



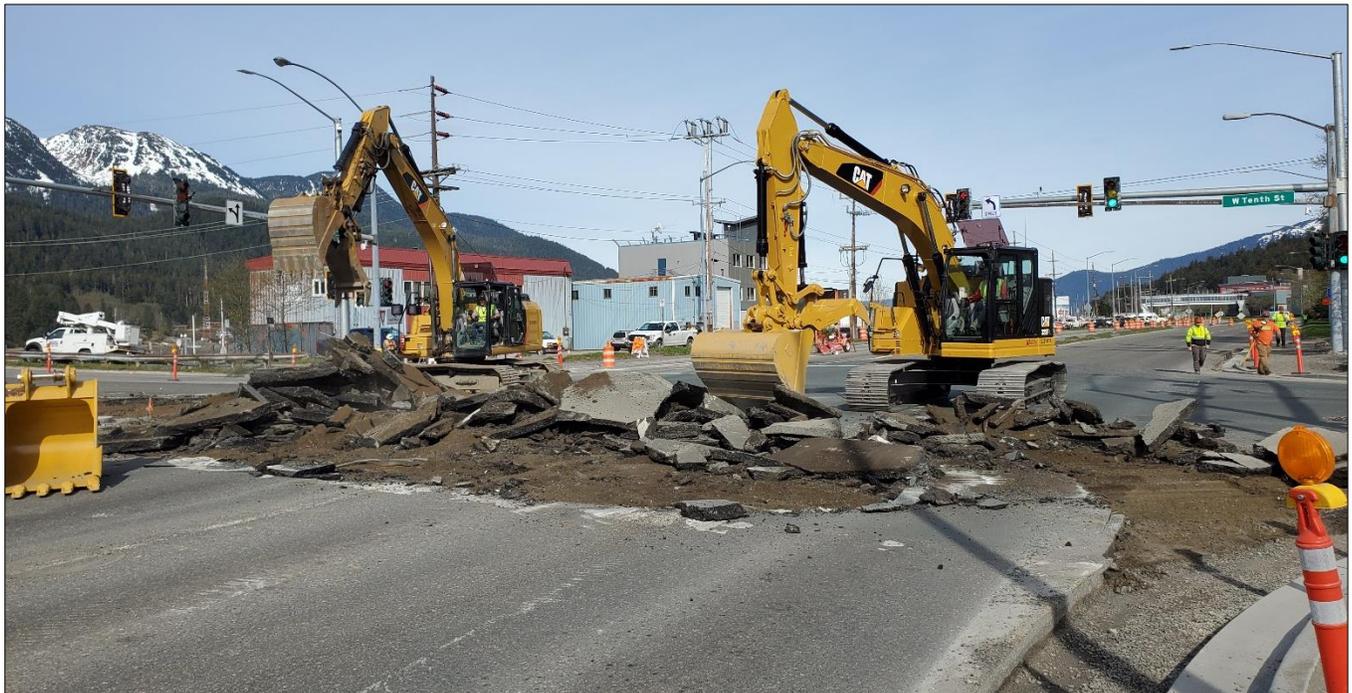
January 31, 2021

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Re: 2020 ASCE Juneau Branch Outstanding Project of the Year Nomination

Dear ASCE Juneau Branch Leadership,

Please consider this correspondence my formal nomination of the State of Alaska DOT&PF's **JNU: Egan Drive Improvements - Main to 10<sup>th</sup> St.** project for Outstanding Project of the Year. This \$14.3 million project was awarded to Secon on March 27, 2019 and required completion of challenging urban street reconstruction along a highly trafficked section of Egan Drive in downtown Juneau, from the 10<sup>th</sup> Street intersection at the base of the Juneau-Douglas Bridge to the Main Street intersection, as well as adjacent to the historic Merchant's Wharf. Improvements included safer pedestrian facilities, improved traffic signal & highway lighting systems, wider sidewalks, the addition of bicycle lanes, a new storm drainage system, retaining wall construction & repairs, bridge repairs, landscaping, and much more.



*It was all hands-on deck during demolition and reconstruction of Egan Drive and 10<sup>th</sup> Street intersection.*



Construction on this project began in June 2019 and continued in spring/summer 2020 following a brief winter shutdown period. Of note, this was one of Alaska DOT&PF's first major construction projects to start work in 2020 while implementing COVID-19 safety protocols to protect both workers and the public. The project is currently 95% complete with only minor, weather-dependent work and punch lists to be completed in the spring of 2021.

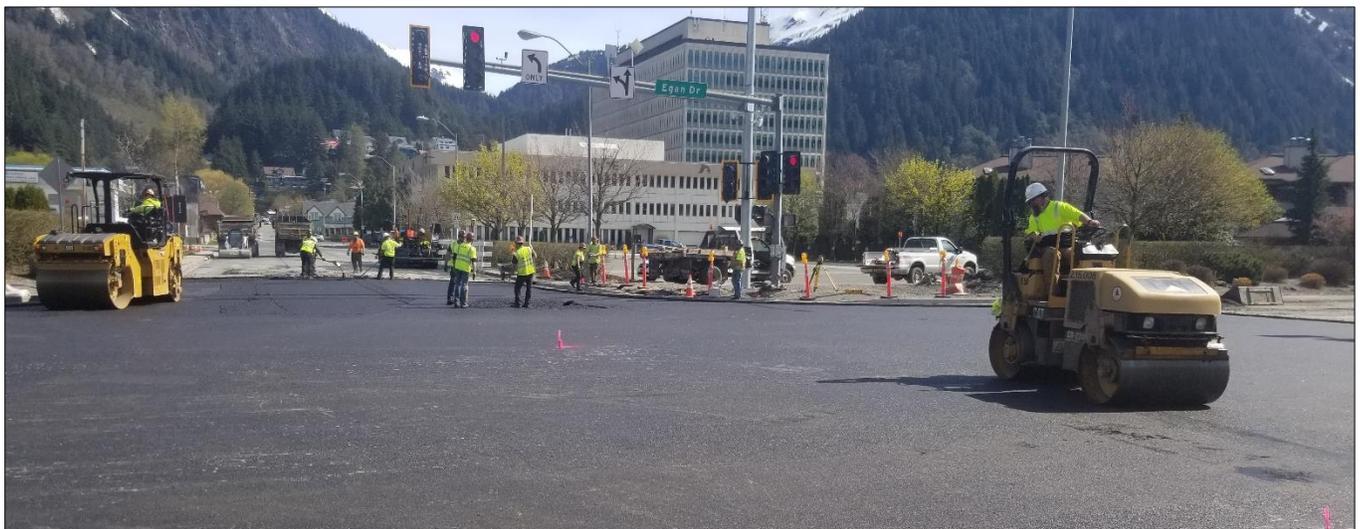
Most of the design work was completed by Juneau engineers under the direction of engineer of record and Alaska DOT&PF Southcoast Region Preconstruction Project Manager, Charles Tripp, PE. Other contributing Alaskan engineering firms and Juneau engineers included Alaska DOT&PF Bridge Section (Gold Creek Bridge rehabilitation), PDC Engineers Inc. (Merchant's Wharf timber wall replacement), and Stantec Consulting Services Inc. (highway lighting and traffic signal systems). In addition to these designers and firms, other services and companies employed during construction who were key to the success of this project included:

#### Construction Contractor & Subcontractors

- Secon (General Contractor)
- Island Electric (Lighting & Signals)
- DOWL (Surveying)
- Southeast Concrete (Concrete)
- Carver Construction (Steel Erection)
- Arete Construction (Utilities)
- Trucano (Pile Driving)
- Alaska Juneau Construction (Trucking)
- Channel Construction (Trucking)
- Roadrunner Fence Co. (Bridge Rail)
- Specialized Pavement Marking (Striping)
- KC Corporation (Bridge Membrane)

#### Owner Contract Administration & Inspection

- proHNS LLC (Prime Consultant)
- Haight & Associates (Electrical Inspection)
- Kinney Engineering (Traffic Engineering)
- McDowell Group (Public Outreach)
- SGS Associates (Schedule Analysis)
- Alaska Testlab (GPR Services)



*Breakdown and finish rolling the 1<sup>st</sup> lift of Superpave HMA at the intersection of Egan Drive and 10<sup>th</sup> Street.*

## Innovation

How do you repair a concrete retaining wall that cannot be replaced or accessed, and whose footing has been undermined by tidal erosion? In the case of the 40+ year-old retaining wall supporting both the Main Street intersection and Merchant's Wharf substructure, you do it with extensive field planning and a flowable, cement-based, controlled low-strength material (CLSM) placed into forms using a pump truck at street level. The 5 sack CLSM mix design prepared by AggPro called for 470 lbs/CY of cement, 600 lbs/CY of 3/8" minus, and 1,963 lbs/CY sand, as well as 10% air content with max slump of 10" to achieve both flowability and a 28-day compressive strength of 2,000 psi.



*Left: Standing near the ROW line between Merchant's Wharf and existing conc. retaining wall.*



*Right: CLSM pour to fill scour voids below footing of existing concrete retaining wall.*

Gaining access to the work area was the first challenge, which required removal of street-level sidewalk adjacent to Merchant's Wharf that was supported by corrugated steel pans and structural steel bracing attached to the face of the retaining wall. Once removed, Secon gained a 26-36 inch wide gap between the face of the wall and the timber pile supported Merchant's Wharf through which they could lower materials to laborers below. There was no clear line between public and private property once below the street; timber piles had to be incorporated into the forms where they conflicted with footing repairs, and the corroded steel cable anchors connecting to the face of the retaining wall from timber caps under Merchant's Wharf had to be both protected and avoided at all costs.



*The 'beach' below Merchant's Wharf; existing concrete retaining wall and Main Street intersection at left.*

The 'beach' on which this retaining wall was built consisted of 6-10" AJ cobble placed during the seaward expansion of downtown Juneau. Poorly graded and capable of rolling under foot, this material was pulled away from the retaining wall footing over many years of tidal action and left behind scour voids that extended several feet under the footing and even beyond the limits that could be visually inspected. Because of this, stabilization of the footing required placement of CLSM to as high as 5' above the seaward toe of the wall, which made forming a challenge as it had to be keyed into and braced against AJ cobbles. Secon limited the length of their pours as well as quantity placed to minimize the wet mix load on the forms and reduce the risk of blowout. By placing the CLSM in multiple lifts broken up by brief cure periods, the contractor was able to successfully fill all scour voids and stabilize the wall footing after placing just over 40 CY of CLSM in total.

### **Benefit to Community**

One of the primary goals for this project was to improve pedestrian and bicyclist accessibility, (? Signage?), and overall safety throughout the project corridor. Sidewalks were widened to as much as 7-1/2' making for a much more comfortable walking experience along Egan during periods of high use, and 4-1/2' bike lanes were added between 10<sup>th</sup> and Main Streets where there were none before. The cross slope of the existing sidewalks along Gold Creek Bridge exceeded 3% and therefore were not ADA-compliant; those deficiencies were corrected by this project. An existing unsignalized crosswalk at Seward Avenue was removed because it was difficult for vehicles to identify pedestrians in the crossing due to its proximity to Main Street traffic signal-controlled crossings. However, two new pedestrian crossings with signage, refuge islands, and push-button activated warning beacons (Glacier only) were constructed at both Whittier and Glacier Avenues, locations where jaywalking has historically been a challenge.



*Foreground: Widened sidewalk and ADA-compliant curb ramp in front of Merchant's Wharf.  
Background: Unsignalized mid-block crossing removed from Seward Avenue intersection.*

This improved corridor significantly benefits all members of the community, especially those members who are downtown residents, workers, or tourism operators. Prior to this project, the existing pavement was in such poor condition that potholes were appearing faster than they could be patched and were known for blowing out tires or damaging suspensions. The 6-inch hot mix asphalt pavement laid by this project was a Superpave mix design that required the use of hard aggregates (which came from Cal Portland via barges out of Seattle), the highest quality asphalt mix specified for DOT&PF projects to ensure the longest lifespan.



*The existing pavement was in such poor condition that some sections scheduled for work in 2020 had to be overlaid with temporary HMA during the 2019 season just to get them through the winter.*

## Project Management

A team-centric approach to project management was employed during construction of this project, which began with a formal partnering meeting attended by DOT&PF, Secon, and proHNS representatives. The biggest challenge this project faced was not a technical one, but rather figuring out how to complete the work with the least amount of impact to residents, business owners, emergency services, mass transit, commercial trucking, tour operators, and others. The contract documents included multiple phasing and traffic control plans, but few would be applicable based on the approach to the work taken by the contractor and their chosen schedule. Updating these plans to fit the work required a collaborative effort between the contractor, owner, and traffic engineers, an effort that resulted in the approval of more than 50 individual traffic control/phasing plans.

Coming up with a plan to tackle the work while minimizing impacts to travelers was only the first step; the project management team then had to communicate those plans to the public, adjoining businesses, and major users of the corridor. This, too, was a collaborative effort between Secon's Public Information Coordinator, proHNS team member McDowell Group, and DOT&PF. In addition to launching a public project website, we maintained an active social media presence and distributed weekly email updates to stakeholders. Additionally, several stakeholder-focused meetings were held with CBJ (including Streets Department, Capital Transit, and CCFR) and other regular operators in the corridor (AML and tour bus/shuttle operators). Running a public outreach campaign for two seasons had its challenges, but in the end was immensely successful.

### Egan Drive Improvements Main to 10th Street

## Alternate Vehicle Route

Effective April-September, 2020

Please check [www.EganDriveProject.com](http://www.EganDriveProject.com) for frequent updates

### Main Street to Thane Road

**+5-10 minute  
Commute During  
Construction**



An example of one of the many informational graphics distributed by the project's public outreach campaign.

### Value Engineering

Designers identified several existing storm drain culverts that could be reincorporated into the new storm drain system layout, but they were in poor condition and replacement would require major impacts to the traveling public. Rather than require closures of Egan Drive to replace these culverts, slip-lining methods were proposed to rehabilitate existing culverts. While slip-lining of culverts is not a new technology, this project included 140 feet of 72" diameter liner for a rotten CMP culvert crossing under Egan Drive near Foodland IGA. This existing culvert not only collected stormwater from the Foodland IGA parking lot, but it was also used as an overflow for the old Gold Creek powerhouse. A complete replacement would have been significantly more expensive, especially considering the additional effort needed to implement road closures, detours, and mitigate travel impacts.



*Installing one section of the 140- foot 72" diameter HDPE liner at low tide. Annular spaces were filled with grout.*

In closing, I believe this project warrants selection as Outstanding Project of the Year due to the immense success of reconstructing one of Juneau's most highly trafficked corridors with minimal impacts to the public. This was a project few were excited about seeing come to fruition, as many expected it to result in daily hour-long delays for commuters and continual phone calls with complaints to the DOT&PF Commissioner's Office. Neither occurred, and recognition of such achievements are well earned.

Thank you,



Garret K. Gladsjo, PE, Principal Engineer