



June 3, 2022

Paul Stull, PE

stullp@aks-eng.com - 503-563-6151

AKS Engineering and Forestry, LLC

12965 SW Herman Road, Suite 100

Tualatin, OR 97062

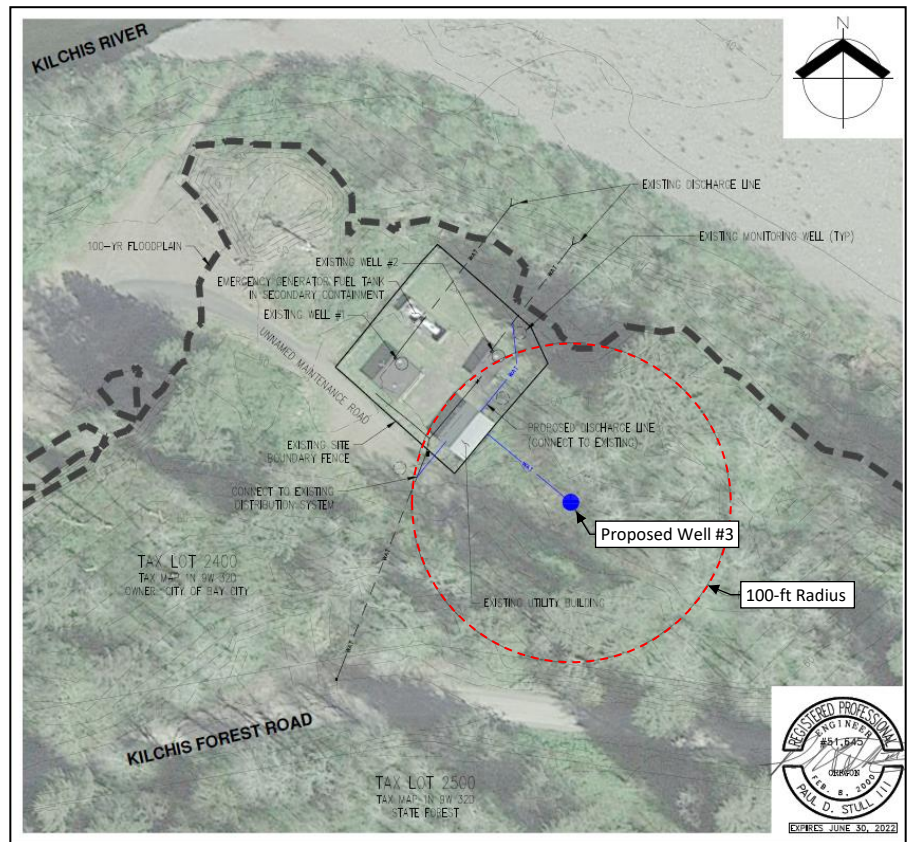
Re: **Bay City Water System (PWS #00079) - Well #3**
Site Plan Approval (PR #84-2022)

Dear Mr. Stull:

Thank you for your submittal to the Oregon Health Authority's Drinking Water Services (DWS) of plan review information for constructing a new well (Well #3) on behalf of the [Bay City Water System \(00079\)](#). The plans, Land Use Compatibility statement, and \$3,300 review fee were received on 5/19/22.

The project seeks approval to develop a 3rd well on Tax Lot 2400 owned by Bay City. The well is to be added as SRC-AC under an existing entry point (EP-A). Treatment for Well #3

is anticipated to be same as that for wells #1 (SRC-AA) and #2 (SRC-AB) provided at an existing treatment facility (WTP-A). Treatment currently consists of sodium hypochlorite for 4.0-log viral disinfection with a [previously established minimum entry point chlorine residual of 0.2 mg/l](#). Caustic soda is applied for corrosion control with a [previously established minimum pH of 7.4 for both EP-A and the distribution system](#). System improvements are planned to centralize treatment for the three wells.



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A regional geologist in our program, Tom Pattee, reviewed the proposed well construction. **Mr. Pattee noted the following, which should be shared with the well driller:**

- a) Estimated dept of casing seal: 18-ft, minimum
- b) Estimated Aquifer Nature: Unconfined
- c) Estimated depth to water-bearing zone: Approximately 15-ft based on nearby well logs (TILL222 & TILL535)
- d) Comments: *Based on well logs for the existng Bay City Water System wells, the aquifer in this area is composed of alluvial sand and gravel deposits associated with the Kilchis River. The aquifer is likely unconfined at this location suggesing that no sanitary setback waivers could be granted. The proposed well location appears to be roughly 300-ft from the Kichis River, outside the area of GWUDI [GroundWater Under the Direct Influence of surface water] concern for sand and gravel aquifer materials. The proposed depth for the annular casing seal (20-ft) is reasonable given the materials expected to be encountered and [Oregon] Water Resources Department well construction standards. [The] final GWUDI concern evaluation [is] to be conducted after the well is constructed and final documents, including well location and well log, are submitted for evaluation.*

The project is granted site plan approval. Once construction of the well is complete, please submit:

1. The well driller's report (well log).
2. Well pumping test information including static water level, pumping rate, drawdown, and rate of recovery.
3. Pump information.
4. Engineered plans that show the above-well structure detail including the well house, concrete slab, drainage, pump-to-waste piping and plans and specifications for connection of the new well to the existing water system.
5. Evidence showing requirements of the Conditional Use review and approval have been/are being met per Tillamook County as referenced in the enclosed May 16, 2022, e-mail from Sarah Absher, Tillamook County Community Development (Sarah Absher has been cc'd on this letter).
6. The Final Order of the applicable water rights adding this new point of diversion to Permit S43858 (Nikki Hendricks, Water Master, has been cc'd on this letter and she can be reached at 503-815-1967).
7. Raw, untreated, well test results for SOC, VOC, IOC, Uranium, Radium 226/228, Gross Alpha, and coliform bacteria (presence/absence test).

Subsequent monitoring requirements anticipated after the well is constructed are summarized in Table 1 on the following page, however, this may change depending upon the results of the initial sampling, aquifer characteristics, and upon further evaluation of the constructed well and initial raw water sampling results by our geologist, Tom Pattee.



Table 1 – Anticipated Initial Monitoring Once Constructed						
Year 1				Year 2	Year 3	
Sampling to be completed prior to Final Approval	Sample by the end of the first quarter of operation (after Final Approval)	2nd Quarter of Operation	3rd Quarter of operation			
Sample at the Source Prior to Treatment (SRC-AC)	Sample at the Entry Point (EP-A) to the distribution system served by the new source (after treatment)					
<ul style="list-style-type: none"> Coliform Nitrate, Nitrite IOC, VOC, SOC Arsenic Radiological including uranium, gross alpha, and radium 226/228 	<ul style="list-style-type: none"> Radiological Lead and copper tap samples 	<ul style="list-style-type: none"> Radiological if initial sampling has radiological detections 	<ul style="list-style-type: none"> Radiological if initial sampling has radiological detections 	Annual: <ul style="list-style-type: none"> Nitrate VOC SOC 		
Sampling at Customer Taps	Tap Sampling in the Distribution System (to assess impact of the new well on distribution system corrosion).					
<ul style="list-style-type: none"> Lead and Copper* 	<ul style="list-style-type: none"> Sample at 20 Tier 1 sites (1st 6-months of operation) 		<ul style="list-style-type: none"> Sample at 20 Tier 1 sites (second 6 months of operation) 	Reduction to 10 tap samples every 3 years is possible depending upon results		
Source Assessment (raw water coliform)	Monthly raw water source assessment sampling for coliform bacteria may be required given the unconfined aquifer anticipated for this well and its relatively close proximity to the Kilchis River.			Annual Source Assessment Sampling if required by Tom Pattee		

*Changes in water quality due to the addition of a new source may impact the corrosivity of the water (the system has exceeded lead action levels in the past). Unless it can be demonstrated that the new well will not adversely impact the corrosivity of the treated water, two 6-month demonstration rounds of lead and copper tap samples at an increased number of 20 Tier 1 sample sites may be needed to verify that the well does not cause an exceedance of lead and/or copper action levels. Water quality parameters for pH and alkalinity would also need to be done in concert with the lead and copper tap samples.

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Bay City Water System (PWS #00079) – Well #3 Site Plan Approval LTR (PR#84-2022)

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Documentation and test results for the above-mentioned items should reference Plan Review #84-2022 and can be e-mailed to me at evan.e.hofeld@state.or.us. If you have any questions, please feel free to call me at 971-200-0288.

Sincerely,



Evan Hofeld, PE

Oregon Health Authority – Drinking Water Services

cc: Brian Bettis, Bay City Water System, bbettis@ci.bay-city.or.us
Jaime Craig, Tillamook County Environmental Health, jcraig@co.tillamook.or.us
Sarah Absher, Tillamook Co Dept of Community Development, sabscher@co.tillamook.or.us
Nikki Hendricks, OWRD – Water Master, nikki.m.hendricks@water.oregon.gov

May 16, 2022 E-mail from Sarah Absher
Tillamook County Community Development

Liane Welch

From: Sarah Absher <sabsher@co.tillamook.or.us>
Sent: Monday, May 16, 2022 11:02 AM
To: Liane Welch
Cc: Melissa Jenck
Subject: OHA LUCS
Attachments: DOC102.PDF
Importance: High

Good Morning Liane,

Please see the attached completed LUCS. Please also include a copy of this email with the LUCS submittal to OHA.

The subject property is located in the Forest (F) Zone and development is subject to the provisions of TCLUO Section 3.004:

https://www.co.tillamook.or.us/sites/default/files/fileattachments/community_development/page/27173/finalsection3004forestzone.pdf

Also included in this email attachment is a copy of Page 29 of the Forest (F) Zone that identifies review procedures for the proposed project.

The activities are subject to Conditional Use review and approval, including the criteria in TCLUO Section 3.004(8) and Article 6: Conditional Use Procedures & Criteria.

I have copied Melissa in this email. Please connect with her directly with any questions including questions related to the conditional use review process.

Sincerely,



Sarah Absher, CFM, Director
TILLAMOOK COUNTY | Community Development
1510-B Third Street
Tillamook, OR 97141
Phone (503) 842-3408 x3317
sabsher@co.tillamook.or.us