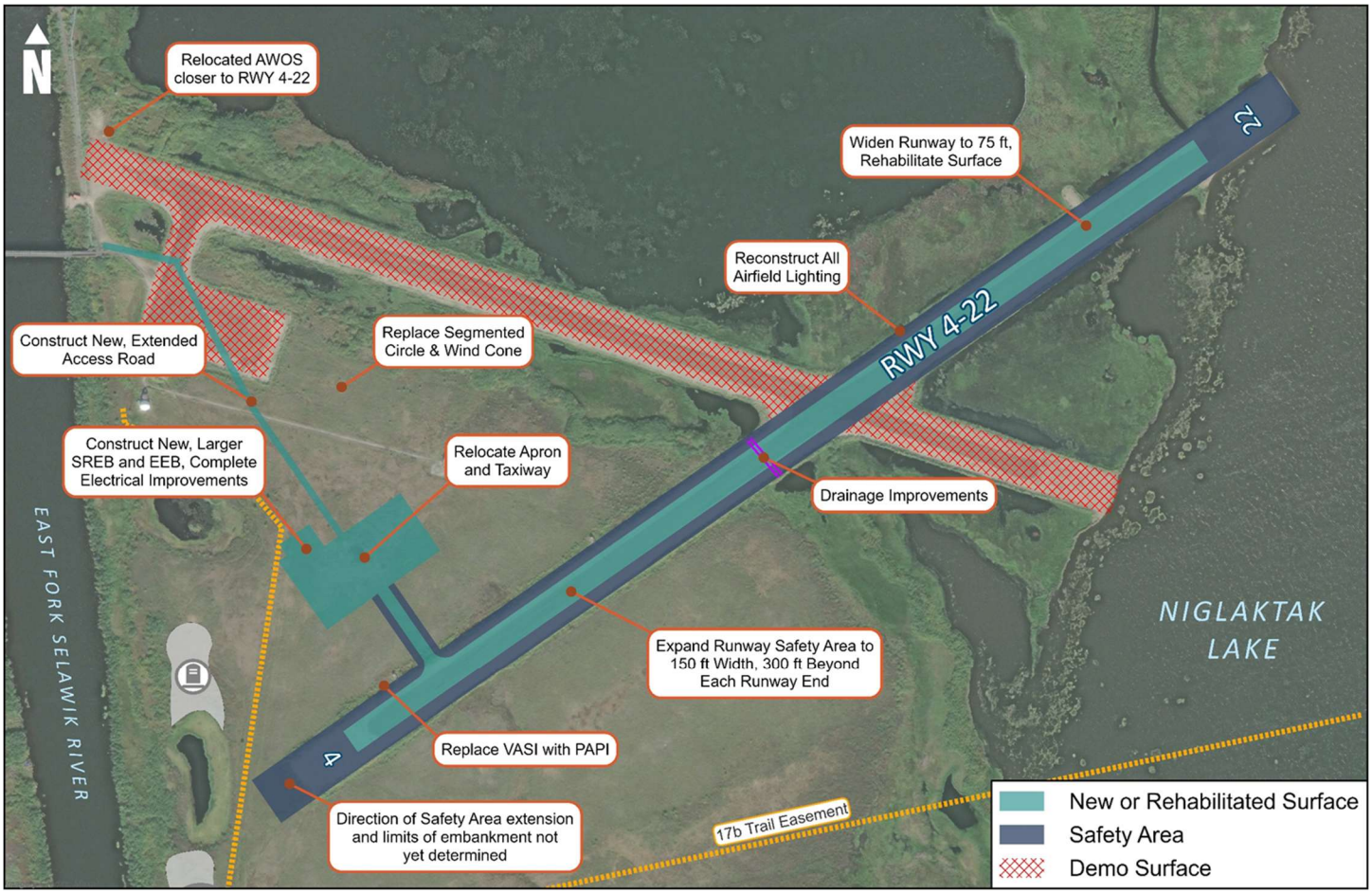
Selawik Airport – All Concepts

Feature	Condition & Needs	Considerations
The Airport, Overall	In generally fair condition due to robust maintenance efforts, but all infrastructure is aging and in need of replacement or reconstruction.	Develop a project that improves all facilities and brings the airport up to current design standards, with regard to airport's suitability to serve critical aircraft and construction materials availability.
Wind Coverage	Runway 4-22 meets FAA wind coverage requirements for the critical aircraft in all conditions. Runway 9-27 does not meet wind coverage requirements under most conditions.	Runway 4-22 provides acceptable service on its own. Runway 9-27 may not be justified for FAA funding to support any improvements.
Aircraft Using Airport	The critical aircraft using Selawik Airport is the Cessna C208B Grand Caravan (an A-II aircraft). The existing airport is built to standards for A-I aircraft (smaller, slower than A-II family).	Airport improvements needed to bring the airport facilities up to the A-II standard to improve safety for aircraft currently using the airport.
Runway Length	Adequate to serve critical aircraft and occasional large aircraft making fuel deliveries.	No extension justified.
Runway Width	60 ft width does not meet design standard for A-II aircraft. ➢ **Widen to 75 ft.**	Raising elevation of entire embankment is desired – community member stated that airport is within the flood zone, existing grade is susceptible to water and ice impacts from Niglaktak Lake.

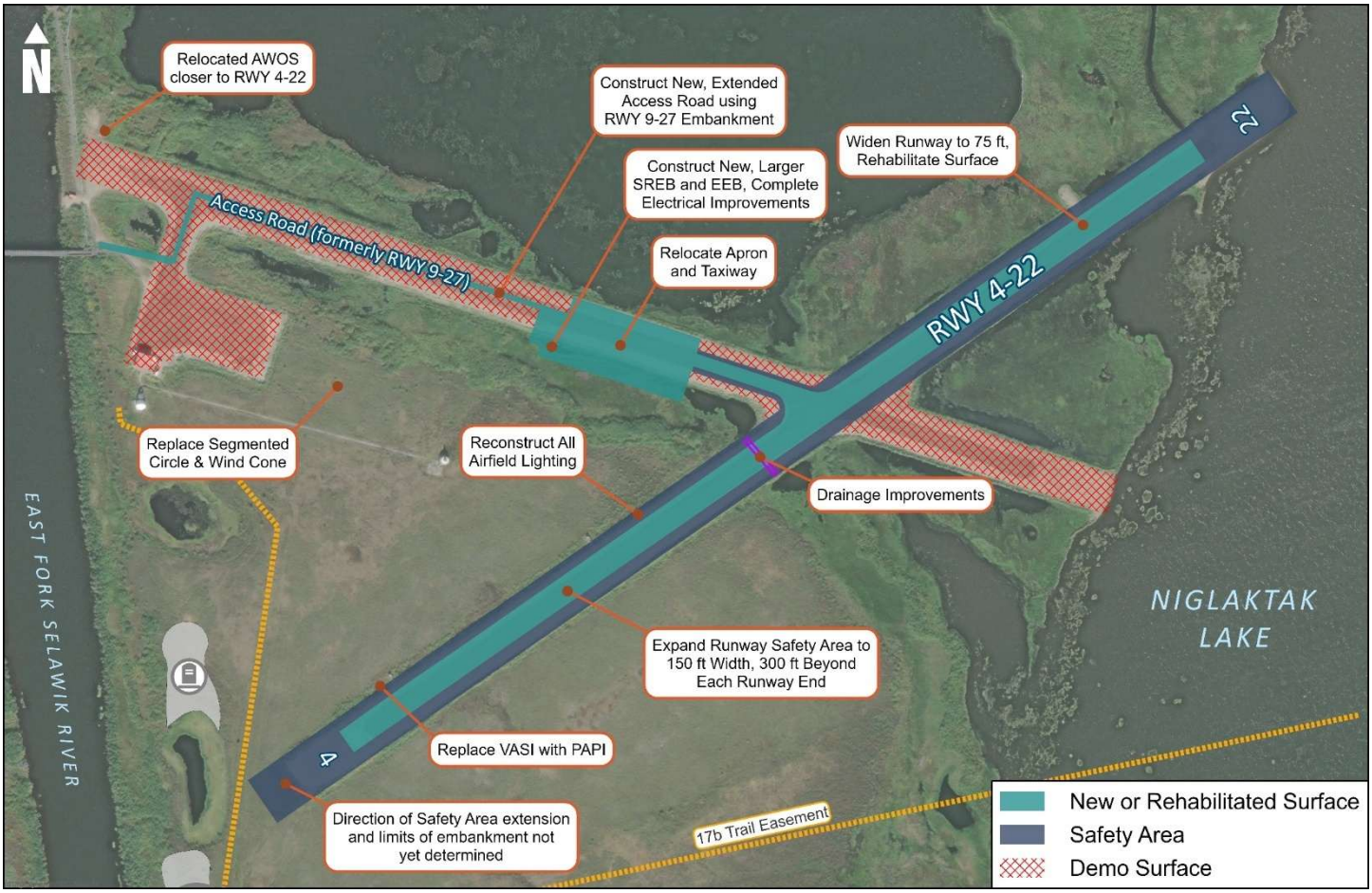
Runway Safety Area (RSA)	Existing dimensions of 120 ft width and 240 ft beyond each runway end do not meet design standard for A-II aircraft. ➢ **Widen to 150 ft.** ➢ **Extend RSA to 300 ft beyond each runway end.**	Leaving thresholds in place = 60 ft extension either end, shifting thresholds means extension favoring one end or the other, likely the SW end. Impact to cemetery sites and trail will need to be determined in coordination with community and addressed appropriately. Raising elevation of entire embankment is desired – community member stated that airport is within the flood zone, existing grade is susceptible to water and ice impacts from Niglaktak Lake. Use construction design & methods to avoid ponding that has developed along both sides of Rwy 9-27, which was built using silt excavated from either side of runway, leaving open pits that filled with water.
Airfield Lighting	Approaching 30 years old, some broken or inop components, abandoned-in-place system beneath Runway 9-27 surface ➢ **Reconstruct all airfield lighting**	Remove all old airport lighting, including abandoned-in-place system on Rwy 9-27. Reconstruct new runway, taxiway, and apron lighting.
Apron/Taxiway	Surface materials thinning, can be rutted, drainage issues at taxiway, cross-slope reported to negatively impact carrier apron activities ➢ **Reconstruct**	Assume FAA emergency shelter on apron. Power routing from FAA generator to FAA facilities needs to be considered. VOR clearance/modeling necessary. Find out how existing cross-slope on apron is negatively impacting carriers – resolve in design. Install tie-downs. Consider dust issues that impact community – dust palliative application, any other mitigation methods. Community is interested in having a passenger shelter on the apron. If apron is relocated, work with community and FAA to determine whether existing apron may remain in place, what it can be used for, and how dust issues will be managed.
Snow Removal Equipment Building (SREB) & Electrical Equipment Building (EEB)	Aging, in poor to fair condition, not large enough to house equipment needed at the airport ➢ **Construct New, Larger SREB & EEB with complete airfield electrical improvements**	Buildings (DOT&PF and FAA) will need to be considered in VOR modeling. Will need to relocate and re-mount FAA weather camera on new SREB. Electrical routing will need to be considered in VOR modeling.
Segmented Circle & Wind Cone	In poor condition, sinking into tundra/wetlands, wind cone is missing. ➢ **Replace**	Concepts 1-3 could use Runway End 27 embankment area for relocation. Possibility of supplemental wind cone(s).
Drainage Improvements	Culvert beneath Runway 4-22 undersized. Dip in taxiway that forms repeatedly. ➢ **Replace culvert, improve drainage where needed**	All concepts need to consider the culvert on 4-22. Concepts leaving existing short taxiway in place need to consider drainage improvements at taxiway. Concepts showing relocated infrastructure need to identify and mitigate any new drainage concerns.
Visual Approach Systems	FAA prefers Precision Approach Path Indicator (PAPI) over Visual Approach Slope Indicator (VASI) ➢ **Replace VASI with PAPI**	FAA ATO interested in pads, foundation. DOT&PF imagines a PAPI shelter may be part of ultimate.

Selawik Airport – Layout Concept 1



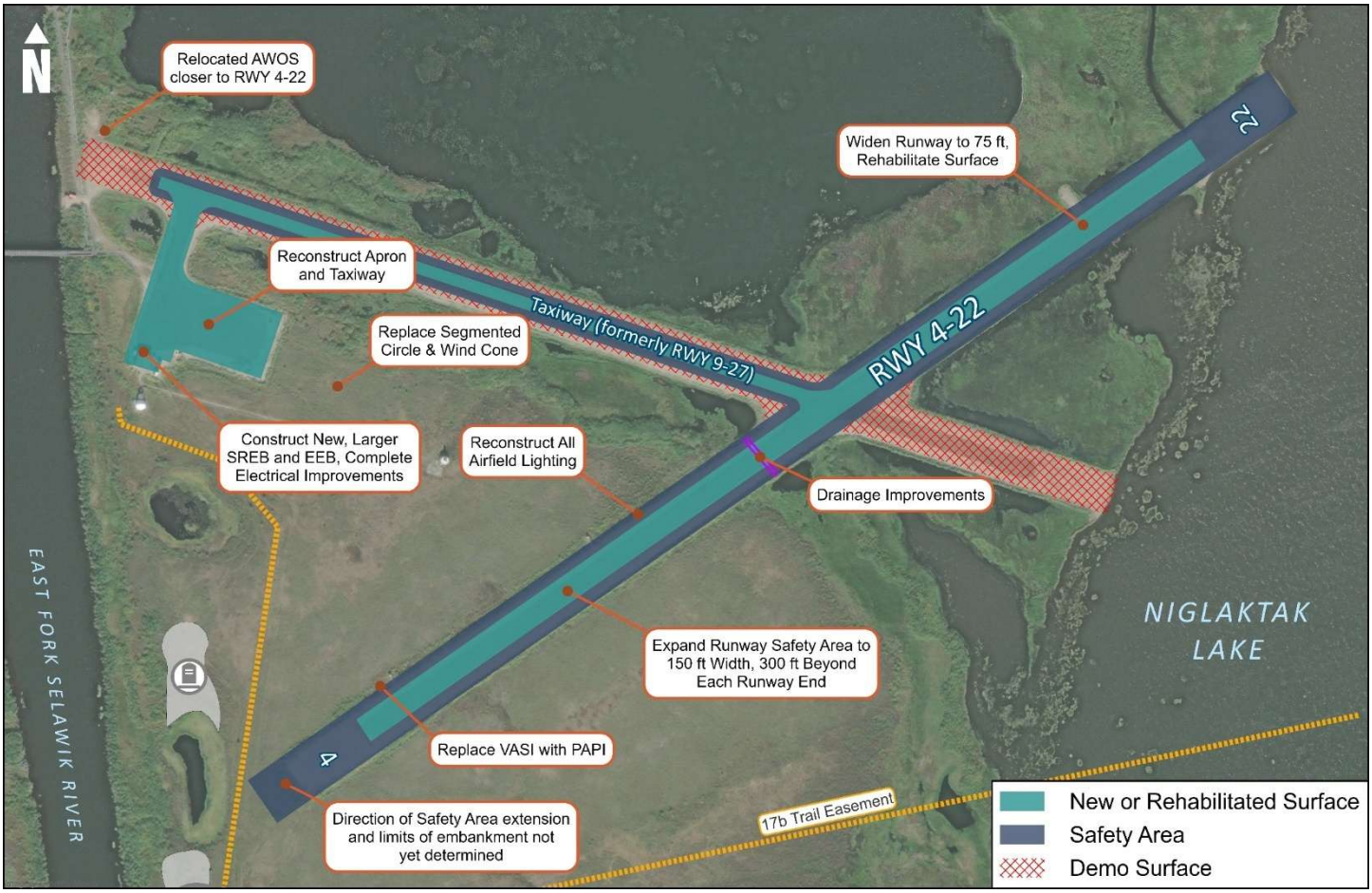
Key Features	Construct new apron near Runway 4 end on fresh ground. Construct new taxiway from relocated apron to Runway 4. Construct new access road from existing apron to new apron. In coordination with FAA, relocate AWOS.
Pros	More “classic” airport layout. Apron is near the runway end – operational safety benefits. Short taxiway. Ability to use materials harvested from Runway 9-27.
Cons	New construction in wetlands. Potential for significant subsidence, submersion. Apron and facilities proximity to VOR. Distance from bridge (longer transport for passengers, cargo, fuel to/from apron).
Public Comment	No specific public comments provided for this Concept.

Selawik Airport – Layout Concept 2



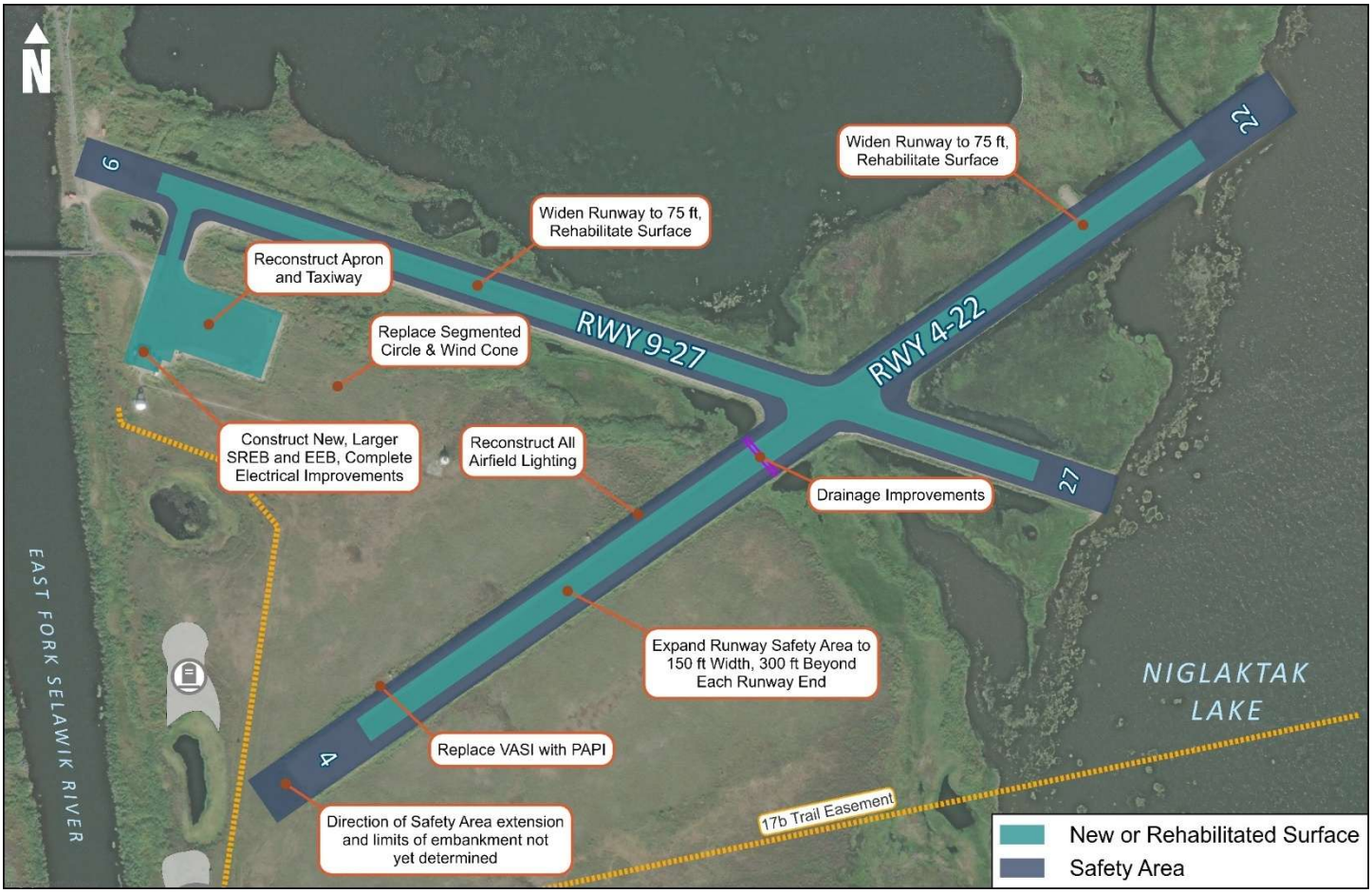
Key Features	Construct new apron near existing runway intersection using Rwy 9-27 embankment. Reconstruct section of Runway 9-27 as taxiway to connect to Rwy 4-22. Construct new access road from existing apron to new apron using Rwy 9-27 embankment. In coordination with FAA, relocate AWOS.
Pros	Apron is near the runway – short taxiway. Ability to use materials harvested from Runway 9-27. Not building on fresh ground – less impact to wetlands, less prone to subsidence.
Cons	Apron and facilities proximity to VOR. Distance from bridge (longer transport for passengers, cargo, fuel to/from apron).
Public Comment	No specific public comments provided for this Concept.

Selawik Airport – Layout Concept 3



Key Features	Reconstruct/rehabilitate apron, short taxiway, and facilities in existing location. Reconstruct extensive section of Rwy 9-27 to become a long taxiway from the apron to Rwy 4-22. In coordination with FAA, relocate AWOS.
Pros	Minimal new construction. Apron remains in existing location, near the bridge (fr PAX, cargo, fuel logistics). Ability to use embankment of and materials harvested from Runway 9-27.
Cons	Potential for confusion with former runway becoming a long taxiway. Taxiway does not intersect Rwy 4-22 at a 90-degree angle.
Public Comment	Dust from aircraft operations at the existing apron and Runway 9 end impacts community.

Selawik Airport – Layout Concept 4



Key Features	Reconstruct/rehabilitate all surfaces in existing locations. Widen both runways to 75 ft. Expand both safety areas to 150 ft width and 300 ft beyond runway ends. !!NOTE: The critical aircraft and wind coverage do not support a need for both runways. Runway 4-22 adequately serves the aircraft using Selawik Airport and meets FAA wind coverage requirements. The reconstruction of and improvements to Runway 9-27 are not likely justified.
Pros	Preservation of existing layout. Both runways would remain in use.
Cons	Materials will be prohibitively expensive and logistically difficult without option to use material harvested from abandoned surfaces.
Public Comment	Dust from aircraft operations at the existing apron and Runway 9 end impacts community.