

Groundwater Application Review Summary Form

Application # G- 18780

GW Reviewer Phil Marcy Date Review Completed: 2/13/2019

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.

dt 2/14/19

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).

MEMO

To: Kristopher Byrd, Well Construction and Compliance Section Manager
From: Joel Jeffery, Well Construction Program Coordinator
Subject: Review of Water Right Application G-18780
Date: March 14, 2019

The attached application was forwarded to the Well Construction and Compliance Section by Water Rights. Phil Marcy reviewed the application. Please see Phil's Groundwater Review and the Well Logs.

Applicant's Well #1 (LINN 62180): Based on a review of the Well Report, Applicant's Well #1 does not appear to comply with current minimum well construction standards (See OAR 690 Division 220). According to the Well Log, the lower portion of well was permanently decommissioned from a depth of 142 feet to the bottom of the well at 342 feet. Unfortunately, the cased interval from 142 feet to 162 feet was not ripped or perforated prior to decommissioning. In order to meet minimum well construction standards, the well must be redrilled to a depth of at least 162 ft and the casing must be thoroughly ripped or perforated from 142 feet to 162 feet and resealed with cement grout.

My recommendation is that the Department not issue a permit for Applicant's Well #1 (LINN 62180) unless it is brought into compliance with current minimum well construction standards or information is provided showing that it is in compliance with current minimum well construction standards.

The repair of Applicant's Well #1 may not satisfy hydraulic connection issues.

Applicant's Well #2 (LINN 62490): Based on a review of the Well Report, Applicant's Well #2 seems to protect the groundwater resource

The construction of Applicant's Well #2 may not satisfy hydraulic connection issues.

Applicant's Well #3 (LINN 62477): Based on a review of the Well Report, Applicant's Well #3 seems to protect the groundwater resource.

The construction of Applicant's Well #3 may not satisfy hydraulic connection issue

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

LINN 62490
9/26/2018

WELL I.D. LABEL# L 131428
START CARD # 1040609
ORIGINAL LOG #

(1) LAND OWNER
Owner Well I.D. DR-3353
First Name _____ Last Name _____
Company CONSER HOMES INC.
Address 1010 AIRPORT RD. SE
City ALBANY State OR Zip 97322

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (complete 2a & 10) Abandonment (complete 5a)

(2a) PRE-ALTERATION
Dia + From To Gauge Stl Plstc Wld Thrd
Casing:
Material From To Amt sacks/lbs
Seal: _____

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

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/ Commercial Livestock Dewatering
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)
Depth of Completed Well 182.00 ft.
BORE HOLE
Dia From To Material SEAL From To Amt sacks/lbs
10 0 19 Bentonite 0 19 11 S
6 19 182 Calculated 8.67
Calculated

How was seal placed: Method A B C D E
 Other POURED DRY
Backfill placed from _____ ft. to _____ ft. Material _____
Filter pack from _____ ft. to _____ ft. Material _____ Size _____
Explosives used: Yes Type _____ Amount _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
Proposed Amount _____ Actual Amount _____

(6) CASING/LINER
Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd
 6 1 19 .250
 4.5 2 182 .250
Shoe Inside Outside Other Location of shoe(s) 19
Temp casing Yes Dia _____ From _____ To _____

(7) PERFORATIONS/SCREENS
Perforations Method Saw
Screens Type _____ Material _____
Perf/ Casing/ Screen Scrn/slot Slot # of Tele/
Screen Liner Dia From To width length slots pipe size
Perf Liner 4.5 19 160 .125 6 252

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)
6 _____ 175 1
Temperature 53 °F Lab analysis Yes By _____
Water quality concerns? Yes (describe below) TDS amount 310 ppm
From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County LINN Twp 11.00 S N/S Range 3.00 W E/W WM
Sec 2 NE 1/4 of the NW 1/4 Tax Lot 602
Tax Map Number _____ Lot _____
Lat _____ " or 44.64886700 DMS or DD
Long _____ " or -123.02409700 DMS or DD
 Street address of well Nearest address

NORTH OF SCHOOL ON SCRABEL HILL RD.
ALBANY OR. 97322

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Pre-Alteration _____
Completed Well 9/24/2018 _____ 16
Flowing Artesian? Dry Hole?

WATER BEARING ZONES Depth water was first found 21.00

SWL Date	From	To	Est Flow	SWL(psi)	+ SWL(ft)
9/24/2018	21	38	3.5		16
9/24/2018	69	80	1.5		16
9/24/2018	100	121	1		16

(11) WELL LOG Ground Elevation _____

Material	From	To
Topsoil	0	2
Clay Brown Soft	2	5
Clay Grayish Brown	5	8
Clay Brown w/ Grit	8	10
Clay Brown w/ Some Gravels	10	13
Sandstone Gray	13	16
Sandstone Gray Hard	16	21
Sandsotne Gray w/ Sea Shells	21	38
Sandstone Light Gray Hard	38	61
Sandstone Dark Gray w/ Sea Shells	61	100
Sandstone Gray	100	154
Sandstone Dark Gray	154	182

Date Started 9/21/2018 Completed 9/24/2018

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, 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.
License Number 1974 Date 9/26/2018
Signed CJ NUGENT (E-filed)

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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.
License Number 664 Date 9/26/2018
Signed CHARLES NUGENT (E-filed)
Contact Info (optional) Nugent Drilling Co. Lebanon OR.

STATE OF OREGON
 WATER SUPPLY WELL REPORT
 (as required by ORS 537.765 & OAR 690-205-0210)

LINN 62180

WELL I.D. LABEL# L 126084
 START CARD # 214260
 ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. DR-3286
 First Name _____ Last Name _____
 Company Conser Homes Inc
 Address 1010 Airport Rd.
 City ALBANY State ORE Zip 97322

(2) TYPE OF WORK New Well Deepening Conversion
 Alteration (complete 2a & 10) Abandonment (complete 5a)

(2a) PRE-ALTERATION
 Dia + From To Gauge Stl Plstc Wld Thrd
 Casing: _____
 Material From To Amt sacks/lbs
 Seal: _____

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

(4) PROPOSED USE Domestic Irrigation Community
 Industrial/ Commercial Livestock Dewatering
 Thermal Injection Other _____

(5) BORE HOLE CONSTRUCTION Special Standard (Attach copy)
 Depth of Completed Well 142 ft.
 BORE HOLE SEAL

Dia	From	To	Material	From	To	Amt	sacks/lbs
10"	0	60	CEMENT	5	20	7	500
8"	60	158				Calculated	5.1
6"	158	342	CEMENT	142	342	27	300
						Calculated	28

How was seal placed: Method A B C D E
 Other _____
 Backfill placed from 0 ft. to 5 ft. Material BENTONITE
 Filter pack from _____ ft. to _____ ft. Material _____ Size _____
 Explosives used: Yes Type _____ Amount _____

(5a) ABANDONMENT USING UNHYDRATED BENTONITE
 Proposed Amount _____ Pounds Actual Amount _____ Pounds

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input type="checkbox"/>	6"	+	1	162	250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

 Shoe Inside Outside Other Location of shoe(s) 162'
 Temp casing Yes Dia 10" From 0 To 20'

(7) PERFORATIONS/SCREENS
 Perforations Method HOLTE
 Screens Type SLOT Material STEEL

Perf/Screen	Casing/Screen	Liner	Dia	From	To	Scrns/slot width	Slot length	# of slots	Tele/pipe size
<input checked="" type="checkbox"/>	<input type="checkbox"/>	X	6"	24	139	1/4"	1"	2720	
<input type="checkbox"/>	<input type="checkbox"/>								
<input type="checkbox"/>	<input type="checkbox"/>								

(8) WELL TESTS: Minimum testing time is 1 hour
 Pump Bailer Air Flowing Artesian
 Yield gal/min _____ Drawdown _____ Drill stem/Pump depth _____ Duration (hr) _____

15		135	1 hr.
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 Temperature 54 °F Lab analysis Yes By _____
 Water quality concerns? Yes (describe below) TDS amount 205

From	To	Description	Amount	Units
314	320	1 GPM w/1140 TDS		
		SEALED OFF		

(9) LOCATION OF WELL (legal description)
 LINN 62180
 County LINN Twp 10 S Range 3 W
 Sec 35 SE 1/4 of the SW 1/4 Tax Lot 602
 Tax Map Number _____ Lot _____
 Lat _____ " or _____ DMS or DD
 Long _____ " or _____ DMS or DD
 Street address of well Nearest address

NORTH OF SCHOOL ON SCRAVEL Hill Rd
ALBANY, C

(10) STATIC WATER LEVEL
 Date _____ SWL (psi) _____ + SWL (ft) _____

Existing Well / Pre-Alteration Completed Well	Date	SWL (psi)	+ SWL (ft)
	11-8-17		- 5'

 Flowing Artesian? Dry Hole?

WATER BEARING ZONES Depth water was first found 24'

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
11-8-17	24	139	15 gpm		- 5'

(11) WELL LOG
 Ground Elevation _____

Material	From	To
TOP SOIL	0	1
CLAY - BROWN - SAND	1	7
CLAY - BROWN w/ GRAVEL	7	13
CLAY - GRAY w/ GRAVEL	13	15
SANDSTONE - GRAY	15	23
SANDSTONE - LT BLUE	23	53
SANDSTONE - DK GRAY	53	129
SANDSTONE - BLACK/GRAY	129	139
SANDSTONE - DK GRAY	139	148
SANDSTONE - GRAY	148	233
SANDSTONE - MIXED	233	245
SANDSTONE - GRAY SOFT	245	314
SANDSTONE - BROWN/GRAY	314	320
SANDSTONE - DK GRAY	320	342

Date Started 10-30-17 Completed 11-8-17

(unbonded) Water Well Constructor Certification
 I certify that the work I performed on the construction, deepening, 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.
 License Number 1974 Date 11-21-17
 Signed C.J. Nugent RECEIVED BY OWRI

(bonded) Water Well Constructor Certification
 DEC 18 2017
 I accept responsibility for the construction, deepening, 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.
 License Number 664 Date 11-21-17
 Signed Charles D. Nugent
 Contact Info (optional) _____

STATE OF OREGON WATER SUPPLY WELL REPORT (as required by ORS 537.765 & OAR 690-205-0210)

LINN 62477 9/22/2018

WELL I.D. LABEL# L 131427 START CARD # 1040549 ORIGINAL LOG #

(1) LAND OWNER Owner Well I.D. DR-3352 First Name Last Name Company CONSER HOMES INC. Address 1010 AIRPORT RD. SE City ALBANY State OR Zip 97322

(2) TYPE OF WORK [X] New Well [] Deepening [] Conversion [] Alteration (complete 2a & 10) [] Abandonment (complete 5a)

(2a) PRE-ALTERATION Casing: Dia + From To Gauge Stl Plstc Wld Thrd Seal: Material From To Amt sacks/lbs

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

(4) PROPOSED USE [X] Domestic [] Irrigation [] Community [] Industrial/ Commercial [] Livestock [] Dewatering [] Thermal [] Injection [] Other

(5) BORE HOLE CONSTRUCTION Special Standard [] (Attach copy) Depth of Completed Well 140.00 ft. BORE HOLE Dia From To Material SEAL From To Amt sacks/lbs

How was seal placed: Method [] A [] B [] C [] D [] E [X] POURED DRY Backfill placed from 140 ft. to 142 ft. Material NATIVE SOIL Filter pack from ft. to ft. Material Size Explosives used: [] Yes Type Amount

(5a) ABANDONMENT USING UNHYDRATED BENTONITE Proposed Amount Actual Amount

(6) CASING/LINER Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd Shoe [] Inside [X] Outside [] Other Location of shoe(s) 19 Temp casing [] Yes Dia From + To

(7) PERFORATIONS/SCREENS Perforations Method Saw Screens Type Material Perf/ Casing/ Screen Screen/liner Dia From To Scrn/slot width Slot length # of slots Tele/pipe size

(8) WELL TESTS: Minimum testing time is 1 hour [] Pump [] Bailer [X] Air [] Flowing Artesian Yield gal/min Drawdown Drill stem/Pump depth Duration (hr) Temperature 53 °F Lab analysis [] Yes By Water quality concerns? [] Yes (describe below) TDS amount 275 ppm

(9) LOCATION OF WELL (legal description) County LINN Twp 11.00 S N/S Range 3.00 W E/W WM Sec 2 NE 1/4 of the NW 1/4 Tax Lot 602 Tax Map Number Lot Lat Long DMS or DD Street address of well Nearest address NORTH OF SCHOOL ON SCRABEL HILL RD. ALBANY OR. 97322

(10) STATIC WATER LEVEL Date SWL(psi) + SWL(ft) Existing Well / Pre-Alteration Completed Well 9/21/2018 16 Flowing Artesian? [] Dry Hole? [] WATER BEARING ZONES Depth water was first found 25.00 SWL Date From To Est Flow SWL(psi) + SWL(ft)

(11) WELL LOG Ground Elevation From To Material Topsoil 0 1 Clay Brown Sticky 1 5 Clay Gray 5 9 Clay Brown w/ Grit Sticky 9 12 Clay Brown w/ Few Gravels 12 13 Sandstone Gray w/ Sea Shells 13 36 Sandstone Gray Multicolored 36 40 Sandstone Gray w/ Sea Shells 40 51 Sandstone Light Gray 51 104 Sandstone/Claystone Gray/Black 104 110 Sandstone Dark Gray 110 142

Date Started 9/20/2018 Completed 9/21/2018 (unbonded) Water Well Constructor Certification I certify that the work I performed on the construction, deepening, 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. License Number 1974 Date 9/21/2018 Signed CJ NUGENT (E-filed)

(bonded) Water Well Constructor Certification I accept responsibility for the construction, deepening, 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. License Number 664 Date 9/22/2018 Signed CHARLES NUGENT (E-filed) Contact Info (optional) Nugent Drilling Co. Lebanon OR.

PUBLIC INTEREST REVIEW FOR GROUNDWATER APPLICATIONS

TO: Water Rights Section Date 02/13/2019
 FROM: Groundwater Section Phillip I. Marcy
 Reviewer's Name
 SUBJECT: Application G- 18780 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: Matthew J. Conser; Diversified Shelters Inc., DBA Conser Homes Inc.
 County: Linn

A1. Applicant(s) seek(s) 0.078 cfs from 3 well(s) in the Willamette Basin,
 _____ subbasin

A2. Proposed use Quasi-Municipal Seasonality: Year-round

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	LINN 62180	1	Marine Sediments	0.033	11S/3W-2 NW-NW	530'S 1065'W fr S ¼ cor S 35
2	LINN 62490	2	Marine Sediments	0.022	11S/3W-2 NW-NW	480'S, 955'W fr S ¼ cor S 35
3	LINN 62477	3	Marine Sediments	0.022	11S/3W-2 NW-NW	545'S, 900'W fr S ¼ cor S 35
4						

* 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	232	24	5	11/08/2017	142	0-20	+1-24	NA	6-24	15	-	Air
2	237	21	16	09/24/2018	182	0-19	+1-19	2-182	19-160	6	-	Air
3	238	25	16	09/21/2018	142	0-19	+1-19	0-140	19-118	9	-	Air

Use data from application for proposed wells.

A4. **Comments:** The applicant states the proposed aquifer as "alluvium", but all three proposed POA wells are constructed to produce from marine sediments of the Eugene Formation (McCloughry 2010).

A5. **Provisions of the** Willamette 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) _____;
 - 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 _____ 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 is no current and relevant water level data available in the vicinity of the proposed POA wells, therefore groundwater cannot be determined to be over appropriated for the proposed use. LINN 7478, located about 6.5 miles southwest of the applicant’s wells maintains a water level record dating back to 1962, showing minimal decline and seasonal variation of about 10-12 feet in groundwater elevation. As the rate of pumping is fairly small (35 GPM), no significant impacts are expected as a result of this use.

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	Sandstone of the Eugene Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Sandstone of the Eugene Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Sandstone of the Eugene Formation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer confinement evaluation: Well logs do not report any substantial deposit of fine-grained lithology overlying the water-bearing zones that would provide confinement, and the wells are sealed to 19-24' in depth. Additionally, the static head elevation reported by the driller is similar to the depth at which water was first encountered in each hole. The elevation of nearby (seasonal) Truax Creek is above the local water table, suggesting this reach is losing when surface water is present, and likely provides recharge to nearby wells producing from the shallow aquifer 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?			Potential for Subst. Interfer. Assumed?	
						YES	NO	ASSUMED	YES	NO
1	1	Willamette River	227	173	12,500	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	1	Willamette River	221	173	12,600	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	1	Willamette River	222	173	12,690	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Basis for aquifer hydraulic connection evaluation: According to the regional gradient (Conlon and others, 2005) groundwater in productive zones accessed by the proposed POA wells inevitably discharges to the Willamette River. In this area, streams are typically seasonal, indicating a high base flow component to discharge through coarse-grained sediments overlying marine sediments.

Water Availability Basin the well(s) are located within: Willamette R > Columbia R – AB Mill Cr at Gage 14191000

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?
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

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?
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>
			<input type="checkbox"/>			<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>

Comments: The proposed POAs are not within 1 mi of any perennial streams.

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													
(A) = Total Interf.													
(B) = 80 % Nat. Q													
(C) = 1 % Nat. Q													
(D) = (A) > (C)													
(E) = (A / B) x 100		%	%	%	%	%	%	%	%	%	%	%	%

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) _____

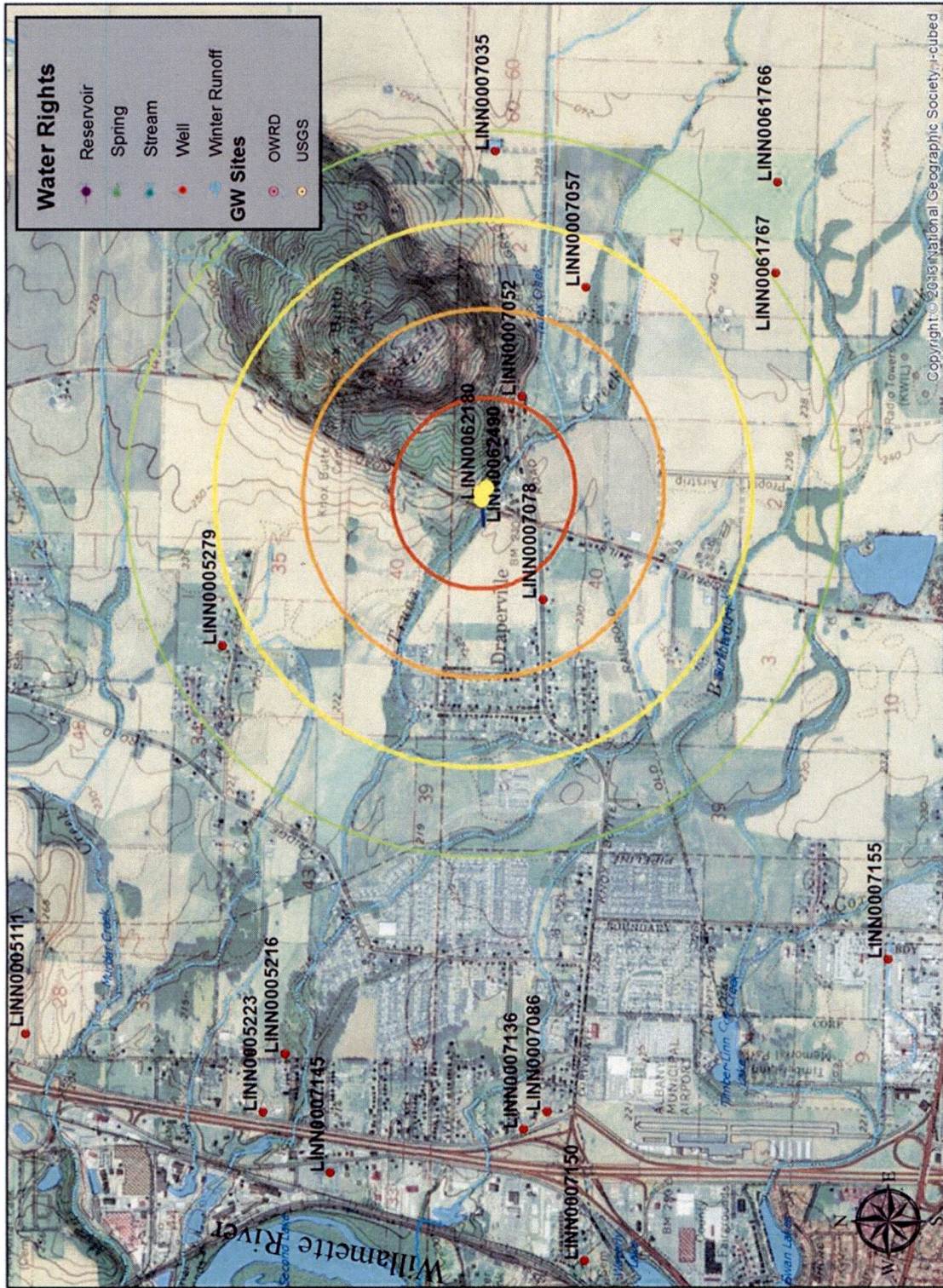
D3. **THE WELL construction deficiency or other comment is described as follows:** _____

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

Water Availability Tables

DETAILED REPORT ON THE WATER AVAILABILITY CALCULATION						
Watershed ID #: 183		WILLAMETTE R > COLUMBIA R - AB MILL CR AT GAGE 14191000			Exceedance Level: 80	
Time: 3:27 PM		Basin: WILLAMETTE			Date: 02/12/2019	
Month	Natural Stream Flow	Consumptive Use and Storage	Expected Stream Flow	Reserved Stream Flow	Instream Requirements	Net water Available
Monthly values are in cfs. Storage is the annual amount at 50% exceedance in ac-ft.						
JAN	18,400.00	2,240.00	16,200.00	0.00	1,300.00	14,900.00
FEB	20,100.00	7,420.00	12,700.00	0.00	1,300.00	11,400.00
MAR	19,600.00	7,210.00	12,400.00	0.00	1,300.00	11,100.00
APR	18,000.00	6,870.00	11,100.00	0.00	1,300.00	9,830.00
MAY	15,500.00	4,170.00	11,300.00	0.00	1,300.00	10,000.00
JUN	8,310.00	1,690.00	6,620.00	0.00	1,300.00	5,320.00
JUL	4,710.00	1,440.00	3,270.00	0.00	1,300.00	1,970.00
AUG	3,620.00	1,330.00	2,290.00	0.00	1,300.00	992.00
SEP	3,680.00	1,150.00	2,530.00	0.00	1,300.00	1,230.00
OCT	4,650.00	742.00	3,910.00	0.00	1,300.00	2,610.00
NOV	9,400.00	851.00	8,550.00	0.00	1,300.00	7,250.00
DEC	16,700.00	912.00	15,800.00	0.00	1,300.00	14,500.00
ANN	13,500,000	2,150,000	11,300,000	0	942,000	10,400,000

Well Location Map



1:24,000

0 0.125 0.25 0.5 0.75 1 Miles

Water-Level Trends in Nearby Wells

