Water Right Conditions Tracking Slip

Groundwater/Hydrology Section

FILE ## G-17473

ROUTED TO: Water Right - Kerry

TOWNSHIP/
RANGE-SECTION: 35/3W - 33 + 34

CONDITIONS ATTACHED? [X] yes [ ] no

REMARKS OR FURTHER INSTRUCTIONS:

Reviewer: Mike Zwart

PUBLIC INTEREST REVIEW FOR GROUND WATER APPLICATIONS

TO: Water Rights Section Date **October 10, 2011**

FROM: Ground Water/Hydrology Section **Michael Zwart**
Reviewer's Name

SUBJECT: Application G- **17473** 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 ground water 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: **Foxglove Properties, LLP** County: **Yamhill**

A1. Applicant(s) seek(s) **0.227** cfs from **two** well(s) in the **Willamette** Basin, _____ subbasin Quad Map: **Dundee**

A2. Proposed use: **Irrigation, 27 acres** Seasonality: **March 1 to 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	**Proposed**	**5**	**CRB**	**0.227**	**3S/3W-34 SW-NW**	**2070' S, 420' E fr NE cor S 33**
2	**Proposed**	**6**	**CRB**	**0.227**	**3S/3W-33 NW-SE**	**3025' S, 1350' W fr NE cor S 33**
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	**680**				**400±**	**0-60**	**0-60**					
2	**825**				**400±**	**0-60**	**0-60**					

Use data from application for proposed wells.

A4. **Comments: Proposed construction is an estimate. A review of local well logs suggests that the basalt is between 400 and 475 feet thick in this area, so the proposed total depth is reasonable.**

A5. ☒ **Provisions of the Willamette** Basin rules relative to the development, classification and/or management of ground water 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. GROUND WATER AVAILABILITY CONSIDERATIONS, OAR 690-310-130, 400-010, 410-0070

B1. **Based upon available data,** I have determined that ground water* 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 ground water 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 ground water 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 ground water resource; or

d. ☒ **will, if properly conditioned,** avoid injury to existing ground water rights or to the ground water resource:
   i. ☒ The permit should contain condition #(s) **7I, 7K (300 feet; shallower water-bearing zones), 7T**;
   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 ground water production from no deeper than _____ ft. below land surface;

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

c. ☐ **Condition** to allow ground water production only from the _____ ground water 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 Ground Water 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. **Ground water availability remarks:** **The proposed permit conditions will address the potential for water-level declines and interference with other basalt wells. Nearby basalt wells display relatively stable water-level trends at this time, but it is noted that the basalt is limited in both thickness and areal extent in this area. The capacity of the resource is likely to be somewhat limited. The local well logs (one example attached) also indicate that the vertical head gradients are steep, with the potential for commingling basalt aquifers if there is significant open borehole below the casing and seal. The recommended well construction condition will limit the open borehole to about 100 feet, which may be adequate to prevent commingling.**

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

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

Well	Aquifer or Proposed Aquifer	Confined	Unconfined
1, 2	**Basalt of the Columbia River Basalt Group**	☒	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

Basis for aquifer confinement evaluation: **Basalt aquifers are typically confined, and most nearby well logs report the static water level above the depth where groundwater ws first encountered.**

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**	**Unn. trib., Willamette River**	**Unk.**	**580**	**1470**	☐	☒	☐	☐	☒
1	**2**	**Unn. trib., Hess Creek**	**Unk.**	**400**	**1560**	☐	☒	☐	☐	☒
2	**1**	**Unn. trib., Willamette River**	**Unk.**	**580**	**1350**	☐	☒	☐	☐	☒
2	**2**	**Unn. trib., Hess Creek**	**Unk.**	**670**	**1350**	☐	☒	☐	☐	☒
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐

Basis for aquifer hydraulic connection evaluation: **The recommended well construction condition will prevent hydraulic connection with nearby stream reaches. Hydraulic connection is possible with more distant reaches, but it is not possible to determine the distances with certainty due to the unknown geologic structure in the area.**

Water Availability Basin the well(s) are located within: **Willamette R > Columbia R ab Molalla R**

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
		%	%	%	%	%	%	%	%	%	%	%	%
Well Q as CFS													
Interference CFS													
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.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

(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:

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 ground water 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: Local well logs; local groundwater reviews; Hydrogeologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-B, by Woodward, Gannett and Vaccaro, 1998; Geologic Framework of the Willamette Lowland Aquifer System, Oregon and Washington, USGS Professional Paper 1424-A, by Gannett and Caldwell, 1998; Ground-Water Hydrology of the of the Willamette Basin, Oregon, USGS Scientific Investigations Report 2005-5168, by Conlan, et al, 2005; Origin, Extent, and Thickness of Quaternary Geologic Units in the Wilammette Valley, Oregon, USGS Professional Paper 1620, by O'Conner, et al, 2001.

D. WELL CONSTRUCTION, OAR 690-200

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

D2. **THE WELL does not 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**:
- a. ☐ constitutes a health threat under Division 200 rules;
- b. ☐ commingles water from more than one ground water reservoir;
- c. ☐ permits the loss of artesian head;
- d. ☐ permits the de-watering of one or more ground water reservoirs;
- e. ☐ other: (specify) _____

D4. **THE WELL construction deficiency is described as follows:** _____

D5. **THE WELL**
- a. ☐ **was**, *or* ☐ **was not** constructed according to the standards in effect at the time of original construction or most recent modification.
- b. ☐ I don't know if it met standards at the time of construction.

D6. ☐ **Route to the Enforcement Section.** I recommend withholding issuance of the permit until evidence of well reconstruction is filed with the Department and approved by the Enforcement Section and the Ground Water Section.

THIS SECTION TO BE COMPLETED BY ENFORCEMENT PERSONNEL

D7. ☐ Well construction deficiency has been corrected by the following actions: _____

_____ _____, 200____.
(Enforcement Section Signature)

D8. ☐ **Route to Water Rights Section (attach well reconstruction logs to this page).**

MAY 02 20 YAMH 52530

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

Arrow 01-12
WATER RESOURCES DEPT
SALEM, OREGON

WELL ID # L 42495
START CARD # 127734

(1) LAND OWNER:
Well Number: _____
Name: Jim Crawford
Address: 6291 NE Breyman Orchards Rd
City: Dayton State: OR Zip: 97114

(2) TYPE OF WORK: (repair/recondition)
☒New Well ☐Deepening ☐Alteration ☐Abandonment

(3) DRILL METHOD:
☒Rotary Air ☐Rotary Mud ☐Cable ☐Auger
☐Other:

(4) PROPOSED USE:
☒Domestic ☐Community ☐Industrial ☐Irrigation
☐Thermal ☐Injection ☐Livestock ☐Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐Yes ☒No
Depth of Completed Well 454
Explosives Used ☐Yes ☒No Type _____ Amount

HOLE Diameter	From	To	Material	SEAL From	SEAL To	sacks or pounds
10"	0	295	bent chps	0	50	24 inc bf
			cement	58	292	70 bags
6.25	295	454				

How was seal placed: Method ☐A ☐B ☒C ☐D ☐E
☒ Other poured-probed
Backfill placed from 50 to 58 Material bent chps
Gravel placed from _____ to _____ Size of gravel

(6) CASING/LINER:
CASING:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
6"	+18	295	.250	☒	☐	☒	☐
				☐	☐	☐	☐
				☐	☐	☐	☐
				☐	☐	☐	☐

LINER:

4"	274	414	160#	☐	☒	☐	☐
4"	414	454	sch40	☐	☒	☐	☐

Drive Shoe used ☐ Inside ☒ Outside ☐ None
Final location of Shoe(s): 295

(7) PERFORATIONS/SCREENS:
☒☐Perforations Method: saw cut
☐☐Screen Type: _____ Material: _____

From	To	Slot Size	No.	Diameter	Tele/pipe size	Casing	Liner
414	454	1/8x7	84	4	pipe	☐	☒
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐☐Pump ☐☐Bailer ☒☐Air ☐☐ Flowing Artesian

Yield gpm	Drawdown	Drill Stem at	Time
10.5	N/A	450	1 hr.
10	N/A	410	1 hr.

Temperature of water 55 Depth Artesian Flow Found
Was a water analysis done? ____ By whom:
Did any strata contain water not suitable for intended use? (explain)
_____
Depth of Strata:_____

ARROW DRILLING 503-538-4422

(9) LOCATION OF WELL by legal description:
County: Yamhill Latitude: _____ Longitude: _____
Township: 3S Range: 3W
Section: 33 SE ¼ SW ¼
Tax Lot: 305 Lot: _____ Block: _____ Subdivision: _____
Street Address of Well (or nearest address) 6291 NE Breyman Orchards, Roads, Dayton, Oregon

(10) STATIC WATER LEVEL:
312 Ft. below land surface Date 4/12/01
Artesian pressure _____ lb. per sq. in. Date _____

(11) WATER BEARING ZONES:
Depth at which water was first found 63

From	To	Est. Flow Rate	SWL
63	75	1-2 gpm	47
396	452	10.5 gpm	312

(12) WELL LOG: Ground Elevation:

Material	From	To	SWL
top soil	0	1	
clay red	1	11	
rock decomp wthd gray/brwn	11	58	
basalt gray med	58	63	
basalt brwn decomp	63	75	47
basalt gray/brwn fract slightly decomp	75	119	
basalt brwn decomp	119	148	
basalt gray decomp	148	170	
basalt gray/brwn fract	170	179	
basalt brwn decomp fract	179	231	
basalt gray/brwn fract slightly decomp	231	259	
basalt brwn decomp vesic	259	275	
basalt gray med-hrd w/occ brwn	275	297	
basalt gray/brwn med slightly decomp	297	336	
basalt gray med-hrd	336	339	
basalt brwn med fract	339	348	
claystone gray	348	349	
basalt drk gray hrd	349	396	
basalt gray/brwn med-hrd fract	396	415	
basalt gray hrd well fract	415	423	
basalt brwn decomp vesic	423	437	
basalt drk gray hrd fract	437	452	
claystone gray/red	452	454	marine sed.

Date Started: 4/5/01 Completed: 4/12/01

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

WWC Number _____
Signed _____ Date _____

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

WWC Number 1483
Signed _____ Date 4/28/01

ORIGINAL - Water Resources Department FIRST COPY - Constructor SECOND COPY - Customer

WATER RESOURCES DEPARTMENT

MEMO October 10, 2001

TO: **Application G-** 17473

FROM: **GW:** Mike Zwart
(Reviewer's Name)

SUBJECT: **Scenic Waterway Interference Evaluation**

_____YES
__✓__NO
The source of appropriation is within or above a Scenic Waterway

_____YES
__✓__NO
Use the Scenic Waterway condition (Condition 7J)

_____Per ORS 390.835, the Ground Water 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 Ground Water 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

Application G-17473, Foxglove Properties, LLP