Understanding Possible Solutions

Initial Alternatives and Refinement Process

What we've done so far:

01

Collected background data

• • •

Conducted field visit and talked with airport users

• • •

Met with the public

02

Began aviation demand study

• • •

Met with SWG (Seward Airport Working Group: City, Borough, and pilots)

• • •

Completed aviation demand study

• • •

Developed 5 options using current and future use scenarios

• • •

Met with SWG

03

Expanded number of options under consideration to 8 (variations of the initial 5)

• • •

Initiated a hydrologic study

04

Refined alternatives and eliminated some options based on initial hydrologic study results

• • •

Reviewed impacts to adjacent properties and to the environment

05

Completed hydrologic study based on the alternatives most viable for future consideration

• • •

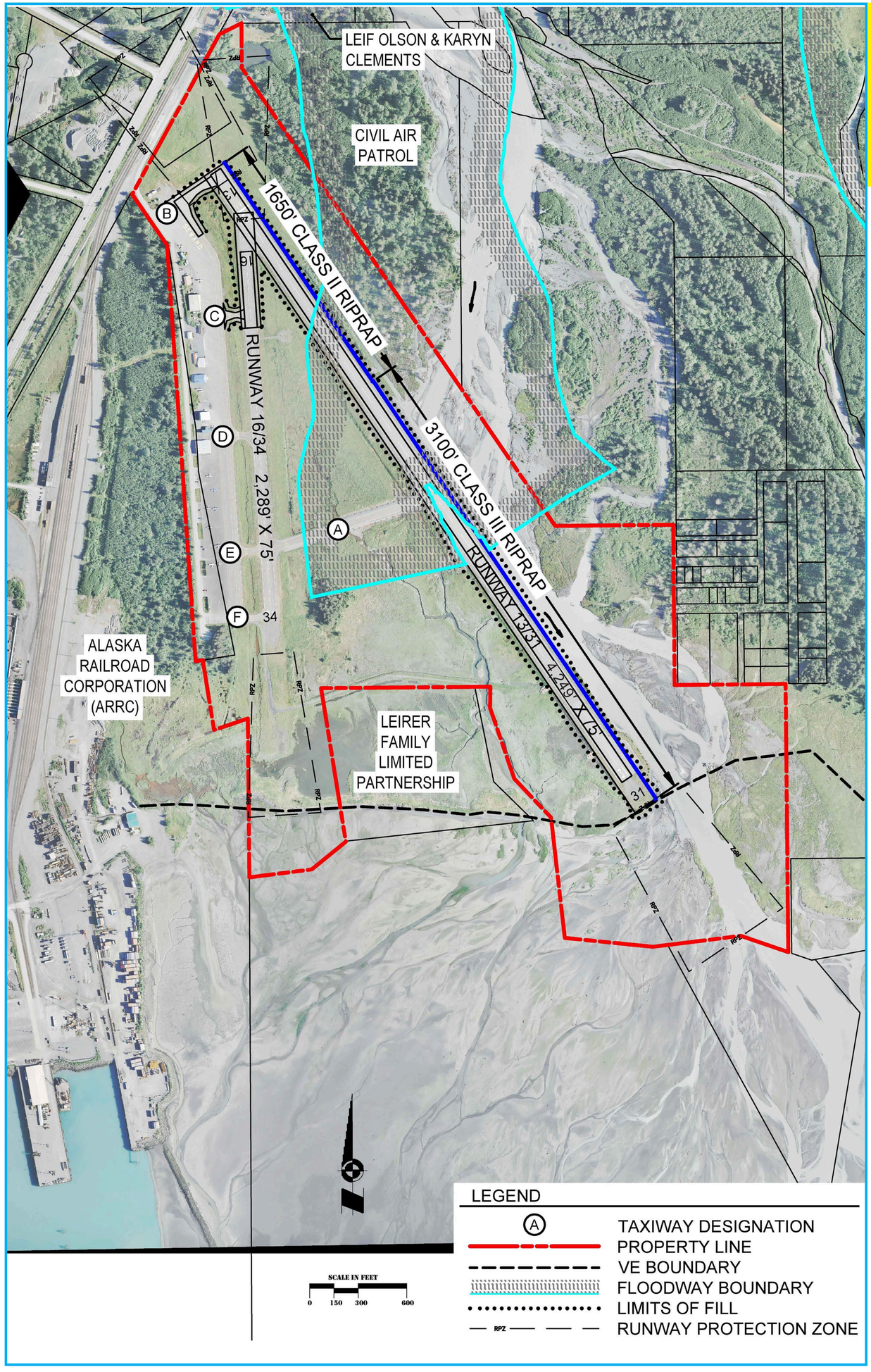
Present challenges and 3 possible solutions

★ WE ARE HERE ★

Today we want to:

Show you the results of this work—our three final alternatives.

Gain additional input on the advantages and disadvantages of these three alternatives.



ALTERNATIVE 1.1

Reconstruct Existing Main Runway (13-31) (4,249 feet x 75 feet)

- ✈ Reconstruct and raise Runway 13-31 above the 100-year flood level. Install riprap to protect the embankment.
- ✈ Adjust elevations of Runway 16-34 and Taxiways B and C to match new runway elevation. Eliminate Taxiways A, D, and E to comply with new FAA guidance.

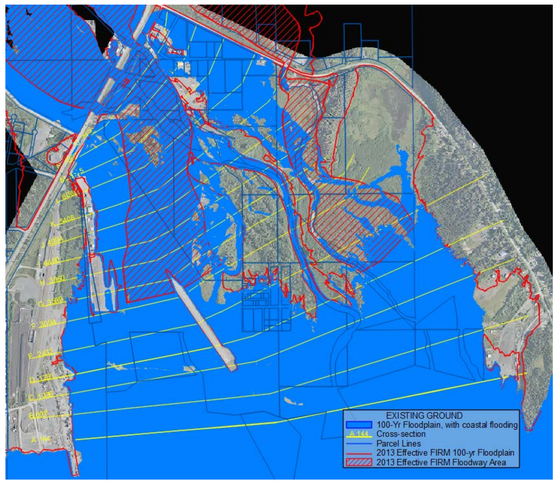
Key Advantage

+ Runway will still accommodate historical jet traffic, although it will be slightly shorter to provide the full required Runway Safety Area.

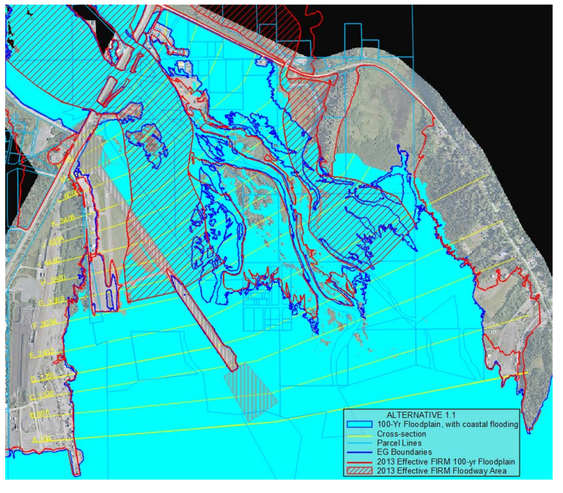
Key Disadvantages

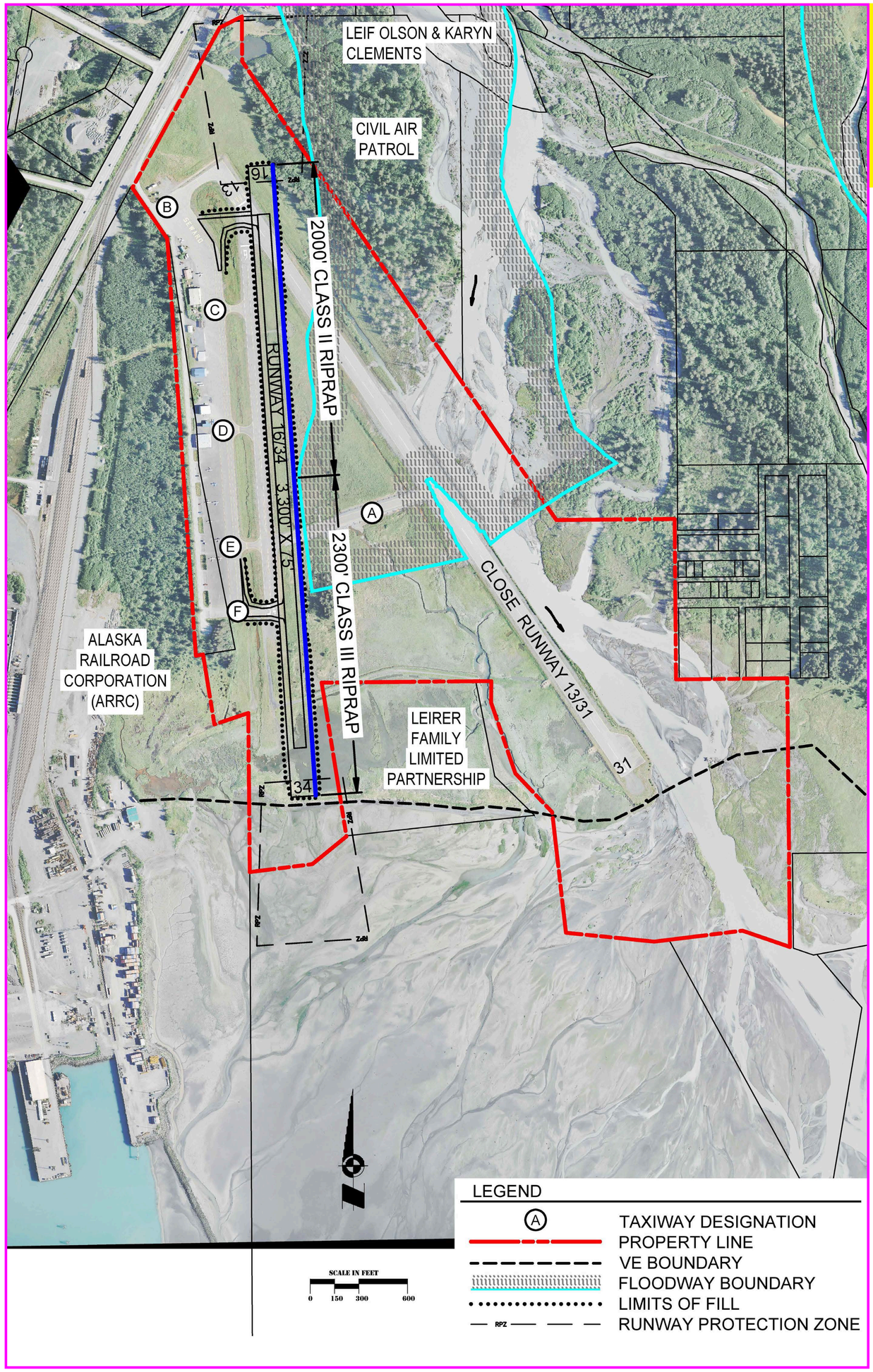
- Creates the greatest flood impacts.
  - Requires armoring and raising the runway by 4 feet on average.
  - The higher runway will redirect more flood water further to the other side of the river, impacting more properties than the other alternatives, thereby lengthening the property acquisition phase.
  - Impacts the Resurrection River floodway, requiring a revision of the FIRM (flood) map. May not be achievable due to the additional impacts to river properties. Requires a public process. The FIRM revision is expected to lengthen the permitting process by about 2 years.
- Most difficult option to permit and construct due to the work required in the river.
- Offset from the apron remains substandard for large aircraft.

100-Year Floodplain - Existing Conditions



100-Year Floodplain - Alternative 1.1





ALTERNATIVE 2.2

Shift Existing Crosswind Runway (16-34) East & Add 1,011 Feet (3,300 feet x 75 feet)

- ✈ Close Runway 13-31 and allow floodwater to overtop it.
- ✈ Reconstruct and raise Runway 16-34 above the 100-year flood level. Install riprap to protect the embankment.
- ✈ Relocate Taxiway B and adjust Taxiway F to match new runway elevation. Eliminate Taxiways A, C, D, and E to comply with new FAA guidance.

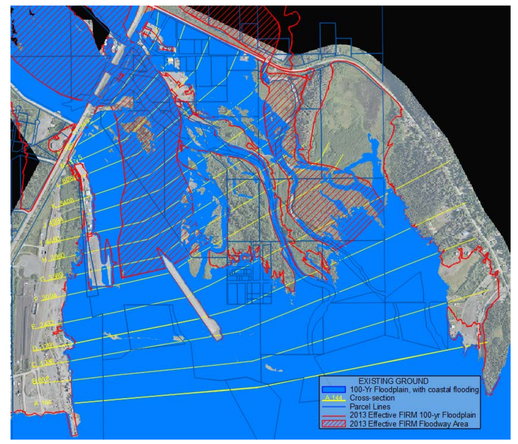
Key Advantages

+ Sufficient for current and predicted aircraft demand. Accommodates the design aircraft.
+ Less susceptible to flood damage than Alternative 1.1, since improvements are located further away from the river threat.
+ Lengthens the runway that is best aligned with the predominant wind direction.
+ Increases the runway offset from the apron to allow larger aircraft to use the apron.
+ Has the least environmental and flood impacts of all alternatives. Impacts the floodplain but not the floodway.
+ Raises the 100-year flood level by less than 1 foot, resulting in minor additional flood impacts to river properties. Fewer properties to be acquired than Alternative 1.1, and consequently, a shorter property acquisition process.
+ Could be phased to extend to a longer runway as future demand warrants.
+ Easiest option to construct.

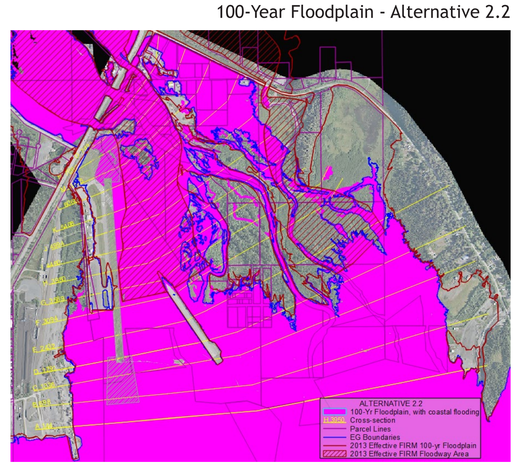
Key Disadvantages

- One runway (13-31) would be eliminated.
- The new, improved Runway 16-34 would be 949 feet shorter than the abandoned runway.

100-Year Floodplain - Existing Conditions



100-Year Floodplain - Alternative 2.2



ALTERNATIVE 3.0

Shift Existing Crosswind Runway 16-34 East & Extend by 1,711 Feet (4,000 feet x 75 feet)

- ✈ Close Runway 13-31 and allow floodwater to overtop it
- ✈ Reconstruct and raise Runway 16-34 above the 100-year flood level. Install riprap to protect the embankment.
- ✈ Relocate Taxiway B and adjust Taxiway F to match new runway elevation. Eliminate Taxiways A, C, D, and E to comply with new FAA guidance.

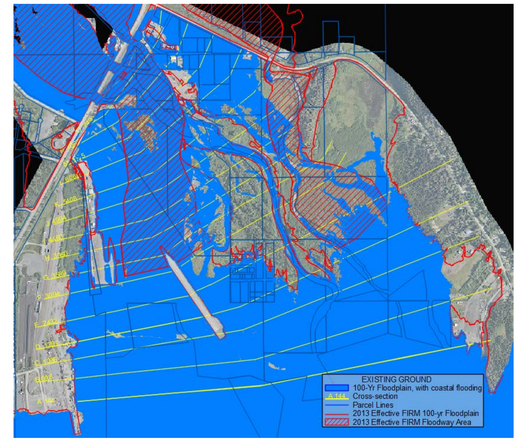
Key Advantages

+ Less susceptible to flood damage than Alternative 1.1, since improvements are located further away from the river threat.
+ Is longer than Alternative 2.2, which allows for use by commuter aircraft such as the Dash-8.
+ Lengthens the runway that is best aligned with the predominant wind direction.
+ Increases the runway offset from the apron to allow larger aircraft to use the apron.
+ Raises the 100-year flood level by less than 1 foot, resulting in minor additional flood impacts to river properties. Fewer properties to be acquired than Alternative 1.1, and consequently, a shorter property acquisition process.

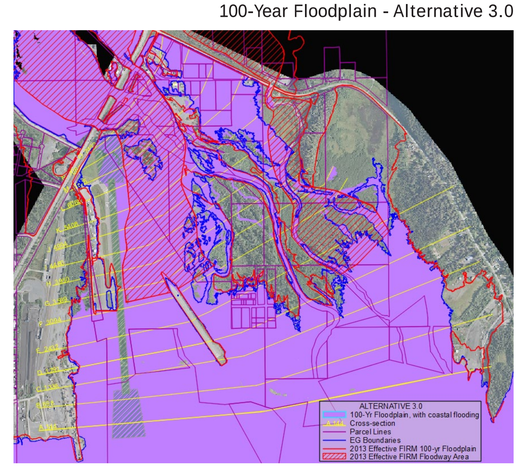
Key Disadvantages

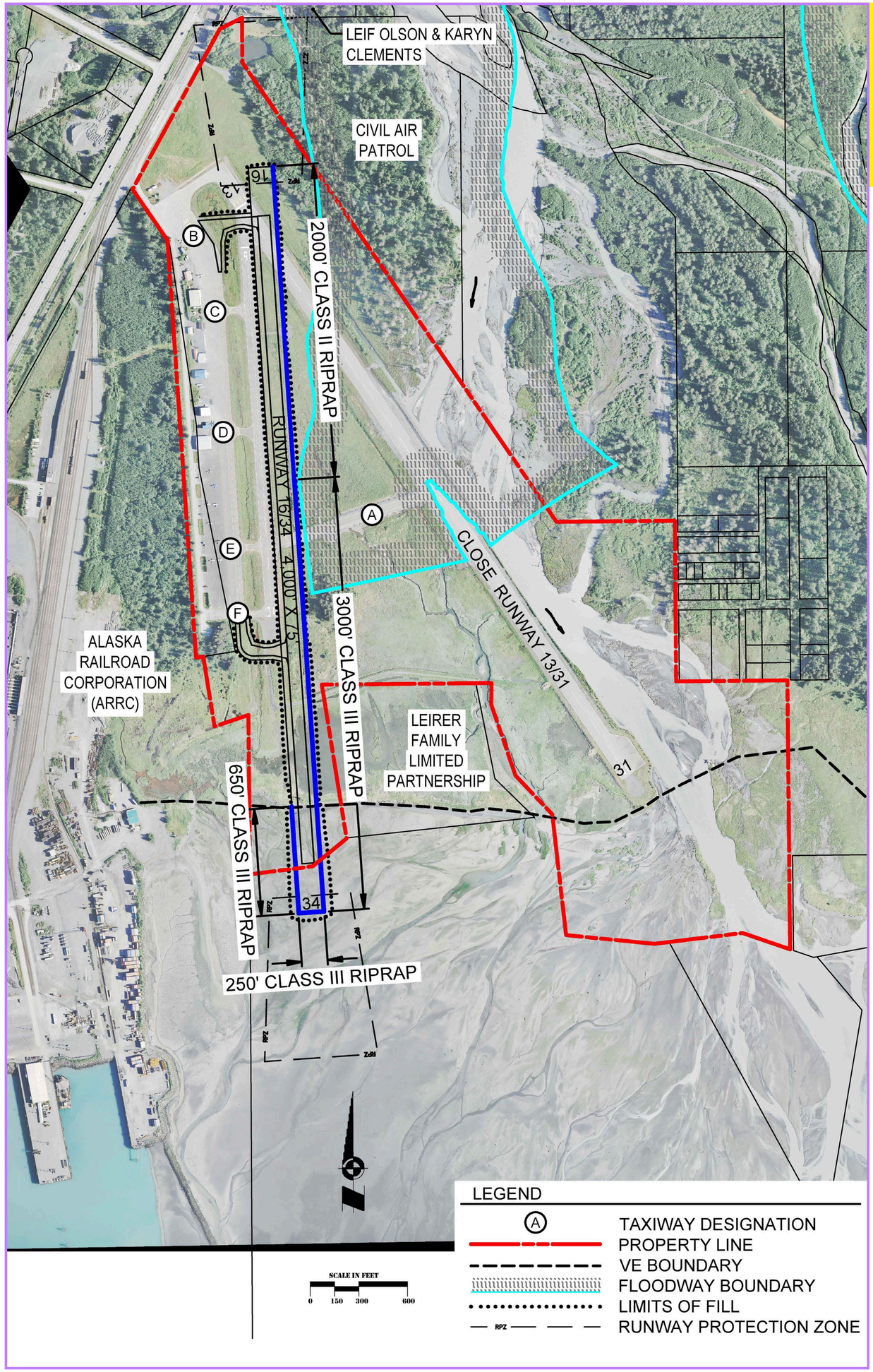
- Requires an alternative funding source. The additional 700 feet of runway length do not qualify for federal funding.
- Impacts the Velocity Zone (tidelands) on the FIRM (flood) map, requiring a revision to the FIRM map. Necessitates additional engineering to provide protection against the Resurrection Bay flood impacts.
- May take longer to obtain permits than for Alternative 2.2 due to tideland impacts, but shorter time than Alternative 1.1.

100-Year Floodplain - Existing Conditions



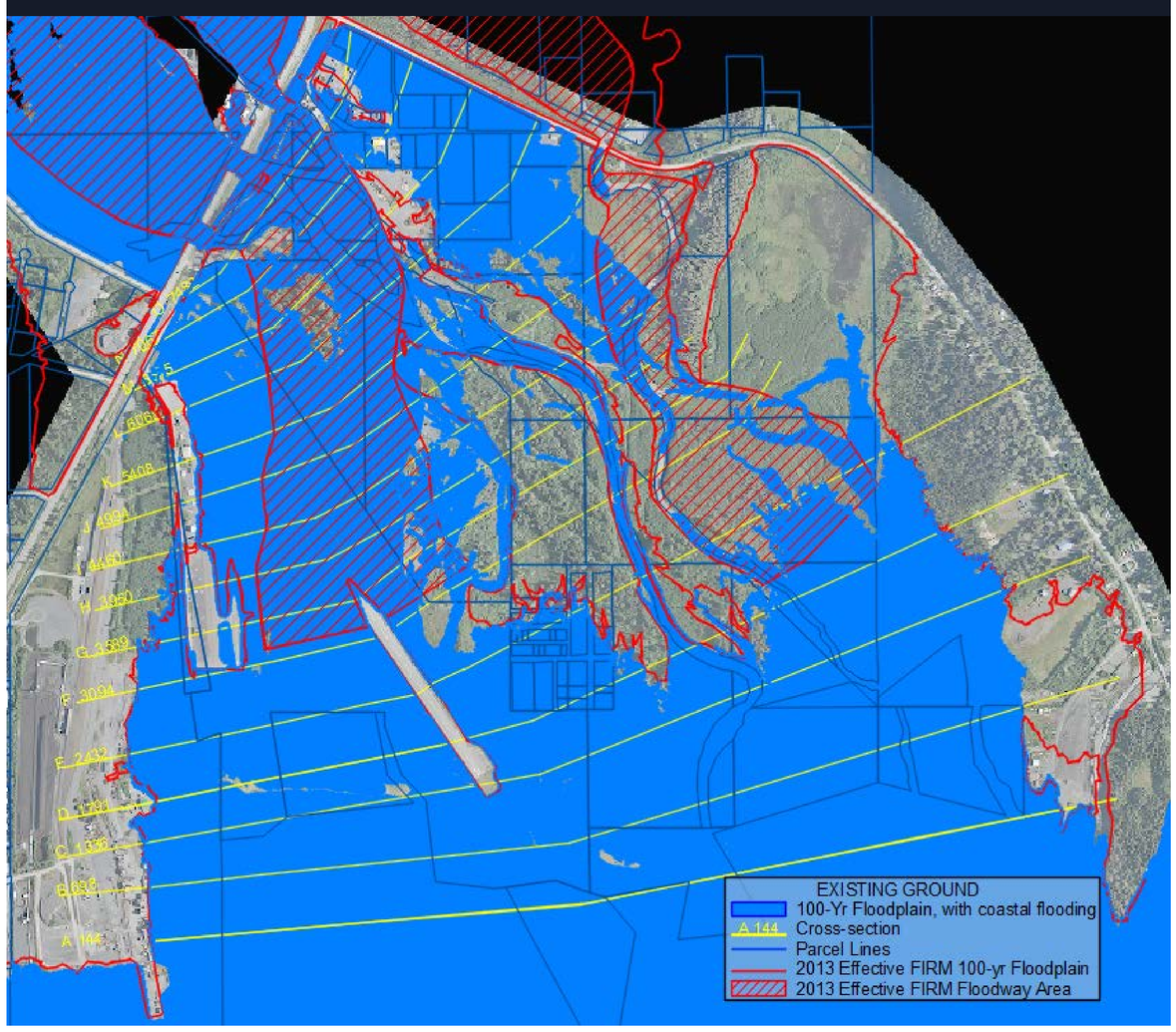
100-Year Floodplain - Alternative 3.0



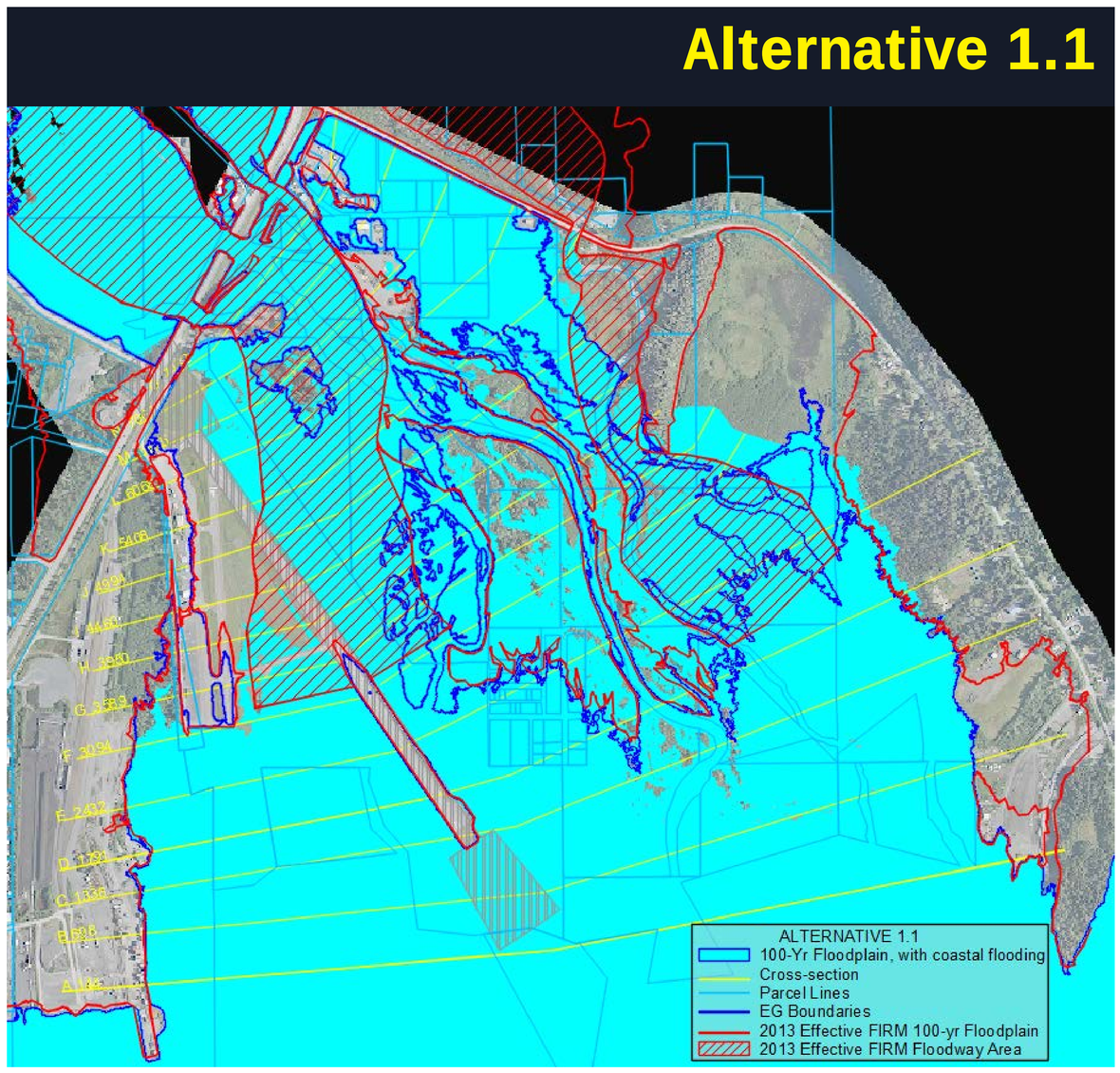


Projected Floodplain Impacts: Changes in the 100-Year Flood

Existing Ground

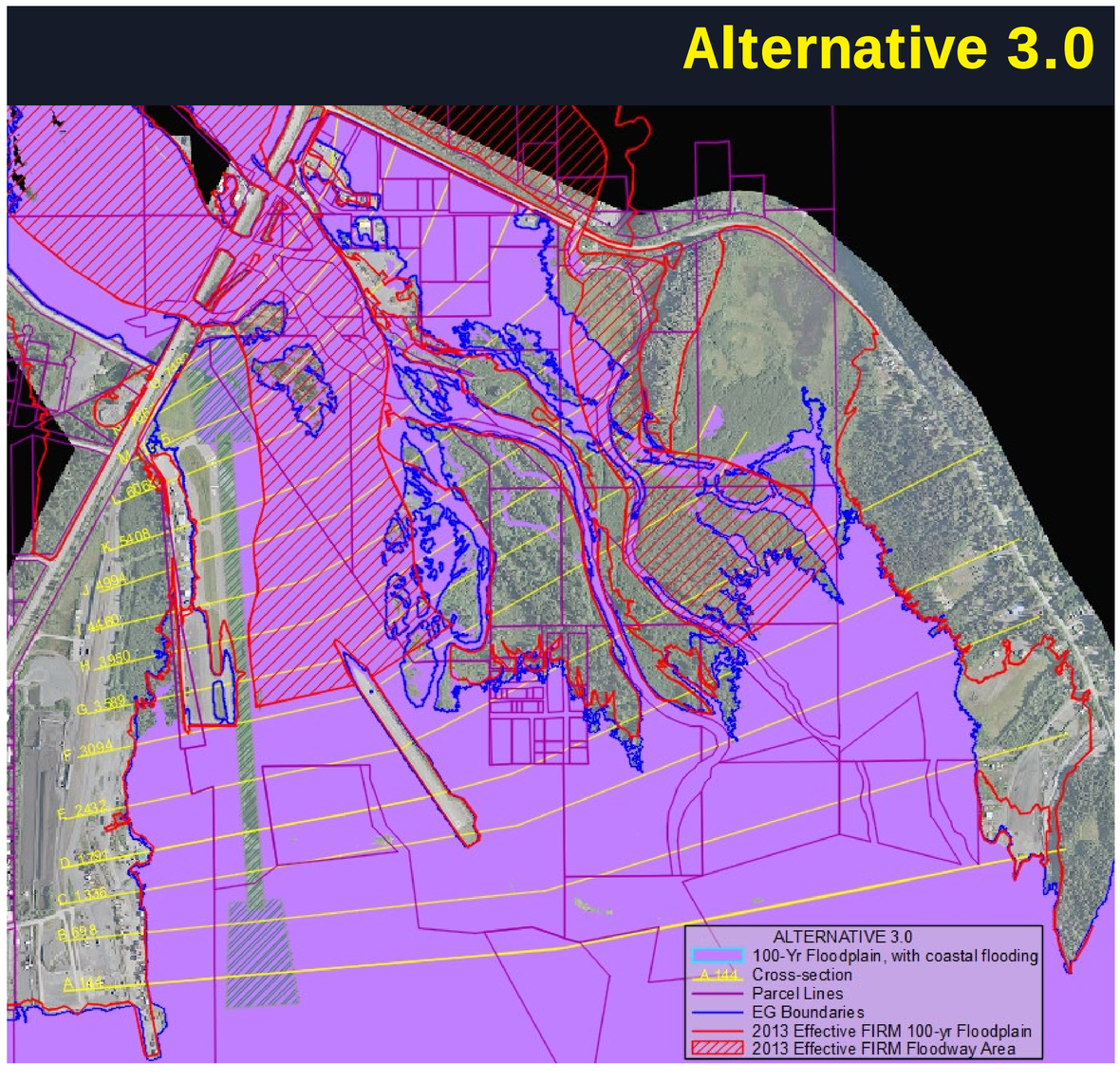


Alternative 1.1



Alternative 2.2

Alternative 3.0



Understanding Possible Solutions
ATTENDEE ACTIVITY

Which aspects of the project are most important to you?

Please place your YELLOW sticker in the box next to the criterion you feel is the most important and your BLUE sticker by the one you feel is next most important.

Alternative Evaluation Criteria	
COST • Construction/earthwork cost • Maintenance and operations (M&O) • Right of way—preliminary costs only • Eligibility for FAA funding	
ABILITY TO SERVE THE COMMUNITY'S NEEDS • Medevac • Meets General Aviation (GA) needs • Search and rescue • Economic development	
SAFETY, ENGINEERING, AND USER CONSIDERATIONS *(not covered by Cost)* • Wind coverage • Airspace/Runway Protection Zone (RPZ)/ approach obstructions • User function/runway reliability/level of service (LOS) • Long-term stability/risks • Construction considerations	
ENVIRONMENTAL CONSIDERATIONS • Floodplain/floodway impacts • Fish habitat impacts • Wetlands impacts • Endangered Species Act (ESA)/bald eagle habitat • Human (socioeconomic) impacts—right-of-way impacts, compatible land use, etc.	