



McNEIL ENGINEERING™

Winter 2019

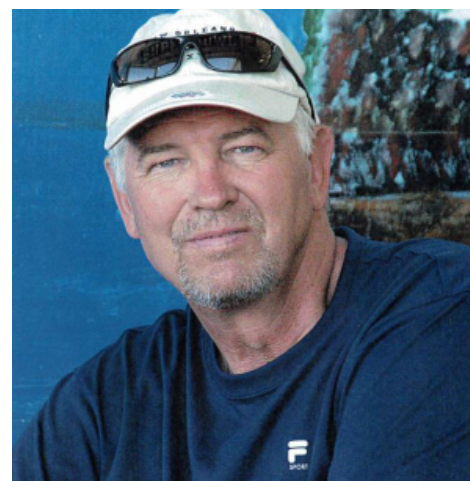
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January, February & March

Announcing the Retirement Of Rod Davis

Thank you Rod!!!

36 years after helping to start McNeil Engineering, the last of its founding members is retiring. Rod Davis has finally decided its time to spend more time on honey-do lists and less time on task lists at work. So, after investing large buckets of blood, sweat and tears into this business, Rod, has decided its time to move into the next phase of life, RETIREMENT. In his 36 years he has helped McNeil Engineering grow and adapt to the ever changing requirements of its thousands of customers over more than 3 decades. His retirement was effective as of January 1st, 2019.



Rod Davis

Rod is excited because this will free up more of his time for golf, woodworking projects, and spending time with the grandkids and his family.

Please see the follow-up article to see what other things Rod will be doing with some of his time as he and his family move forward. (His time at McNeil may not be over completely).

Rod says his greatest accomplishments over the last 36 years with McNeil Engineering have been the business and personal relationships he has grown and developed with his partners, his employees, and especially his clients. A source of pride for Rod was knowing that his projects were professionally designed to match the way his clients had envisioned them to be, and then valued-engineered and reality-checked to give his clients the best value for their money spent.

For a little over two years now, Rod has been working with Carl Greene to make the transition from being the boss to being a trusted consultant and project manager.

Carl has been working with Rod at McNeil Engineering for over 15 years, and has

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The impact of winter weather on your roof

Ice, snow and freezing temperatures aren't just uncomfortable to spend time in. They can put your roof through the wringer.



Wind – Winter winds can create snow drifts or even blow across your shingles. When this happens it can cause your roof to erode, exposing insulation and allowing water and ice to seep into the cracks. If you have tall trees near your commercial building, wind can also break and throw branches on your roof, causing potential damage. To prevent this from happening, regularly trim back your trees.

Snow – Wet, heavy snow if allowed to build up over time, can put a significant amount of pressure on your commercial building's roof. If this problem isn't addressed, it could cause the ceiling to bow, and in a worst-case-scenario, collapse. Wet snow over doorways and windows can also cause the mortar or drywall to crack.

Ice – Ice is particularly problematic for commercial roofs. When water gets into cracks or crevices in your roof, it may then re-freeze. When water reaches its freezing point, it expands. That expansion can have an impact on pipes, HVAC equipment, wooden support beams, and even walls. However, this process sometimes takes a period of months or years. Because of this, it's important that you have your roof and attic area checked out by a roofing consultant.

Give McNeil Engineering's roofing consulting department a call if winter is playing havoc on your roof.

Six Week In A Jungle of Pipes

Michael Hoffman, McNeil Engineering's Survey Department Manager spent six weeks of his summer in Gallup, New Mexico surrounded by a sea of pipes. Hoffman was at the Andeavor Gallup New Mexico Refinery completing a laser scan of almost the entire refinery.



Laser scanner overlooking the Gallup Refinery

The Gallup refinery is the only refinery in the four corners area of the United States, and is located on 880 acres just outside of Gallup, New Mexico. The Gallup refinery produces gasoline, diesel, propane, butane and heavy fuel oil. The refinery has a crude oil capacity of approximately 26,000 barrels per day.



The Gallup refinery is one of ten refineries owned and operated by Andeavor and is part of an extensive logistic network that produces approximately 1.2 million barrels per day.

The data collected in this scan will be used as the refinery produces Tier 3 fuel. Tier 3 refers to a set of fuel and vehicle standards adopted by the Environmental Protection Agency (EPA). The Tier 3 standards affect both oil companies and vehicle manufacturers. Oil companies must lower the sulfur content of gasoline, making it cleaner to burn. Vehicle manufacturers must improve emission control technologies that reduce harmful tailpipe pollution.

Tier 3 standards would reduce the amount of sulfur in gasoline by more than 60 percent, to no more than 10 parts per million of sulfur on an annual average basis. Lower sulfur levels in gasoline will allow vehicles to run more efficiently and cleaner.



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FUN FACT

The Utahraptor, one of the largest raptors ever known to exist, was discovered in Utah and named after the state. At around 18 feet long, it would have more closely resembled the raptors depicted in *Jurassic Park* (1993) than its measly cousin the Velociraptor. It was almost named after the movie's director, but the paleontologist who discovered it was unsuccessful when he proposed the idea to Spielberg in exchange for fieldwork funds.



Violin School Commons— A Combination of Old and New

Violin School Commons is a unique project located on the northeast corner of 300 East and 200 South. The three buildings, referred to as the Magnolia, Metropolitan and Liberty Uptown buildings, will be separated by a private street and a public plaza. The developers for this project is Form Development and Cowboy Partners.

The development gets its name from the long time violin making school located across the street on the southeast corner of 300 East and 200 South.



Rendering of Violin School Commons

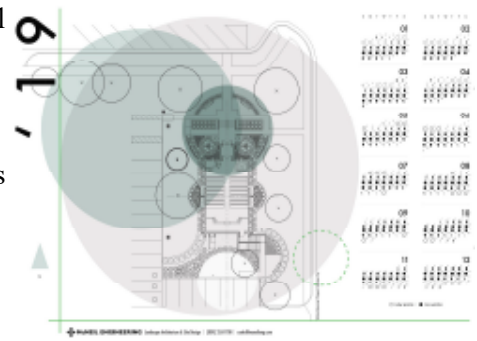
An existing building will be remodeled is the former Public Safety Building, known as the historic Northwest Pipeline Building. Once remodeled, the eight-story, Northwest Pipeline Building will become the Metropolitan and will have ground floor retail and seven floors of residential with 74 market-rate units.

The second building, the Magnolia will be six stories and will have 65 affordable units that will be reserved for residents transitioning out of homelessness. Once built, the Homeless Shelter will own the Magnolia and the Road Home will be the operator.

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2019 Lunar Phase Calendar

The Landscape Architecture group at McNeil Engineering has produced its 2nd annual Lunar Phase Calendar for 2019. This year we have highlighted the remodel project of the White Memorial Chapel, situated opposite the Utah State Capitol in Salt Lake City. This project was challenging and rewarding on many levels. First of all, the chapel is a classic building designed by Obed Taylor in the early 1880s and it has a long and meaningful history in our community. Moreover, it was important to maintain continuity with the building while also upgrading the look and feel, and providing a water-wise contemporary landscape that can enhance and become part of the classic structure for years to come.



2019 Lunar Phase Calendar

The lunar calendar portion of the poster is intended as a general guide of when specific moon phases will occur throughout the year. During a full Moon, many people say things feel a little off — things are a bit madder, people are more unsettled. The word “lunatic” stems from the Latin word *luna*, meaning Moon, and there’s ample evidence to support that erratic behavior does occur in some people around the time of a full Moon. Disposition and behavior are not the only things the Moon seems to influence. According to research, the following are influenced by the cycles of the Moon:

Heart

A study found that when exercising, your heart is at its peak performance during a full and new Moon.

Brain

Much like the Moon is responsible for the ebb and flow of tides, Dutch researchers theorize the Moon’s gravitational pull could similarly affect your brain, causing changes in behavior.

Kidneys

The *Journal of Urology* found that pain from kidney stones increased notably during a full Moon. English researchers found more patients were admitted to hospitals with urological difficulties during this time, too. Conversely, a new Moon caused a “calming effect” for people with those conditions.

Sleep

A 2013 study published in *Current Biology* reviewed the sleep patterns of participants over three days in which they fell asleep at will in a controlled area that had neither clocks nor outside light. When the data was compared to the phases of the Moon, researchers determined participants not only had lower melatonin levels during bright Moon phases, but they also took 5 minutes longer to fall asleep, slept 20 minutes less in general, and had 30 percent less REM sleep.

Menstrual Cycle

A woman’s average menstrual cycle is 28 days, like the 29+ day lunar cycle. This timing may be more than coincidence, according to Chinese researchers, 30 percent of all the women monitored in the study ovulated at the full Moon and menstruated during the new Moon. In some cultures, there is even a name for this phenomenon, *White Moon Cycle*, which essentially mirrors the fertility of the Earth which is said to be most fertile under full moonlight.

Increased Birthrate

Japanese and Italian studies show a correlation between the number of births and when the gravitation pull of the Moon to the Earth is strongest. Additionally, a study

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examined more than 1,200 births over three years and found the highest number of babies are born in the two days after a full Moon.

Increased Injuries

We are more prone to accidents or illness during a full moon. According to a study in the 2011 *World Journal of Surgery*, 40 percent of medical personnel believe in “Full Moon Madness” among patients. It was also revealed that emergency calls increase by 3 percent whenever there is a full Moon, and then drop by 6 percent during a new Moon.

THE PHASES OF THE MOON

New Moon

When we are in the “New Moon” phase, the Moon is not visible from our perspective because it is positioned between the Sun and Earth. It’s called a New Moon because it is the beginning of the lunar cycle and the 30-day orbit of the moon around Earth.

Waxing Crescent

After the New Moon, the Moon continues its journey around the Earth, becoming visible as it moves on its path toward becoming a Full Moon. The sunlit portion of the moon is increasing. A crescent Moon is easy to identify as it looks like a sliver in the sky. Waxing = growing in illumination.

First Quarter Moon

In this case, the term is used because the Moon is in the *first quarter of the 30-day cycle*, but it appears half full. The First Quarter and Last Quarter Moons (both called “half-moons”) happen when the Moon is at a 90-degree angle with respect to the Earth and Sun, so we are seeing exactly the half of the moon as it is illuminated by the Sun’s light.

Waxing Gibbous

Still growing as we head towards a full Moon and now more than half of the Moon is illuminated by the Sun’s light. Gibbous = more than half.

Full Moon

The Full Moon arrives about 15 days (14.8 to be exact) after the New Moon; the midpoint of the lunar phase cycle. The Moon is now in alignment

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Employee Anniversaries this Quarter

Employee	Date Started	Years of Service
Michael Hoffman	2/13/1995	24
Dave Sumner	3/11/2002	17
Matthew Roblez	3/18/2002	17
Cody Palmer	2/5/2007	12
Scott “Skip” Schoonover	1/1/2011	8
Shane Brower	3/25/2013	6
Shad Seitz	2/18/2014	5
Ryan Filby	2/23/2015	3
Jeanette Zimmer	1/4/2016	2
Brook Robinson	2/1/2016	2
Layton Asmus	2/29/2016	2

Crane Design...

Part of the business philosophy of McNeil Engineering’s Structural Department is to be as diverse as possible with the services that we provide and be experts in all of them. Since 2002 McNeil Engineering has been engineering cranes for all the major crane manufacturers in the intermountain west. Our engineering guidance in crane engineering has been sought



out by many professionals across the country. Our designs include small ½ ton jib cranes in industrial facilities to 20 ton double girder cranes for the Naval Station in Pearl Harbor, and everything in between.



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The third building will be a new constructed building known as Liberty Uptown, which will include 109 residential units, 63 of which will be reserved for low income residents. The five-story building will have ground floor retail and four floors of residential fronting 200 South.

McNeil Engineering’s civil engineering, structural engineering and survey departments all played a role in this project. We are looking forward to seeing the completed development.

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with the Earth and Sun again, just as in the New Moon phase, but this time the Moon is on the opposite side of Earth, so the side of the moon that faces the Earth is completely lit by the Sun.

Waning Gibbous

After the Full Moon, the illuminated portion of the Moon decreases as we head toward the darkness of the next New Moon. Waning = decreasing in illumination.

Last Quarter Moon

Sometimes called the Third Quarter Moon, when the Moon completes the third quadrant of its phase cycle, about 22.1 days after the New Moon phase. And, as with the First Quarter Moon, it appears as a half Moon. But this time, it is heading toward the New Moon phase (disappearing) instead of growing toward the Full Moon phase.

Waning Crescent

The Moon is a crescent again, just as in Waxing Crescent, but the illuminated part is decreasing. Now, the illuminated crescent is facing the opposite direction as when it was a waxing crescent.

For thousands of years humans have tracked the Moons position in the sky. Some of the earliest man-made lunar phase calendars date back 32,000 years. The predictable movement of the Moon allowed humans to determine the seasons, months, and years, even when to sow and when to harvest. Though most of us no longer rely on the lunar phase to guide our everyday lives, understanding the Moon's cycles is both interesting and potentially beneficial.



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If you would like a copy of this year's calendar, please contact Jeanette Zimmer at jeanette@mcneileng.com.

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been Rod's right hand man for at least the last 12. Carl has several decades of his own experience in the design, roofing consulting and paving consulting fields, with extensive schooling, study, knowledge, and experience in building and roofing design, paving design, project management, and professional business ethics. Rod feels more than confident turning the reigns over to his well-qualified protégé.

We at McNeil Engineering want to wish Rod all of the best in his future endeavors (including an improved golf score), and extend our heartfelt gratitude and appreciation to him for all his years of dedication and service.



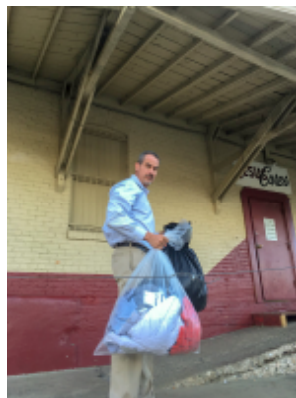
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McNeil Engineering Hires New Paving Consultant!

Rod Davis, a well known and well respected consultant of all things paving, has been brought on as a part-time consultant to help the Consulting Dept. with their paving projects. Rod's years of experience and parking lot know-how are second-to-none, and he will be of invaluable assistance to the Consulting Department's team of professional designers and project managers. They are very excited to welcome him to the fold and cannot wait to start working with him on all of their upcoming paving projects for 2019 and beyond.

Our "Share The Warmth" Campaign Was a Success

Thanks to everyone that donated to our share the warmth winter coat drive to benefit the Rescue Mission of Salt Lake. This years campaign was an overwhelming success. Matthew Roblez and Henry Fox delivered several large garbage bags of winter coats, hat, gloves and scarfs to the Rescue Mission.





Elizabeth Ann Draper; Surveying Department; Drafter/HDS Technician/Project Manager

How long have you worked at McNeil Engineering? *I began working at McNeil Engineering part-time when I was 16 years old, and then switched to full time when I was 19. Eight years total.*

What do you find the most challenging working at McNeil Engineering? *The hardest part for me is not necessarily working at McNeil specifically, but it would have to be balancing work and school, sometimes that can become very overwhelming, even more so because my schooling goes hand in hand with my work and there's that extra little bit of pressure to do well.*

What do you like most about working at McNeil Engineering? *Besides loving my job in general, I love the people I work with. I always thought working with my dad would be difficult, as a lot of people who work with their family members will tell you, but we work as a team and it's great. We have a great system. I love how flexible and understanding people here are as well, especially when something outside of work comes up.*

What has been your favorite project at McNeil Engineering? *I would have to say one of my favorite projects was the scan job we did in Los Angeles, when we scanned Jared Leto's house. That was a pretty cool experience, even though I didn't get to actually go on site. However, I was the one responsible for registering the data, and so I still got to see his house, as well as hear recollections from my coworkers about meeting Jared Leto himself.*

What have you gained from working at McNeil Engineering? *I have gained my career path and solid work relationships.*

Favorite vacation location? *Oak Island, North Carolina*

Motto or personal mantra? *Carpe Diem (Seize the Day in Latin), something I have to remind myself every day.*

What are three career lessons you've learned thus far? *I have learned that sometimes, like a lot of things in life, careers can be stumbled upon by accident, when you aren't paying attention. I was going to school and planned on becoming a French Immersion teacher, and instead, I decided to apply myself and use the knowledge I had been given here to my advantage, and now here I am studying to be a Land Surveyor (only four more semester left! Woo-hoo!). I have also learned not to discount something so quickly because it's not something you would have ever saw yourself doing, and that you can find passion in anything you want to, as long as you are ready to put your all into it. And last but not least, in order to succeed in a career, you have to work harder and smarter.*

What is something you've always want to try and never have? *I would love to sky dive one day, but I am terrified. I have watched others do it but I can't bring myself to get on that sketchy little airplane!*

What do you like to do in your spare time? *In my spare time, you can find me wedding planning (at the moment anyways J), reading for my book club, learning new things through podcasts and other outlets, working out, going to school, going to concerts, keeping up with politics and speaking out publicly on issues I feel passionate towards, watching either Friends, The Office, or Parks and Recreation, spending time with my friends and family, doing puzzles with my fiancé, listening to my record collection, shopping, anything makeup related whether that's doing something fun and creative or watching tutorials on YouTube, spending time with my pups trying to be the best dog mom I can be, spending time at our family cabin up in the mountains*

What are your top 5 bucket list items you want to accomplish? *(1) To see all 50 states in the US, and to travel to at least one place I have never been every year (Travel in general) (2) To build a home, and a comfortable foundation to live my life with my family (3) To be a mother (4) To be a successful, career driven woman and (5) To be a good person*

What is your hidden talent? *Not really sure I would consider it hidden, but I have a knack for writing. I have always excelled in that area with minimal effort and it really does just come naturally. I was the first person to get an A on my term paper last semester from a professor who never gives out perfect scores. I turned in the paper thinking it was B work at best.*

Do you have a pet? If so what do you have? *I have three pets, two blue heelers named Lou and Fancy (named after the Reba song), and then I have a little kitty, named Phoebe (after the character in Friends)*



Elizabeth Draper