

Alaska Capital Engineers

A branch of the American Society of Civil Engineers

May Newsletter

May Presentation:

Developing a Corridor Health Index to Allocate Budgets - Chiniak Project, Kodiak, AK

**Presented By: Benjamin George, P.E., C.E.G., & Trevor Strait, P.E., PTOE
Landslide Technology**

**Date: May 19th Location: Webex
Time: 12:00 PM (See email for meeting link)**

Speaker Bio: Benjamin George, P.E., C.E.G.

Mr. George is a Senior Associate Engineer at Landslide Technology (LT) in Portland, Oregon. He has 17 years of geotechnical engineering and engineering geology experience in the western US with a specialized focus on highway rockfall and landslides. Ben has worked closely with engineers and geologists at several State DOTs including Oregon, Idaho, Washington, Montana, and Alaska. He is a licensed professional engineer in six western states, a licensed professional geologist in three western states, and a licensed engineering geologist in two western states.

Speaker Bio: Trevor Strait, P.E., PTOE

Mr. Strait is a life-long Alaskan who has spent his career working on transportation projects at HDL Engineering Consultants in Anchorage. He has worked on DOT&PF roadway projects across the state ranging from passing lanes and pavement preservations to 4Rs and new construction projects. Trevor has performed research determining local calibration factors for the AASHTO Highway Safety Manual as a research associate at the University of Alaska Anchorage, where he has also taught Traffic Engineering as an adjunct professor.

Successful roadway improvement projects in Alaska must overcome a variety of obstacles, from complex geology to extreme weather conditions to access difficulties. The DOT&PF has long been on the forefront of asset management, developing the first-in-the-nation Statewide Geotechnical Asset Management (GAM) program. In order to improve project scoping, generate more accurate project costs, and avoid costly change orders, the Southcoast Region of the Alaska Department of Transportation & Public Facilities (DOT&PF) coordinated with Landslide Technology (LT) and HDL Engineering Consultants (HDL) to build on GAM to develop a Corridor Health Index (CHI) and an associated Asset Health Index (AHI) for use as project scoping tools. These health indices integrate asset condition, maintenance costs, and crash data to help planners identify areas in the project where additional attention during design would be prudent.

To develop a CHI, the project team expanded the DOT&PF GAM program to incorporate potential threats to roadways and bridges, while also developing TAM evaluation methods to assess roadway geometry, culvert condition, and environmental interests such as fish passage. The team then developed a method for integrating asset condition into an AHI. This index provides a gauge of overall asset condition along any segment of a corridor and is calculated based on the individual asset conditions of bridges, pavements, culverts, roadway geometry, unstable slopes, retaining walls, and potential geotechnical vulnerabilities. The CHI adjusts the AHI based on safety concerns and high M&O expenditures and could be expanded to consider environmental interests as well. These TAM and GAM efforts have been undertaken by the DOT&PF, LT, and HDL team to understand how each asset type is contributing to the function of the transportation system, so that planning can be more informed at the project level.

The Chiniak Highway Pilot Project was originally programmed as a Resurfacing, Rehabilitation, and Restoration (3R) project for a 16 mile corridor, with the primary project goals focused on pavements. Through implementation of the additional TAM evaluations, AHI, and CHI, the project corridor was divided into 15 segments with unique work scope items. This allowed the DOT&PF to more effectively allocate the overall project budget funds. Three corridor segments have been selected to move into final design and construction.

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Volunteering Opportunity

After many years, Doug Murray has resigned as the MATHCOUNTS Coordinator for Southeast Alaska. We are looking for a volunteer to step up and take on this effort. It requires minimal annual effort, with the local competition in February and the State competition in March.

MATHCOUNTS is a national program designed to improve math skills among US students by making math engaging and interesting. These middle school Mathletes work hard to compete in a Sprint, Target, Team, and Countdown round at the competition. The top Mathletes advance through the series of competitions including School, Chapter, State, and National levels.

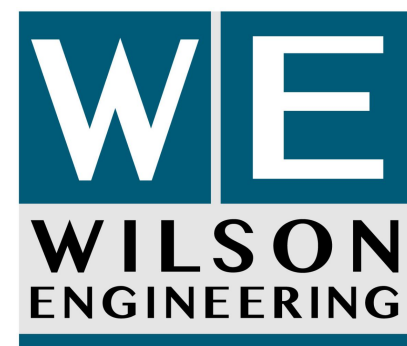
If you are interested in getting involved in our community and promoting math to our next generation, please reach out to us at events@alaskacapitalengineers.org.

Scholarship Recognition

We would like to recognize the recipients of this year's scholarship. Our scholarship is given to high school and college students that are pursuing a degree in engineering. We look at their educational goals, transcripts, and community service activities and organizations they have participated in. The recipients of the 2022 ASCE Juneau Branch scholarship are below:

- Adrell Mulgrew-Truitt is graduating from Juneau-Douglas High School this year and plans to pursue a degree in Mechanical Engineering from either Howard University or Simpson College.
- Samuel Holst is graduating from Juneau-Douglas High School this year and plans to pursue a degree in Mechanical Engineering from the University of Notre Dame.
- Matthew Johns is graduating from Thunder Mountain High School this year and plans to pursue a degree in Mechanical Engineering from Fort Lewis College.

We would like to especially thank our sponsors for contributing to our scholarship fund, as we would not have been able to provide these scholarships to prospective engineers without your generous support! We would also like to thank all of our sponsors for their support this past year. We appreciate you!



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Historic Landmark Dedications

Later this year, the Salmon Creek Dam in Juneau and the O'Connell Bridge in Sitka will be recognized by ASCE as Historic Civil Engineering landmarks. A dedication ceremony for each of these landmarks will be held in early September 2022.

- The Salmon Creek Dam was constructed in 1912 in Juneau, Alaska. This was the first constant angle concrete arch dam in the country. The dedication ceremony will be held in Juneau on Saturday, September 10, 2022. For more information about the Salmon Creek Dam: https://sections.asce.org/alaska-section/sites/sections.asce.org/alaska-section/files/ASCE_Newsletter_2021_Q1.pdf
- The O'Connell Bridge was constructed in 1972 in Sitka, Alaska. This is one of the earliest vehicular cable-stayed bridges in the US and the first in Alaska. The dedication ceremony will be held in Sitka on Sunday, September 11, 2022.

The ASCE Alaska Section has been working for nearly a decade to recognize these unique projects as Historic Civil Engineering landmarks. We are still working on specific details for the ceremonies. More information will be provided as we get closer to the events. RSVP to one or both of these events by emailing Janice.Wells@respec.com.

In-Person BBQ!

We are also planning on hosting a BBQ in Juneau sometime around the Historic Landmark events in September. We are still working on the details. This will be a great opportunity to come together, in-person, after a couple years of virtual meetings, and reconnect!

We will send out a reminder, and more details, later this summer for these upcoming events.

Current Job Postings:

(Visit <https://branches.asce.org/juneau/> for more information)

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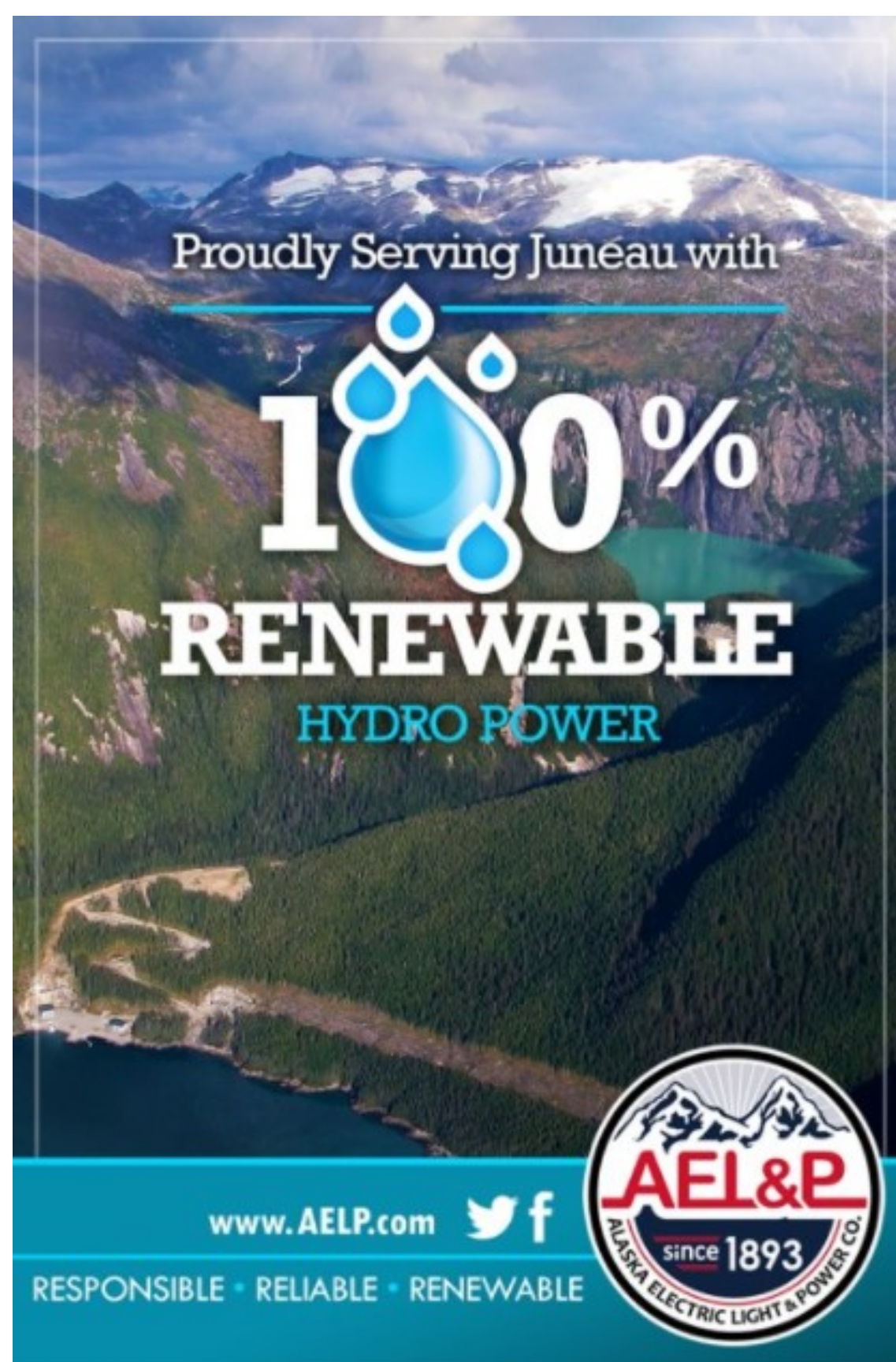
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