



1st Quarter 2018 Volume 1, Issue 1

# The Excelsior 301 East Pine Street, Seattle

By: Kristina Weller, PE  
*Principal Engineer*

The Riley Group, Inc. (RGI) provided geotechnical engineering and environmental consultant services before and during the construction of the Excelsior mixed-use building on the busy corner of Pine & Melrose. This building includes three levels of underground parking, one street grade level of mixed residential and commercial use, and eight levels of residential units overhead. This project had an assortment of difficult geotechnical and environmental challenges, in addition, the façade of the existing building had to remain as part of the project due to its historic significance.

The below grade level excavation encountered complicated geology including a large saturated sand unit on the uphill side of the site that necessitated installing multiple layers of dewatering wells thru the shoring. The dewatering system pumped over 50 gallons per minute to dewater the sand unit, even then the installation of the lagging materials were challenged due to seepage and running sand units. RGI's team coordinated with the dewatering consultant and shoring contractor to provide recommendations for the shoring and dewatering design during the excavation to successfully complete the excavation through these diffi-

cult conditions. The excavation and shoring extended 30 to 40 feet below grade level and was finished in 2015.

The Excelsior project presented several environmental challenges as well, including soil and groundwater contamination resulting from the historical uses of the property for automobile, auto body and radiator repair facilities. From 2011 to 2013, RGI conducted a Phase I ESA, Remedial Investigation, and closure of an underground storage tank (UST) situated beneath the basement of the apartment building. From 2013 to 2014, RGI completed a Remedial Action which consisted of remediating contaminated soil in 6 locations and remediation of contaminated groundwater in 2 locations. The property was enrolled into the Ecology Voluntary Cleanup Program in 2014 and reports demonstrating the effectiveness of the Remedial Action were submitted to Ecology. RGI additionally demonstrated that concentrations of arsenic in groundwater, that exceeded cleanup levels, were representative of background arsenic concentrations in the region. The property was granted a No Further Action determination by Ecology in October of 2015. The building construction was completed in 2017 and is currently open and operating today.



The Excelsior 2017

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# Safety News

## Behind The Desk: Dianne Hurt



**Position:** Principal, CFO

**Years with RGI:** 12

**Family:** Husband, Adam & Sons, Isaac (8) and Noah (10)

**What is your business day like?**

As the CFO, my days are filled with various business challenges ranging from daily accounting and staff oversight to project related meetings and client relations. I always strive to be effective and efficient in everything I do. Unfortunately, when you are dealing with business, things are rarely straight forward. RGI's business activities are relatively fluid, in other words constantly changing. This fluidity keeps things interesting as everyone here is adapting to the needs of the business on a regular basis. It also allows our staff opportunities for growth that aren't necessarily found at other firms.

**What is the some of the best advice you have received?**

Early on in my business career, one of the best managers I had the pleasure to work for told me to "always hire people that are smarter than you". For some reason this guidance has stuck with me throughout my 20 plus year career. I always strive to hire people that bring skills & traits to the team that we may be lacking. I will say that the team we have put together at RGI are an amazing group of people whose level of skill, expertise and commitment to the clients best interests never fails to amaze me.

**What's the most important thing you've learned on the job?**

Two things-trust your instincts and treat everyone with respect! If you feel something's wrong, then you're probably right. If you think there's more to the story, there generally is. If you sense an opportunity, take it! In regards to respect, there are too many people in business that lose sight of the importance of not only their employees, but their clients, vendors and stakeholders as well. No matter what their function, position, or seniority all of these individuals are assets to the success of your team. They deserve to be treated with respect and noticed for their accomplishments.

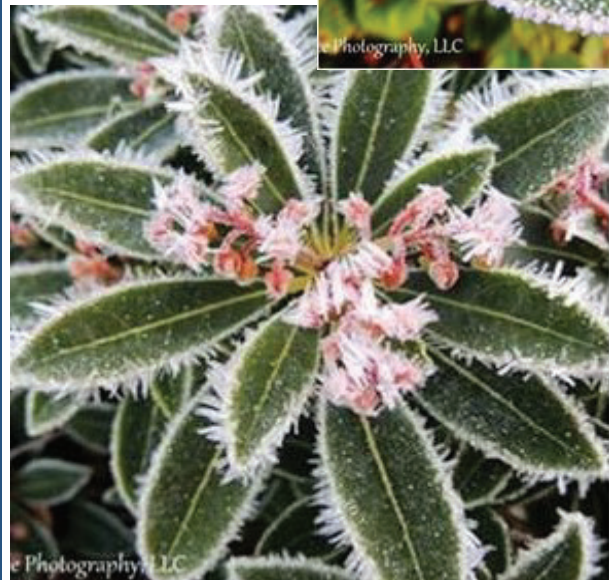
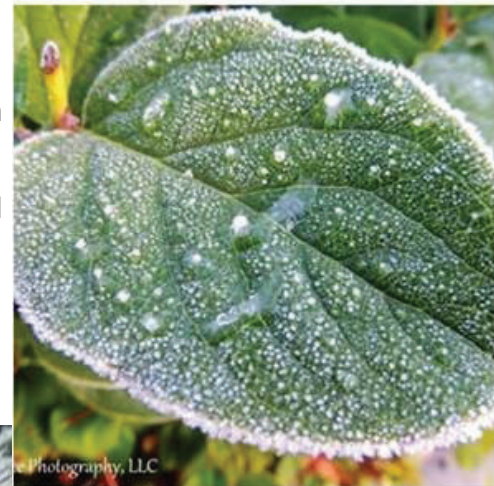
**What does the future hold?** Over the past 3 years, we have been developing unique in-house expertise such as hydrogeology/stormwater management in order to grow our signature turn-key services. We're also considering some exciting technological expertise that are groundbreaking and outside the box, such as acquiring our own remediation pilot test equipment and in-house drilling capabilities. These potential additions will coincide with our long standing main objective; continuing to analyze our project strategies, and work products in an effort to best meet the needs of our clientele.

## Baby, It's Cold Outside

By: Janelle Finley  
Project Coordinator

It's officially winter and that means extra precautions against cold-related dangers, such as frostbite and hypothermia. Employees are expected to follow cold-weather safety guidelines. Perform tasks indoors and breakup outdoor work into smaller periods of time whenever possible. Avoid prolong kneeling or sitting on the ground and stay hydrated with warm, caffeine-free drinks and high calorie food. If you want to interpret that guideline as an excuse to eat another holiday cookie, I won't tell.

Remember your cold weather personal protective equipment. This means dressing in several loose, non-cotton layers for better heat ventilation with a wicking layer close to the body and water-repellent, wind-resistant outer clothing. Body extremities such as fingers, toes, and ears are commonly affected first. Mittens or thermal insulated gloves will help shield your fingers. Boots with linings allow them to be taken apart and dried easier. Hard hat liners will help keep your head protected and warm. Freshly-cleaned clothing is best for temperature regulation and making mom proud. Work with others and watch for signs and symptoms of danger including but not limited to shivering, stinging, numbness, incoordination, and confusion. Stay warm and stay safe!



Frost Pictures,  
Courtesy of  
Snail Pace  
Photography

# Fred Meyer Distribution Center, Puyallup

By: Dave Baumgarten  
Senior Hydrogeologist

Here at The Riley Group, Inc. (RGI), we solve problems. In the Fall of 2017, the Puyallup Fred Meyer Distribution Center desperately needed to add additional paved employee parking to their existing paved parking lot. They already had land adjacent to the existing paved parking areas slated for the additional parking. The civil engineer sent us correspondence from the city with the required information needed for the permit submittal. The city required monitoring of groundwater levels over one wet season, large-scale Pilot Infiltration Tests (PIT) to determine design infiltration rates, as infiltration would be required, and the use of permeable pavement for the paving. Unfortunately, the client needed the additional parking “now” and the wet season groundwater monitoring alone would delay any construction for almost a year.

Taking a closer look at the regional picture of our client’s location revealed that this site was in the Puyallup River Valley. Our first thought was that the geology would be Puyallup River Alluvium, a non-glacially consolidated deposit. The second observation was directed to a construction site across the street, about 200 feet from the proposed paved parking area, which appeared to have stormwater detention facilities being constructed as well. Maybe there was previous wet season groundwater data collected at this location?

The governing stormwater manual included an option for long-term design infiltration rates derived from grain size analyses for non-glacially consolidated deposits. The next step was a call to the city engineering staff to discuss the project. That discussion revealed the city currently had multiple failing infiltration facilities due to incorrect long-term design rates and/or seasonal high groundwater levels much higher than predicted in the site geotechnical reports. As such, the city had defaulted to wet season monitoring and PIT tests for all infiltration facilities. I discussed my proposed approach of long-term design infiltration rates based on grain size analyses specific to permeable pavement systems, as allowed in the city stormwater manual. There was in fact groundwater data from the previous wet season for the site across the street, the city was even willing to email me the reports as the data was now public. Even better, the consultant that had monitored the groundwater levels through the previous wet season, our wettest winter ever, had the wells professionally surveyed, so I had elevation control.

The city agreed that per the city’s stormwater manual they would accept infiltration rates based on grain size. I argued that since the groundwater level data for the neighboring site was in such close proximity and the gradient of the water table in the river valley would be flat, the seasonal high groundwater levels measured on the adjacent site were indicative of the seasonal high groundwater levels in the proposed parking area. They accepted this alternate approach and the groundwater level data.



Digging the test pits at Fred Meyer Distribution Center, Puyallup 2017

We went to the client’s site to complete test pits and collect the soil samples for grain size analysis. The shallow site soils were silt. Grain size analyses showed 80 to 99 percent passing the No 200 sieve. Because of the high fines content the equations to estimate infiltration rates from the grain size curves were not valid. More important the use of permeable pavement which would convey water to the silt subgrade would make the subgrade unstable and therefore the parking surface would fail.

In October 2017, we generated a report for the client which addressed the seasonal high groundwater levels, documented the silt soils, and the concluded fact infiltration was not feasible and permeable pavement was not advisable. To protect the very fine grained subgrade soils conventional pavement was recommended. The project was able to move forward to permit submittal one month after we first got involved, compared to going thru the normal cause of business which is a year-long process. Problem solved.

# RGI Announcements

# WEBSITE NOTICE!!!

New look to launch by 04/01/2018

[www.riley-group.com](http://www.riley-group.com)

Be sure to check it out!



December 2017: Volunteering at Food Lifeline was such a fun and rewarding experience for our group here at RGI. We were officially part of the "Pinto Bean Project" and our amazing team bagged approximately 1,369 pounds of frozen beans for families in need.

## ★ RECIPE ★

### Janelle's Favorite Pick: Butternut Squash Cornbread (Vegan & Gluten Free Options)

#### Ingredients:

3 cups almond, cashew, or milk of choice  
 ¼ cup ground flaxseed  
 2 tsp. lemon juice, fresh is always best  
 1.5 cups flour (all purpose, whole wheat, or gluten free mix)  
 1.5 cups cornmeal  
 2 tbsp. baking powder  
 1 tsp. cinnamon  
 1 tsp. all spice  
 1 tsp. salt  
 ½ cup coconut or brown sugar  
 ¼ cup coconut oil  
 1 ~15oz. can pureed butternut squash  
 2 tbsp. maple syrup, the real stuff

#### Instructions:

Preheat oven to 350°F. Grease a 9x13 pan. Yes, I said 9" x 13". This make a lot of cornbread because I like to use the whole can of

squash. But fear not! Kids love it and it freezes well. I also like to make it into muffins for quick snacks. Just reduce baking time for muffins. Combine milk, flax, and lemon. Set aside to let the flax thicken up.. Combine dry ingredients in a large bowl. Mix well. There is nothing like biting into a chunk of baking powder to ruin a perfectly good meal. Melt the coconut oil in a small glass bowl. Add squash and maple syrup. Mix until oil is well incorporated. The milk mixture might cause some of the oil to solidify again and you don't want big chunks. Add squash-mixture and milk-mixture to dry ingredients. Mix until just combined. A few chunks is ok. Pour into pan and bake until toothpick comes out clean, about 45 minutes. I like it best served with raspberry jam, but it's also great

with butter or just by itself..  
 Variations: I've replaced the squash with pumpkin puree or shredded zucchini and they were both great.  
 -For a dessert option, use all-purpose flour, increase to 4 cups milk, and 2 cups sugar. Taste like super moist yellow cake to me!  
 Use it quickly, the extra moisture makes it spoil faster.



## Contact Us

Give us a call for more information about our services

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