, Suite A | Salem, Oregon 97301
Ph: 503 986-0808 | Fax: 503 986-0901
Email: Elisabeth.A.Graham@oregon.gov | Web:http://www.wrd.state.or.us







TL

700 -

100 - 32299 ELoop Rd

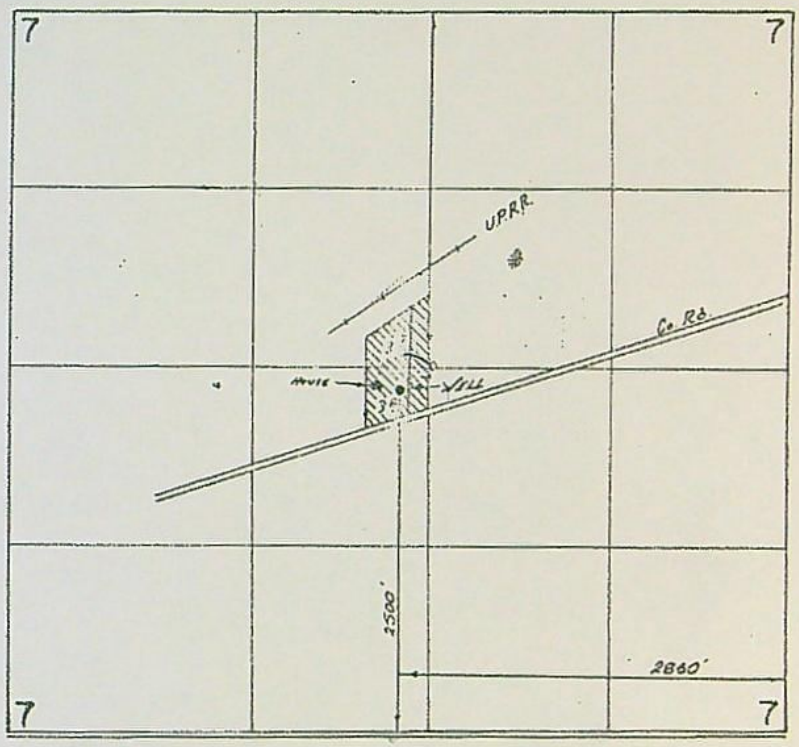
101 -

Would new app be subject to these SPOVs (106 pg 1636) for Allocation of GW in Stage Gulch Critical GW Area?

Workcopy

G - 41935
42977

T.4N. R.29E. W.M.



no tax lots listed

FINAL PROOF SURVEY
UNDER

Application No. G-5603 Permit No. ~~G-5603~~ G - 41935

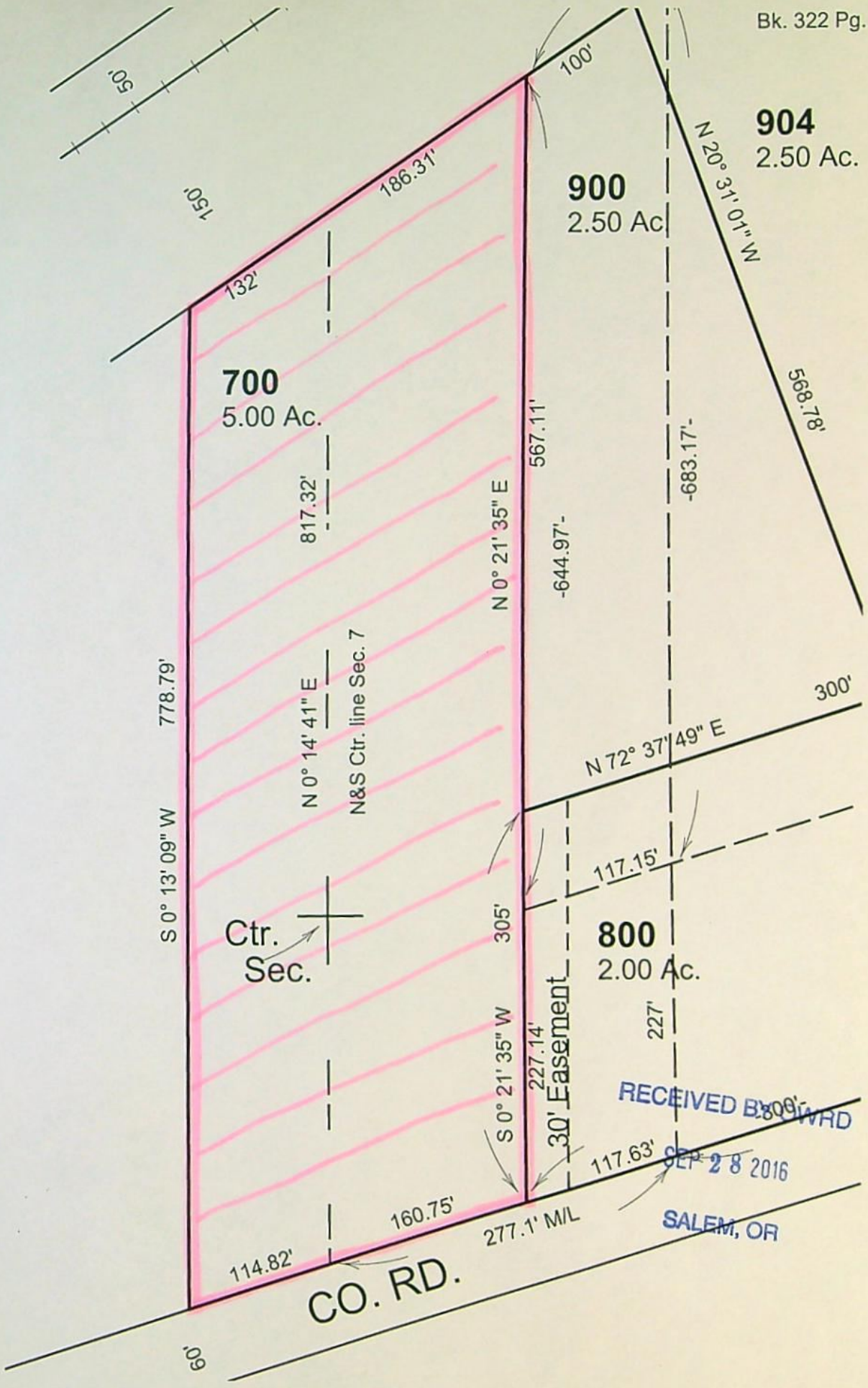
IN NAME OF

JOHN M. & EDITH WESTON

Surveyed APRIL 16, 1974, by THOMAS J. PAUL

1974 F

Bk. 322 Pg.



G-18394

Oregon
Kate Brown, Governor

Water Resources Department
725 Summer St NE, Suite A
Salem, OR 97301
(503) 986-0900
Fax (503) 986-0904

Water Right Application Initial Review

December 22, 2017

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

Reference: G-18394

Application G-18394 proposes the appropriation of 0.06 cubic foot per second (CFS) of water from Well 4N/27 E-7 (UMAT 2791) in Hermiston Irrigation Ditch Basin for irrigation of 5.0 acres, March 1 through October 31 of each year.

Summary

Not all determinations herein are favorable, therefore **it is unlikely that Application G-18394 will be approved.**

This initial review does not address various public interest issues or public comments. These issues will be addressed as the Department reviews comments from the public and other agencies, and prepares a Proposed Final Order. If significant public interest issues are identified, they could have an impact on the eventual outcome of the application.

At this time, you must decide whether to proceed or to withdraw the application.

Proceed

If you choose to proceed with the application you do not have to notify the Department. The application will be placed on the Department's Public Notice to allow others the opportunity to comment. After the comment period the Department will complete a public interest review and issue a Proposed Final Order.

Withdraw

You may withdraw the application and receive a refund (minus a $260 processing charge per application). You must notify the Department in writing by January 5, 2018. For your convenience you may use the enclosed "STOP PROCESSING" form.

Initial Review Preliminary Determinations (OAR 690-310-0080)

1. The application proposed the appropriation of 0.06 CFS of water from Well 4N/27 E-7 (UMAT 2791) in Hermiston Irrigation Ditch Basin for irrigation of 5.0 acres, March 1 through October 31 of each year.

2. The proposed use is not prohibited by law or rule except where otherwise noted below.

3. Irrigation is allowed under the Umatilla Basin Program Oregon Administration Rule (OAR) (690-507-0070).

4. The Department has determined, based upon OAR 690-009, that the proposed groundwater use will not have the potential for substantial interference with any surface water source.

5. Groundwater will likely be available within the capacity of the resource, and if properly conditioned (and if authorized), the proposed use of groundwater will avoid injury to existing groundwater rights.

6. The proposed use is not located within or above any state or federal scenic waterway.

7. The point of appropriation is located within the Stage Gulch Critical Groundwater Area. This was established to ensure that groundwater is appropriated within the capacity of the resource and to prevent depletion of the groundwater resource.

8. Documentation has been submitted from the relevant land-use planning jurisdiction that indicates the proposed use is allowed outright. ORS 537.621(3)(b); OAR 690-310-0150(2)(b)

Additional Information Opportunity

Addition information is required to process your application prior to issuance of any Proposed Final Order that may recommend permit approval. Please provide the following item(s):

1. The Department has determined a portion of the proposed place of use (SENW 1.4 acres and NESW 0.7 acres) has underlying ground water rights evidenced by Certificates 42977 (see attached map).

   If you would like to use Well 4N/27 E-7 (UMAT 2791) under application G-18394 to irrigate the lands that conflict with underlying certificate 42977, the Department must receive one of the following:

   - A completed form authorizing cancellation of the conflicting portions of the existing rights, along with maps describing those portions; or
   - Another means of dealing with the conflict between the existing rights and the use proposed under this application.

If the Department does not receive the requested information application G-18394 will be limited to the appropriation of 0.04 cubic foot per second (CFS) of water from Well 4N/27 E-7 (UMAT 2791) in Hermiston Irrigation Ditch Basin for irrigation of 2.9 acres, March 1 through October 31 of each year.

Please submit the requested information listed above no later than January 25, 2018. If the Department does not receive the items listed above by January 25, 2018, the Department may reject the application and may refund fees or limit the application.

If a Permit is Issued it will Likely Include the Following Conditions:

1. Construction of the well shall begin within five years of the date of permit issuance. The deadline to begin construction may not be extended. This permit is subject to cancellation proceedings if the begin construction deadline is missed.

2. If the number, location, source, or construction of any well deviates from that proposed in the permit application or required by permit conditions, this permit may not be valid, unless the Department authorizes the change in writing.

3. **Measurement Devices, and Recording/Reporting of Annual Water Use Conditions:**

   A. Before water use may begin under this permit, the permittee shall install a totalizing flow meter at each point of appropriation. The permittee shall maintain the device in good working order.

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

   C. The Director may require the permittee to keep and maintain a record of the volume of water diverted, and may require the permittee to report water use on a periodic schedule as established by the Director. In addition, the Director may require the permittee to report general water-use information, the periods of water use and the place and nature of use of water under the permit.

   D. The Director may provide an opportunity for the permittee to submit alternative measuring and reporting procedures for review and approval.

4. **Annual Measurement Condition:**

   The Department requires the water user to obtain, from a qualified individual (see below), and report annual static water levels for each well on the permit. The static water level shall be measured in the month of March. Reports shall be submitted to the Department within 30 days of measurement.

   The permittee shall report an initial March static water-level measurement once well construction is complete and annual measurements thereafter. Annual measurements are required whether or not the well is used. The first annual measurement will establish a

reference level against which future measurements will be compared. However, the Director may establish the reference level based on an analysis of other water-level data. The Director may require the user to obtain and report additional water levels each year if more data are needed to evaluate the aquifer system.

All measurements shall be made by a certified water rights examiner, registered professional geologist, registered professional engineer, licensed well constructor or pump installer licensed by the Construction Contractors Board. Measurements shall be submitted on forms provided by, or specified by, the Department. Measurements shall be made with equipment that is accurate to at least the standards specified in OAR 690-217-0045. The Department requires the individual performing the measurement to:

A. Associate each measurement with an owner's well name or number and a Department well log ID; and

B. Report water levels to at least the nearest tenth of a foot as depth-to-water below ground surface; and

C. Specify the method of measurement; and

D. Certify the accuracy of all measurements and calculations reported to the Department.

The water user shall discontinue use of, or reduce the rate or volume of withdrawal from, the well(s) if any of the following events occur:

A. Annual water-level measurements reveal an average water-level decline of three or more feet per year for five consecutive years; or

B. Annual water-level measurements reveal a water-level decline of 15 or more feet in fewer than five consecutive years; or

C. Annual water-level measurements reveal a water-level decline of 25 or more feet; or

D. Hydraulic interference leads to a decline of 25 or more feet in any neighboring well with senior priority.

The period of restricted use shall continue until the water level rises above the decline level which triggered the action or the Department determines, based on the permittee's and/or the Department's data and analysis, that no action is necessary because the aquifer in question can sustain the observed declines without adversely impacting the resource or causing substantial interference with senior water rights. The water user shall not allow excessive decline, as defined in Commission rules, to occur within the aquifer as a result of use under this permit. If more than one well is involved, the water user may submit an alternative measurement and reporting plan for review and approval by the Department.

5. Groundwater production shall only be from the alluvial groundwater reservoir.

6. **Well Identification Tag Condition:**

Prior to using water from any well listed on this permit, the permittee shall ensure that the well has been assigned an OWRD Well Identification Number (Well ID tag), which shall be permanently attached to the well. The Well ID shall be used as a reference in any correspondence regarding the well, including any reports of water use, water level, or pump test data.

The water source identified in the application may be affected by an Agricultural Water Quality Management Area Plan. These plans are developed by the Oregon Department of Agriculture (ODA) with the cooperation of local landowners and other interested stakeholders, and help to ensure that current and new appropriations of water are done in a way that does not adversely harm the environment. You are encouraged to explore ODA's Water Quality Program web site at http://www.oregon.gov/ODA/programs/NaturalResources/Pages/AgWaterQuality.aspx to learn more about the plans and how they may affect the proposed water use.

If you have any questions:

Feel free to contact me at Elisabeth.A.Graham@oregon.gov or 503-986-0808 if you have any questions regarding the contents of this letter or the application. Please include the application number in all correspondence. General questions about water rights and water use permits should be directed to our customer service staff at 503-986-0801. When corresponding by mail, please use this address: Lisa Graham, Oregon Water Resources Department, 725 Summer St NE Ste A, Salem OR 97301-1266. Our fax number is 503-986-0901.

Sincerely,

Lisa Graham
Water Right Application Specialist

enclosures: Application Process Description and Stop Processing Request Form

G-18394
WAB: No PSI

APPLICATION FACT SHEET

Application File Number: G-18394

Applicant: JOSHUA R. REEVE

County: UMATILLA

Watermaster: GREG SILBERNAGEL, 5, NCR

Priority Date: SEPTEMBER 28, 2016

Source: WELL 4N/27 E-7 (UMAT 2791) IN HERMISTON IRRIGATION DITCH BASIN

Use: IRRIGATION OF 5.0 ACRES

Quantity: 0.06 CUBIC FOOT PER SECOND

Basin Name & Number: UMATILLA, #7

Well Location(s):

POD Name	Twp	Rng	Mer	Sec	Q-Q	Measured Distances
4N/27 E-7 (UMAT 2791)	4 N	29 E	WM	7	SW NE	120 FEET NORTH AND 100 FEET EAST FROM C1/4 CORNER, SECTION 7

Place of Use:

Twp	Rng	Mer	Sec	Q-Q	Acres
4 N	29 E	WM	7	SW NE	2.10
4 N	29 E	WM	7	SE NW	1.40
4 N	29 E	WM	7	NE SW	0.70
4 N	29 E	WM	7	NW SE	0.80

PUBLIC NOTICE DATE: December 26, 2017

14 DAY STOP PROCESSING DEADLINE DATE: January 5, 2018

30 DAY COMMENT DEADLINE DATE: January 25, 2018

APPLICATION PROCESS DESCRIPTION FOR GROUNDWATER, SURFACE WATER AND REGULAR RESERVOIR APPLICATIONS

In order to use the waters of Oregon, an application must be submitted and a permit obtained from the Water Resources Department. The water must be used for beneficial purpose without waste. For more information about water right topics, weekly public notice, forms and fees please visit our web site at **www.wrd.state.or.us**

1. Pre-application considerations

- Follow instructions in the application packet.
- If you have questions about completing an application or would like to arrange a pre-application conference contact the Department's Water Rights Customer Service Group at (503) 986-0801.

2. Application filing

- Application with fee is received by the Department.
- Department determines completeness of application.
- If use is not allowed by statute (ORS 538), the application and fees are returned to the applicant.
- An incomplete application and fees are returned to the applicant.
- Only a complete application receives a tentative priority date, is assigned a caseworker, and moves forward for processing.

3. Initial Review (IR)

- Caseworker reviews application by considering basin plans, water availability, statutory restrictions, and all other appropriate factors.
- Caseworker sends IR report to Applicant.
- Contact the Caseworker if you have questions about the IR.
- Four days after date of the IR, it is included in Department's weekly Public Notice.
- Public comments must be submitted within 30 days after the Public Notice.
- **An administrative hold** may be requested in writing by Applicant.

4. Proposed Final Order (PFO)

- Caseworker evaluates application against required criteria and develops draft permit, if appropriate.
- PFO includes instructions for filing of protests.
- Caseworker considers public comments and mails PFO to Applicant.
- The PFO is included in Department's weekly Public Notice.
- Public protests to the PFO must be submitted within 45 days after the Public Notice.

5. *Final Order (FO)*

- If no protest is filed, Final Order is issued.

The protest process

If one or more protests are filed, the process consists of:

- settlement discussion;
- contested case hearing;
- proposed Order;
- period of time to file exceptions; or
- Possible hearing by Water Resources Commission.
- Final Order is issued.

Permit holder responsibilities

- Comply with all water use conditions of the permit.
- Advise Department of address change or assignment to new permit holder.
- If need arises, request extension of time or authorize cancellation of permit.
- Submit timely claim of beneficial use (COBU) to the Department.
- Most permits require COBU to be prepared by a Certified Water Right Examiner.
- Permits may be canceled by the permit holder or by the Department for failure to comply with or one or more permit conditions.

Stop processing deadline is within 14 days of Initial Review - use the form below
Applicant may request no further action and fee refund of all but $260

STOP PROCESSING REQUEST FOR GROUNDWATER, SURFACE WATER AND REGULAR RESERVOIR APPLICATIONS

Applicant notification to withdraw Water Right Application G-18394

After reviewing the Initial Review for my application, I request that processing be stopped and the fees be refunded (minus a $260 examination fee.) I understand that without a valid permit I may not legally use the water as requested in my application

Signature _____ Date _____

Signature _____ Date _____

Under ORS 537.150 (5) and 537.620 (5) timely submission of this request authorizes that the water right application process be stopped and all filing fees (except $260 examination fee) be returned.

This notice must be received at Water Resources Department by

January 5, 2018

Return the notice to:

OWRD, Water Rights Division
STOP PROCESSING
725 Summer Street, NE - Suite A,
Salem OR, 97301-1271

Mailing List for IR Copies

Application G-18394

IR Date: December 22, 2017

Original and map mailed to applicant:

JOSHUA R. REEVE
32301 E LOOP RD
HERMISTON OR 97838

Copies Mailed

By: SP

(SUPPORT STAFF)

12·22·17

SENT VIA EMAIL:

1. WRD – Watermaster Greg Silbernagel # 5

IR, Map, and Fact Sheet Copies sent to:

1. WRD - File G-18394
2. WRD - NCR
3. Department of Agriculture
4. Stanfield Irrigation District; PO Box 416; Stanfield OR 97875
5. Hermiston Irrigation District; 366 Hurlburt Ave; Hermiston OR 97838

Specialist: Lisa Graham

STATE OF OREGON

WATER RESOURCES DEPARTMENT

RECEIPT # 121446

725 Summer St. N.E. Ste. A
SALEM, OR 97301-4172
(503) 986-0900 / (503) 986-0904 (fax)

INVOICE # _____

RECEIVED FROM: Joshua B Reeve
BY: Megan Reeve

APPLICATION	G-18394
PERMIT	
TRANSFER	

CASH: ☐ CHECK:# ☒ 4120 OTHER: (IDENTIFY) ☐ _____

TOTAL REC'D $ 1900.00

1083 TREASURY 4170 WRD MISC CASH ACCT

0407	COPIES		$
_____	OTHER:	(IDENTIFY) _____	$

0243 I/S Lease _____ 0244 Muni Water Mgmt. Plan _____ 0245 Cons. Water _____

4270 WRD OPERATING ACCT

46111

	MISCELLANEOUS				
0407	COPY & TAPE FEES				$
0410	RESEARCH FEES				$
0408	MISC REVENUE: (IDENTIFY)	_____			$
TC162	DEPOSIT LIAB. (IDENTIFY)	_____			$
0240	EXTENSION OF TIME				$
	WATER RIGHTS:	EXAM FEE		RECORD FEE	
0201	SURFACE WATER	$	0202	$	
0203	GROUND WATER	$ 1450.00	0204	$ 450.00	
0205	TRANSFER	$			
	WELL CONSTRUCTION	EXAM FEE		LICENSE FEE	
0218	WELL DRILL CONSTRUCTOR	$	0219	$	
	LANDOWNER'S PERMIT		0220	$	

_____ OTHER (IDENTIFY) _____

0536 TREASURY 0437 WELL CONST. START FEE

0211	WELL CONST START FEE	$	CARD #	
0210	MONITORING WELLS	$	CARD #	

_____ OTHER (IDENTIFY) _____

0607 TREASURY 0467 HYDRO ACTIVITY

		LIC NUMBER	
0233	POWER LICENSE FEE (FW/WRD)		$
0231	HYDRO LICENSE FEE (FW/WRD)		$
_____	HYDRO APPLICATION		$

____ TREASURY OTHER / RDX

FUND _____ TITLE _____

OBJ. CODE _____ VENDOR # _____

DESCRIPTION _____ $

RECEIPT: 121446 DATED: 9-28-16 BY: Felicia Brown

Distribution – White Copy - Customer, Yellow Copy - Fiscal, Blue Copy - File, Buff Copy - Fiscal

Application for a Permit to Use

Ground Water

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

SECTION 1: APPLICANT INFORMATION AND SIGNATURE

Applicant Information

NAME			PHONE (HM)
Joshua R Reeve			541-571-3468
PHONE (WK)	CELL		FAX
	541-571-3468		
ADDRESS			
32301 E Loop Rd			
CITY	STATE	ZIP	E-MAIL*
Hermiston	OR	97838	reevejosh@hotmail.com

Organization Information

NAME			PHONE	FAX
ADDRESS				CELL
CITY	STATE	ZIP	E-MAIL*	

Agent Information – The agent is authorized to represent the applicant in all matters relating to this application.

AGENT / BUSINESS NAME			PHONE	FAX
ADDRESS				CELL
CITY	STATE	ZIP	E-MAIL*	

Note: Attach multiple copies as needed

* By providing an e-mail address, consent is given to receive all correspondence from the department electronically. (paper copies of the final order documents will also be mailed.)

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By my signature below I confirm that I understand:

- I am asking to use water specifically as described in this application.
- Evaluation of this application will be based on information provided in the application.
- I cannot use water legally until the Water Resources Department issues a permit.
- Oregon law requires that a permit be issued before beginning construction of any proposed well, unless the use is exempt. Acceptance of this application does not guarantee a permit will be issued.
- If I get a permit, I must not waste water.
- If development of the water use is not according to the terms of the permit, the permit can be cancelled.
- The water use must be compatible with local comprehensive land-use plans.
- Even if the Department issues a permit, I may have to stop using water to allow senior water-right holders to get water to which they are entitled.

I (we) affirm that the information contained in this application is true and accurate.

Applicant Signature	Print Name *and title if applicable*	Date
	Joshua R Reeve	9/9/16
Applicant Signature	Print Name *and title if applicable*	Date

For Department Use

App. No. G-18394 Permit No. _____ Date _____

SECTION 2: PROPERTY OWNERSHIP

Please indicate if you own all the lands associated with the project from which the water is to be diverted, conveyed, and used.

☒ Yes
- ☒ There are no encumbrances.
- ☐ This land is encumbered by easements, rights of way, roads or other encumbrances.

☐ No
- ☐ I have a recorded easement or written authorization permitting access.
- ☐ I do not currently have written authorization or easement permitting access.
- ☐ Written authorization or an easement is not necessary, because the only affected lands I do not own are state-owned submersible lands, and this application is for irrigation and/or domestic use only (ORS 274.040).
- ☐ Water is to be diverted, conveyed, and/or used only on federal lands.

List the names and mailing addresses of all affected landowners *(attach additional sheets if necessary)*.

———

You must provide the legal description of : 1. The property from which the water is to be diverted, 2. Any property crossed by the proposed ditch, canal or other work, and 3. Any property on which the water is to be used as depicted on the map.

SECTION 3: WELL DEVELOPMENT

		IF LESS THAN 1 MILE:	
WELL NO.	NAME OF NEAREST SURFACE WATER	DISTANCE TO NEAREST SURFACE WATER	ELEVATION CHANGE BETWEEN NEAREST SURFACE WATER AND WELL HEAD
UMAT 2791	Hermiston Irrigation Ditch	~2000ft	well is ~120ft higher than Hermiston Irrigation Ditch

RD

Please provide any information for your existing or proposed well(s) that you believe may be helpful in evaluating your application. For existing wells, describe any previous alteration(s) or repair(s) not documented in the attached well log or other materials *(attach additional sheets if necessary)*.

No known alterations

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SECTION 3: WELL DEVELOPMENT, CONTINUED

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Total maximum rate requested: 28 GPM (each well will be evaluated at the maximum rate unless you indicate well-specific rates and annual volumes in the table below).

The table below must be completed for each source to be evaluated or the application will be returned. If this is an existing well, the information may be found on the applicable well log. *(If a well log is available, please submit it in addition to completing the table.)* If this is a proposed well, or well-modification, consider consulting with a licensed well driller, geologist, or certified water right examiner to obtain the necessary information.

										PROPOSED USE			
OWNER'S WELL NAME OR NO.	PROPOSED	EXISTING	WELL ID (WELL TAG) NO.* OR WELL LOG ID**	FLOWING ARTESIAN	CASING DIAMETER	CASING INTERVALS (IN FEET)	PERFORATED OR SCREENED INTERVALS (IN FEET)	SEAL INTERVALS (IN FEET)	MOST RECENT STATIC WATER LEVEL & DATE (IN FEET)	SOURCE AQUIFER***	TOTAL WELL DEPTH	WELL-SPECIFIC RATE (GPM)	ANNUAL VOLUME (ACRE-FEET)
4N/27 E-7	☐	☒	UMAT 2791	☐	6"	57ft	n/a	20ft		Columbia Plateau Aquifer, clay/gravel	105ft	28gpm	15
	☐	☐		☐									
	☐	☐		☐									
	☐	☐		☐									
	☐	☐		☐									
	☐	☐		☐									
	☐	☐		☐									
	☐	☐		☐									

* Licensed drillers are required to attach a Department-supplied Well Tag, with a unique Well ID or Well Tag Number to all new or newly altered wells. Landowners can request a Well ID for existing wells that do not have one. The Well ID is intended to serve as a unique identification number for each well.

** A well log ID (e.g. MARI 1234) is assigned by the Department to each log in the agency's well log database. A separate well log is required for each subsequent alteration of the well.

*** Source aquifer examples: Troutdale Formation, gravel and sand, alluvium, basalt, bedrock, etc.

SECTION 4: WATER USE

USE	PERIOD OF USE	ANNUAL VOLUME (ACRE-FEET)
Pasture Grass	3-1 to 10-31	15

Exempt Uses: Please note that 15,000 gallons per day for single or group **domestic** purposes and 5,000 gallons per day for a single **industrial or commercial** purpose are exempt from permitting requirements.

For irrigation use only:
Please indicate the number of primary and supplemental acres to be irrigated (*must match map*).

Primary: 5 Acres Supplemental: _____ Acres

List the Permit or Certificate number of the underlying primary water right(s): _____

Indicate the maximum total number of acre-feet you expect to use in an irrigation season: _____

- If the use is **municipal or quasi-municipal**, attach **Form M**
- If the use is **domestic**, indicate the number of households: _____

  If the use is **mining**, describe what is being mined and the method(s) of extraction: _____

SECTION 5: WATER MANAGEMENT

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A. Diversion and Conveyance
What equipment will you use to pump water from your well(s)?

☒ Pump (give horsepower and type): 3HP Submersible

☐ Other means (describe): _____

Provide a description of the proposed means of diversion, construction, and operation of the diversion works and conveyance of water. _____

B. Application Method
What equipment and method of application will be used? (e.g., drip, wheel line, high-pressure sprinkler)
Drip and Low pressure sprinklers

C. Conservation
Please describe why the amount of water requested is needed and measures you propose to: prevent waste; measure the amount of water diverted; prevent damage to aquatic life and riparian habitat; prevent the discharge of contaminated water to a surface stream; prevent adverse impact to public uses of affected surface waters.
The need for water is to provide pasture grass for livestock. Watering will be done by timers with rain guard, watering will be 2-3 times a week at night for maximum efficiency.

SECTION 6: STORAGE OF GROUND WATER IN A RESERVOIR

If you would like to store ground water in a reservoir, complete this section (*if more than one reservoir, reproduce this section for each reservoir).*

Reservoir name: _____ Acreage inundated by reservoir: _____

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Use(s): _____

Volume of Reservoir (acre-feet): _____ Dam height (feet, if excavated, write "zero"): _____

*Note: If the dam height is greater than or equal to 10.0' above land surface **AND** the reservoir will store 9.2 acre feet or more, engineered plans and specifications must be approved prior to storage of water.*

SECTION 7: USE OF STORED GROUND WATER FROM THE RESERVOIR

If you would like to use stored ground water from the reservoir, complete this section *(if more than one reservoir, reproduce this section for each reservoir).*

Annual volume (acre-feet): _____

USE OF STORED GROUND WATER	PERIOD OF USE

SECTION 8: PROJECT SCHEDULE

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Date construction will begin: Watering system is complete

Date construction will be completed: Watering system is complete

Date beneficial water use will begin: 3-1-17 or Upon permit approval

SECTION 9: WITHIN A DISTRICT

☐ Check here if the point of diversion or place of use are located within or served by an irrigation or other water district.

Irrigation District Name	Address	
Hermiston Irrigation District	366 E Hurlburt Ave	
City	State	Zip
Hermiston	OR	97838

SECTION 10: REMARKS

Use this space to clarify any information you have provided in the application *(attach additional sheets if necessary).*

_____

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Land Use Information Form

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

NOTE TO APPLICANTS

In order for your application to be processed by the Water Resources Department (WRD), this Land Use Information Form must be completed by a local government planning official in the jurisdiction(s) where your water right will be used and developed. The planning official may choose to complete the form while you wait, or return the receipt stub to you. Applications received by WRD without the Land Use Form or the receipt stub will be returned to you. Please be aware that your application will not be approved without land use approval.

This form is NOT required if:

1) Water is to be diverted, conveyed, and/or used only on federal lands; **OR**
2) The application is for a water right transfer, allocation of conserved water, exchange, permit amendment, or ground water registration modification, and **all** of the following apply:
   a) The existing and proposed water use is located entirely within lands zoned for exclusive farm-use or within an irrigation district;
   b) The application involves a change in place of use only;
   c) The change does not involve the placement or modification of structures, including but not limited to water diversion, impoundment, distribution facilities, water wells and well houses; and
   d) The application involves irrigation water uses only.

NOTE TO LOCAL GOVERNMENTS

The person presenting the attached Land Use Information Form is applying for or modifying a water right. The Water Resources Department (WRD) requires its applicants to obtain land-use information to be sure the water rights do not result in land uses that are incompatible with your comprehensive plan. Please complete the form or detach the receipt stub and return it to the applicant for inclusion in their water right application. You will receive notice once the applicant formally submits his or her request to the WRD. The notice will give more information about WRD's water rights process and provide additional comment opportunities. You will have 30 days from the date of the notice to complete the land-use form and return it to the WRD. If no land-use information is received from you within that 30-day period, the WRD may presume the land use associated with the proposed water right is compatible with your comprehensive plan. Your attention to this request for information is greatly appreciated by the Water Resources Department. If you have any questions concerning this form, please contact the WRD's Customer Service Group at 503-986-0801.

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Land Use Information Form

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

Applicant: Joshua (First) Reeve (Last)

Mailing Address: 32301 E Loop Rd

Hermiston (City) OR (State) 97838 (Zip) Daytime Phone: 541-571-3468

A. Land and Location

Please include the following information for all tax lots where water will be diverted (taken from its source), conveyed (transported), and/or used or developed. Applicants for municipal use, or irrigation uses within irrigation districts may substitute existing and proposed service-area boundaries for the tax-lot information requested below.

Township	Range	Section	¼ ¼	Tax Lot #	Plan Designation (e.g., Rural Residential/RR-5)	Water to be:	Proposed Land Use:
4N	29E	7A	NE	700	RR-2	☐ Diverted ☐ Conveyed ☒ Used	pasture irrigation
						☐ Diverted ☐ Conveyed ☐ Used	
						☐ Diverted ☐ Conveyed ☐ Used	
						☐ Diverted ☐ Conveyed ☐ Used	

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List all counties and cities where water is proposed to be diverted, conveyed, and/or used or developed:

Umatilla

B. Description of Proposed Use

Type of application to be filed with the Water Resources Department:

☒ Permit to Use or Store Water ☐ Water Right Transfer ☐ Permit Amendment or Ground Water Registration Modification
☐ Limited Water Use License ☐ Allocation of Conserved Water ☐ Exchange of Water

Source of water: ☐ Reservoir/Pond ☒ Ground Water ☐ Surface Water (name) ____

Estimated quantity of water needed: 28 ☐ cubic feet per second ☒ gallons per minute ☐ acre-feet

Intended use of water: ☒ Irrigation ☐ Commercial ☐ Industrial ☐ Domestic for ____ household(s)
☐ Municipal ☐ Quasi-Municipal ☐ Instream ☐ Other ____

Briefly describe:

This water will be used to grow pasture grass for livestock permitted in the RR-2 zone

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For Local Government Use Only

The following section must be completed by a planning official from each county and city listed unless the project will be located entirely within the city limits. In that case, only the city planning agency must complete this form. This deals only with the local landuse plan. Do not include approval for activities such as building or grading permits.

Please check the appropriate box below and provide the requested information

☒ Land uses to be served by the proposed water uses (including proposed construction) are allowed outright or are not regulated by your comprehensive plan. Cite applicable ordinance section(s): 152.131

☐ Land uses to be served by the proposed water uses (including proposed construction) involve discretionary land-use approvals as listed in the table below. (Please attach documentation of applicable land-use approvals which have already been obtained. Record of Action/land-use decision and accompanying findings are sufficient.) **If approvals have been obtained but all appeal periods have not ended, check "Being pursued."**

Type of Land-Use Approval Needed (e.g., plan amendments, rezones, conditional-use permits, etc.)	Cite Most Significant, Applicable Plan Policies & Ordinance Section References	Land-Use Approval:	
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued
		☐ Obtained ☐ Denied	☐ Being Pursued ☐ Not Being Pursued

Local governments are invited to express special land-use concerns or make recommendations to the Water Resources Department regarding this proposed use of water below, or on a separate sheet.

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Name: Robert Waldher, Senior Planner Title: ____

Signature: Robert T Waldher Phone: 541.278.6251 Date: 08/31/16

Government Entity: Umatilla Co. Planning Dept.

Note to local government representative: Please complete this form or sign the receipt below and return it to the applicant. If you sign the receipt, you will have 30 days from the Water Resources Department's notice date to return the completed Land Use Information Form or WRD may presume the land use associated with the proposed use of water is compatible with local comprehensive plans.

Receipt for Request for Land Use Information

Applicant name: _____

City or County: _____ Staff contact: _____

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Section 10 Remarks

Joshua R Reeve
Megan L Reeve
32301 E Loop Rd
Hermiston OR 97838

We purchased this property in April of 2016. Our intent is to use this property to raise livestock for future 4H and FFA projects for our children, as well as for personal gain. Our intended use for the water is solely to grow pasture grass.

The previous owners had the property since 1996. It had been irrigated on approximately 2 acres from before 1996 to 2002 on boundaries established on permit #G4935. As described on application #G15310 the water for those 2 acres had always come from the well located on this property. This property was irrigated from 2002-2015 on permit #G15093. The previous owners had moved and had not received the department's notifications and this permit was cancelled for not satisfying the terms of the permit.

The system to irrigate this property is already in place and is electronically controlled for efficiency. Thank you for your consideration.

Regards,

Joshua R Reeve

G-18394

Date _____

(For staff use only)

Oregon Water Resources Department
725 Summer Street NE, Suite A
Salem, Oregon 97301-1266
(503) 986-0900
www.wrd.state.or.us

WE ARE RETURNING YOUR APPLICATION FOR THE FOLLOWING REASON(S):

- ☐ SECTION 1: _____
- ☐ SECTION 2: _____
- ☐ SECTION 3: _____
- ☐ SECTION 4: _____
- ☐ SECTION 5: _____
- ☐ SECTION 6: _____
- ☐ SECTION 7: _____
- ☐ SECTION 8: _____
- ☐ SECTION 9: _____
- ☐ Land Use Information Form _____
- ☐ Provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map.
- ☐ Fees _____

MAP

- ☐ Permanent quality and drawn in ink
- ☐ Even map scale not less than 4" = 1 mile (example: 1" = 400 ft, 1" = 1320 ft, etc.)
- ☐ North Directional Symbol
- ☐ Township, Range, Section, Quarter/Quarter, Tax Lots
- ☐ Reference corner on map
- ☐ Location of each well, and/or dam if applicable, by reference to a recognized public land survey corner (distances north/south and east/west). Each well must be identified by a unique name and/or number.
- ☐ Indicate the area of use by Quarter/Quarter and tax lot clearly identified
- ☐ Number of acres per Quarter/Quarter and hatching to indicate area of use if for primary irrigation, supplemental irrigation, or nursery
- ☐ Location of main canals, ditches, pipelines or flumes (if well is outside of the area of use)
- ☐ Other _____

_____

_____

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Minimum Requirements Checklist

Minimum Requirements (OAR 690-310-0040, OAR 690-310-0050 & ORS 537.615)

Include this checklist with the application

Check that each of the following items is included. The application will be returned if all required items are not included. If you have questions, please call the Water Rights Customer Service Group at (503) 986-0900.

- ☒ SECTION 1: applicant information and signature
- ☒ SECTION 2: property ownership
- ☒ SECTION 3: well development
- ☒ SECTION 4: water use
- ☒ SECTION 5: water management
- ☐ SECTION 6: storage of groundwater in a reservoir
- ☐ SECTION 7: use of stored groundwater from the reservoir
- ☒ SECTION 8: project schedule
- ☒ SECTION 9: within a district
- ☒ SECTION 10: remarks

Attachments:

- ☒ Land Use Information Form with approval and signature (*must be an original*) or signed receipt
- ☐ Provide the legal description of: (1) the property from which the water is to be diverted, (2) any property crossed by the proposed ditch, canal or other work, and (3) any property on which the water is to be used as depicted on the map. Example: A copy of the deed, land sales contract or title insurance policy.
- ☒ Fees - Amount enclosed: $ 1900.00
  See the Department's Fee Schedule at www.oregon.gov/owrd or call (503) 986-0900.

Provide a map and check that each of the following items is included:

- ☒ Permanent quality and drawn in ink
- ☒ Even map scale not less than 4" = 1 mile (example: 1" = 400 ft, 1" = 1320 ft, etc.)
- ☒ North Directional Symbol
- ☒ Township, Range, Section, Quarter/Quarter, Tax Lots
- ☒ Reference corner on map
- ☒ Location of each well, and/or dam if applicable, by reference to a recognized public land survey corner (distances north/south and east/west). Each well must be identified by a unique name and/or number.
- ☒ Indicate the area of use by Quarter/Quarter and tax lot clearly identified
- ☒ Number of acres per Quarter/Quarter and hatching to indicate area of use if for primary irrigation, supplemental irrigation, or nursery
- ☒ Location of main canals, ditches, pipelines or flumes (if well is outside of the area of use)
- ☐ Other _____