

HIGHLIGHTS

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PERSPECTIVE

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An innovative reality check

✦ BY BRADD BUSICK


The **MLAB** is a space dedicated to Virtual Reality (VR), providing customers with the ability to explore a project in VR, make real-time adjustments to a building model and immediately see the results. Conversely, customers can make structural changes in VR or change the finish of a floor or surface and bidirectionally update the building model. This allows for on-the-fly adjustments to a building's design.

Here, MacDonald-Miller customers can see exactly what the user is seeing while in VR via the fully immersive projection technology, affording both the team in VR and the meeting participants the same experience. The MLAB can accommodate any number of team members in person and/or remotely, and provides a place for stakeholder engagement earlier in the design process.

The MLAB enables facility managers to tour their new mechanical rooms before construction begins. Architects and clients can visualize their new buildings very early in the design stage. And, building owners can tour their lobby and plazas to better visualize the views and perspectives, including real site movements such as weather patterns, daylight, shadow conditions, walking distance and energy studies.

"This room delivers the power of creativity and insight into how decisions – big or small – will impact construction in real-time. Combined with the ability to collaborate in VR from anywhere, this truly offers new capabilities for architects, facility owners and general contractors."

MacMiller has been using 3D Modeling and BIM for years. Now, it's tremendously exciting to have the technology as part of their delivery method, expanding into 4D time simulations and 5D cost analysis, including the ability to calculate the cost of a material change or structural change in real time.

The MLAB will also provide dynamic community outreach by merging STEM values with practical applications for tomorrow's workforce. MacMiller will offer tours of the MLAB to local students and teachers in support of furthering community, civic and educational engagement to foster a STEM-skills learning experience for the 21st Century workforce. 

3D MODELING 4D TIME SIMULATIONS 5D COST ANALYSIS



Gus Simonds
President



Values are our Value

I often try to explain what makes MacDonald-Miller special. In my heart it seems clear, but in words it's harder to explain. Recently, our Culture Committee went on a deep and valiant exploration to describe what we are and preserve it in words we can all live by. These value statements are a crisp refresh of our old operating guidelines that we established over 20 years ago. I am confident they will serve us well for years to come. Look for how these values show up in our offices and jobsite:

Collaboration – Diverse players, one team, a common vision.

Dedication – We are dedicated to personal and professional excellence.

Safety – Everyone deserves a safe workplace. It's more than hard hats and boots, it's an attitude and the environment we create.

Community – We are proud to be part of MacDonald-Miller. Together we create an environment that is welcoming, caring and trusting.

Innovation – We are committed to continuous, creative problem solving.

Fun – We take the work seriously, but never ourselves too seriously.

What's really inspiring for me in these words is they are not what we want to be – it is who we are – everyday. #MacMillians!!!

2018 has been another successful year for MacMiller. Although slightly slower in business volume than expected, we have had some great wins and significant innovations setting the stage for a big 2019. First, a big applause for a successful 8th and Howell (Grand Hyatt) project and the American Life/Sodo Builders Hawk Tower Project. Both of these large jobs were cornerstones of our 2018 New Construction project work and together represented over 300,000 man hours to complete!

Also, a huge shout out to both our Special Project Groups and our Oregon operation who all set high-water marks for their business revenues in 2018.

I am proud to say we have built a very healthy backlog of work for 2019 and beyond – a few noteworthy large jobs like Rainier Tower, Convention Center, SeaTac Hyatt, 700 Dexter and Children's Hospital will be in full swing next year.

In the meantime, enjoy the holidays and be safe! You are valued, and we need you to be happy and healthy for a big 2019!!!

Gus Simonds



Making our mark at a landmark

✦ BY ZACH SIMARD, JOE WOLLEAT AND TREVOR MOSER

Town Hall Historic Renovation | Seattle, WA

After a century of use, a Seattle landmark venue is getting an overhaul. Town Hall is a non-profit performance theatre that provides affordable accessibility for its programs and community. The historic building was built during the peak of the Christian Science movement between 1916-1922 for the Fourth Church of Christ, Scientists. The congregation was the sole and continuous occupant of the building until it was sold to Town Hall in 1998.

Our scope of work for this plan/spec project includes HVAC, piping, plumbing, and controls. The new mechanical systems, which are vital improvements to the building, are oversized (large ducts with many vents) to reduce vibration and noise. Additionally, to reduce mechanical system noise from interfering with performances, the main performance hall has a separate system, so it's acoustically isolated from lower floors which also have their own system.

A huge part of this story is the execution of a highly successful new type of workflow. Our teams (wet and dry) are more effectively integrating existing project data into their workflows – we are moving away from 'one-off' estimates. To realize a cost savings, the estimating model had to be precise and accurate enough for Detailing to use, yet had to be completed within the standard estimate turn-over cycle.

The estimating contribution to this (Town Hall) piece is the cost savings involved for the Detailing effort. By their account, approximately 120 hours were saved. This is significant, as a direct estimating-to-detailing model has not been done before.

This initiative entailed a combined effort from Trevor Moser (Estimating) who gave Clint McCann (Sheet Metal) and Joe Wolleat

CONSTRUCTION SPECIAL PROJECTS | GENERAL CONTRACTOR: RAFN COMPANY


ENGINEER: MAZZETTI

(Detailing) insight into the project, and who reviewed the drawings and helped identify how to tackle such a unique project.

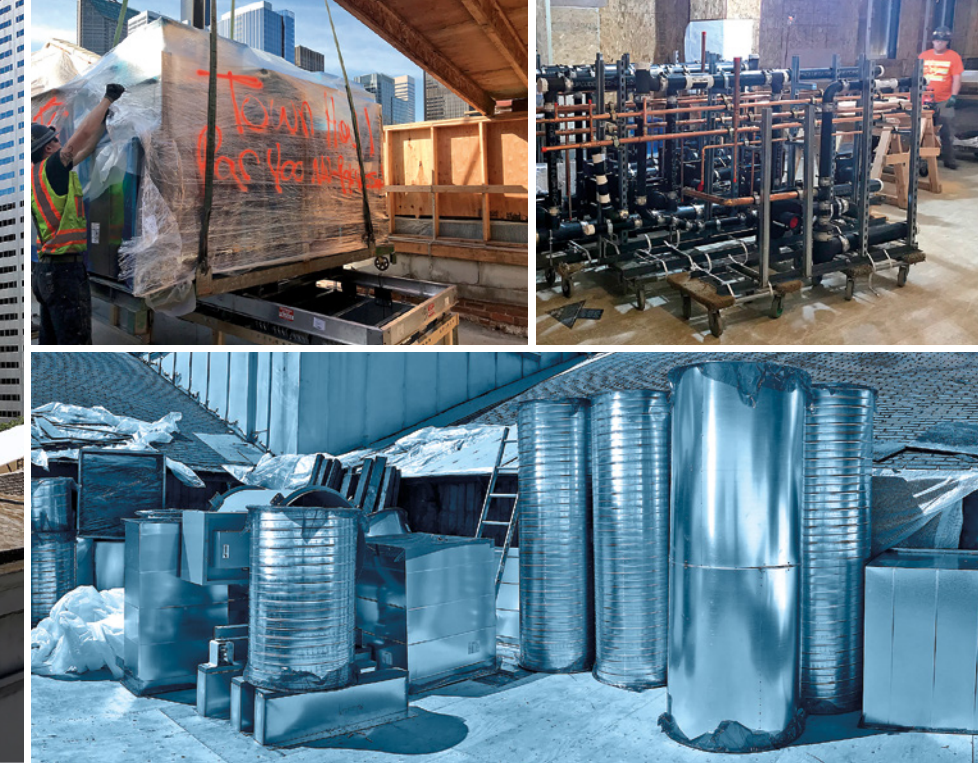
Also, because there are no control points or gridlines in the attic for the field to measure for install, Luke Barendse (Detailing) provided panoramic renderings via Navisworks utilizing QR codes on the field's install drawings. Thus, the field could see the 3D duct installed on their iPhones in reference to their 2D install drawings. This was a huge asset to the field team, as it enabled them to instantly visualize systems with changing elevations and routing through a domed attic area that would otherwise be difficult and time consuming to decipher.

Of course, none of this would have been possible without our partnership with the engineer, Mazzetti. The architectural model was Trimble mapped so we had an accurate description of the attic, where most of our scope resided. We could completely experience the space and see how our systems would fit in this complex attic space. From day one, Joe could work with estimating's design line model and start incorporating portions of that design to catapult the time it took to detail the project.

Overall, over 45,000 lbs of total duct was sent to the fabrication shop, which allowed the field foreman to bypass hand take-off in an attic that was mostly inaccessible at project startup. This helped the field keep to schedule and eliminate the time needed to field measure and order that much material.

The ability to interpret, integrate, improve and disseminate accurate project data in the design pipeline allows MacMiller to keep a real-time finger on the pulse of project costs. The renovation of the 35,731 SF performance arts building will be complete in March of 2019. 

Check out the cool panoramic views at macmiller.com/townhall.



TOWN HALL

HVAC PIPING PLUMBING & CONTROLS



Financial Center | Seattle, WA

✦ BY JEFF MORASCH

MacDonald-Miller was working on York chillers at the Puget Sound Plaza building when our customer approached us about a steam work project at another one of their buildings. A steam study report by Northwest Energy Consulting recommended replacing all the HVAC electric heating in the facility. By replacing their electric boiler, electric heat exchanger and air handler electric heating elements with three steam heat exchangers, the client would greatly reduce their monthly heating costs.

The steam work includes pumping the steam condensate through a unit heater in the building's return air to drop the condensate temperature before sending to a building drain, which also preheats the building's fresh air. The heat recovery prevents employing a condensate cooler, which uses fresh water and then dumps both the condensate and fresh water down the drain.

Equipment sizing challenges combined with scheduling constraints made this project quite a formidable task. Due to working constraints at the building, our crews had to start at 4 am each day and could continue after 7 am, only if they kept noise to a bare minimum. They also had to work four Sundays in a row. The planning and attention to detail resulted in a successful project – an impressive feat given the restricted working environment.

Thanks to the team effort by:

- **Jason Zembrycki**, SPTI Pipefitting Superintendent, for supplying the labor and material budgets to build a proposal.
- **Mike Pinchin**, SSP Pipefitting Superintendent, for creating drawings and providing innovative ideas that would fit limited workspaces.
- **Jason Stetz**, SPTI Pipefitting Foreman, who invested a lot of time and energy laying out the project with the idea of taking up the least amount of space while allowing room to service all components.
- **Byron Cross**, Electrical Service Foreman for working on the electrical portion of the job.
- **Tim Felton** and his crew for installing the unit heater waaaay up in the air. 🍷

WE'RE ALL ABOUT THE (S)TEAMWORK!



FACES OF SUCCESS

It takes people from a wide range of professional skills to make MacDonald-Miller the industry leader that it is today. It's the diverse personalities and backgrounds that seamlessly come together to create smart, successful project teams here at MacMiller. That's why in each issue of Perspective we take the time to highlight three members of MacMiller who've made invaluable contributions. It's a way to give you a little more insight into those that proudly represent us, and a way to further illustrate how three different individuals can make one team greatly successful.



DEDICATION

Mike Pinchin

SERVICE SPECIAL PROJECTS,
PIPEFITTING SUPERINTENDENT

Years with MacMiller:

I've been with MacMiller for 14 years now. Where has the time gone?

Whatever it takes...

My most memorable moment was when a customer lost their chiller in Bellevue this July. We rallied the troops and ended up working a couple of long days. To be exact, we ended up working 40 hours in 2 days to get the building cool again.

Hikes & Bikes

In my free time, I like riding dirt bikes with my youngest boy (14), and hiking with my oldest (16). Evans Creek is one of our favorite spots – it's so close to Mt. Rainier you can almost reach out and touch it. We hike all over... Little Si, Rattlesnake Lake and a brutal adventure we just did called Cable Trail. It's a trail that was cut to get power to the top of Cougar Mountain and the other peaks. It's a direct route straight up!

FUN FACT

The three MacMiller folks featured above are working together on the Financial Center, detailed in the article on the left. ←



TEAMWORK

Jason Stetz

SPECIAL PROJECTS TENANT
IMPROVEMENT, PIPEFITTING FOREMAN

Years with MacMiller:

2011 as an apprentice; returned in 2014

Home away from home

At MacMiller, everyone treats each other like family and has your back – whether it's a repair at 2 am on a Sunday that you need an extra hand with, or a project where you want to bounce an idea off someone. Everyone I've ever encountered at MacMiller enjoys coming to work and is a pleasure to be around. I value that MacMiller makes the resources available for me to succeed and, in turn, I try to provide the same to my cohorts. I'm a firm believer that not one person knows it all, but with a team we can accomplish anything – and MacMiller has the **BEST TEAM** in the industry.

A speed demon

I'm an avid **gearhead** and like to go fast! I'm crazy enough to have torn apart my 2011 Corvette Z06 with 4,000 miles down to the block and install a new cam, ported heads, and ported intake manifold in my garage. With 650HP it goes pretty good!



WORKMANSHIP

Jason Zembrycki

SPECIAL PROJECTS TENANT IMPROVEMENT,
PIPEFITTING SUPERINTENDENT

Years with MacMiller:

I first started with MacMiller during the second year of my pipefitting apprenticeship back in June of 1999. I have been Superintendent of our Special Project Pipefitting department since June 2005.

What a work ethic...

I most value the hard work and effort that our field workers put into their jobs every single day. These guys and gals are out there working their tails off when it's 95° and performing the same quality of workmanship when it's 20° out there! Without our hard-working craftsmen on our job sites, we would not be the success that we have been, and strive to maintain.

Covered in camo

I am an avid hunter and fisherman. Most October and November weekends I can be found in the woods of eastern Washington deer or elk hunting. I keep a large vegetable garden each summer and enjoy **canning** projects with the family in the fall to preserve the summer's bounty.





Photo by Jason Kaplan

Giving a master class


✦ BY MIKE JOHNSON

Portland Public Schools

MacDonald-Miller began working with Portland Public Schools (PPS) in 2015, commencing with Da Vinci Middle School. The first project was a small controls retrofit that entailed replacing antiquated motors and doing VFD upgrades. We also replaced the existing building automation system with a non-proprietary Honeywell WEBS DDC system.

As that project was completed, PPS was working on a master specification that involved moving their existing proprietary control system to an open source non-proprietary Honeywell system. The benefits of switching to a JACE Tridium open platform were the integration capabilities along with multi-vendor selling and support, which would give them flexibility and quicker response time.

For example, instead of being locked into working with one vendor, they could request multiple qualified Honeywell contractors for bids which result in immediate support for the service needs.

Since then, MacMiller has been fortunate enough to work on other high-profile schools in the bond modernization program. Faubion and Grant High School (a 300,000 SF major renovation) are excellent examples of completely modernizing the schools' systems and maximizing the life-cycle costs of those buildings. MacMiller is the control system installation provider and system integrator for these school projects. While these advancements are inherently valuable, more importantly we are giving the community a high-performance building automation system that maintains student comfort and safety. Read more about this project in the Oregon Business Magazine: macmiller.com/schools. 

Boiling over with ingenuity

✦ BY SCOTT GIDEON

PeaceHealth Boiler Project | Springfield, OR


The PeaceHealth Sacred Heart Medical Center at RiverBend boiler project consists of retrofitting two 800HP Superior Boilers and installing a third new 800HP Hurst boiler. We are installing state-of-the-art Limpsfield burners that are guaranteed to operate at 3% O2 emissions (15% excess air). That means they are very efficient and will provide energy savings and lower fuel costs! Along with the new burners, we are installing new Autoflame combustion management controls and a central plant manager. Therefore, all the boilers will “talk” to each other as well as the building controls. The customer will possess remote access to the boiler plant via a tablet computer anywhere in the hospital through their secure WiFi connection.

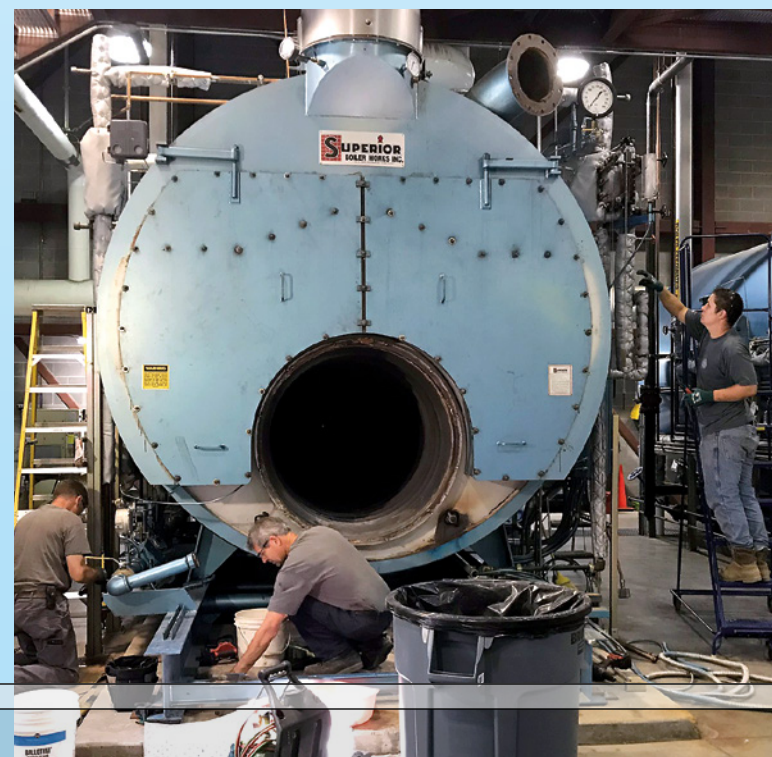
We're also installing integrated water level control. This provides highly accurate boiler water level, improving efficiency, plus an onscreen “virtual” sight glass for at-a-glance water level checks.

Autoflame top blowdown and Total Dissolved Solids (TDS) metering is being installed to keep the waterside clean and free of scale. This feature provides onscreen data of current TDS levels and blowdown.



When this project is finalized, this will be the most state-of-the-art boiler plant in Oregon.

“With the support of Bill Kegley and Scott Gideon, Ruben Cañas, and our field guys, Jeff Mask and Nate Jones, this has been a very smooth, successful project with a lot of collaboration across teams. It couldn't have gone any better,” states Kristen Killen, Service Special Projects Account Manager. 



Leveraging constant communications

MIU East Lab Q & A with McLean Webster

McLean Webster takes a break from his busy day as project manager to share some insight into our work at a telecommunications lab in Bellevue, WA.

Q: All projects have challenges. What issues are being overcome for this specific job?


A: The uniqueness of the steel superstructure that was added around the existing wood building created many challenges. The overall structure of the building is not typical, and creates unique scenarios when MEP travels throughout. That, coupled with the vastness of MEP being added to the space, further demonstrated the importance of thorough scheduling and detailed coordination.

Also, the Sound Transit continuation of their East Link Expansion has made jobsite logistics change constantly. Working together with Turner Construction to conquer challenges as they approach helps alleviate the impact to the job.

Q: It sounds like teamwork is really important when faced with these types of challenges. What helps with overall collaboration?

A: Working in close proximity to the Turner team has allowed pull plan scheduling to be utilized. This has resulted in better detail and sequence in the scheduling efforts. Given how much MEP is needed in a building like this, it has been crucial to have everyone on the same page so that plans can be developed and modified quickly to keep the project progressing.

Q: What type of innovation has been helpful for the scope of this telecommunication lab?

A: Using pre-insulated line sets and prefabrication for the chilled water system has allowed us to cut down on the amount of work in areas with low accessibility. 

Mechanical scope of work for MacDonald-Miller on this 57,000 SF project includes (3) chillers, (3) DOAS Units, (2) RTUs, (157) VRF Indoor Units, (76) VRF Outdoor Units, Compressed Air System, Fuel Oil System, Liebert XDP System, Plumbing, Insulation, and Vibration Isolation



PULL
PLAN

SCHEDULING



SHOUT OUTS!

➡ TO JOSEPH ANAYA

“I wanted to let you know that we are really pleased with the service that our accountants are getting. We knew that it would take some time, but Joseph Anaya is doing a bang-up job and definitely making an impact and resolving some areas that tenants had complained about for years! We are looking forward to getting the new controls so we can really see the benefits of all the repairs we've been doing.”

Jill Keoppel, Director of Commercial Property Management, IPM

➡ TO KENNY SPROUL, JOEL KRUEGER & GARY LARKIN

“The American Life Hawk Tower is winding down and I want you to know that Kenny Sproul, Joel Krueger and Gary Larkin elevated service delivery to a whole new level. They make it personal and I can't say enough about their efforts. They don't care what hour it is, or even if they are on vacation. They care about us here. It's personal for them and I greatly appreciate it.”

Jason Mezzano, Chief Engineer

➡ TO DALE MESECHER

“I am so extremely grateful for having you and MacMiller staff as our HVAC provider/service support team. HVAC is critical and little things can go wrong and shut both the equipment and operations of a business down. Getting an SOS notice at 4:30 pm last Friday, then having a foreman address the issue is why I love MacMiller! I also appreciate the new expanded contract for monthly filter changes, which I sincerely hope will reduce emergency OT calls. If you ever need a recommendation, please let me add my voice of appreciation. Thank you, again.”

Janice Jarman, Goodwill

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PERSPECTIVE

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Boiler install at
PeaceHealth Sacred
Heart Medical Center,
at RiverBend

