

**PORT OF BREMERTON**  
**BOARD OF COMMISSIONERS**  
**REGULAR BUSINESS MEETING**

**A G E N D A**

May 8, 2018  
10:00 AM

Bill Mahan Conference Room  
Port Administration Offices  
Bremerton Nat'l Airport Terminal Bldg  
8850 SW State Hwy 3, Bremerton

**Call to Order**

**Pledge of Allegiance**

**Approval of Agenda**

**Consent Items**

All matters listed under Consent Items have been distributed to each member of the Commission for reading and study, are considered to be routine, and will be enacted by one motion of the Commission with no separate discussion. If separate discussion is desired, that item may be removed from the Consent Items and placed under Action Items by request.

- A. Minutes of the regular business meeting and executive session of April 24, 2018.
- B. Payment of checks #103173 through #103204 and #77663 through #77668 and #77674 through #77724 from the General Fund for \$306,829.78; #77669 through #77673 from the Construction Fund for \$10,533.42 and the payment of payroll taxes for \$17,751.32.

**Information Items**

- 1. Financial Update – Sherman Hu, Chief Financial Officer

**Citizen Comments:** *Open to the public for comment. Speakers are asked to keep their comments to less than 3 minutes. A Commissioner may request to waive the 3 minute time limit. Please feel free to submit further comments in writing to the Clerk of the Board.*

**Action Items**

- 1. Century West Task Order #01, Runway and Taxiway Lighting Rehabilitation Engineering Services, Federal Aviation Administration AIP Project No. 3-53-0007-032-2018

**New Business**

**Staff Reports**

**Commission Reports**

**Executive Session** *(if necessary)*

**Adjournment**

*Regular business and other meetings that may be attended by members of the Board*

<u><i>Date</i></u>	<u><i>Time</i></u>	<u><i>Meeting</i></u>
<i>05/08/18</i>	<i>10 am</i>	<i>*Commission Regular Meeting – Bill Mahan Conference Rm</i>
<i>05/09-11</i>		<i>Washington Public Ports Assn Spring Meeting - Vancouver</i>
<i>05/10</i>	<i>10 am</i>	<i>Kitsap Economic Development Alliance (KEDA) Q2 Board Meeting</i>
<i>05/15</i>	<i>12:30 pm</i>	<i>Kitsap Regional Coordinating Council (KRCC) Executive Committee</i>
<i>05/17</i>	<i>1 pm</i>	<i>KRCC TransPOL</i>
<i>05/22</i>	<i>12:30 pm</i>	<i>Kitsap Aerospace &amp; Defense Alliance (KADA) Steering Committee</i>
<i>05/22</i>	<i>6 pm</i>	<i>*Commission Regular Meeting – Bill Mahan Conference Rm</i>

*Meetings are subject to change or cancellation*

*\*Denotes events in which two (2) or more Commissioners may attend*

**PORT OF BREMERTON**  
**BOARD OF COMMISSIONERS**  
**REGULAR BUSINESS MEETING**

**MINUTES**

April 24, 2018  
6:00 PM

Bill Mahan Conference Room  
Port Administration Offices  
Bremerton Nat'l Airport Terminal Bldg  
8850 SW State Hwy 3, Bremerton

**Call to Order**

President Stokes called the meeting to order at 6:00 p.m. and led the Pledge of Allegiance.

**Commissioners and Staff Present**

Commissioners

Larry Stokes  
Cary Bozeman  
Axel Strakeljahn

Staff Members

Jim Rothlin	Kathy Garcia
Fred Salisbury	Tim Mensonides
Sherman Hu	Ginger Waye
Arne Bakker	Jim Ryan, Atty

**Approval of Agenda**

**It was moved by BOZEMAN, seconded by STRAKELJAHN to:**

Approve the Agenda as presented.

**MOTION CARRIES, 3-0**

**Consent Items**

- A. Minutes of the regular business meeting and executive session of April 10, 2018.
- B. Payment of checks #103145 through #103172 and #77594 through #77597 and #77604 through #77662 from the General Fund for \$215,450.12; #77598 through #77603 from the Construction Fund for \$27,741.98 and the payment of payroll taxes for \$16,226.39.

**It was moved by BOZEMAN, seconded by STRAKELJAHN to:**

Approve the Consent Items as presented.

**MOTION CARRIES, 3-0**

## **Information Items**

1. Bremerton Pilots Association (BPA) Scholarship Program Update – Jim Posner, President

Mr. Posner discussed the flight training scholarship program students ages 17-21. Four new students were interviewed and awarded scholarships of \$3,500 each which pays approximately half the cost of getting a pilot's license. There is potential for 1-2 more scholarships to be awarded. The Board thanked BPA for all they do stating the biggest investment we can make is in our youth.

## **Citizen Comments**

The following individuals urged the Board to allow permanent moorage along the outside of the Bremerton Marina breakwater:

- Roy Runyon, Bremerton resident
- Stan Longacre, marina tenant and liveaboard
- Melissa Lynch, Bremerton resident
- Joe Peterson, Office-in-Charge, historic museum ship Comanche
- Eric Painter along with sons Luka and Leo, Bremerton residents
- Dori Creasia, Manette resident – also read letter from two marina tenants
- Lynn Ramey, retired coast guard
- Elizabeth and Daniel Stroberger, Bremerton residents
- Captain Jim Peacock, Puget Sound charter boat operator
- Sam Haj, Bremerton resident
- Christian Lint, Captain of El Primero and Northwind which are currently moored along the outside breakwater
- Russ Bednorz, Port Orchard Marina tenant
- Tom Severson, familiar with El Primero and volunteered on Comanche
- Hal Swaren, worked around marinas and boats all his life
- Phil, mechanic who works for Captain Lint

The following individuals provided historical facts related to the breakwater not being designed/engineered for permanent moorage and the decision during the design phase to maintain the breakwater as a public park:

- Bill Mahan, Port Commissioner during the design and construction of the marina and breakwater
- Gary Sexton, Economic Development Director of the City of Bremerton during the design and construction of the marina and breakwater

Related public comment received:

- Tiffany Clement, previous Port employee, current vendor, and previous tenant – urged the Board to make their determination based on facts
- Jerry McDonald, Harborside condo owner – spoke to mooring the boats on the inside of the breakwater
- Roger Gay, South Kitsap taxpayer – spoke to liability if, over time, something happens to the breakwater

### **Action Items**

1. Marina Rules and Regulations – *tabled from March 27, 2018*  
*Administrative Changes presented by Kathy Garcia, Marina Operations Manager*  
*Policy Changes presented by Jim Rothlin, Chief Executive Officer*

**It was moved by BOZEMAN, seconded by STRAKELJAHN to:**

Approve the revised Marina Rules and Regulations effective June 1, 2018 with a revision to *Section 4.9. Outside Moorage on the Bremerton Marina Breakwater* changing the authority in Section 4.9.b. to provide approval for an extension of short-term moorage to be written approval by the Port's Chief Executive Officer

Following in-depth discussion by each Commissioner on their support position for Section 4.9;

**It was moved by BOZEMAN, seconded by STRAKELJAHN to:**

Amend the main motion to include a second revision to Section 4.9.b. limiting short term moorage to 96 hours versus 72 hours.

**AMENDED MOTION CARRIES, 3-0**

**MAIN MOTION CARRIES, 3-0**

2. Ratification of Agreement with Teamsters Local Union 589  
*Presented by Sherman Hu, Chief Financial Officer*

**It was moved by STOKES, seconded by BOZEMAN to:**

Ratify the 2018-2021 Agreement with Teamsters Local Union 589

Following discussion;

**MOTION CARRIES, 3-0**

3. Lease Amendment #6 with VRC, LLC  
*Presented by Arne Bakker, Director of Business Development*

**It was moved by BOZEMAN, seconded by STRAKELJAHN to:**

Approve Lease Amendment #6 with VRC, LLC and authorize the Port CEO to execute the lease amendment

**MOTION CARRIES, 3-0**

**New Business** - None

**Staff Reports** - None

### **Commission Reports**

#### *Commissioner Strakeljahn*

- Met with Development Director of Holly Ridge Center regarding their upcoming charity golf tournament.
- Reported on the Puget Sound Regional Council (PSRC) Economic Development Board committee meeting. He emphasized the discussion on Federal Aviation Administration's \$1M cargo study and the need for having future vision for Bremerton National Airport.
- Reported on the Kitsap Regional Coordinating Council TransPOL meeting.
- Conveyed there is a moratorium on building storage units in Poulsbo and Port Orchard which might be an opportunity for the Port.

#### *Commissioner Bozeman*

- Thanked Commissioner Strakeljahn and Arne Bakker for attending the recent Kitsap Humane Society lunch meeting.

#### *Commissioner Stokes*

- Attended the first weekly "cruise-in" car show here at the airport with only eight cars showing up in the cold, rainy weather. The following week over 100 cars participated and even more are expected this week.
- Began an alternating schedule of evening and day commission meetings on a trial basis three months ago. The alternating schedule of 10:00 a.m. for the second Tuesday of the month and 6:00 p.m. for the fourth Tuesday will continue on a permanent basis as long as it doesn't begin to interfere with other essential obligations.

### **Executive Session**

President Stokes recessed the meeting at 7:40 p.m. and reconvened into executive session at 7:45 p.m. for approximately 20 minutes regarding: real estate issues [RCW 42.30.110(1)(c)].

At 8:05 p.m. the regular meeting was reconvened.

**Adjournment**

There being no further business before the Board, the meeting was adjourned at 8:05 p.m.

Submitted,

Approved,

Jim Rothlin  
Chief Executive Officer  
May 3, 2018

Axel Strakeljahn  
Commission Secretary  
May 8, 2018

Draft

**PORT OF BREMERTON**  
**BOARD OF COMMISSIONERS**  
**EXECUTIVE SESSION**

**MINUTES**

April 24, 2018  
7:45 PM

CEO Office  
Port Administration Offices  
Bremerton Nat'l Airport Terminal Bldg  
8850 SW State Hwy 3, Bremerton

**Call to Order**

President Stokes called the executive session to order at 7:45 p.m., April 24, 2018.

**Commissioners and Staff Present**

Commissioners

Larry Stokes  
Cary Bozeman  
Axel Strakeljahn

Staff Members

Jim Rothlin  
Fred Salisbury  
Arne Bakker  
Jim Ryan, Atty

**Item #1:** Real estate issues were discussed [RCW 42.30.110(1)(c)].

With no further business to come before the Board, the meeting was adjourned into regular session at 8:05 p.m.

Submitted,

Approved,

Jim Rothlin  
Chief Executive Officer  
May 3, 2018

Axel Strakeljahn  
Commission Secretary  
May 8, 2018

**PORT OF BREMERTON**  
**AGENDA SUMMARY**

Agenda Item No: Action Item #1

Subject: Century West Engineering Task Order #1, Airfield Lighting Project,  
FAA AIP Project No. 3-53-0007-032

Exhibits: Task Order #1, FAA Letter of Concurrence of April 30, 2018, Detailed  
Project Description

Prepared By: Tim Mensonides, Airport Manager

Meeting Date: May 8, 2018

**Summary:**

The FAA has authorized the design of the Airfield Lighting Project Taxiway Project to be conducted by Century West Engineering (CWE). The project will include replacement and upgrade of the runway and taxiway lighting, airfield signage, NAVAIDs, and systems components that are past their useful life; and are experiencing increasing operational/maintenance issues. The improvements are intended to maintain airfield operational capabilities into the future, provide future operational energy cost savings improve system reliability and performance, and improve operational awareness and safety.

CWE has submitted a scope and fee proposal which has been reviewed and approved by both Port staff and the FAA. As required by the FAA, an Independent Fee Estimate (IFE) was conducted by CH2M Hill. The IFE and proposed CWE fee were within ten percent which is within FAA guidelines. The fee for the design and survey of the project is \$210,288.38. The Port share is 10 percent (\$21,028) and is within budgeted amounts in the 2018 Airport Capital Budget. The Port also submitted a grant with WSDOT Aviation for 5 percent of the project. The FAA has issued its concurrence of award and has authorized the Port to issue a Notice to Proceed. Receipt of the FAA grant offer is expected in the summer.

**Fiscal Impact:**

In the current budget, \$250,000 is budgeted for the project. The airport will be applying for a 90% grant funded by the FAA and has already applied for a 5% grant funded by WSDOT Aviation.

**Recommendation:**

Recommend approval of CWE Task Order 1 and authorize the CEO to execute the contract.

**Motion for Consideration:**

**Move to approve Century West Engineering, Task Order 1, in the amount of \$210,288.38 and authorize the CEO to execute the contract.**



## Scope of Work

### Engineering Design and Bidding Services for Bremerton National Airport Lighting, Signage, NAVAID, & Miscellaneous Electrical Improvements AIP # \_\_\_\_\_

11 April 2018\_r5

#### GENERAL

The general scope of work is to provide engineering design and bidding services for the lighting, signage, NAVAIDs, and miscellaneous electrical improvements at the Bremerton National Airport (PWT).

The Bremerton National Airport consists of Runway 2-20, and supporting taxiway system on the west side of the airfield. Runway 2-20 is designated with a runway design category of B-II, and is 6,000' in length, 150' wide, and offers ILS and GPS approach procedures on Runway 20; and a GPS approach procedure on Runway 2. The Taxiway system is designated as design group II, with widths ranging from 35' to 75', and is comprised of parallel Taxiway A, connector Taxiways B, C, D, E, F, G, and H. The airfield includes a number of visual and instrument lighting, signage, and NAVAID systems.

The existing high intensity runway (HIRL) and medium intensity taxiway (MIRL) lighting, various airfield signs, select NAVAIDs, and other electrical system components are past their useful life; are experiencing increasing operational/maintenance issues; and are in need of replacement and upgrading.

The intent of this project is to replace and upgrade various lighting, signage, and NAVAID systems and components that are past their useful life; and as necessary replace other components to provide system compatibility, efficiency, and safety. The improvements or relocations associated with the upgrades will be compatible with future improvements identified on the ALP. Additionally, as signs are anticipated to be replaced, the intent of the project includes re-designating taxiway names from "alpha" designators (ex. B, C, D, etc.), to alpha numeric designators (ex. A1, A2, A3, etc.). This will provide simpler and safer naming conventions to improve pilot locational awareness on the airfield; and provide for less confusing and safer naming conventions for future buildout of the east side parallel taxiway system identified on the ALP. Improvements are anticipated to include transitioning portions of the systems to LED components and compatible infrastructure; providing uniform brightness, improved safety, system compatibility, and performance.

All runway and taxiway widths meet or exceed the minimum runway/taxiway design group II standards. No pavement improvements or changes in impervious surface (runway/taxiway) configurations are anticipated within this project; except for potential pavement patching as necessary to accommodate electrical system improvements. The most recent pavement configuration and rehabilitation of the runway and taxiway system was performed in 2009. Project ground disturbance is anticipated to be limited to trenching excavation, excavation associated with setting foundations, isolated surface grading around improvements, and mow strip rock or pavement placement around lights and facility improvements. Lighting and signage layout/offset design is anticipated to meet FAA standards relative to current runway and taxiway dimensions/edge locations.

Anticipated improvements within this project include:

1. Replace/upgrade runway high intensity edge lights (HIRLs) with new incandescent fixtures and system. HIRLs will not be LED as runway high intensity edge lights are not eligible per AIP Handbook appendix D, section D-2.
2. Replace/upgrade taxiway medium intensity edge lights (MITLs) with LED fixtures and system, and adjust taxiway light layout and elevations for consistency. Where some taxiway edge lights are newer (i.e. Taxiway F), and their replacement is not AIP eligible; the intent is to still replace these lights with new LED fixtures to be compatible with remaining taxiway LED improvements; under the assumption the Port will fund these non-eligible portions of the improvements.
3. Address airfield wide electrical issues and system performance (i.e. Taxiway F circuits, wiring, controls, CCRs, etc.)
4. Replace/upgrade old airfield signage (RW/TW directional, RW/TW location, RW hold short, distance remaining, etc.) and add signs as necessary per standards (hold short) with LED fixtures and system; re-designate connector Taxiways; as possible retro-fit newer signs with LED capabilities and replace panels for newer taxiway designations; and/or where necessary replace newer signs with LED sign units and panels. The intent is to still replace all signs (even if it's a newer sign) with new LED units to be compatible with remaining sign improvements; under the assumption the Port will fund these non-eligible portions of the improvements.
5. Replace/upgrade Runway 2 REIL (Port owned) with LED fixtures and system.
6. Runway 2 PAPI (FAA owned) will not be replaced as part of this project.
7. Replace/upgrade Runway 20 PAPI (Port owned) with LED fixtures and system.

8. MALSR threshold light bank fixtures (FAA owned) are not anticipated to be replaced as part of this project unless FAA facilities instigate changes. If included at a later time, any associated design efforts would be included as a separate engineering task order and would require a reimbursable agreement.
9. Replace/relocate/upgrade segmented circle and lighted windsock with LED fixtures and system
  - a. While replacing relocate to future location as indicated on ALP
  - b. Replace with larger more visible LED unit
  - c. Switch obstruction light of windsock to be on 24/7 instead of photo cell
  - d. Relocate and refurbish wind tee along with segmented circle/windsock relocation.
10. Replace aging rotating beacon and tower. New tower is anticipated to be a tip down pole.
11. Connect Beacon to emergency generator, assuming generator capacity will support this.
12. Connecting AWOS (FAA owned) to emergency generator, assuming generator capacity will support this. If the AWOS connection requires a reimbursable agreement to be established for AIP coverage this effort would be included within the reimbursable agreement preparation and coordination item of this contract.
13. Replace/upgrade aging lighting vault, CCRs, and pilot control systems with LED/incandescent compatible systems; take PAPI's off pilot controlled; remove airfield lighting photo cell; and install stronger antenna for pilot controlled lighting.
14. With improvements provide maintenance mow strip buffer (concrete and rock) around edge lights, threshold lights, signs, and other new fixtures installed within this project.
15. Remove old lighting, signage, NAVAID, and electrical infrastructure, as well as previously abandon and unused items on airfield (i.e. abandon base cans, bird spikes)

The final determination of project elements will be developed from the system and component assessment performed as part of the preliminary engineering investigations/assessments anticipated within the engineering scope of services. Upon completion of the preliminary assessments, a final list of improvements to undertake as part of the project will be developed and submitted to the FAA for review

and concurrence. The final list of improvements, eligible vs. non-eligible aspects of the project, and the need for reimbursable agreements will be coordinated between the Port and the FAA to determine the final project scope.

As cost estimates are refined, the project bid schedule will be prepared as a Base Bid with Additive Alternates, if necessary, so the amount of work can be matched with available project funding.

The prime consultant for this project is Century West Engineering (CWECE). Elcon Associates will provide electrical engineering, and KPG will provide survey services for the project. All services will be performed by CWECE and subconsultants as indicated.

## **PHASE I – PRELIMINARY DESIGN AND FINAL DESIGN SERVICES**

### **TASK 1 - PROJECT MANAGEMENT & ADMINISTRATION (CWECE)**

#### **Task 1 Work Items:**

1. Perform pre-design coordination with the Airport and FAA, using the FAA pre-design conference checklist as a basis of the scope development. This effort includes attending and participating in two conference call meetings with the Airport and the FAA. The project manager will make one site visit to the airport for the pre-design effort.
2. Records research:
  - 2.1 Perform research of the existing airport records from past airport improvement projects. This effort includes coordination with airport staff and one site visit to identify and obtain electronic copies of records relevant to this project.
  - 2.2 Perform a review of existing records and develop an inventory of existing electrical systems in-place and system details, such as age, type, condition, and ownership.
3. Project formulation analysis:
  - 3.1 Perform a project formulation analysis using the results of the pre-design conferences and findings of the records research.
  - 3.2 Prepare a programming level cost estimate for the proposed project. This program level estimate will be utilized to finalize project scope parameters and will be utilized to prepare the FAA AIP grant application.
4. Finalize work scope, schedule, and negotiate contract with the Owner.

5. Provide a detailed scope of work and figures without costs to OWNER for obtaining an independent fee estimate (IFE) by a separate Engineer.
6. Assist OWNER with Record of Negotiations documentation.
7. Carry out project administration including, but not limited to monitoring design and project schedules, coordination of project with the Sponsor, monitoring and reporting technical and budget issues to the Sponsor, preparation of monthly consultant invoices for submittal to the Sponsor. Assume 4 hours per month over a 12-month period.
8. Coordinate project team and sub-consultants.
9. Provide a project schedule to the OWNER and FAA. Up to 3 revisions are anticipated.
10. Prepare one Design Grant application and associated sketches. It is assumed one grant will issued for design.
11. Assist OWNER with the submittal of FAA Sponsor Certification forms.
12. Assist the OWNER in the administration and reporting for FAA and/or other funding programs and development of overall program costs. Assume 2 hours per month over a 12-month period.
13. Prepare two FAA form 7460 for submittal to FAA, one for temporary construction activities and one for permanent improvements. Up to 2 submittals are anticipated for each form 7460.
14. Prepare and submit up to four (4) FAA Quarterly Performance Reports. and annual financial reporting (forms 425, and 270/271).
15. Perform DBE plan/goal reporting for FY 2018. An update in 2018 for the next 3 year period DBE goal is not required, nor included in this scope.
16. Prepare Strategic Event Notification forms for submittal to FAA. Up to 3 submittals are assumed.
17. Conduct in-house quality control for each element of design.
18. Coordinate FAA Reimbursable Agreement for the flight check of the PAPI and REIL installation.
19. Attend up to two Airport Advisory Board meetings at the Airport during the design of the project to provide Airport personnel and management project updates and status reports. The Principal Engineer and Project Engineer will attend the meetings.

**Primary Task 1 Deliverables:**

- Contract scope and fee schedule
- Inventory of existing electrical systems
- Programming level construction cost estimate
- Documents for Independent Fee Estimate (IFE) review
- Project schedule
- FAA grant application
- FAA quarterly and annual reporting forms
- FAA DBE reporting
- FAA form 7460
- FAA strategic events form

**TASK 2 – DESIGN SURVEYING (CWEC, KPG)****Task 2 Work Items:**

1. Perform one site visit during the topographic survey. It is anticipated the Project Engineer will perform the site visit. (CWEC)
2. Prepare PAPI Obstacle Clearance Surface (OCS) surveying parameters for field survey. The Project Engineer will perform up to two site visits for the PAPI OCS survey siting. (CWEC)
3. Conduct limited surveying of the airport pavements, and lighting/signage and other fixtures. The purpose of the survey is to identify surface features/structures, edge lights, and guidance signs. This survey will include all elements of the runway, parallel taxiway, and connector taxiways. (KPG)
  - 3.1 Limited surveying shall include edges of pavement for tapers, radii, runway centerline, and taxiway centerlines. For tangent pavement edges, the survey may be captured on approximately 200 ft intervals. Pavement edge and centerline survey data will be utilized for lighting and signage layout design.
  - 3.2 The surveying shall also include physical surface features such as edge lights, guidance signs (noting legend on each face), catch basins, inlets, trench drains, manholes, valve boxes, vaults, duct bank markers, and other structures that could be impacted by the project.
  - 3.3 The survey shall identify the edges of the existing electrical room building and the electrical room location in the building.

4. Conduct a topographic survey as follows (KPG):

Survey data for off-pavement areas shall be collected on cross sections at a 50' max interval or a 50' x 50' max grid spacing. Survey data on-pavement areas shall be collected on cross sections at a 25' max interval or a 25' x 25' max grid spacing.

The survey shall tie the Runway 2-20 centerline at each end and identify monuments, if present. AGIS survey data collected separate to and prior to this survey shall be utilized to the greatest extent possible and tied to the new survey efforts.

Property line and boundary delineations are not included.

- 4.1 For Runway 20 PAPI: Conduct a topographic survey of the east side of the runway. Start at the east edge of the Runway 20 threshold to a point 1150' south of the Runway 20 threshold. Survey from the east edge of pavement to a point 200' east of the edge of pavement. Survey this area on a 50'x 50' grid.
- 4.2 Survey the Runway 2-20 centerline from threshold to threshold at a 50' interval. As applicable utilize prior AGIS data to supplement the new data collection.
- 4.3 For Runway 2 REIL: Conduct a topographic survey to the west and east of the runway edges of pavement for REIL siting. Start at the west edge of the Runway 2 threshold to a point 50' west of the west edge of pavement. Next, start at the east edge of the Runway 2 threshold to a point 50' east of the east edge of runway pavement. Survey from the runway threshold to a point 50' south of the runway threshold.
- 4.4 For Segmented Circle: Conduct a topographic survey at the existing and new location of the segmented circle and lighted windsock. This survey area will be two, 200' x 200' areas.
- 4.5 For Beacon: Conduct a topographic survey at the location of the new beacon and beacon pole. This survey area will be 100'x100'. This effort will include surveying the top of the nearest surrounding obstructions. Assume this includes up to 10 surrounding obstructions.
- 4.6 For Electrical Vault and Generator: Conduct survey of the generator and electrical vault structure. The survey area will be 100'x100'. The survey shall identify the edges of the existing electrical room building and generator.

5. For Runway 20 PAPI, survey the base elevation and the lens height at the centerline of the lens. (KPG)
6. Engage “one call” to request utility locates within the survey limits. The Surveyor will identify all locates identified in the “one call” request and include in the base map. (KPG)
7. Consultant will engage utility locate firm to denote on-airport private utilities and coordinate on-airport utility locations with the airport. The Surveyor will identify all locates identified by the on-airport private utilities company request and include in the base map. The anticipated private utilities include the homeruns to the electrical building from the different electrical features. (KPG)
8. Request from FAA and obtain the survey data from the most recent AGIS survey. Supplement the field collected survey data with the AGIS survey data where applicable. (KPG)
9. Using the data collected from survey develop a digital terrain model of the area surveyed in AutoCAD Civil 3D format. (KPG)
10. Develop a contour map at a scale of 1”=50’ for use in the design. The contour interval shall be 0.5 feet. (KPG)
11. Establish horizontal (NAD 83) and vertical control (NAVD 88) for the survey work at the airport. Establish one benchmark for elevation control and a minimum of three points for horizontal control. Tie the one Airport Primary and two Secondary Airport Control, (PACS and SACS) and Temporary Survey Monuments of record. (KPG)
12. All elevations shall be accurate to 0.10 feet.
13. PAPI OCS Surveying (KPG)
  - 13.1 Conduct PAPI Obstacle Clearance Surface (OCS) surveying for the Runway 20 threshold. Actual locations, distances and angles will be provided prior to commencement of the survey. PAPI surveying shall be assumed to require separate site visits from other topographic surveying being performed because it is dependent on preliminary engineering layout to be performed as part of the project design work. (KPG)
  - 13.2 The survey shall set up at the determined locations on the runway and sight a vertical angel from each location. If no penetrations to the OCS are observed, work can proceed to item 13.5. (KPG)

13.3 If OCS penetrations are observed, note the location and elevation of the penetration/obstruction and report to the Engineer. The engineer will develop updated locations/vertical angles based on the penetration information provided. The surveyor shall set up the survey instrument at these revised locations and sight vertical angles as directed to verify that there are no penetrations to the OCS. This surveying, if needed, is assumed to require a separate site visit. (KPG)

13.4 Once it is determined that there are no OCS penetrations, provide photo images through the instrument that show the clear OCS. (KPG)

**Primary Task 2 Deliverables:**

- AutoCAD base map of the project area

**TASK 3 – ENVIRONMENTAL WORK**

The FAA has indicated this project will be an undocumented categorical exclusion. As a result, no environmental work is required for the project.

**Primary Task 3 Deliverables:**

- None

**TASK 4 – PRELIMINARY DESIGN (CWEC, Elcon)**

**Task 4 Work Items:**

1. Perform one site visit to back check survey basemap. It is anticipated the Project Engineer will perform the site visit. (CWEC)
2. Site Assessment
  - 2.1 Perform an electrical assessment to determine each systems need for updating and funding eligibility (Elcon):
    - Perform onsite field investigation.
    - Troubleshoot airfield wide electrical issues and system performance; review systems functionality and need for updating.
    - Perform review of records investigation.
    - Identify recommended project improvement elements; any alternative options; and decision points.
  - 2.2 Prepare assessment summary report that includes (Elcon):
    - Summary of conditions and recommendations of

improvements

- Summary of alternative options and decision points
- Summary of systems assessment planning level estimates

- 2.3 Review electrical assessment summary report and provide comments for draft report. (CWEC)
- 2.4 Attend coordination meeting with Port regarding findings. Meeting will be attended by the project manager and the electrical engineer at the Port offices. (CWEC, Elcon)
- 2.5 Conduct phone coordination meeting with the FAA to review final list of project improvement elements. (CWEC)
- 2.6 Based on the assessment, update and finalize the list of items to be included within the scope of this project. (CWEC)
3. Prepare up to (3) phasing alternatives for consideration. Conduct a phone conference call with the OWNER to discuss the phasing alternatives. (CWEC)
4. Prepare a preliminary construction safety and phasing plan (CSPP) and recommendations. Safety plan is to be prepared, submitted to, and reviewed by the FAA and OWNER. Solicit comments and incorporate into final form for approval by FAA. (CWEC)
5. Perform design layout of runway/taxiway lighting fixtures, signage, rotating beacon, segmented circle/windcone, REILs, electrical cable/conduit routing, electrical vault location, and other miscellaneous associated infrastructure. This effort also includes identifying system components to be demolished and/or removed. (CWEC)
6. Perform PAPI layout design analysis; and prepare a PAPI siting exhibit for the Runway 20 approach. Develop a draft memo outlining the findings and identifying any compliance deficiencies with the FAA siting criteria. Solicit comments from the OWNER and FAA. Incorporate comments into a final memo. (CWEC)
7. Perform erosion control design and layout. Review NPDES requirements. Document if a waiver of NPDES requirements is obtained for project. NPDES NOI and SWPPP if required are not included within this contract. If necessary they will be included in a future construction administration contract. (CWEC)
8. Electrical Design (Elcon): Provide the 50% and 90% electrical design for the proposed improvements. Electrical design will be performed by Elcon Associates (subconsultant to CWEC). Electrical design includes electrical

design analysis, preparing electrical plans, specifications, estimates, and details for construction of the new items. Elcon's efforts include preparing submittal documents and addressing review comments. A detailed subconsultant scope is included as part of this contract.

9. Prepare preliminary (50%) plans. The plan set is expected to consist of approximately 24 drawings and will include the following components (CWEC, Elcon):
  - (1) Cover Sheet
  - (3) Construction phasing/safety/work area plan drawings to be incorporated into the construction plan set based on the recommendations from a previous task
  - (1) Preliminary erosion control plan and details for construction
  - (3) Demolition plan to depict civil and electrical items scheduled for removal
  - (3) Runway edge light layout plan for Runway 2-20
  - (2) Taxiway edge light layout plan for Taxiway A and connecting taxiways
  - (1) Segmented circle and lighted windsock plan
  - (1) Runway 20 PAPI layout plan
  - (1) Runway 2 REIL layout plan
  - (1) Beacon plan
  - (1) Homerun plan
  - (4) Guidance sign plan
  - (2) Electrical room
10. Prepare preliminary bidding documents (50%) and technical specifications for the Project. OWNER will provide contract boilerplate for consultant use in developing bidding documents. If the owner request, Consultant's standard contract boilerplate will be used. It is anticipated that the project bidding documents will be developed as a Base Bid with Additive Alternatives, as necessary. (CWEC, Elcon)
11. Provide five sets of 50% review documents. One set to be sent to FAA. (CWEC)
12. Attend 50% review meeting with the OWNER to discuss alternatives and costs at the airport. The project manager and electrical engineer will attend the meeting. Prepare an agenda and meeting minutes for the meeting. (CWEC, Elcon)
13. The project manager and electrical engineer will make 1 site visit and inspection when the project is approximately 75% complete. (CWEC, Elcon)

14. Prepare preliminary quantity and construction estimates for the project. Up to 3 preliminary estimates will be made. Estimates will be prepared at 50%, 90% stages of the project design. (CWEC, Elcon)
15. Update and prepare preliminary (90%) plans. The plan set is expected to consist of approximately 24 drawings as indicated in the 50% plan list above. (CWEC, Elcon)
16. Prepare preliminary bidding documents (90%) and technical specifications for the Project. OWNER will provide contract boilerplate for consultant use in developing bidding documents. If the owner request, Consultant's standard contract boilerplate will be used. (CWEC, Elcon)
17. Attend a 90% review meeting with the OWNER to discuss the updated design documents and costs at the airport. The project manager and electrical engineer will attend the meeting. Prepare an agenda and meeting minutes for the meeting. (CWEC, Elcon)
18. Prepare a draft engineer's design report to the established FAA requirements. (CWEC)
19. Provide five sets of 90% review documents. One set to be sent to FAA. (CWEC)
20. Solicit, receive, record, and incorporate into the final form of the preliminary design documents, all comments on 50% and 90% preliminary design from the OWNER and FAA. (CWEC, Elcon)

**Primary Task 4 Deliverables:**

- Assessment summary report (draft and final)
- Construction Safety and Phasing Plan (draft and final)
- Runway 20 PAPI Siting Memo and Exhibit (draft and final)
- Preliminary quantity and construction estimate (3)
- 50% and 90% level plan documents (24 sheets)
- 50% and 90% level draft bidding documents (specifications)
- 50% and 90% level quantity and construction cost estimate
- Draft Engineer's design report

**TASK 5 – FINAL DESIGN (CWEC, Elcon)**

**Task 5 Work Items:**

1. Incorporate preliminary design comments and respond as necessary to requests for additional information. (CWEC, Elcon)

2. Electrical Design (Elcon): Provide the final electrical design for the proposed improvements. Electrical design will be performed by Elcon Associates (subconsultant to CWEC). Electrical design includes electrical design analysis, preparing electrical plans, specifications, estimates, and details for construction of the new items. Elcon's efforts include preparing submittal and final documents and addressing review comments. A detailed subconsultant scope is included as part of this contract.
3. Provide final design drawings. (CWEC, Elcon)
4. Develop final specifications using Advisory Circular 150/5370-10(latest edition), Standards for Specifying Construction of Airports. (CWEC, Elcon)
5. Complete final quantity calculations and prepare a final Engineer's detailed estimate of construction costs for the project. (CWEC, Elcon)
6. Update and prepare a final engineer's design report to the established FAA requirements. (CWEC)
7. Submit final construction documents to OWNER and FAA for review and approval. Four copies will be sent to the OWNER, and one copy will be sent to the FAA. (CWEC)

**Primary Task 5 Deliverables:**

- Final plan documents (24 sheets)
- Final draft bidding documents (specifications)
- Final quantity and construction cost estimate
- Final Engineer's design report

**PHASE II – BIDDING SERVICES**

**TASK 1 – BIDDING (CWEC, Elcon)**

**Task 1 Work Items:**

1. Provide an advertisement for the public bidding of the project. The Airport shall send the *Invitation to Bid* to media outlets for advertisement, and pay advertising fee. (CWEC)
2. Provide project coordination with the Airport and FAA throughout the bidding period. . (CWEC)
3. Consolidate and prepare bid documents in electronic pdf format, and upload to Quest CDN bid documents website. . (CWEC)

4. Electrical Bidding Assistance (Elcon): Provide bidding support services relating to the electrical design for the proposed improvements. Electrical design bidding support services will be performed by Elcon Associates (subconsultant to CWEC). Electrical bidding support services includes responding to bidding questions, assisting with addenda, attending pre-bid meeting, and assisting in evaluating submitted bids. A detailed subconsultant scope is included as part of this contract.
5. Answer technical questions during bidding. (CWEC, Elcon)
6. Prepare addenda as necessary to clarify bid documents. Addenda will be distributed by the Engineer. For scoping purposes this scope assumes only one addenda will be prepared. Addenda will be consolidated into one pdf electronic file and uploaded to the Quest CDN website. (CWEC, Elcon)
7. Coordinate, attend, and facilitate a pre-bid conference for the project at the airport. Prepare meeting agenda, sign-in sheet. The Project Manager will attend the pre-bid conference. (CWEC, Elcon)
8. ~~Facilitate and attend the bid opening for the project. The location of the bid opening is not known at this time, therefore it is assumed that the bid opening will be at the OWNER's office location. The Project Manager will attend the bid opening. (CWEC)~~
9. Analyze bids and make a recommendation to the Airport and FAA for award of bid. This effort includes preparing bid tabulations, verifying adequacy and responsiveness of submitted documents, verifying references, preparing a summary of the bid evaluation, and preparing a recommendation of award letter. (CWEC, Elcon)
10. Assist the Airport in preparing the AIP construction grant application, with the bid result construction value. (CWEC)
11. Coordinate and facilitate the development of the final contract with the contractor on behalf of the OWNER. Engineer will prepare final contract forms, bond forms and insurance certificates for Contractor and OWNER execution. (CWEC)



AIRPORT: BREMERTON NATIONAL AIRPORT  
 PROJECT TITLE: LIGHTING, SIGNAGE, NAVAID, & MISC ELECTRICAL IMPROVEMENTS, DESIGN/BIDDING SERVICES  
 CLIENT: PORT OF BREMERTON  
 JOB NUMBER: 12445.04.01

EXHIBIT B  
 4-11-17\_r7

PROJECT TASK	^(163)	^(102)	^(103)	^(106)	^(123)	^(111)	^(117)	TOTAL HRS	PROJECT COST	TASK COST
	PRINCIPAL VP/ENGR	SR PROJ MGR	PROJ PM ENGR	PROJ ENGR	STAFF ENGR (EIT)	CADD DSGN	CLER.			
<b>PHASE I DESIGN SERVICES</b>										
<b>TASK 1-Project Management/Administration</b>										
1 Pre-Design Coordination, Two FAA Meetings, and Site Visit	0	16	0	0	0	3	0	19	\$3,375.00	\$36,235.00
2.1 Records Documentation Research including site visit	0	3	18	0	0	0	0	21	\$3,321.00	
2.2 Records Research Review	0	0	2	0	8	0	0	10	\$1,064.00	
3.1 Formulate Project Parameters & Scope	0	8	8	0	0	0	0	16	\$2,776.00	
3.2 Prepare Program Level Cost Estimate	0	1	2	0	0	0	0	3	\$499.00	
4 Finalize Scope and Schedule, Neg. Contract	0	6	4	0	0	0	0	10	\$1,778.00	
5 Provide documents for IFE	0	2	0	0	0	0	0	2	\$390.00	
6 Assist the Airport in Records of Negotiation Documentation	0	2	2	0	0	0	0	4	\$694.00	
7 Project Administration (12 month period)	0	6	6	0	0	0	12	24	\$2,958.00	
8 Coordinate Project Team	0	12	16	0	0	0	0	28	\$4,772.00	
9 Provide Project Schedule (3 revisions)	0	1	2	0	0	0	0	3	\$499.00	
10 Prepare Design Grant Application (including sketches)	0	1	1	0	8	2	0	12	\$1,277.00	
11 Assist in Preparation of FAA Sponsor Certification Forms	0	1	1	0	4	0	0	6	\$727.00	
12 Assist the Airport in Grant Administration (12 month period)	0	0	6	0	6	0	0	12	\$1,482.00	
13 Prepare Two FAA Form 7460 Submittals	0	0	4	0	4	0	0	8	\$988.00	
14 Prepare FAA Four Qtrly Reports & Annual Financial Reporting	0	0	4	0	4	0	0	8	\$988.00	
15 Perform DBE Plan/Goal Update	0	1	1	0	16	0	0	18	\$1,867.00	
16 Prepare Strategic Event Notification Forms (3)	0	0	2	0	0	0	0	2	\$304.00	
17 Conduct in-house QA/QC	0	16	0	0	0	0	0	16	\$3,120.00	
18 Coordinate FAA Reimbursable Agreement for Flight Check of the PAPI/REIL	0	2	8	0	2	0	0	12	\$1,796.00	
19 Airport Advisory Board Meetings (1)	0	8	0	0	0	0	0	8	\$1,560.00	
<b>TASK 2-Design Surveying</b>										
1 Coordinate Topographic Survey Onsite	0	0	8	0	0	0	0	8	\$1,216.00	\$3,886.00
2 Specify PAPI OCS Parameters & Onsite PAPI Survey Coord	0	2	10	0	8	0	0	20	\$2,670.00	
3-13 Conduct Surface Feature, Topographic, & PAPI OCS Survey (KPG)	Survey by KPG, see Survey Subconsultant Section Below									
<b>TASK 3- CATEX Review and Documentation</b>										
1 Not applicable / Not included	0	0	0	0	0	0	0	0	\$0.00	\$0.00
<b>TASK 4- Preliminary Design</b>										
1 Site Visit Verification of Base Map	0	0	8	0	0	0	0	8	\$1,216.00	\$65,014.00
2.1 Electrical Site Assessment (Elcon)	Electrical Engineering by Elcon, see Electrical Subconsultant Section Below									
2.2 Prepare Electrical Assessment Summary (Elcon)	Electrical Engineering by Elcon, see Electrical Subconsultant Section Below									
2.3 Review Electrical Summary	0	2	4	0	0	0	0	6	\$998.00	
2.4 Electrical Review Meeting with Port	0	10	0	0	0	0	0	10	\$1,950.00	
2.5 Phone Meeting with FAA	0	2	2	0	0	0	0	4	\$694.00	
2.6 Finalize List of Project Improvements	0	1	2	0	0	0	0	3	\$499.00	
3 Prepare Project Phasing Alternatives	0	4	8	0	8	0	0	20	\$2,756.00	
4 CSPP - Prepare/Submit Draft and Final Documents	0	4	8	0	16	0	0	28	\$3,516.00	
5 Layout Design (Lighting, Signage, Beacon, Windcone, REILs, Vault, Ductbank)	0	4	20	0	32	0	0	56	\$6,860.00	
6 PAPI Layout Design	0	0	4	0	10	5	0	19	\$1,983.00	
7 Erosion Control Design/Layout & NPDES Assessment	0	0	4	0	8	0	0	12	\$1,368.00	
8 50% & 90% Electrical Design, Drawings, Specifications (Elcon)	Electrical Engineering by Elcon, see Electrical Subconsultant Section Below									
9 50% Plan Development (24 Drawings)	0	2	40	0	52	0	0	94	\$11,410.00	
10 50% Bidding Documents (Specifications)	0	2	12	0	0	0	2	16	\$2,360.00	
11 Prepare 50% Review Documents	0	0	2	0	2	0	0	4	\$494.00	
12 50% Document Review Meeting	0	10	0	0	0	0	0	10	\$1,950.00	
13 On-site Investigation at 75% Completion	0	0	10	0	0	0	0	10	\$1,520.00	
14 Prepare Construction Estimates at 50% and 90% Design Levels	0	0	4	0	4	0	0	8	\$988.00	
15 90% Plan Development (24 Drawings)	0	4	44	0	76	0	0	124	\$14,688.00	
16 90% Bidding Documents (Specifications)	0	4	20	0	0	0	2	26	\$3,966.00	
17 90% Document Review Meeting	0	10	0	0	0	0	0	10	\$1,950.00	
18 Prepare Draft Engineers Design Report	0	0	8	0	8	0	0	16	\$1,976.00	
19 Prepare 90% Review Documents	0	0	2	0	2	0	0	4	\$494.00	
20 Incorporate 50% & 90% Review Comments	0	2	4	0	4	0	0	10	\$1,378.00	
<b>TASK 5- Final Design</b>										
1 Incorporate and Respond to Comment Requests for Additional Information	0	0	2	0	2	0	0	4	\$494.00	\$13,442.00
2 Final Electrical Design, Drawings, Specifications (Elcon)	Electrical Engineering by Elcon, see Electrical Subconsultant Section Below									
3 Prepare Final Drawings (24 Drawings)	0	4	24	0	32	0	0	60	\$7,468.00	
4 Prepare Final Bidding Documents (Specifications)	0	4	16	0	0	0	4	24	\$3,504.00	
5 Complete Final Quantities & Construction Estimates	0	0	2	0	2	0	0	4	\$494.00	
6 Update and Prepare Final Design Report	0	0	4	0	4	0	0	8	\$988.00	
7 Submit Final Documents	0	0	2	0	2	0	0	4	\$494.00	
<b>PHASE II BIDDING SERVICES</b>										
<b>TASK 1-Bidding</b>										
1 Prepare Bid Advertisement	0	0	1	0	1	0	2	4	\$393.00	\$10,438.00
2 Project coordination during Bidding	0	2	6	0	4	0	0	12	\$1,682.00	
3 Prepare Bid Documents for online Bid Center	0	0	1	0	1	0	4	6	\$539.00	
4 Electrical Engineering Bidding Assistance (Elcon)	Electrical Engineering by Elcon, see Electrical Subconsultant Section Below									
5 Bidding questions	0	2	4	0	8	0	0	14	\$1,758.00	
6 Addenda	0	1	4	0	5	0	4	14	\$1,570.00	
7 Pre Bid Conference	0	8	2	0	0	0	0	10	\$1,864.00	
8 Attend & Facilitate Bid Opening	0	0	0	0	0	0	0	0	\$0.00	
9 Analyze Bids & Recommendation of Award Letter	0	2	2	0	6	0	0	10	\$1,264.00	
10 Grant Application Amount Update	0	0	2	0	4	0	0	6	\$684.00	
11 Coordinate Contractor/Port Contract Execution	0	0	2	0	4	0	0	6	\$684.00	
Labor Subtotal	0	172	385	0	357	10	30	954	\$129,015.00	\$129,015.00
Hrs/Wk	0.0	4.8	10.7	0.0	9.9	0.3	0.8			
Primary Work Period Project Duration (wks):	36									
<b>EXPENSES:</b>										
Travel:	Cost Per Unit	Air Trips	Ground Trips	Days	R.T. Miles	Markup				
Lodging	\$0.00				0	1.0			\$0.00	
Rental Car/Fuel/Milage	\$0.535		11		140	1.0			\$823.90	
Ferry R/T	\$30.00		11			1.0			\$330.00	
Meals	\$30.00			0		1.0			\$0.00	
Misc. expenses:										
MISC									\$100.00	
PHOTO COPIES									\$100.00	
POSTAGE									\$100.00	
PRINTING									\$200.00	
PLOTTING									\$200.00	
FIELD SUPPLIES									\$0.00	
Sub-Consultants:					Sub-Fee	Markup				
KPG - Survey Services					\$32,605.48	1.0			\$32,605.48	
Elcon - Electrical Engineering, Design, & Bidding Assistance					\$46,814.00	1.0			\$46,814.00	
Subtotal - Expenses										\$1,853.90
Subtotal - Subconsultants										\$79,419.48
Total -										\$210,288.38



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Northwest Mountain Region  
Colorado · Idaho · Montana · Oregon · Utah  
Washington · Wyoming

Seattle Airports District Office  
2200 S. 216th St, Des Moines,  
WA 98198

April 30, 2018

Tim Mensonides  
Port of Bremerton  
8850 SW State Hwy 3  
Bremerton, WA 98312

Bremerton National Airport  
Bremerton, WA  
AIP: 3-53-0007-032-2018  
RW and TW Lighting Rehabilitation  
Engineering Services

Dear Mr. Mensonides:

We have reviewed your scope of work, fee proposal, record of negotiations and Independent Fee Estimate (IFE) for Engineering Design and Bidding Services by Century West Engineering for the subject project. Based on your analysis, we accept these costs as reasonable. Please maintain a copy of your analysis for future audit purposes.

The fee(s) proposed for the engineering services have been approved, subject to the following conditions:

1. Please note that this is a maximum fee and the sponsor can only be reimbursed for actual costs incurred assuming associated construction work is completed.
2. Any amendments to this engineering agreement will require Federal Aviation Administration (FAA) approval.
3. If the amendments occur after the grant is issued, they will be subject to the availability of funds.
4. Design must conform to FAA standards and specifications.
5. Construction must conform to contract documents.



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Washington · Wyoming

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WA 98198

The following items are approved and appear eligible for federal participation, assuming the associated work is completed.

Project Management/Administration =	\$36,235.00
Design Surveying =	\$3,886.00
Preliminary Design =	\$65,014.00
Final Design =	\$13,442.00
Bidding =	\$10,438.00
Expenses =	\$1,853.90
Sub – KPG (Survey Services) =	\$32,605.48
Sub – Elcon (Electrical Engineering) =	\$46,814.00
<b>Grand Total</b>	<b><u>\$210,288.38</u></b>

We encourage all sponsors to review their engineering services and construction agreements in detail and be familiar with them. Under the AIP, the sponsor is the responsible authority regarding the settlement and satisfaction of all contractual and administrative issues arising from the procurements entered into.

Based on the submitted record of negotiations, we concur with the listed fees established. The fees are fair, reasonable, and the result of good faith negotiations.

Please provide our office with a copy of the executed engineering agreement.

If you have not done so, please submit the following certification:

- **Sponsor Certification for Selection of Consultants.** This certification indicates that you have reviewed and followed the FAA standards and guidance in the selection of your consultant and in the negotiation process, to determine fair and reasonable fees.

If you have questions, please call me at (206) 231-4136.

Sincerely,

Randal Arinos Anton  
Date: 2018.04.30  
11:28:13  
-07'00'

Randal Anton,  
Project Manager, SEA-638  
Seattle ADO

## Airfield Lighting, Signage, NAVAIDs, Electrical Project Summary Description

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The intent of this project is to replace and upgrade runway and taxiway lighting, airfield signage, NAVAIDs, and systems components that are past their useful life; and are experiencing increasing operational/maintenance issues. The improvements are intended to:

- maintain airfield operational capabilities into the future
- provide future operational energy cost savings
- improve system reliability and performance, and
- improve operational awareness and safety

The improvements will allow for future improvements identified on the ALP. Improvements will include LED upgrades on portions of the infrastructure. Improvements will also re-designate taxiway names from "alpha" designators (ex. B, C, D, etc.), to alpha numeric designators (ex. A1, A2, A3, etc.). Re-designated taxiways will provide simpler/safer naming conventions to improve pilot locational awareness; and streamline designations for future buildout of the east side parallel taxiway system.

### Anticipated improvements within this project include:

1. **Replace/upgrade runway high intensity edge lights** and system infrastructure:
    - Quantities: Approximately 84 lights, and 13,000 lf of cable/conduit runs.
  2. **Replace/upgrade taxiway medium intensity edge lights (LED)** and system infrastructure:
    - Quantities: Approximately 224 lights, and 17,000 lf of cable/conduit runs.
  3. **Replace/upgrade old airfield signage (LED)** and upgrade system infrastructure.
    - Quantities: Approximately 51 signs
  4. **Rehabilitate airfield electrical issues and system performance** (i.e. Taxiway F circuits cable)
  5. **Replace/upgrade Runway 2 REIL (LED)** fixtures and system infrastructure.
  6. **Replace/upgrade Runway 20 PAPI (LED)** fixtures and system infrastructure.
  7. **Replace/relocate/upgrade segmented circle and lighted windsock (LED)**. Relocation will allow for buildout of future east side taxiway and development areas.
  8. **Replace aging rotating beacon and tower** with maintenance friendly tip down pole.
  9. **Connect Beacon to emergency generator** to provide airfield safety backup.
  10. **Connecting AWOS (FAA owned) to emergency generator** to provide airfield safety backup.
  11. **Replace/upgrade aging lighting vault, Constant Current Regulators (CCRs), and pilot control systems** with LED/incandescent compatible systems.
  12. **Install maintenance mow strip buffers** around edge lights, threshold lights, signs, and other new fixtures to reduce required maintenance around fixtures and reduce airfield operational impacts.
-