

Flagship

SEATTLE DISTRICT

SHOALHUNTER
CORPS OF ENGINEERS U.S. ARMY

Surveying
the
Depths

Volume XXXIV
No. 1

Flagship

SEATTLE DISTRICT

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Around the district

Photo by Mike Vigil

Joe Knapik:

This Flagship is for you

Joseph "Joe" Knapik joined the Seattle District in April 2016 working as the Records and Information Management Specialist under ACE-IT. Joe has been instrumental in leading the district in taking charge of transferring over 13,500 record boxes from Iron Mountain to the Federal Records Center - a monumental task. He continues to professionally articulate, execute and advise the Seattle District on records management functions and has been instrumental in bringing Seattle District office symbols in compliance with Army standards. In addition to his own duties, Joe has graciously covered the mail room during an extended absence of our mail clerk.

This Flagship is for you!



Cover:

Photo by Dallas Edwards

The Survey Vessel Shoalhunter is prepared to return to the water after undergoing annual maintenance in Tacoma, Washington. The Shoalhunter surveys northwest Pacific channels and harbors, checking for channel shoaling, the buildup of sand and sediment.

Flagship

Col. Mark A. Gerald,
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Flagship is an unofficial publication authorized under AR 360-1, published by the Public Affairs Office, Seattle District, U. S. Army Corps of Engineers, P. O. Box 3755, Seattle, WA 98124-3755. The views and opinions expressed are not necessarily those of the Department of the Army. Questions may be sent to the above address.

Seattle District: The Strategic Vision

Thank you to all of you who have welcomed me to the District. I look forward to getting out to more work sites and meeting those of you I haven't had the chance to meet yet.

As we look toward a new year, I asked the District leadership to review our strategic framework and adjust it to best chart our course to our preferred future.

In October, the Corporate Board, District Branch Chiefs and Operating Project Managers reviewed the strategic framework, including the vision, mission, values and goals. In a follow-up meeting, the Corporate Board made additional refinements, given the context of the command climate and expected workload.

What is the Seattle District's Strategic Vision? The vision statement focuses on the *future*. It reflects what you imagine your organization achieving; what you envision your desired future to look like. We updated the vision statement to include **"Team of Teams" in our statement – "Seattle District – Excelling in a Dynamic Environment: Mission First, People Always, Team of Teams."** The Strategic Vision portrays a future in which Seattle District excels in executing our mission in an environment that is dynamic and often uncertain. Our Vision recognizes that key to this future are the people of Seattle District and our partners.

The mission statement describes the organization's fundamental purpose - its reason for being. It answers the question: Why are we here? It focuses on the present. We revised it to better describe our broad scope and to include why. It now reads, **"We provide engineering expertise and manage water resources to deliver quality solutions that protect and serve the Pacific Northwest and the Nation."**

Our three main goals remain, "Efficient and effective mission execution, care for and develop our people, and leadership and accountability at all organizational levels." The only minor change we made was to add "develop" to care for our people to emphasize the importance of a highly

capable professional workforce.

Leadership determined that using the established Army values would be simpler for all employees to identify and understand. We elected to retain "responsiveness to customers (internal and external)" as a District specific value that all District team members must live in order for the District to achieve the Vision.

Our District values are the Army values of **Loyalty, Duty, Respect, Selfless Service, Honor, Integrity and Personal Courage, and the District value of Responsiveness to Customers (Internal and External).**

The implementation of the new Defense department performance system - DPMAP- will also allow us to

evaluate our individual performance against the Army values and specific measurable objectives that support the District's goals.

As we move forward, District leadership, informed by survey data, discussions with employees and district supervisors, looks to continuously improve our strategy, develop annual execution plans to reach our goals and routinely assess our progress toward the vision.

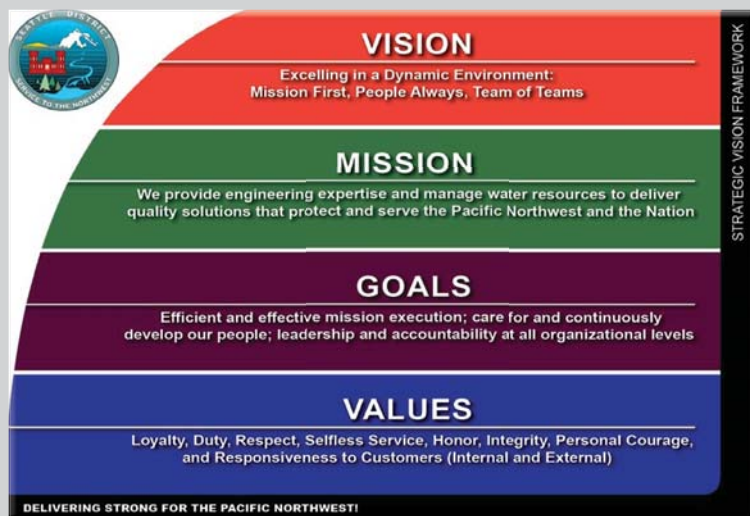
Operationalizing the vision is the #1 District priority.

You help us achieve it by living our values every day, and by continuing to be flexible, adaptable, accountable, agile and responsive.

-DELIVERING STRONG!



**Seattle District Commander
Col. Mark A. Gerald**



See unabridged Commander's Column at:

www.nws.usace.army.mil/Portals/27/docs/Flagship/FY18%20Q2%20Commander's%20Column%20Final.pdf?ver=2018-02-26-114507-020×tamp=1519669202786



Granite tiles waiting to be installed. These tiles weigh about 1,000 pounds each and are about two feet square. Pictured are: Katie Garon, Richard Smith and Michael Swenson. (Courtesy photo)

Looking to hard rock to outlast heavy metal

By Patricia Graesser
Public Affairs

Mud Mountain Dam, an earthen flood risk reduction dam located on the White River, has prevented more than \$3.6 billion in flood damages. However, one of its hard working outflow tunnels has been beaten up pretty badly and now engineers look to hard rock as a solution.

The dam has two outlet tunnels: A 1,694-foot-long 9-foot tunnel used for sediment bypass and a 1,750-foot-long 23-foot tunnel at a higher elevation for passing flood flows.

The 9-foot tunnel passes bedload from Mount Rainier through the dam, preventing the reservoir from filling in. Along with 500,000 tons suspended sediment per year, the tunnel passes 20,000 tons of bedload per year (up to 22 inches in diameter).

When the new intake tower was built in 1995, a steel liner was installed in the 9-foot tunnel.

The first hole in the steel liner was observed in 2006. Additional and larger holes were discovered every year after. Holes are currently repaired every six to 12 months, requiring 5 cubic yards of concrete hand mixed in the tunnel in

small batches.

To restore the tunnel floor, Seattle District sought a contractor to determine the right repair solution using the District’s initial design concept of a steel floor with two layers, with a top layer that could be replaced. Engineers expected it to last 15 years between plate replacements.

In 2016 the District awarded a best value design-build contract to Garney Construction. After award, Garney presented a value engineering proposal to use granite tiles instead of steel to line the tunnel.

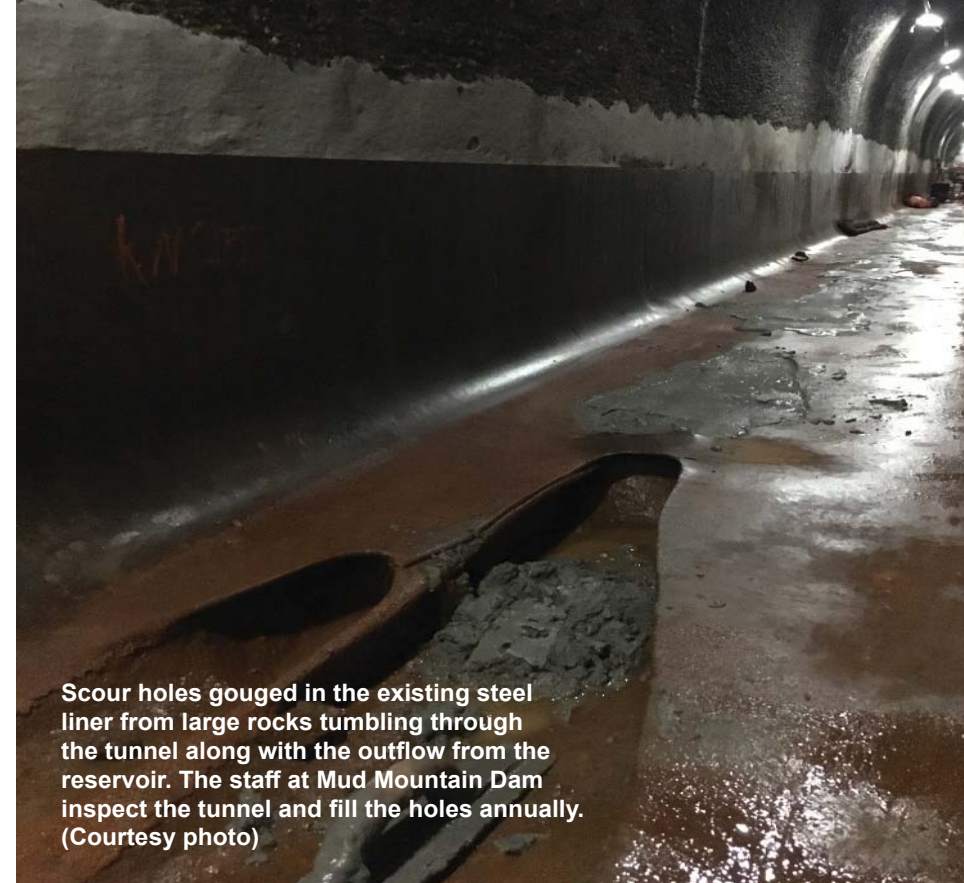
“This is a one-of-a-kind feat here in the U.S.” said project manager Mike Wellner.

Engineers looked to a similar project in Switzerland for a comparison. The Pfaffensprung, Switzerland, sediment bypass tunnel has a similar flow pattern and sediment load as Mud Mountain Dam. The Pfaffensprung tunnel was constructed in 1922 with 20-inch granite blocks on the floor. In 1962 they replaced abraded granite with concrete. The concrete and basalt tiles performed poorly (concrete removed quickly, basalt tiles ripped out in high flows). The

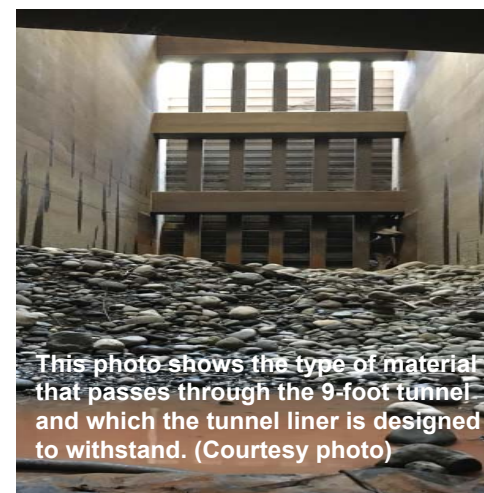
original granite proved to be the superior tunnel liner choice.

“I was fascinated by the simple thought of using the natural solution – what normally lines a river bed? Rock! But I was skeptical that the government would take on a technology we haven’t used before,” said project technical lead Ellen Engberg.

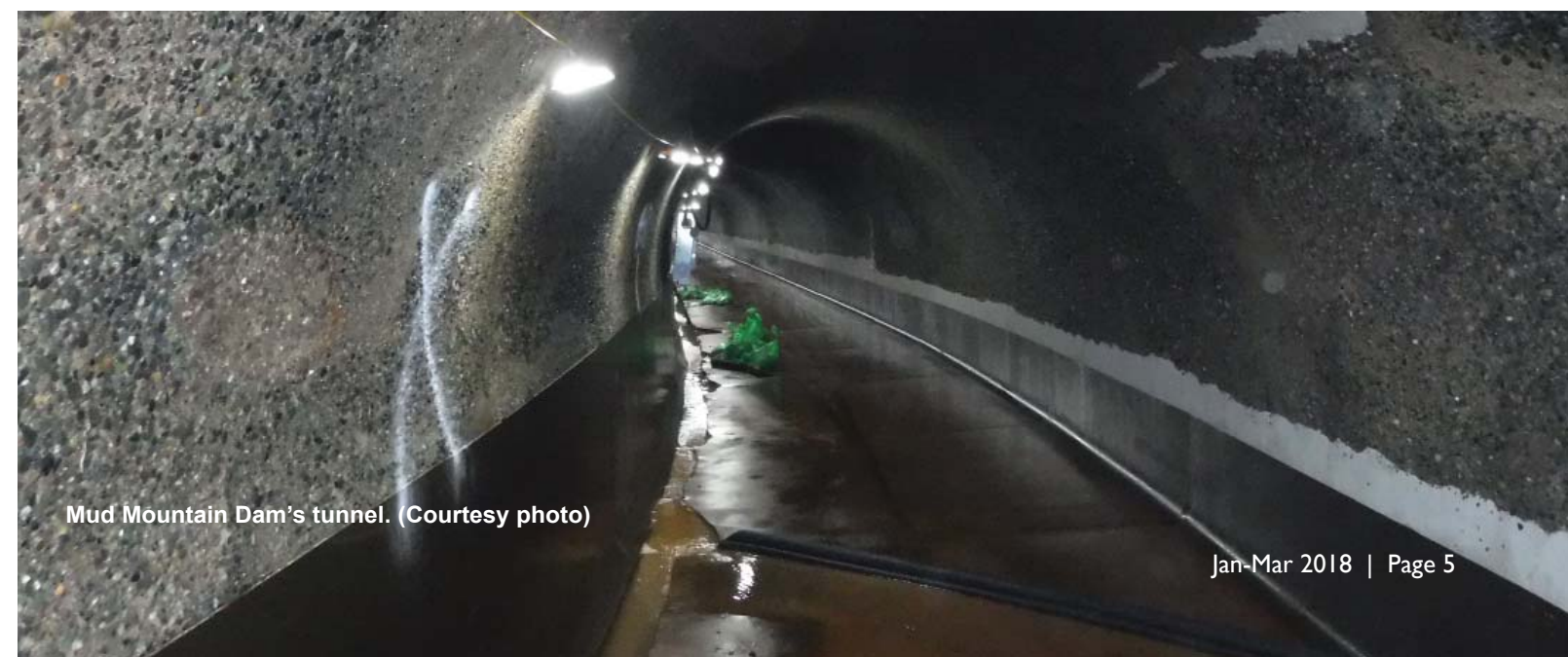
A Garney Construction employee obtains a core sample to test porosity and percolation of the permeable concrete demonstration strip in the 9-foot tunnel.



Scour holes gouged in the existing steel liner from large rocks tumbling through the tunnel along with the outflow from the reservoir. The staff at Mud Mountain Dam inspect the tunnel and fill the holes annually. (Courtesy photo)



This photo shows the type of material that passes through the 9-foot tunnel and which the tunnel liner is designed to withstand. (Courtesy photo)



Mud Mountain Dam’s tunnel. (Courtesy photo)

“The benefits of using granite are quicker and easier installation,” said Engberg. “There is much less welding in the tunnel and smaller material to haul down the dam and into the tunnel.”

“The design, made up of separate granite blocks, will allow maintenance crews to remove and replace individual blocks as they experience wear,” said Operations Project Manager Dan Johnson. “This is completely unique from the two previous tunnel liners that were sacrificial surfaces lining the full length of the tunnel that needed to be routinely patched or replaced at least annually.”

“The longevity of the solution is a huge bonus,” said Engberg. “Though the wear rate might be slightly faster, there is more material to wear through, maintaining integrity. Therefore the performance life is extended.”

The contractor began construction activities but had to wait for flushing to occur before proceeding with tunnel liner construction. “The tunnel serves as part of the flood control operating project and Operations needs to be able to operate the tunnel as required while still making forward progress with the tunnel rearmament project,” said Wellner.

Construction is limited to specific work windows and started this past summer with completion expected in the summer of 2019.



Chief Joseph Dam conducts eagle survey



Chief Joseph Dam



A duck goes for a swim.



Two bald eagles rest in a tree.

Stephen Lesky and Zach Day captured wildlife photos near Chief Joseph Dam during the Midwinter Bald Eagle Survey.

The survey is an annual task completed by our environmental natural resource specialists and it takes place during the first two weeks of January each year.

The initial objectives of the survey were to establish an index to the total wintering bald eagle population in the lower 48 states to deter-

mine eagle distribution during a standardized survey period. Also the survey identifies previously unrecognized areas of important winter habitat.

This year's counts at Chief Joseph Dam are:

- Juvenile Bald Eagles: 6
- Bald Eagles: 27
- Juvenile Golden Eagles: 1
- Golden Eagles: 3
- **Total Eagles: 37**



Two bald eagles are seen near Chief Joseph Dam.



Deer wander through a grassy area.



A bald eagle in flight near Chief Joseph Dam.



A river otter smiles for the camera.

ANNUAL MAINTENANCE

at
the

Chittenden Locks



Contractors check the structural integrity of the gates. They checked all six gates inside and out.

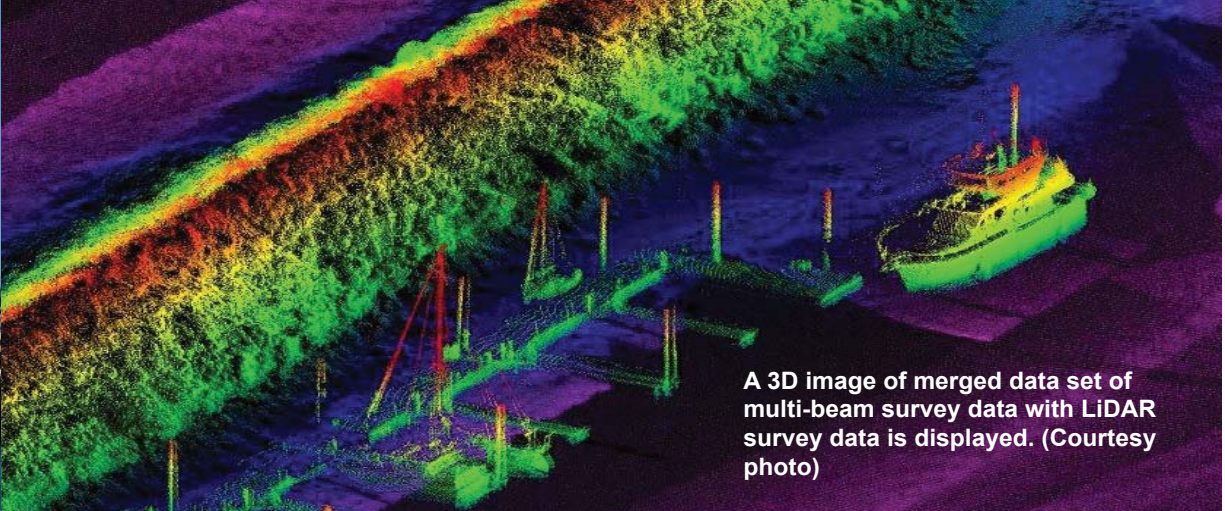


Above: Biologist Dr. Scott Pozarycki (in orange) leads the annual fish rescue with (left to right) Nathan Malmberg, Zach Wilson and Kaitlin Schnell during the annual maintenance pump out. This year there were an estimated 80,000 herring.

Top Right: Volunteers scrape barnacles from the filling tunnels. This is an annual task to help ensure a safer passage for juvenile salmon. Middle: Maintenance Chief Paul Francois uses a skid steer to scrape the chamber

bottom, cleaning up barnacles. Bottom: Kaitlin Schnell and Zach Wilson corral thousands of forage fish, primarily herring, so they can be hauled out and released during the annual fish rescue.





crew’s abilities to work together to safely accomplish our missions and meet our deadlines within a dynamic workload and schedule.”

Garity is also proud to lead and be part of a great crew.

“It is my privilege to be part of this very talented crew,” said Garity. “I’m very proud that our team of survey-

ors and boat operators can overcome almost any problem we might encounter in order to complete our mission on time or ahead of schedule.”

Schultz expressed the crew’s importance to the Corps.

“Tom Garity, Karry Kinared, Ed Benton, Jeremy Abrahamsen, and Neil Usefara all epitomize the Army values everyday with their work on the Shoalhunter and in support of our hydrographic survey operations around Western Washington,” said Schultz.

“This amazes me every day and I can rely on them to get the mission done safely no matter what challenges come.”

Recently, the vessel had its annual maintenance at Modutech Marine in Tacoma, Washington. During the maintenance, the Shoalhunter was taken out of the water in order to access running gear and to paint the bottom.

The vessel had some buildup of barnacles which were scraped off the hull, explained Garity.

The success of the Shoalhunter’s mission is due to the crew’s teamwork and flexibility, explained small craft operator and Shoalhunter crewmember Edward Benton.

“My favorite part of this crew is the team effort we put forth to ensure that we operate at a highly efficient level, while remaining flexible to often changing schedules and conditions,” said Benton. “I am very proud of our



geographic information systems.

Tom Garity is the vessel’s captain and he plans all of the Shoalhunter’s missions.

“My job is to provide a safe working platform for the survey crew,” said Garity. “I also plan and schedule surveys to meet the needs of the project managers and the navigation mission.”



nar, single-beam sonar, side scan sonar, and LiDAR (light detection and ranging) systems for creating accurate and precise surveys. The surveys are used in dredging operations, engineering, high-resolution mapping and providing data for

ducts the surveys.

“Survey and navigation personnel are vital in these operations and work together to collect and process field data, determine where dredging is needed, and calculate how much material must be moved to keep harbors open,” said Seattle District’s Chief of Waterway Maintenance Brad Schultz. “Maintenance dredging is performed by construction contractors. Key members of the team and the crew provide surveys for payment and quality assurance.”

The Shoalhunter is outfitted with cutting edge technology. Some of the vessel’s capabilities include multi-beam so-

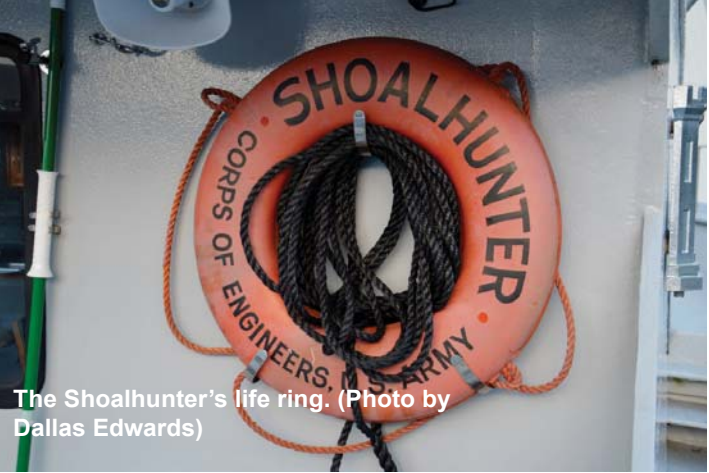
Discovering the unseen

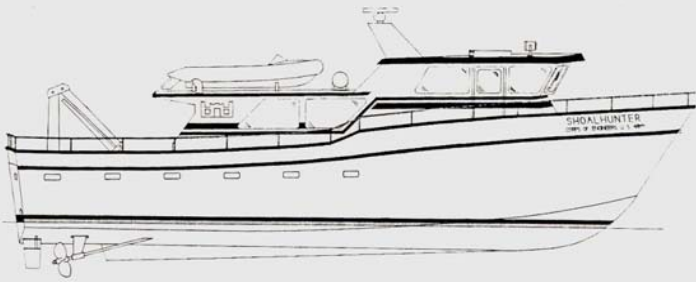
By Dallas Edwards
Public Affairs

From Grays Harbor, the Corps Vessel Shoalhunter provides underwater surveys and searches for shoaling, which is the buildup of sand sediments.

This is a crucial service in the area because it can provide information for the need of dredging before the shoaling can become an underwater hazard to navigation.

The Shoalhunter operates along Washington’s coast from Westport to Cape Flattery with a three-person crew, which consists of a master and first mate for the vessel and one technician who manages onboard equipment and con-





Technical specifications:

Length:	58 feet
Beam:	19 feet
Draft:	4 feet 5 inches
Construction:	Fibrous Reinforced Plastic
Crew:	3-5
Cruising Speed:	18-24 knots
Surveying Speed:	5-8 knots
Range:	720 miles
Manufacturer:	Modutech Marine, 1993
Homeport:	Hoquiam, Washington

Survey Equipment:

Reson SeaBat 7125 Ultra High Resolution Multibeam Echosounder
 Coda Octopus F185+ Precision Altitude & Positioning System
 w/ dual-frequency GPS and Heave/Pitch/Roll Compensation
 AML BaseX Water 500m Sound Velocity Profiler with XChange
 Renishaw Merlin LiDAR Scanner S250 with GPS Antenna
 Edge Tech 4125P Side Scan Sonar System
 Ross 835 Smart Sounder Single Beam Echosounder
 HyPack Survey Software

A roof is hoisted onto a newly constructed barracks building at JBLM



A completed roof section sits ready to be hoisted onto a barracks building.

Raising the roof

**Story and photos by
Dallas Edwards**
Public Affairs

A crane hoisted finished sections of roof onto the newly constructed barracks at Joint Base Lewis-McChord that will house 324 unaccompanied Soldiers.

The \$41.2 million barracks U.S. Army Corps of Engineers construction project is the last project to be constructed as part of a larger \$86 million Battalion Complex. It includes four unaccompanied housing facilities to support a Stryker Brigade Combat Team. The Battalion Complex includes two battalion

headquarters buildings with classrooms and a dining facility. The project also includes the demolition of 11 existing buildings.

“The barracks portion of the project will make an immediate impact by providing much needed housing to the enlisted Soldiers,” said Scott Long, Seattle District project manager.

The barracks were designed with quality of life in mind for the Soldiers who live there. The goal of this style

of housing is to enable the Soldiers to relax during their off time, therefore helping them focus on training during duty hours.

“An example of this can be found in the garden-style design and this will make the Soldiers feel as though they are living in a condo-style home. The facilities are arranged around a courtyard with team-building amenities such as picnic tables, grills, and basketball courts,” said Long. “Anytime a Soldier can focus more on the training and the mission--and less on the quality of their living

environment--that provides for a higher morale and in turn a higher quality warrior.”

When roof sections are built on the ground, it improves safety for the

construction crews by eliminating the risk of a long fall from the top of the building.

Long discussed his role in the project.

“As the project manager, I ensure that the barracks project meets the current housing needs of the war fighter at JBLM while adhering to the agreed upon schedule and budget,” Long explained.

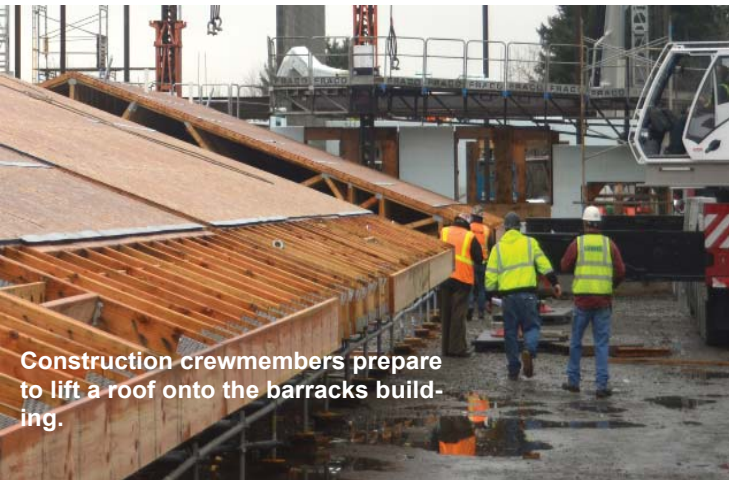
The Seattle District crew knew the direct

impact the facility will have on enlisted Soldiers.

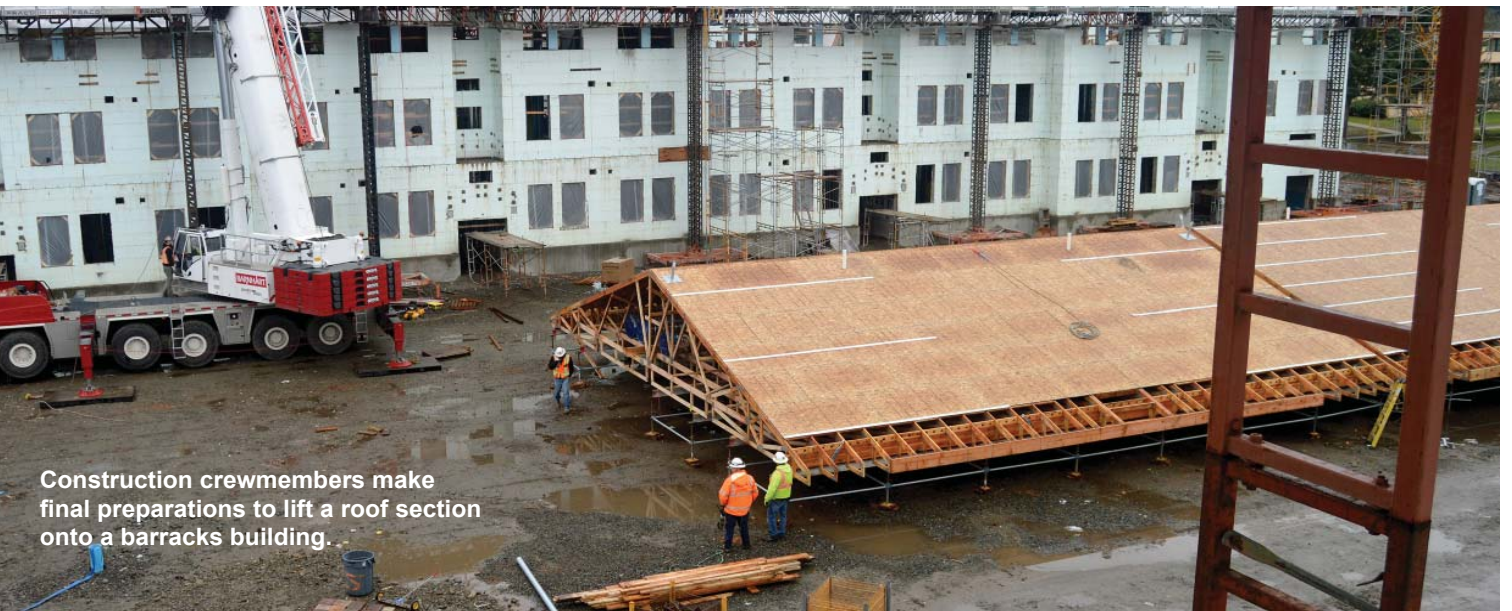
“The best part of this project is knowing that it will make an immediate impact by providing much needed housing to the enlisted Soldiers at JBLM,” said Long. “In addition, this barracks complex is of outstanding quality and much thought has gone into providing a comfortable and fully functioning facility for the junior enlisted Soldiers.”

Ed Pena, the project engineer, was pleased with how the job was progressing.

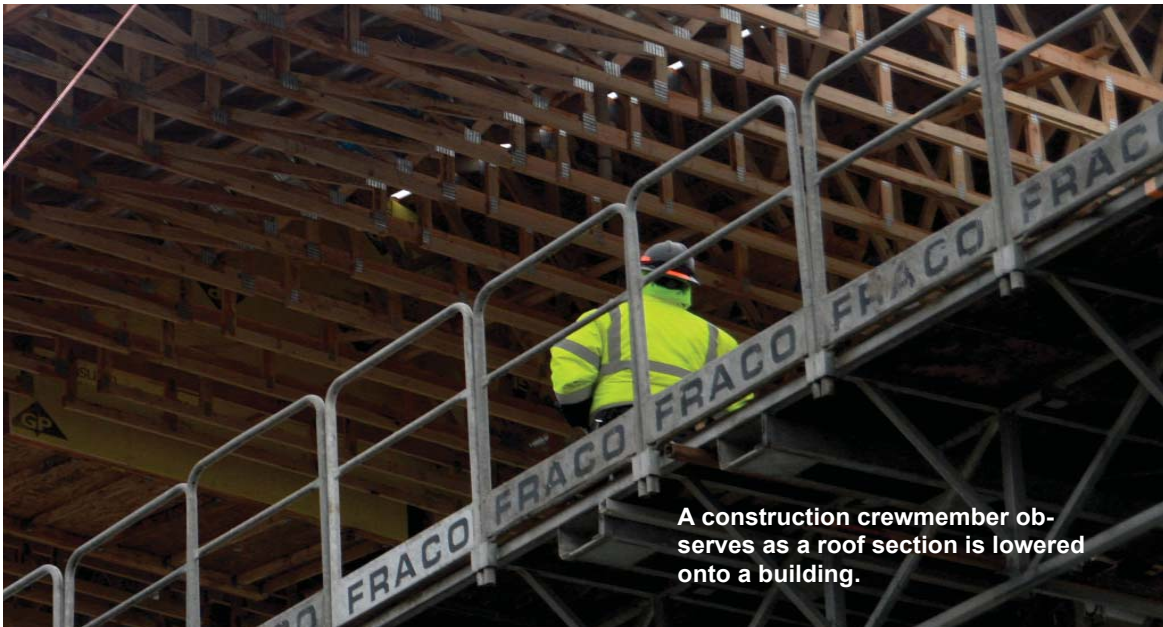
“So far, the project’s success has been due to our ability to communicate well and work through issues diligently which has allowed the project to stay on schedule,” said Pena.



Construction crewmembers prepare to lift a roof onto the barracks building.



Construction crewmembers make final preparations to lift a roof section onto a barracks building.



A construction crewmember observes as a roof section is lowered onto a building.

Quarterly Awards



Shannon Wilson
GS-9 and below



Robert Paulson
GS-10 and above



Susan Smith-Anderson
Supervisor

Out and About:

Steve Hutsell provided guidance to students at Seattle Central College during a Puget Sound Engineering Council mentoring event.

Stephen Munro was awarded Best Photo in the category of Many Uses/ Multiple Purpose Mission: Trusted Stewardship as part of the 2017 Federal Columbia River Power System (FCRPS).

Retired/Moving On:

Scott Ross
Jamie Sachette
Lee Dial
Stephen Terada
Garry Downey
Jason Ritter
Davis Jelusich
Robert Anderson
Rolla Queen
Larry Gazaway
Chris Schreiber



Susan Dollaga
George Barnes

Hurricane/Wildfires:

Capt. Ryan Alarcon
Teresa Boggs
Michael Bondor
George Bonney
Anthony Carlock
1st Lt. Anthony Caruso
Lisa Cass
Charles Cline
Ginny Dierich
Joshua Erickson
Peter Gibson
Matthew Goe
Lisa Hansen
Kathryn Heard
Richard (Pete) Hovde
James Jones

Sid Jones
Chris Keogh
Rafael Lopez-Gonzalez
Katie Lund
Victor M. Ramos
Daniel Munson
Zachary Nelson
Michelle Newman-Gallardo
Kurtis Noble
Jonathan Norquist
Morgan O'Brien
Robert Paulson
Rodney Plant
Benjamin Puyleart
Jodie Ramsey
Michelle Reynolds
Tisa Richardson
Jerry Robinson
Keith Rudie

Capt. Grant Wanamaker

Timothy Warren
Doug Weber
Garrett Wickham
Jacob Williams
Brian Wilson
Jeffrey Wood

Deployed:

Mamie Brouwer
David Cook
Sean Doherty
Charles Ifft.
Avril Jones
Steven Kelley
Jon Lockhart
Bruce Okumura
John Solomon

Condolences:

Richard P. (Dick) Regan passed away December 23.
Norman MacDonald passed away December 25.
Bob Gedney passed away January 19.

EMPLOYEE INVOLVEMENT OPPORTUNITIES

Employee involvement is a critical piece of any safety management system (SMS). The level of employee involvement at your worksite provides a good indication of whether or not your site has implemented a world-class SMS. When employees are involved, they become further educated on safety and health hazards and methods to prevent exposure. Additionally, employees are more likely to support decisions made to enhance safety and health at work when they have input into these decisions.

- Conducting routine self-inspections, monthly emergency equipment inspections, and preventative maintenance inventories
- Participating on committees, working groups, or teams focusing on safety and health
- Assisting in mishap or near-miss investigations
- Performing hazard analyses, such as the creation, review, and update of activity hazard analyses, standard operating procedures, activity hazard analyses, process hazard analyses
- Presenting safety and health-related information in meetings
- Providing safety and health training to current or new employees
- Mentoring other employees
- Developing content for an employee safety handbook
- Acting as a safety observer
- Assist with a hazardous material inventory
- Suggesting topics for Safetygram or posters
- Correcting hazards
- Providing safety and health suggestions
- Participating in the selection of personal protective equipment
- Developing and revising site safety and health processes
- Creating and reviewing safety and health goals and objectives
- Updating safety and health posters, bulletin boards, or other informational displays
- Assisting in emergency drill scenarios and After Action Reports (AAR)



Colleen Anderson
Biologist
Regulatory Branch

Welcome TO THE DISTRICT



Bridget Bentley
Civil Engineer
Tech. Services Branch



Tonya Duclos
Office Auto. Assistant
Chief Joseph Dam



Michael Flowers
Archeologist
Cult. Resources & Policy



Randall Higgins
Pwr. Plant Mechanic
Chief Joseph Dam



Sharon Higgins
Office Auto. Assistant
Chief Joseph Dam



Kasey Krall
Editorial Assistant
Public Affairs Office



Leanna Pan
Environmental Eng.
Tech. Services Branch



Leo Pendergraft
Cartographic Tech.
Geospatial Section



Jeffrey Ross
Contract Specialist
Special Projects JBLM



David Smith
Mechanic
Chief Joseph Dam



Samuel Staples
Pwr. Plant Mechanic
Chief Joseph Dam



Dale Stolley
Maintenance Worker
Albeni Falls Dam



Tandy Taylor
Budget Analyst
Mgmt. Support Sect.



David Trydahl
Electric Crew Supervisor
Libby Dam

Better Know a Section

The Critical Incident Stress Management Peer Supporters



The Critical Incident Stress Management (CISM) Peer Supporters are Corps employees who are professionally trained in helping USACE employees through particularly traumatic events or stressful situations. Their goal is to prepare employees for the situation and/or event, by educating the employee with ways to help themselves and manage stress, and help lessen the impact of a traumatic/stressful event after it occurs. CISM

Peer Supporters can work with groups, or on an individual basis, and all conversations are strictly confidential.

The District's CISM Peer Supporters members are:

Morgan O'Brien
Tisa C. Richardson