



City Council and Airport Commission Special Meeting Agenda

(to be held both at the physical and virtual locations below)

Civic Center Council Chamber ♦ 300 Seminary Avenue ♦ Ukiah, CA 95482

To participate or view the virtual meeting, go to the following link: <https://us06web.zoom.us/j/87311990595>

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- Call (toll free) 1-888-788-0099
- Enter the Access Code: 873 1199 0595
- To Raise Hand enter *9
- To Speak after being recognized: enter *6 to unmute yourself

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February 19, 2025 - 4:00 PM

1 CALL TO ORDER AND ROLL CALL

2 PLEDGE OF ALLEGIANCE

3 AUDIENCE COMMENTS ON NON-AGENDA ITEMS

The City Council and Airport Commission welcomes input from the audience. If there is a matter of business on the agenda that you are interested in, you may address the Council and Commission when this matter is considered. If you wish to speak on a matter that is not on this agenda that is within the subject matter jurisdiction of the City Council and Airport Commission, you may do so at this time. In order for everyone to be heard, please limit your comments to three (3) minutes per person and not more than ten (10) minutes per subject. The Brown Act regulations do not allow action to be taken on audience comments in which the subject is not listed on the agenda.

4 NEW BUSINESS

- 4.a. Consider Authorization of the Pursuit of the Restoration of the 5,000-foot Runway Extension, Encompassing all Options, for Ukiah Municipal Airport; and Direction to Include the Runway Extension Project as Part of the Airport's Capital Improvement Program (CIP) and for Future Planning Documents.

Recommended Action: Direct Staff to pursue a 5,000-foot runway extension, encompassing all options, and include the runway extension project as part of the Airport's Capital Improvement Program (Project Title: Restoration of the Ukiah Municipal Airport Runway to 5,000 feet) and for future planning documents.

Attachments:

1. 10-20-20 Mead and Hunt Technical Memo
2. UKI Runway Extension Exploratory Study
3. Ukiah Airport Commission Recommendation

5 ADJOURNMENT

Please be advised that the City needs to be notified 72 hours in advance of a meeting if any specific accommodations or interpreter services are needed in order for you to attend. The City complies with ADA requirements and will attempt to reasonably accommodate individuals with disabilities upon request. Materials related to an item on this Agenda submitted to the City Council after distribution of the agenda packet are available for public inspection at the front counter at the Ukiah Civic Center, 300 Seminary Avenue, Ukiah, CA 95482, during normal business hours, Monday through Friday, 8:00 am to 5:00 pm. Any handouts or presentation materials from the public must be submitted to the clerk 48 hours in advance of the meeting; for handouts, please include 10 copies.

I hereby certify under penalty of perjury under the laws of the State of California that the foregoing agenda was posted on the bulletin board at the main entrance of the City of Ukiah City Hall, located at 300 Seminary Avenue, Ukiah, California, and the Ukiah Valley Conference Center, located at 200 South School Street, Ukiah, California, not less than 72 hours prior to the meeting set forth on this agenda.

Kristine Lawler, CMC/CPMC
Dated: 2/14/25



AGENDA SUMMARY REPORT

SUBJECT: Consider Authorization of the Pursuit of the Restoration of the 5,000-foot Runway Extension, Encompassing all Options, for Ukiah Municipal Airport; and Direction to Include the Runway Extension Project as Part of the Airport's Capital Improvement Program (CIP) and for Future Planning Documents.

DEPARTMENT: Airport

PREPARED BY: Greg Owen, Airport Manager

PRESENTER: Greg Owen, Airport Manager

ATTACHMENTS:

1. 10-20-20 Mead and Hunt Technical Memo
2. UKI Runway Extension Exploratory Study
3. Ukiah Airport Commission Recommendation
4. Presentation given at Meeting

Summary: Council will consider authorizing the pursuit of a 5,000-foot runway extension, to encompass all options; and consider directing Staff to include the runway extension project as part of the Ukiah Municipal Airport's Capital Improvement Program and for future planning documents.

Background: On November 18, 2020, the City Council approved Staff's recommendation to move forward with "Option #2" in an October 20, 2020, Mead & Hunt Technical Memorandum (Attachment 1) to protect for a future 5,000-foot runway for potential CalFire Operations. Council also directed Staff to communicate Council's direction to the Mendocino County Airport Land Use Commission such that the draft Ukiah Municipal Airport Land Use Compatibility Plan (UKIALUCP) could be modified to include compatibility zone boundaries and/or criteria that would better preserve the potential for a longer runway.

Council's direction related to Option #2 was designed to preserve all categories within the Runway Protection Zone (RPZ) of the original 1996 Airport Comprehensive Land Use Plan (CLUP) plus add a new zone, compatibility zone 1*, that would facilitate the future restoration of the runway to 5,000 feet. At its meeting on November 19, 2020, the Mendocino County Airport Land Use Commission (ALUC) directed ALUC staff and Mead & Hunt to revise the draft UKIALUCP as recommended by Council.

At its May 20, 2021, meeting, Council adopted the 2021 UKIALUCP that included the 1* compatibility zones. On Staff's recommendation, Council also directed that upon adoption of the 2040 General Plan, currently in development at that time, the entirety of the UKIALUCP be integrated fully as a stand-alone policy into the General Plan. On October 20, 2022, ALUC adopted a resolution finding the City's 2040 General Plan consistent with the UKIALUCP, and on December 6, 2022, Council adopted the 2040 General Plan and certified the Environmental Impact Report (EIR) for the General Plan. The entirety of the 2021 UKIALUCP was incorporated into the 2040 General Plan.

On March 16, 2022, Council approved a Ukiah Airport Runway Extension Study Agreement with Mead & Hunt in the amount of \$36,500 to determine the feasibility of extending the Airport's Runway 15/33 to a total length of 5,000 feet, a 577-foot extension. The study was funded by the Airport with no participation from the Federal Aviation Administration (FAA) and did not include an aviation activity forecasting element. The study assumed that the Airport would remain as a FAA category B-II airport with approach visibility minimums as low as 1-¼ mile (Runway 15) and visual (Runway 33). The completed study (Attachment 2) performed a geometric

exercise for the physical configuration of a 5,000 foot by 75 foot runway. The following was considered:

- a. Analyze how the runway could fit on existing property, including required FAA safety areas and standards.
- b. If existing property is inadequate, the study will look at what areas of land would need to be acquired.
- c. Analysis will result in up to five alternative configurations.
- d. Consultants will develop one 11x17 graphic for up to five alternative configurations.

Discussion: The five resulting configuration options (Options 1, 1a, 2, 3, and 4) were developed using the following considerations: 1) How could the runway fit on existing property, including required FAA safety areas and standards? 2) If existing property is inadequate, what areas of land would need to be acquired? Below is a summary of each option.

Option 1 - North Extension

Option 1 is a runway extension to the north of 577 feet. This increases the length of Runway 15/33 to 5,000 feet. The existing blast pad beyond Runway End 15 will require pavement upgrades to be used for aircraft landings and takeoffs. Roads located north of Runway End 15 penetrate through protected areas. These roads may require relocation or closure within the bounds of the runway surface. Any additional objects along these roads will also require relocation or removal if they are within the runway surfaces.

Option 1a - North Extension In addition to the four 5,000-foot options, 1a in the study. Option 1a extends the runway to the north by 457 feet, resulting in a total length of 4,880 feet.

Option 1a is a variation of Option 1, a runway extension to the north of 457 feet. This increases the length of Runway 15/33 to 4,880 feet. The existing blast pad beyond the Runway End 15 will require pavement upgrades to be used for aircraft landings and takeoffs. Hastings Road, north of Runway End 15, will not penetrate the ROFA (Runway Object Free Area) and RSA (Runway Safety Area). Roads will not require relocation or closure.

Option 2 - South Extension

Option 2 is a runway extension to the south of 577 feet; this increases the length of runway 15/33 to 5,000 feet. The runway extension requires the parallel taxiway to be extended by 577 feet. Future property acquisition is needed. ROFA (Runway Object Free Area), OFZ (Obstacle Free Zone), and LCA (Localizer Critical Area) are off Airport Property.

Option 3 - North and South Extension

Option 3 is a runway extension to the north and south for a total of 577 feet. This increases the length of runway 15/33 to 5,000 feet. The extension to the north is 457 feet, and the extension to the south is 120 feet. Future property acquisition is needed.

Option 4- North and South Extension

Option 4 is a runway extension to the north and south for a total of 577 feet, this increases the length of Runway 15/33 to 5,000 feet. The extension to the north is 48 feet, and the extension to the south is 529 feet. Future property acquisition is needed. ROFA, OFZ, and LCA are off Airport.

Airport Commission Recommendation

The Airport Commission wrote a letter to the Council expressing their support for restoring the Airport's runway to 5,000 feet (Attachment 3). The commission believes that a longer runway would improve emergency services and response times during disasters like earthquakes and floods. They recommend adding the runway restoration project to the Airport's Capital Improvement Plan (CIP). The commission believes that this project is vital for public safety and will enhance the city's emergency readiness.

Conclusion

Staff is in agreement with the Airport Commission that Option 1 is currently the most viable option. However, staff also believes it is important to keep all options a priority and seek to protect and advance all options listed. Staff requests Council's authorization to continue pursuing strategies to protect the land and airspace required for the runway extension, to included as part of in the Airport's Capital Improvement Program (CIP)

and future planning documents. This includes exploring all available options, including those that address the complex external impacts of the project, and working diligently towards the long-term goal of a 5,000-foot runway.

Staff further acknowledges that restoring the runway to its previous 5,000-foot length is a long-term undertaking. Achieving this goal will require proactive measures to protect critical airspace and land necessary for future expansion. Furthermore, significant changes beyond the airport's boundaries will likely be needed. Staff is committed to this objective and seeks Council's support in this complex endeavor.

Staff recommends Council authorize the pursuit of a 5,000-foot runway extension, to encompass all options, and direct Staff to include the Runway Extension Project as part of the Airport's CIP and for future planning documents.

Lastly, Staff would like to note that Mead & Hunt will be available to present on the study plus address related questions at the February 19th meeting.

Recommended Action: Direct Staff to pursue a 5,000-foot runway extension, encompassing all options, and include the runway extension project as part of the Airport's Capital Improvement Program (Project Title: *Restoration of the Ukiah Municipal Airport Runway to 5,000 feet*) and for future planning documents.

BUDGET AMENDMENT REQUIRED: No

CURRENT BUDGET AMOUNT: N/A

PROPOSED BUDGET AMOUNT: N/A

FINANCING SOURCE: N/A

REVENUE: Yes / No GRANT: Yes / No N/A

PREVIOUS CONTRACT/PURCHASE ORDER NO.: N/A

COORDINATED WITH: Ukiah Airport Commission

STRATEGIC PLAN (SP): N/A

CLIMATE INITIATIVES (CI): N/A

GENERAL PLAN ELEMENTS (GP): N/A

Approved: 
Sage Sangiacomo, City Manager



TECHNICAL MEMORANDUM

To: Mr. Craig Schlatter
City of Ukiah Community Development Director

From: Ken Brody, Senior Airport Planner, and
Maranda Thompson, Senior Project Manager

Date: October 20, 2020

Subject: Potential C-130 Operations at Ukiah Municipal Airport and
Implications for Draft Airport Land Use Compatibility Plan

THE ISSUE

CalFire is in the process of adding several C-130s to its fleet of fire attack aircraft in the state. There is a potential that the agency may seek to operate these aircraft at Ukiah Municipal Airport when circumstances warrant. Significantly, the C-130 is much larger than the S-2T aircraft now operating at the airport (132-foot wingspan versus 73 feet). The airport design features that would need to be modified to accommodate the C-130 (runway length, taxiway setbacks, parking area, etc.) have not yet been fully studied.

From an airport land use compatibility planning standpoint, however, the most critical feature would be the runway length. Preliminary CalFire information indicates that full functionality of the C-130 requires a minimum of 5,000 feet of runway length. Ukiah Municipal Airport currently has a runway length of 4,423 feet and the 2019 airport layout plan (ALP) approved by the city, the FAA, and Caltrans calls for extending the runway 465 feet to the north to a total length of 4,888 feet. The length of this extension was fixed by FAA airport design requirements for an object free area beyond the end of runways and the city's desire at the time to avoid the need to realign or close Hastings Avenue. Whether an additional extension of 112 feet is feasible and, if so, whether it could best be provided on the north or the south end of the runway is not known at this time. Nevertheless, the immediate question is whether the draft *Ukiah Municipal Airport Land Use Compatibility Plan (ALUCP)* now undergoing public review can be modified to better enable a longer runway than presently planned.

A major consideration in this regard is that state airport land use compatibility planning statutes dictate that ALUCPs be based upon a Caltrans-approved, current airport master plan or airport layout plan. A longer runway length as discussed above is not reflected in any current plans for the airport and updating those plans could be a costly and time-consuming process depending upon what documentation Caltrans would require. Thus, the focus in this memo is on whether more can be done within the present draft ALUCP to prevent future development that would add to the complexities of a further runway extension while still basing the ALUCP on the approved airport layout plan.

THE OPTIONS

Given the mandatory relationship between an updated ALUCP and the current ALP, it is important to first take a closer look at the currently established zones and criteria for the areas near the runway ends in order to identify options for how the draft ALUCP might be modified.

In conjunction with the northerly runway extension, the 2019 ALP shows a corresponding shift in the location of the runway protection zone (RPZ) (see **Figure 1**). The future RPZ would extend to Talmage Road. While most of the central sections of both the current and future RPZs are on airport property, outer corners of the future RPZ, especially to the east, would extend onto private property. The city controls aviation easements on these lands as well as on property abutting the north side of Talmage Road. These easements limit the allowable height of structures and vegetation on the underlying property and also restrict or prohibit lights, lighted signs, and other lighted objects and uses that generate radio or electromagnetic interference. The easements do not otherwise restrict the uses of the properties.

The 1996 *Mendocino County Airport Comprehensive Land Use Plan* (ACLUP) that currently remains in effect for the Ukiah Municipal Airport does, however, set additional restrictions on most of this land in what is called the A* Zone. The boundary of the A* Zone was set based on the 1996 ALP to encompass a larger RPZ that was required in accordance with FAA design standards that have since been modified. Note that, as shown in **Figure 1**, the A* Zone boundary extends slightly farther to the east and less far to the north than the area covered by aviation easements. The criteria for the A* Zone are the same as those for the remainder of the A Zone, all of which is on airport property. All new nonaeronautical structures are prohibited. Automobile parking is allowed provided that it attracts no more than 10 people per acre. Policy 6.1 indicates that “it is the intention of the City of Ukiah to provide long-term control of the land uses within these areas [A* and B1* Zones] by either acquiring the property in fee or obtaining approach protection easements restricting the type and density of land uses permitted.”

The city also controls aviation easements at the south end of the runway. The easement area encompasses all of the RPZ, the size of which is the same now as in the 1996 ALP. This area is reflected in the 1996 ACLUP that establishes A* and B1* Zones covering the affected private property (see **Figure 2**).

Three options are apparent for addressing the ALUCP issues brought on by the possible need to accommodate the C-130 at Ukiah Municipal Airport.

- **Option 1:** Adopt the current draft ALUCP by the end of the year as scheduled. During 2021, consult with Caltrans to determine what type of ALP documentation they would require to support an ALUCP that assumes a longer runway. The FAA can then be approached to see if they would provide funding support to ascertain runway length requirements for C-130 operations at Ukiah, to determine how the runway can best be further extended, and to update the ALP. Once the ALP has been updated, the ALUCP can be modified accordingly.

- **Option 2:** Immediately modify the draft ALUCP to include compatibility zone boundaries and/or criteria that would better preserve the potential for a longer runway. Any such modifications will need to be based upon features depicted in the 2019 ALP, specifically the current and proposed aviation easements. This can most readily be achieved by creating a Compatibility Zone 1*. This concept is supported by the existence of the A* Zone in the 1996 ACLUP.

Further, to reflect the fact that the affected area is mostly private property, the criteria should be less restrictive than for Zone 1 but more restrictive than the Zone 2 criteria. For example, future uses could be limited to very-low-intensity activities (30 people per acre maximum) such as storage or light industrial with uses such as retail, offices, and residential prohibited. Limits on the size of buildings also could be set.

- **Option 3:** Similar to Option 2, but uses a “conceptual RPZ” to protect for a possible need for a 5,000-foot long runway to serve future C-130 aircraft operations. The conceptual RPZ would either define the outer limits of Zone 1 or a new Zone 1*. The criteria for the extended zone could either be the same as Zone 1, which prohibits all new structures, or include slightly less stringent criteria. Note that the conceptual RPZ has not been validated by the City nor is it supported by the 2019 ALP. Therefore, this option puts the City and/or ALUC in a vulnerable position to defend new compatibility zone boundaries based on the conceptual RPZ.

Among the factors to be considered in choosing from these options, two in particular are important to highlight here.

- **Timing:** State airport land use planning statutes limit adoption of revisions to ALUCPs to once per calendar year. Thus, regardless of which option is chosen, it would be best if ALUC action is taken before the end of this year (2020) so that the ALUCP could be amended during 2021. Otherwise, any revisions would need to wait until 2022.
- **CEQA:** For Option 1, the necessary CEQA document has already been prepared and would not need to be revised for the immediate adoption of the ALUCP. Even for Options 2 and 3, CEQA document changes can arguably be avoided if the revised compatibility zones and criteria do not impose any greater restrictions on land uses than exist under the 1996 ACLUP now in effect. Increased restrictions would not only have CEQA implications but would also raise the specter of causing inverse condemnation.

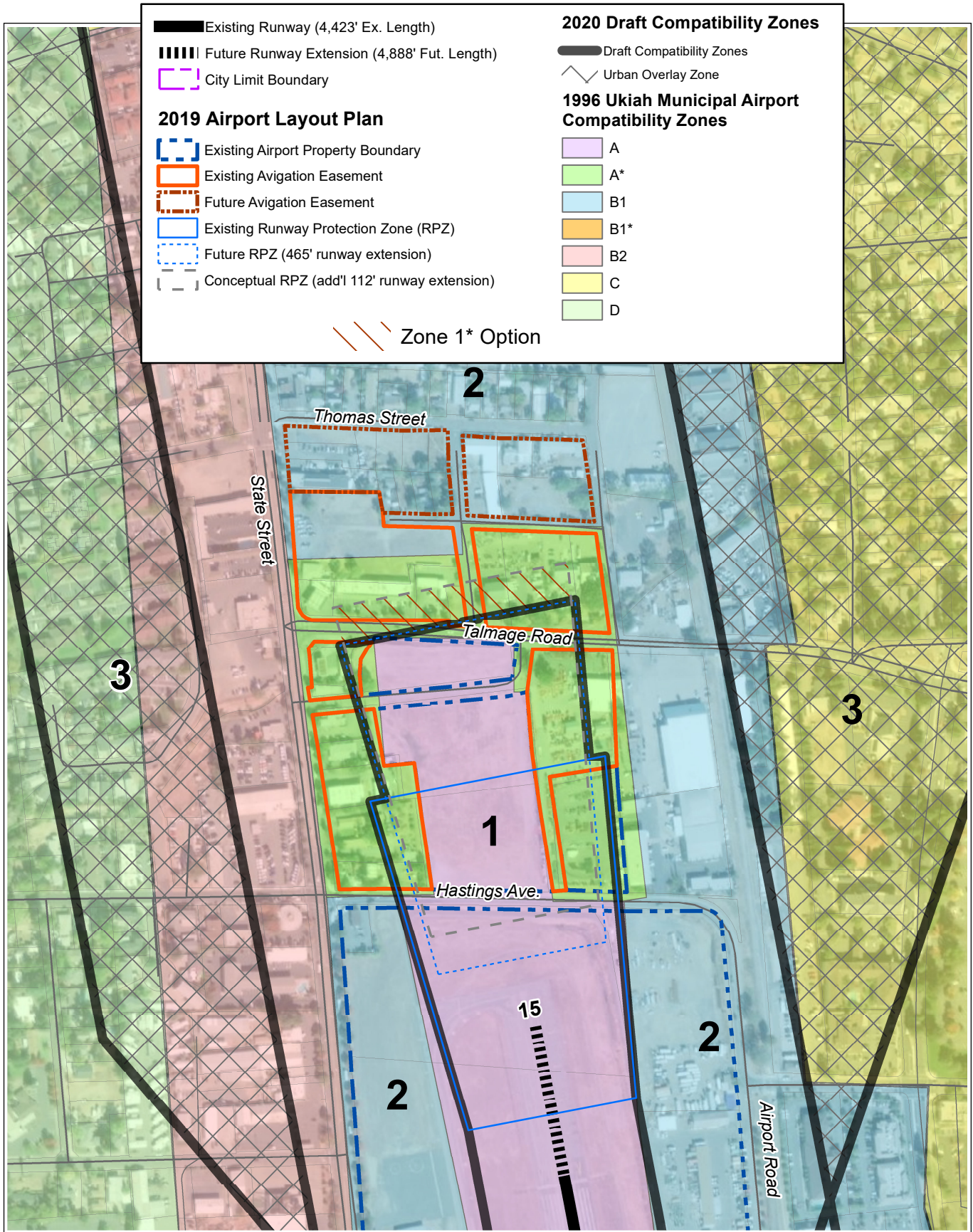
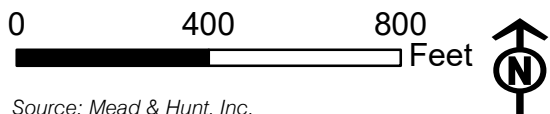


Figure 1

**Comparison Map:
 Draft Zone 1 and 1996 Zone A* (North)
 Ukiah Municipal Airport**



Source: Mead & Hunt, Inc.

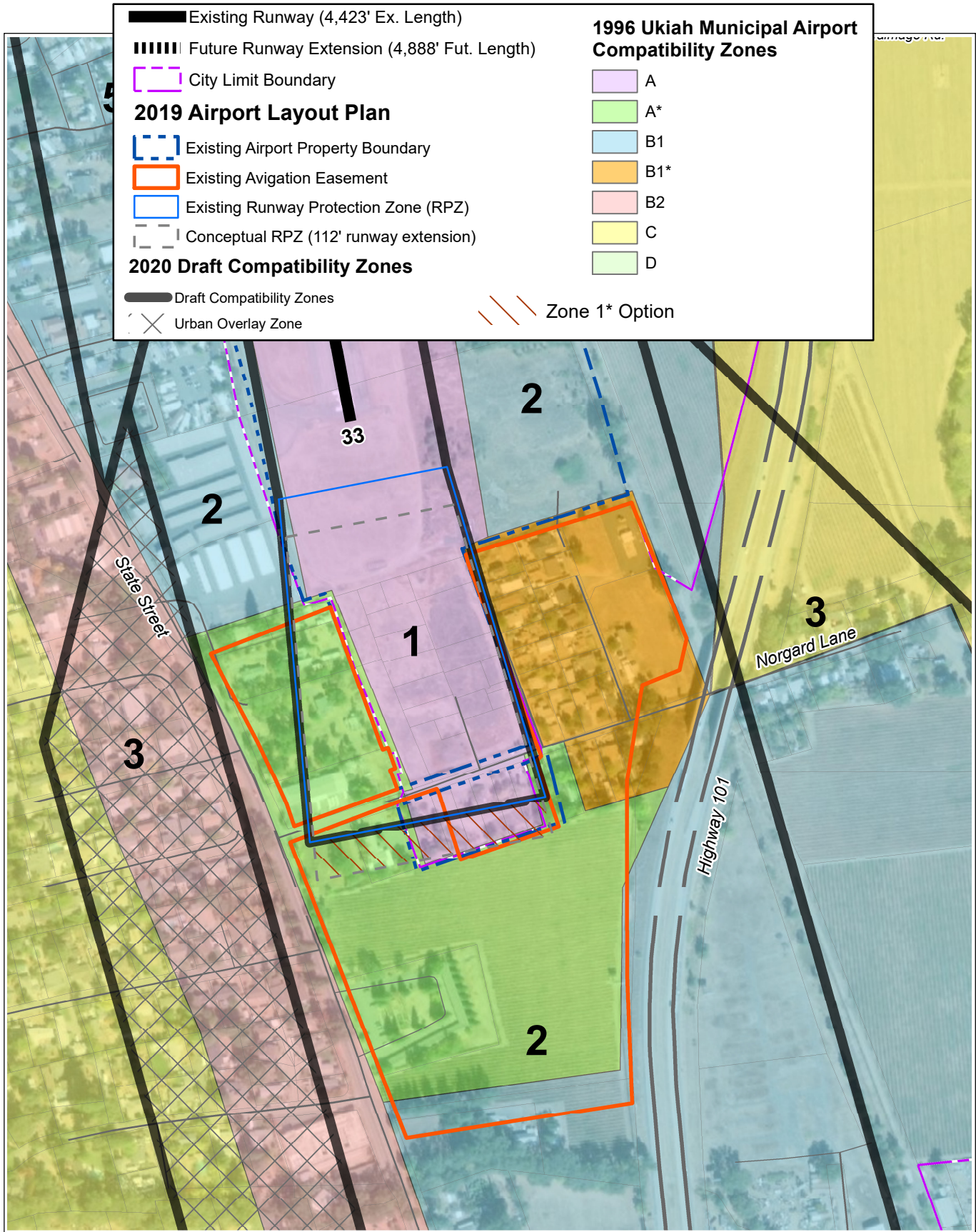
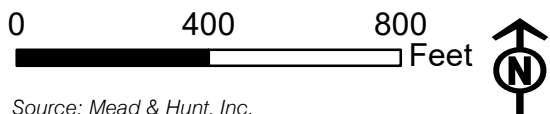


Figure 2



**Comparison Map:
 Draft Zone 1 and 1996 Zone A* (South)
 Ukiah Municipal Airport**

TECHNICAL MEMORANDUM



To: Greg Owen, Airport Manager – Ukiah Regional Airport
From: Mead & Hunt Aviation Planning Team, Corbett Smith Senior Planner
Date: December 06, 2022

Subject: Ukiah Regional Airport (UKI) Runway Extension Exploratory Study

A. Introduction

The City of Ukiah (City) has asked Mead & Hunt, Inc. (Mead & Hunt) to determine the feasibility of extending Runway 15/33 to a total length of 5,000 feet (an extension of 577 feet). This study is funded by the City of Ukiah with no participation from the FAA. This Study does not include an aviation activity forecasting element. The Study assumes that UKI will remain as a FAA category B-II airport with approach visibility minimums as low as 1-¼ mile (Runway 15) and visual (Runway 33).

B. Runway Options Analysis and Airspace Findings

Mead & Hunt performed a geometric exercise for the physical configuration of a 5,000'x75' runway. The five resulting configuration options (Options 1, 1a, 2, 3, and 4) were developed using the following considerations:

- a. How the runway could fit on existing property, including required FAA safety areas and standards?
- b. If existing property is inadequate, what areas of land would need to be acquired?

The Runway Options Summary Table (**Table 1**) is presented after the Airspace Findings discussion.

Option 1 – North Extension

Option 1 is a runway extension to the north of 577 feet, this increases the length of Runway 15/33 to 5,000 feet. The existing blast pad beyond Runway End 15 will require pavement upgrades to be useable for aircraft landings and takeoffs. There are no changes to the Runway Design Code (RDC) or visibility minimums. This extension assumes that there will be no declared distances and that the physical end of Runway 15 will be the threshold. Analysis of airspace surfaces is needed to determine if any penetrations require declared distances. The Obstacle Free Zone (OFZ) requires 200 feet beyond the runway ends. The Runway Object Free Area (ROFA) and Runway Safety Area (RSA) requires 300 feet beyond the runway ends and extend off Airport Property. The Runway Protection Zone (RPZ) will shift north and will be further off Airport Property, but it remains on an existing aviation easement. Airport Road, north of Runway End 15, penetrates through the ROFA and RSA. Airport Road will require relocation or closure within the bounds of the runway surfaces. Any additional objects along Airport Road will also require relocation or removal if they are inside any of the runway surfaces.

The runway extension does not require an extension of the parallel taxiway because the taxiway connects to the existing blast pad. There will be no changes to the Taxiway Object Free Area (TOFA) or Taxiway Safety Area (TSA) design, and the surfaces remain on Airport Property. There are no changes to the location of the localizer or the Localizer Critical Area (LCA).

Existing penetrations to airspace surfaces for Runway End 15 will increase in values. The Part 77 Approach Surface and Threshold Siting Surface (TSS) will require removal or lowering of penetrations. Advisory Circular (AC) 150/5300-13B (13B), Airport Design, changes the design of the Departure Surface by adding sloping wings on each side of the 40:1 surface. The new departure surface design will require analysis to determine if existing objects are penetrations to the surface. Penetrations to the Departure Surface will require removal or lowering of the penetrating object.

There is the potential that the Runway 15 RPZ will not require property acquisition due to the surface remaining on an existing aviation easement. If property acquisition is required, then the runway extension will require approximately 6 acres of property acquisition to maintain all runway surfaces on Airport Property. There is an existing area of the Runway 33 RPZ, a total of 10,500 Square Feet, that is off Airport Property and not on an aviation easement. This property will need to be acquired, or an easement will need to be in place for the RPZ.

Option 1a – North Extension

Option 1a is a variation of Option 1, a runway extension to the north of 457 feet. This increases the length of Runway 15/33 to 4,880 feet. The existing blast pad beyond the Runway End 15 will require pavement upgrades to be useable for aircraft landings and takeoffs. There are no changes to the RDC or visibility minimums. This extension assumes that there will be no declared distances and that the physical end of Runway 15 will be the threshold. Analysis of airspace surfaces is needed to determine if any penetrations require declared distances. The OFZ requires 200 feet beyond the runway ends. The ROFA and RSA require 300 feet beyond the runway ends and must remain on Airport Property. The RPZ will shift north and will be further off Airport Property, but it will remain on an existing aviation easement. Airport Road, north of Runway End 15, will not penetrate the ROFA and RSA. Airport Road will not require relocation or closure.

The runway extension does not require an extension of the parallel taxiway because the taxiway connects to the existing blast pad. A taxiway connector will need to be relocated to the new threshold. There will be no changes to the TOFA or TSA design, and the surfaces remain on Airport Property. There are no changes to the location of the localizer or the LCA. Existing penetrations to airspace surfaces for Runway End 15 will increase in values. The Part 77 Approach Surface and TSS will require removal or lowering of penetrations. AC-13B, Airport Design, changes the design of the Departure Surface by adding sloping wings on each side of the 40:1 surface. The new departure surface design will require analysis to determine if existing objects are penetrations to the surface. Penetrations to the Departure Surface will require removal or lowering of the penetrating object.

There is the potential that the RPZ will not require property acquisition due to the surface remaining on an existing aviation easement. If property acquisition is required, then the runway extension will require approximately 5 acres of property acquisition to maintain all runway surfaces on Airport Property. There is an existing area of the Runway 33 RPZ, a total of 10,500 Square Feet, that is off Airport Property and not on an aviation easement. This property will need to be acquired, or an easement will need to be in place for the RPZ.

Option 2 – South Extension

Option 2 is a runway extension to the south of 577 feet; this increases the length of Runway 15/33 to 5,000 feet. There are no changes to the RDC or visibility minimums. This extension assumes that there will be no declared distances and that the physical end of Runway 33 will be the threshold. Analysis of airspace surfaces is needed to determine if any penetrations require declared distances. The OFZ requires 200 feet beyond runway ends. The ROFA and RSA requires 300 feet beyond the runway ends and will be off of Airport Property. The RPZ will shift south and will be further off Airport Property, but it will remain on an existing aviation easement.

The runway extension requires the parallel taxiway to be extended by 577 feet. There will be no changes to the TOFA or TSA design, but the surfaces will be off Airport Property. The localizer and LCA will shift with the runway extension. The shift of the localizer will result in the LCA going off Airport Property. Existing penetrations to airspace surfaces for Runway End 33 will increase in values. The Part 77 Approach Surface and TSS will require removal or lowering of penetrations. AC 13B, Airport Design, changes the design of the Departure Surface by adding sloping wings on each side of the 40:1 surface. The new departure surface design will require analysis to determine if existing objects are penetrations to the surface. Penetrations to the Departure Surface will require removal or lowering of penetrating object.

There is the potential that the RPZ will not require property acquisition due to the surface remaining on an existing aviation easement. If property acquisition is required, then the runway extension will require approximately 10 acres of property acquisition to maintain all runway surfaces, taxiway surfaces, and LCA on Airport Property. There is an existing area of 2 acres where the ROFA, OFZ, parallel taxiway development, and LCA are off Airport Property. This property will need to be acquired.

Option 3 – North and South Extension

Option 3 is a runway extension to the north and south for a total of 577 feet, this increases the length of Runway 15/33 to 5,000 feet. The extension to the north is 457 feet, and the extension to the south is 120 feet. The existing blast pad beyond Runway End 15 will require pavement upgrades to be useable for aircraft landings and takeoffs. There are no changes to the RDC or visibility minimums. This extension assumes that there will be declared distances to prevent any road relocations or closures. The OFZ requires 200 feet beyond the runway ends. The ROFA and RSA require 300 feet beyond the runway ends. The ROFA, OFZ, and RSA beyond Runway End 15 will remain on Airport Property, but property acquisition is needed to maintain the ROFA on Airport Property beyond Runway End 33. The Runway 15 RPZ will remain on an existing aviation easement. The Runway 33 RPZ will remain on an existing aviation easement except for a small section of land that is 7,500 Square Feet. The 7,500 Square Feet also includes property acquisition needed to keep the ROFA and LCA on Airport Property.

The runway extension does not require an extension of the parallel taxiway to the north because the taxiway connects to the existing blast pad. There will be no changes to the TOFA or TSA design, but the surfaces will be off Airport Property when the taxiway extends to meet the south runway extension, and an area of 14,000 Square Feet will need to be acquired. The localizer and LCA will shift with the runway extension, and the shift of the localizer will result in the LCA going off Airport Property. Existing penetrations to airspace surfaces for Runway 15/33 will increase in values. The Part 77 Approach Surface and TSS will require removal or lowering of penetrations. AC 13B, Airport Design, changes the design of the Departure Surface by adding sloping wings on each side of the 40:1 surface. The new departure surface design will require analysis to determine if existing objects are penetrations to the surface. Penetrations to the Departure Surface will require removal or lowering of the penetrating object.

Most of the RPZs remain on existing aviation easements, and there is the potential for no property acquisition in those areas. The only required section of property acquisition is the 21,500 Square Feet (7,500 for ROFA, RPZ, LCA, and 14,000 for parallel taxiway development) for the Runway 33 RPZ, ROFA, LCA, and parallel taxiway development. If the FAA requires additional property acquisition for RPZ compliance, then the runway extension will require approximately 11 acres of property acquisition to maintain all runway surfaces, parallel taxiway development, and LCA on Airport Property.

Option 4 – North and South Extension

Option 4 is a runway extension to the north and south for a total of 577 feet, this increases the length of Runway 15/33 to 5,000 feet. The extension to the north is 48 feet, and the extension to the south is 529 feet. The existing blast pad beyond Runway End 15 will require pavement upgrades to be useable for aircraft landings and takeoffs. There are no changes to the RDC or visibility minimums. This extension assumes that there will be declared distances to prevent any road relocations or closures. The OFZ requires 200 feet beyond the runway ends. The ROFA and RSA require 300 feet beyond the runway ends. The ROFA and RSA beyond Runway End 15 will remain on Airport Property, but acquisition is needed to maintain the ROFA, OFZ, and RPZ on Airport Property beyond Runway End 33. The Runway 33 RPZ remains on an existing aviation easement, except for a small portion of the corner beyond S State St.

The runway extension does not require an extension of the parallel taxiway to the north because the taxiway connects to the existing blast pad. The connector to Runway End 15 will need to shift to meet the new threshold. There will be no changes to the TOFA or TSA design, but the surfaces will be off Airport Property when the taxiway extends to meet the south runway extension. The localizer and LCA will shift with the runway extension. The shift of the localizer will result in the LCA going off Airport Property. Existing penetrations to airspace surfaces for Runway 15/33 will increase in values. The Part 77 Approach Surface and TSS will require removal or lowering of penetrations. AC 13B, Airport Design, changes the design of the Departure Surface by adding sloping wings on each side of the 40:1 surface. The new departure surface design will require analysis to determine if existing objects are penetrations to the surface. Penetrations to the Departure Surface will require removal or lowering of the penetrating object.

Most of the RPZs remain on existing aviation easements, and there is the potential for no property acquisition in those areas. The only required section of property acquisition is 1.8 acres for the ROFA, parallel taxiway development, OFZ, LCA, and Runway 33 RPZ. If additional property acquisition is required, then the runway extension will require approximately 11 acres of property acquisition to maintain all runway surfaces, parallel taxiway development, and LCA on Airport Property.

Airspace Findings

An airspace study was conducted for each of the options. The airspace study was limited to using obstruction/object data already obtained and included in the January 2016 FAA-approved ALP set.

General Findings

- Point #224 on ALP (Sheet 6) does not match elevation from AGIS. ALP shows 646', AGIS shows 630.2' (includes road clearance).
- Points #180 and #181 on the ALP (Sheet 6) have 15' clearance added even though these are dirt roads, not main roads. Only 10' of clearance is need and should have maximum elevation reduced by 5' (Based on AGIS, #180 should be 630.8' and #181 should be 629.4').

- There are no AGIS survey points for the road south of Runway End 33 (Norgard Lane). Will need to use estimates using Google Earth to verify if road clearance is an issue for runway extension options.

Findings Per Option

Airspace findings for each Option are presented in **Table 2** below.

Memorandum

Table 1: Runway Options Summary

Category	Option 1	Option 1a	Option 2	Option 3	Option 4
Runway					
Length	5,000' (577' Extension)	4,880' (457' Extension)	5,000' (577' Extension)	5,000' (577' Extension)	5,000' (577' Extension)
Declared Distances	No (Need analysis of airspace surfaces)	No (Need analysis of airspace surfaces)	No (Need analysis of airspace surfaces)	Yes (Need analysis of airspace surfaces)	Yes (Need analysis of airspace surfaces)
Runway Surfaces					
Runway Object Free Area (ROFA)	Airport Road in surface	On Airport Property	Off Airport Property	Off Airport Property	Off Airport Property
Runway Safety Area (RSA)	Airport Road in surface	On Airport Property	Off Airport Property	On Airport Property	On Airport Property
Runway Protection Zone (RPZ)	Off Airport Property	Off Airport Property	Off Airport Property	Off Airport Property	Off Airport Property
Obstacle Free Zone (OFZ)	On Airport Property	No Issues	Off Airport Property	On Airport Property	Off Airport Property
NAVAIDS					
Localizer Relocation	No	No	Yes	Yes	Yes
Localizer Critical Area (LCA)	No Change	No Change	Off Airport Property	Off Airport Property	Off Airport Property
Taxiways					
Additional Pavement	No	Yes (Taxiway Connector relocation)	Yes (Taxiway Extension and Connector)	Yes (Taxiway Extension / Connector relocation)	Yes (Taxiway Extension and Connector)
Taxiway Object Free Area (TOFA)	No Issues	No Issues	Off Airport Property	Off Airport Property	Off Airport Property
Taxiway Safety Area (TSA)	No Issues	No Issues	Off Airport Property	Off Airport Property	Off Airport Property
Property					
Existing Property	Not Sufficient for Surfaces	Not Sufficient for Surfaces	Not Sufficient for Surfaces	Not Sufficient for Surfaces	Not Sufficient for Surfaces
Property Acquisition	Approximately 6 acres (To maintain RPZ, ROFA, and RSA on Airport Property). Requires minimum 10,500 SQ FT easement or property acquisition.	Approximately 5 acres (To maintain RPZ on Airport Property). Requires minimum 10,500 SQ FT easement or property acquisition.	Approximately 10 acres (To maintain RPZ, ROFA, LCA, and OFZ on Airport Property. Accommodate parallel taxiway extension). Requires minimum 2 acres of property acquisition.	Approximately 11 acres (To maintain RPZ, ROFA, and LCA on Airport Property. Accommodate parallel taxiway extension). Requires minimum 21,500 SQ FT property acquisition.	Approximately 11 acres (To maintain RPZ, ROFA, OFZ and LCA on Airport Property. Accommodate parallel taxiway extension). Requires minimum 1.8 acres property acquisition.
Parallel Taxiway Implications	N/A	N/A	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.
Airspace					
Part 77 Approach	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values	Potential for new penetrations / greater penetration values	Potential for new penetrations / greater penetration values	Potential for new penetrations / greater penetration values	Potential for new penetrations / greater penetration values

Source: Mead & Hunt, Inc. 2022

Table 2: Airspace Findings Summary

Category	Option 1	Option 1a	Option 2	Option 3	Option 4
Runway 15					
TSS	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately 4 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately 4 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Existing service road penetrates surface. Approximately 2 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Existing service road penetrates surface. Approximately 3 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Existing service road penetrates surface. Approximately 2 trees penetrate surface.
Part 77 Approach	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 6 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately +/- 20 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 4 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately +/- 20 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 2 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface. Approximately +/- 10 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 3 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface. Approximately +/- 13 trees penetrate surface. 	<ul style="list-style-type: none"> Multiple (+/- 3 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface. Approximately +/- 10 trees penetrate surface.
Departure	<ul style="list-style-type: none"> 3 building points penetrate surface. Majority of existing service penetrates surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately +/- 100 trees penetrate surface. Numerous tree/ground penetrations where mountains are. 	<ul style="list-style-type: none"> 3 building points penetrate surface. Majority of existing service penetrates surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately +/- 100 trees penetrate surface. Numerous tree/ground penetrations where mountains are. 	<ul style="list-style-type: none"> Multiple (+/- 4 points) telephone lines penetrate surface. Approximately +/- 100 trees penetrate surface. Numerous tree/ground penetrations where mountains are. 	<ul style="list-style-type: none"> No buildings penetrate surface. Multiple (+/- 3 points) telephone lines penetrate surface. Approximately +/- 100 trees penetrate surface. Numerous tree/ground penetrations where mountains are. 	<ul style="list-style-type: none"> No buildings penetrate surface. Multiple (+/- 3 points) telephone lines penetrate surface. Approximately +/- 100 trees penetrate surface. Numerous tree/ground penetrations where mountains are.
Runway 33					
TSS	<ul style="list-style-type: none"> No buildings/poles penetrate surface. Existing service road penetrates surface in areas closest to runway end. Windsock penetrates surface. Approximately 4 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings/poles penetrate surface. Existing service road penetrates surface in areas closest to runway end. Windsock penetrates surface Approximately 4 trees penetrate surface. 	<ul style="list-style-type: none"> 3 building points penetrate surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately 10 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings/poles penetrate surface. Existing service road penetrates surface in areas closest to runway end. Windsock penetrates surface Approximately 4 trees penetrate surface. 	<ul style="list-style-type: none"> 3 buildings points penetrating surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately +/- 10 trees penetrate surface.
Part 77 Approach	<ul style="list-style-type: none"> 3 building points penetrate surface. Majority of existing service road penetrates surface. Windsock penetrates surface. Approximately 3 trees penetrate surface. 	<ul style="list-style-type: none"> 3 building points penetrate surface. Majority of existing service road penetrates surface. Windsock penetrates surface. Approximately 3 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings or poles obstructing surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately +/- 15 trees penetrate surface. 	<ul style="list-style-type: none"> 1 building point penetrates surface. Majority of existing service road penetrates surface. Approximately +/- 7 trees penetrate surface. 	<ul style="list-style-type: none"> 3 building points penetrate surface. Multiple (+/- 2 points) telephone lines penetrate surface. Approximately +/- 15 trees penetrate surface.
Departure	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 6 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately +/- 20 trees penetrate surface. 	<ul style="list-style-type: none"> No buildings obstructing surface. Multiple (+/- 4 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Dirt road penetrates surface north of Airport Road (even when using 10 ft clearance) Approximately +/- 20 trees penetrate surface. 	<ul style="list-style-type: none"> Multiple (+/- 3 points) telephone lines penetrate surface. Existing service road penetrates surface. Approximately +/- 12 trees penetrate surface. 	<ul style="list-style-type: none"> One building obstructing surface. Multiple (+/- 5 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface and will need to be closed. Approximately +/- 25 trees penetrate surface. 	<ul style="list-style-type: none"> Multiple (+/- 3 points) telephone lines penetrate surface. Existing service road penetrates surface. Airport Road penetrates surface. Approximately +/- 15 trees penetrate surface.

Source: Mead & Hunt, Inc. 2022

C. Environmental Findings

Environmental considerations were documented using publicly available information. This was not an environmental document to CEQA or NEPA standards, but rather a way to gauge alternative viability and community impact. Environmental considerations were evaluated based on available data, such as previous studies prepared by the client and readily available data from agency websites. No field survey was performed.

Evaluation of Proposed Options

All five of the proposed options have the potential to affect the natural or social environment as defined by the Council on Environmental Quality (CEQ), the National Environmental Policy Act of 1969 (NEPA), and FAA orders implementing NEPA.

Natural Resources and Environment

As shown on **Table 3**, the potential environmental effects associated with natural resources do not vary extensively among the options shown. In some cases, Option 1 is desirable because no additional impervious surfaces would be created.

Air Quality

All options have the potential to create temporary, construction-related, or permanent air quality effects based on changes in the number or type of aircraft operations, but there is no appreciable difference among alternatives.

Biological Resources

Federal and state-listed species have the potential to occur within the project vicinity, including three bird species, the monarch butterfly, and three endangered plant species (Burke's goldfields, Contra Costa goldfields, and Showy Indian clover). State-listed species that also have the potential to occur within the project vicinity include the coho salmon, two endangered plant species (Baker's Meadowfoam, Burke's Goldfields), and one threatened plant species, North Coast semaphore grass. Although Option 1 does not include additional impervious surface, additional grading could potentially affect listed plant species. Options 1a through 4 will require the creation of new impervious surface, which could affect potential plant species. Without site-specific surveys, it is difficult to identify differences among the proposed options. Alternatives that would create additional impervious surface (Options 1a through 4) have a greater potential to affect listed plant species compared to Option 1.

Prime and Unique Farmland

Property acquisition south of Norgard Lane is identified as prime farmland if irrigated, and portions of the land proposed for acquisition are in agricultural use (vineyard). While it is unlikely that impacts to farmland under NEPA would be significant, the acquisition and potential removal of farmland is a potential environmental effect associated with Options 2 through 4.

Floodplains

Areas along Talmadge Road north of the runway and areas south of the runway along Norgard Lane occur within areas identified by the Federal Emergency Management Agency (FEMA) as having a 1% annual chance flood (FEMA, 2022). However, no new structures or impervious surfaces are proposed within the designated flood areas. It is possible that drainage patterns would change as a result of project-related grading or other changes.

Historical, Architectural, Archeological, and Cultural Resources

No tribal lands were identified within the proposed project area, and available data does not identify any known sites of historic, archaeological, or cultural significance on or within the Airport vicinity. The area associated with proposed runway expansion is previously disturbed. No new impervious surface is proposed for Option 1; therefore, effects to cultural resources are not anticipated unless grading or construction activities extend below previously disturbed soils. Based on available data, all options have the potential to affect previously unknown cultural resources

Department of Transportation Section 4(f) Resources

Section 4(f) resources include wetlands, historical resources, parks, and wildlife refuges. No known historical resources, parks, or wildlife refuges are present. Potential wetlands to the south of the runway may be present in association with Options 2-4, but a wetland determination has not been conducted. Based on available data, only Options 2-4 have the potential to affect Section 4(f) resources.

Natural Resources and Energy Supply

The principal materials used for project construction will be aggregate and asphalt, and construction vehicles and equipment will consume petroleum-based products, such as gasoline and diesel. Runway and taxiway construction will require the installation of additional lights and electrical infrastructure. All materials are readily available and would be used in quantities that would not affect available supplies. There is no appreciable difference among the options regarding natural resources and energy supply.

Water Quality and Wetlands

Only Option 1 would not create new impervious surface, all other options have the potential to create new runoff and affect water quality. Options south of the runway have the potential to affect a wetland identified on National Wetland Inventory (NWI) maps, but a delineation has not been conducted.

Social Environment

Nearly all proposed options would affect the areas north and south of the runway.

Land Use

All proposed options would require the acquisition of land. Option 1 would create a new RPZ that includes commercial structures, and property acquisition for both Options 1 and 1a would include commercial properties to the north. The amount of property to be acquired for Options 2 through 4 is approximately twice the amount required for Options 1 and 2, and existing structures would need to be removed or relocated to accommodate the TSA and TOFA.

In addition, the proposed RPZ for Options 2 and 4 would include portions of a vineyard and an apartment complex. Under Option 3, only commercial properties both north and south of the current runway would be affected.

Noise

Aircraft noise exposure currently passes over the City of Ukiah. Noise complaints have been received, and the airport has implemented voluntary noise reduction measures. All proposed options would increase the area exposed to aircraft noise. Under Options 1 and 1a, the aircraft noise contours would extend farther north over the city and increase the number of residents exposed to aircraft noise. Under options 2 and 4, noise exposure would increase south of the airport to include commercial and agricultural areas, which are more compatible with aircraft noise exposure than residential use. Under Option 3, aircraft noise exposure would increase to both the north and south.

Environmental Justice Populations

Environmental Justice Populations are determined by identifying the percentage of minority and low-income populations as compared to a larger region, such as a county or state. EPA Census data indicate that the percentage of persons of color in the City of Ukiah (44%), unincorporated area immediately north (55%) and immediately south of the airport (46%) are lower than the statewide average of 63%; however, the percentage of low-income households in the city (36%), unincorporated area to the north (37%), and area immediately south (54%) all surpass the statewide percentage of 29% of low-income households. Based on this data, environmental justice populations could be affected by all five options.

Light and Visual Effects

The inclusion of additional runway lights is unlikely to affect nearby sensitive receptors (residents) as runway lights are on only when an aircraft is taking off or landing, and that will not change. However, residents both north and south of the airport will notice change in flight patterns as aircraft come closer or extend through residential areas (i.e., “overflight”). Although overflight is not a regulatory issue, it is important to recognize that aircraft overflight is subjective and may be annoying to some.

Table 3: Environmental Analysis Summary

Category/Effect	Option 1	Option 1a	Option 2	Option 3	Option 4
Natural Environment/Resources					
Air Quality	Potential	Potential	Potential	Potential	Potential
Biological Resources	Potential	Potential	Potential	Potential	Potential
Section 4(f) Resources	No	No	Potential	Potential	Potential
Farmland	No	No	Yes	No	Yes
Historical, Architectural, Archeological, and Cultural Resources	No	Potential	Potential	Potential	Potential
Natural Resources and Energy Supply	No	No	No	No	No
Water Quality/Wetlands	No	Potential	Potential	Potential	Potential
Floodplains	Potential	Potential	Potential	Potential	Potential
Social Environment					
Land Use	Yes	Yes	Yes	Yes	Yes
<i>Acquire Acreage - Approximate</i>	<i>6 acres</i>	<i>5 acres</i>	<i>12 acres</i>	<i>11 acres</i>	<i>12.8 acres</i>
<i>Acquisition / Easement Size Minimum</i>	<i>10,500 SQ FT</i>	<i>10,500 SQ FT</i>	<i>-</i>	<i>18,000 SQ FT</i>	<i>-</i>
Noise	Yes	Yes	Yes	Yes	Yes
Environmental Justice	Yes	Yes	Yes	Yes	Yes
Light/Visual Effects	Potential	Potential	Potential	Potential	Potential

Notes

- Neither coastal resources nor wild and scenic rivers are present in the project area; therefore, they are not included in the table.
- Neither UKI nor the lands north and south of the airport identified for potential acquisition are not identified on the Environmental Protection Agency National Priorities List (NPL) or the California Department of Toxic Substances EnviroStor database. No impacts related to hazardous materials are anticipated; therefore, hazardous materials are not identified in the table.
- The table presents existing, available data from resource agencies and previous studies. Additional environmental studies will be required to verify and refine the data presented.

Environmental Conclusion and Recommendations

As shown in **Table 3**, there is little variation in the extent of physical impacts to natural resources and the environment to identify a superior option. While Option 1 is attractive in that it will not increase the amount of impervious surface to affect water resources or wetlands, many of the potential effects on natural resources identified for all five options are likely to be less than significant and addressed through engineering solutions or the implementation of best management practices, unless biological or previously unknown cultural resources are found on site. Farmland effects are associated with Options 2 and 4, and if the vineyard must be converted to non-agricultural use, a less-than-significant impact.

Aircraft noise is controversial, and all proposed options have the potential to increase aircraft noise in communities that include environmental justice populations (i.e., a greater percentage of low-income households compared to the State of California). Options 1 and 1a would increase noise exposure north of the airport and in the City of Ukiah, which includes a much denser population than the areas south of the airport. Both Options 1 and 1a have the potential to create greater noise effects because aircraft noise exposure would occur in residential areas within the City, and residential use is incompatible with aircraft noise. In addition, a greater number of people would be affected by aircraft noise exposure, including environmental justice communities, compared to Options 2 through 4.

Options 2 through 4 would increase aircraft noise exposure in new areas south of the airport, and all three options would require a comparatively greater amount of property acquisition compared to Options 1 and 1a. In addition, Option 2 and Option 4 would also affect prime farmland and an existing apartment complex.

Option 3 would extend the runway both to the north and south and requires nearly twice the property acquisition of Options 1 and 1a. However, it would avoid increasing noise exposure in already affected areas of the city, including residential neighborhoods. Although Option 3 would increase noise exposure south of the airport, it would do so in areas characterized by commercial use and agriculture, both of which are compatible with aircraft noise. In addition, it would not compound controversial noise exposure north of the airport as Options 1 and 1a would do. Similar to Options 2 and 4, existing commercial structures may require removal, which is less attractive than Options 1 and 1a.

In terms of impacts to natural resources, it appears impacts are similar for Option 1a, 2, 3, and 4. However, Option 3 is superior to Options 2 and 4 as it avoids and reduces potential farmland impacts to the south.

D. Rough Order of Magnitude Costs

A rough order of magnitude (ROM) cost estimate was developed for each option. These were prepared using available information and do not constitute an engineer's opinion of probable cost. No field work, such as geotechnical survey, was performed.

Estimates include the following:

- a. Area of demolition
- b. New pavement section
- c. Revised paint markings
- d. Revised electrical systems
 - i. MIRL
 - ii. MITL

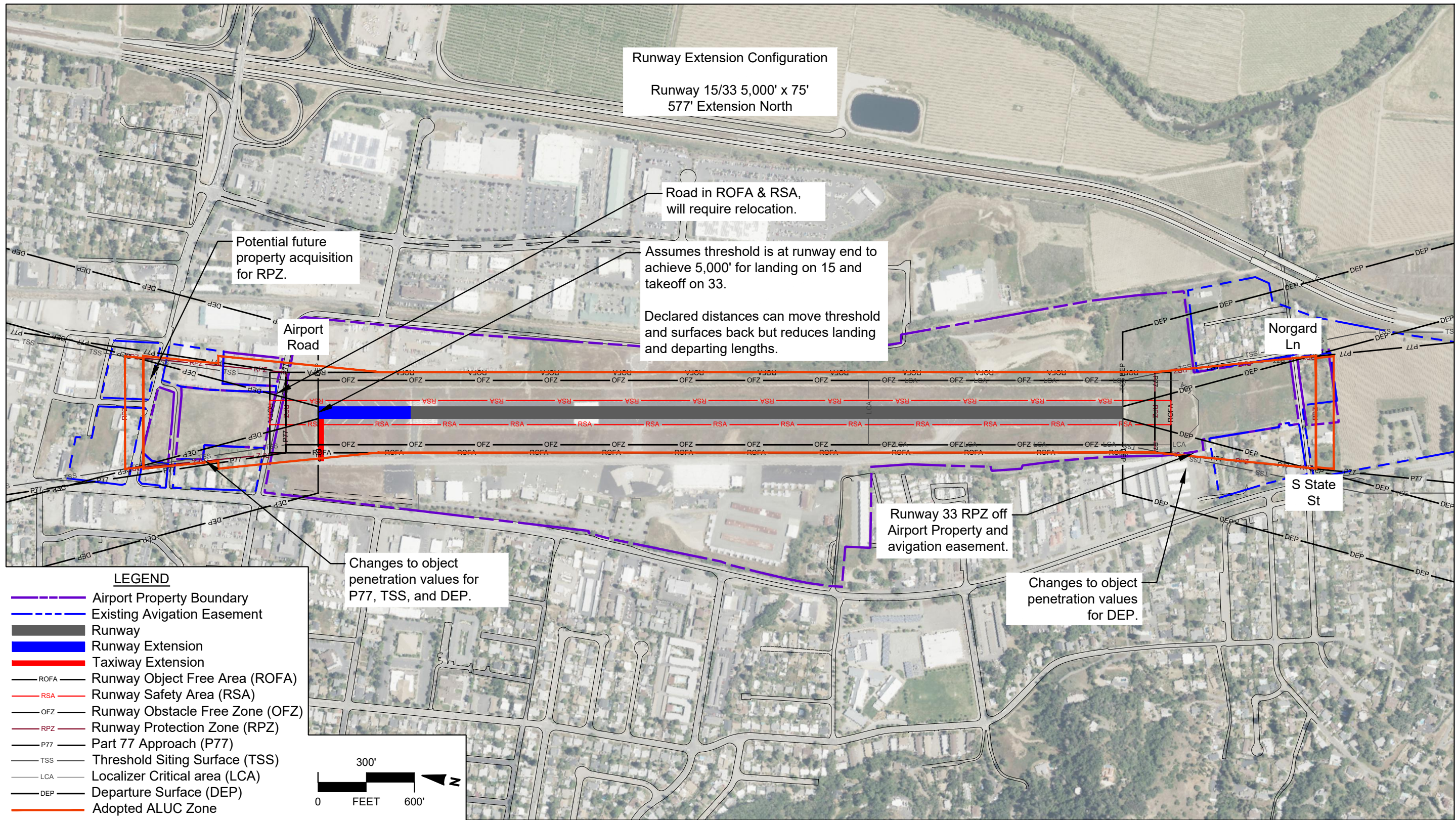
- iii. REILS
- iv. PAPI
- v. Threshold lights

Table 4 presents the ROM costs for each option and the assumptions associated with each. General assumptions are as follows:

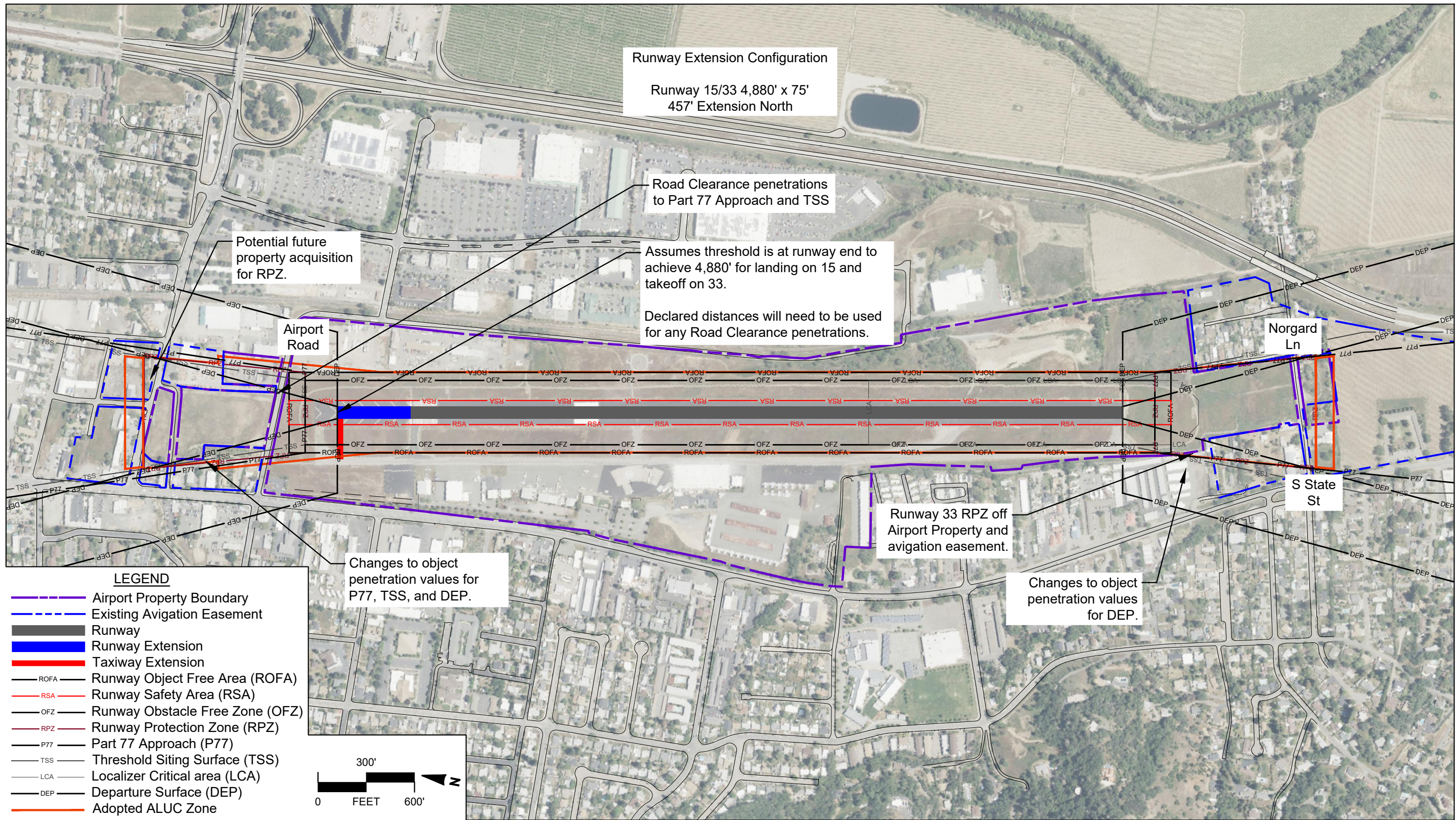
- Pavement structure used for the cost estimate is able to accommodate 100 departures of a C130 aircraft at MTOW (155k lbs.) assuming a CBR of 2.
- Electrical work estimate assumes the runway phase 2 project including new PAPI, REILS system, and runway lights is completed before the runway is extended. “Existing lights” in the following assumptions refer to the runway lights configuration after completion of phase 2.
- Taxiway fillets were not considered in the cost estimates.
- Soft costs not included (design, survey, geotechnical, construction administration, FAA reimbursable agreement, etc.)
- Included Engineer field office and 15% contingency on all projects.

Table 4: Rough Order of Magnitude (ROM) Costs

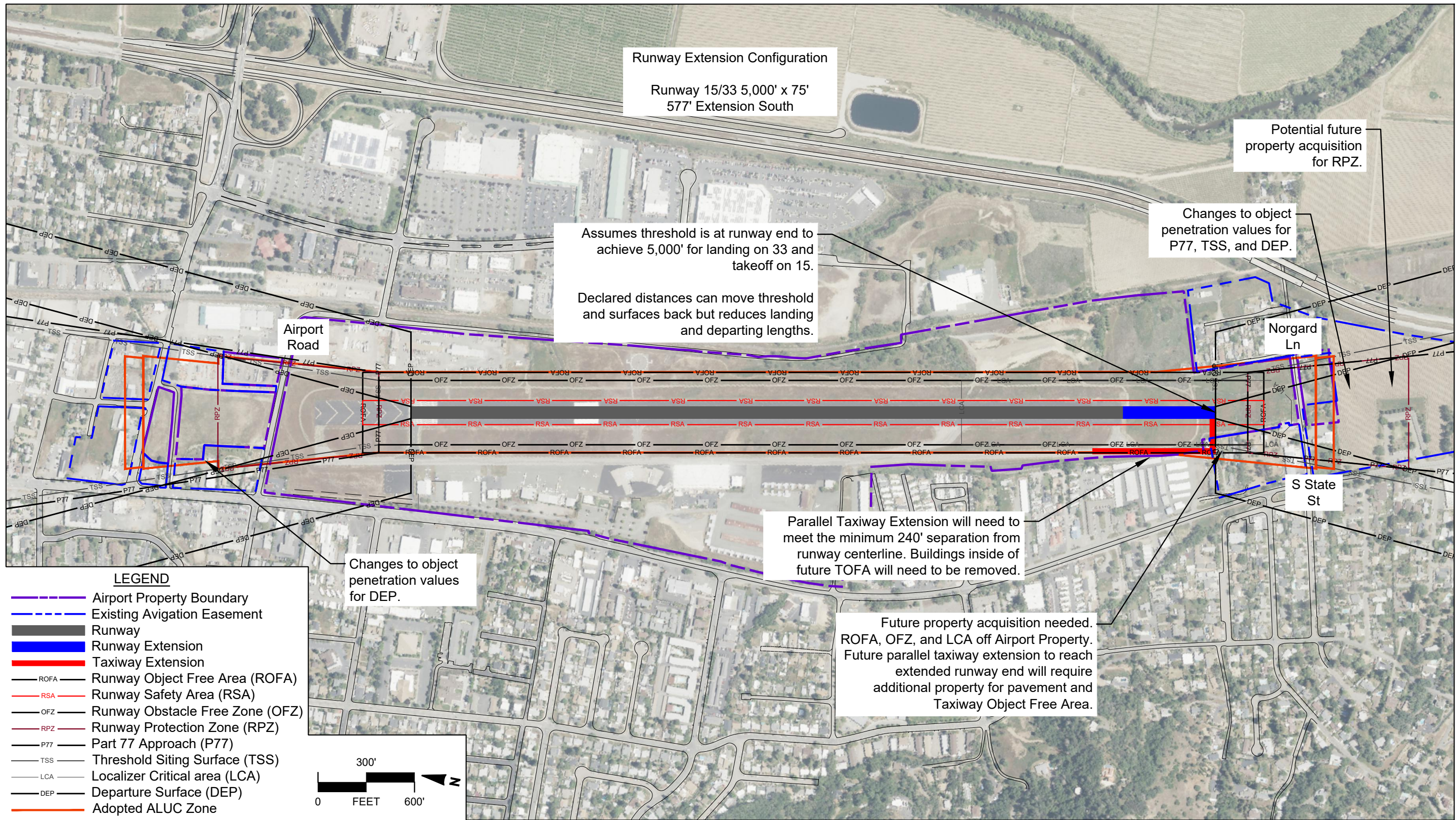
Option	Option 1	Option 1a	Option 2	Option 3	Option 4
Cost	\$ 2,570,650	\$ 2,421,500	\$ 2,655,400	\$ 3,339,150	\$ 3,722,550
Assumptions					
PAPI / REILS	Rwy 15 PAPI and REILS need to be relocated. Because of the relocation distance, all the wires will need to be upsized to the rack. Design must be up to FAA standards since it's FAA's equipment.	Rwy 15 PAPI and REILS need to be relocated. Because of the relocation distance, all the wires will need to be upsized to the rack. Design must be up to FAA standards since it's FAA's equipment.	Rwy 33 REILS need to be relocated. Length of cable will be equal to the existing configuration so no upsizing is anticipated.	Rwy 15 PAPI and REILS and Rwy 33 REILS will need to be relocated. For Rwy 15 PAPI and REILS, the assumptions made for Alts 1 and 1a are applicable. For Rwy 33 REILS, the assumptions made for Alt 2 are applicable.	Rwy 15 PAPI and REILS and Rwy 33 REILS will need to be relocated. For Rwy 15 PAPI and REILS, due to the short relocation distance, upsizing of the cable is not anticipated. For Rwy 33 REILS, the assumptions made for Alt 2 are applicable.
Runway Markings	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone.	Runway markings will need to be redone.
Runway Lights	Runway light spacing in the extended runway portion will be less than 1 foot off from the existing runway light spacing. Most likely the spacing will be close enough not to trigger relocation of all the runway lights.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Assumed it would be easier to install new base cans at the new light locations and leave in place the existing base cans. Assumed runway lights could be salvaged and re-used.	Runway light spacing in the extended runway portion will be less than 1 foot off from the existing runway light spacing. Most likely the spacing will be close enough not to trigger relocation of all the runway lights.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Same assumptions of Alt 1a apply.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Same assumptions of Alt 1a apply.
Southern Connector	-	-	It was assumed that the existing southern connector would not be demolished as part of this alternative.	It was assumed that the existing southern connector will be demolished as part of this alternative due to the proximity with the new one.	It was assumed that the existing southern connector would not be demolished as part of this alternative.
Constant Current Regulator	-	-	-	The existing constant current regulator (CCR) for the taxiway circuit has an output of 10kW. Available records indicate that the taxiway lights are not LED. Based on rough load calculations, the CCR should be able to accommodate the new lights for the connectors, but it will be close to its limit.	The existing constant current regulator (CCR) for the taxiway circuit has an output of 10kW. Available records indicate that the taxiway lights are not LED. Based on rough load calculations, the CCR should be able to accommodate the new lights for the connectors, but it will be close to its limit.
Costs NOT Included	Land acquisition costs not included	Land acquisition costs not included	Costs for the relocation of the localizer and land acquisition costs were not included.	Costs for the relocation of the localizer and land acquisition costs were not included.	Costs for the relocation of the localizer and land acquisition costs were not included.



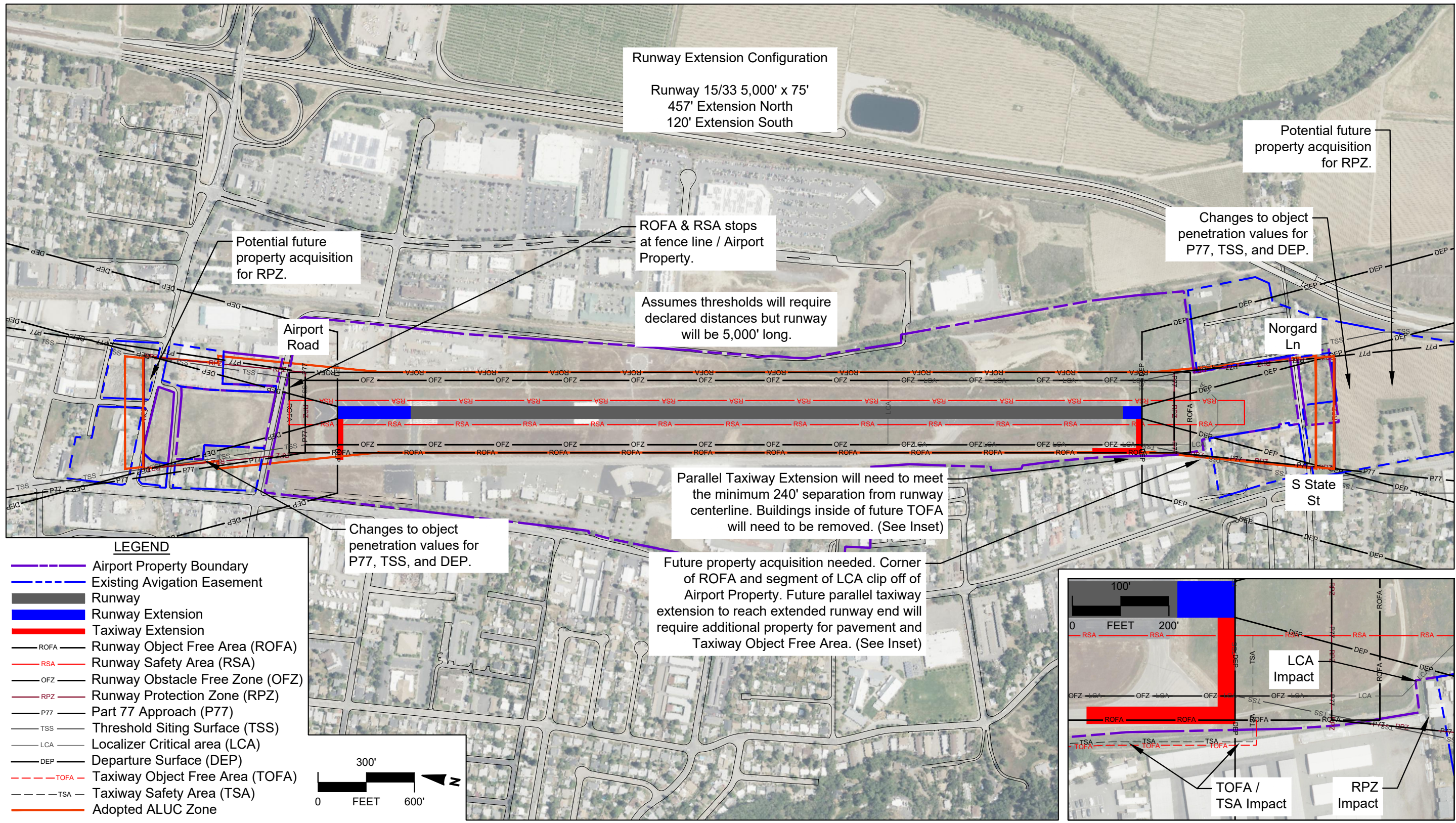
Runway Extension (North Extension) - Option 1



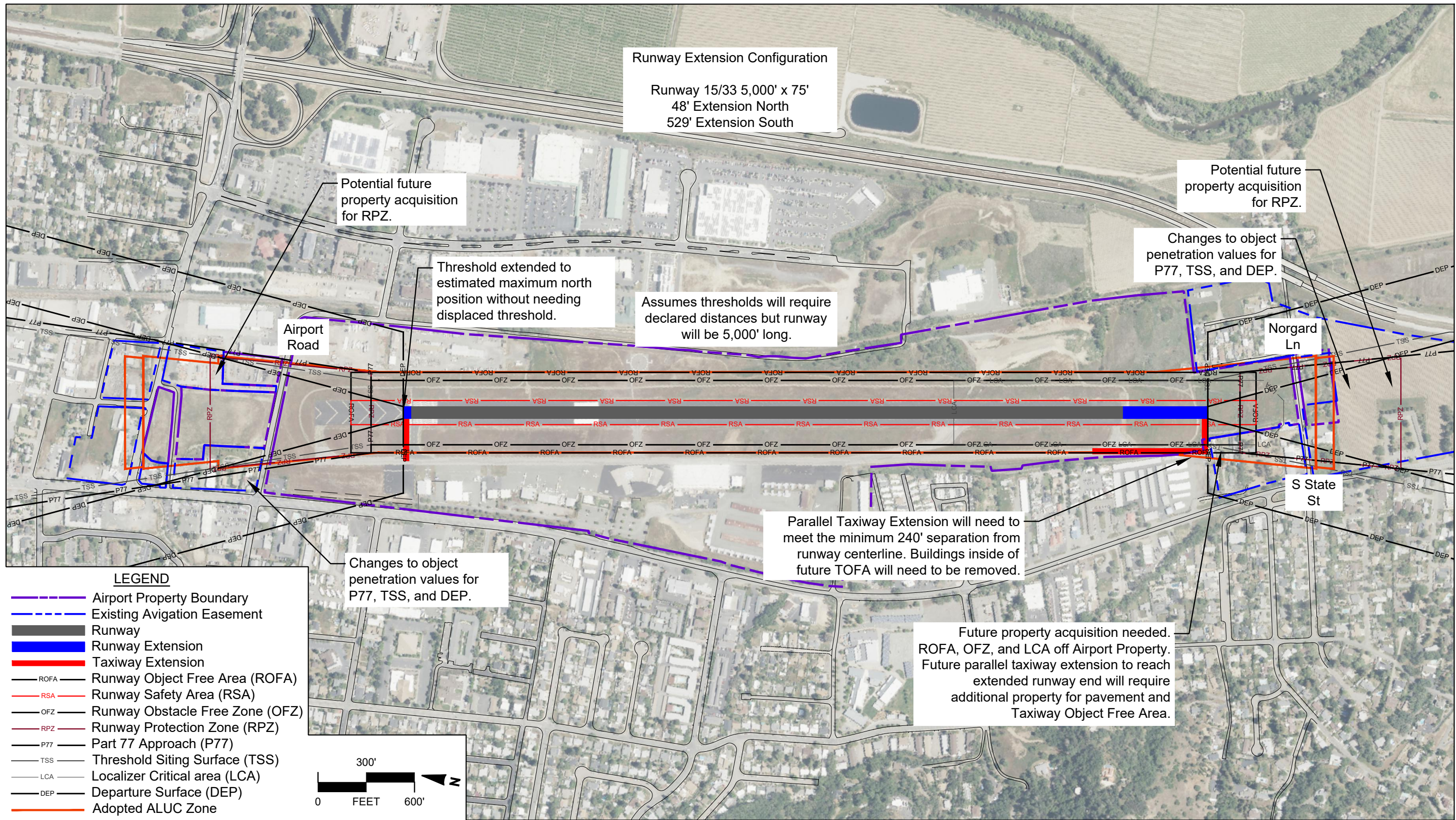
Runway Extension (North Extension) - Option 1a



Runway Extension (South Extension) - Option 2



Runway Extension (North & South Extension) - Option 3



Runway Extension (North and South Extension) - Option 4

Subject: Support for Ukiah Municipal Airport Runway Length Restoration

Dear Ukiah City Council,

Thank you for your decision to study restoring Ukiah Municipal Airport's runway to 5,000 feet. This step forward is crucial, especially in light of the recent fires in Southern California. A longer runway means better emergency services, such as faster response to earthquakes and floods, which are often overlooked.

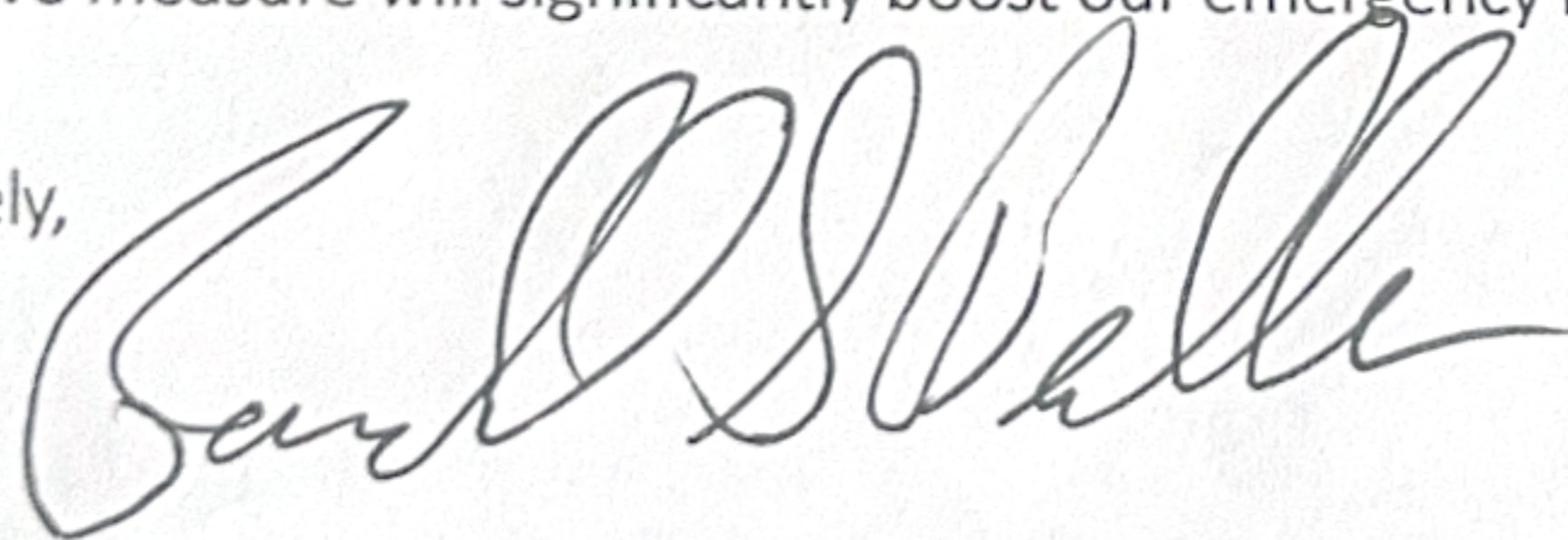
Public bodies usually react after disasters, but your support for this project shows proactive leadership. The length of a runway is key for emergency aircraft, affecting how much and how quickly help can arrive and what type of aircraft are able to respond to our community when in crisis.

The study by Mead and Hunt looked at several ways to extend the runway, with Option 1 appearing to be the best due to its lower overall impact and costs. It fits with current FAA rules without needing more space. Option 1 is the only one that allows for the restoration of 5,000 foot that is consistent with Comprehensive Land-Use Plan for the Ukiah Municipal Airport. We do recognize that opportunities may present themselves going forward that may impact our preliminary assessment and as such we believe it is prudent to keep all options that are available to bring the runway length to at least 5,000 feet on the table.

It is the Airport Commission's unanimous recommendation that the Ukiah City Council add "Restoration of the Ukiah Municipal Airport Runway to 5,000 feet" to the City of Ukiah Capital Improvement Plan (CIP). This will allow for flexibility in future planning while working toward critical community safety and economic enhancement goals. We understand that even with diligent effort this project will take many years to achieve with cooperation and funding from many sources. A place on the CIP will help keep this critical goal in the minds of future City Councils, City Staffs and Airport Commissions.

The existing City of Ukiah project to extend Airport Park Blvd is likely to prove a critical feature to enable Restoration of the Ukiah Municipal Airport Runway to 5,000 feet. As such the Runway Project could be leveraged to help secure grant funding for the Airport Park Blvd to Plant Road Extension project. Restoring the runway is not just about infrastructure; it is vital for public safety. Your support in this proactive measure will significantly boost our emergency readiness when completed.

Sincerely,



Airport Commission Chair

Ukiah Municipal Airport

Runway Extension Exploratory Study

Corbett Smith, CM

February 19th, 2025
4:00pm

Study Progress to Date

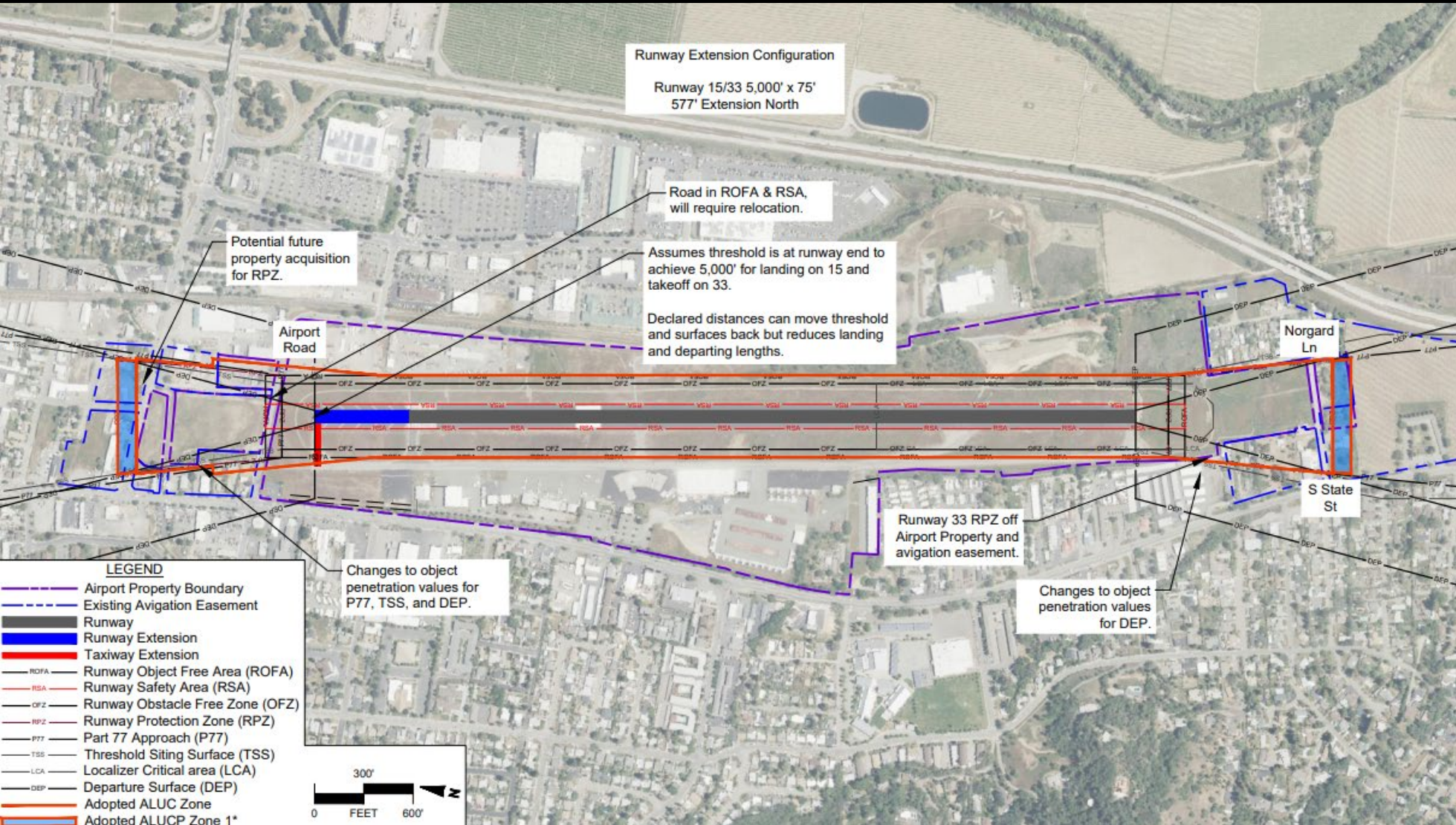
- **Meeting #1 – Kickoff** Held on August 11th, 2022
- **Meeting #2 - Review of alternatives (preliminary geometric and airspace review)**
 - Held on October 4th, 2022
- **Meeting #3 Review of alternatives with costs and environmental factors**
 - Narrative report with graphics and findings were delivered at this meeting
 - Held on December 6th, 2022
- **Meeting #4 - Final meeting/presentation and project close out**
 - **TODAY** February 19th, 2025



Runway Options

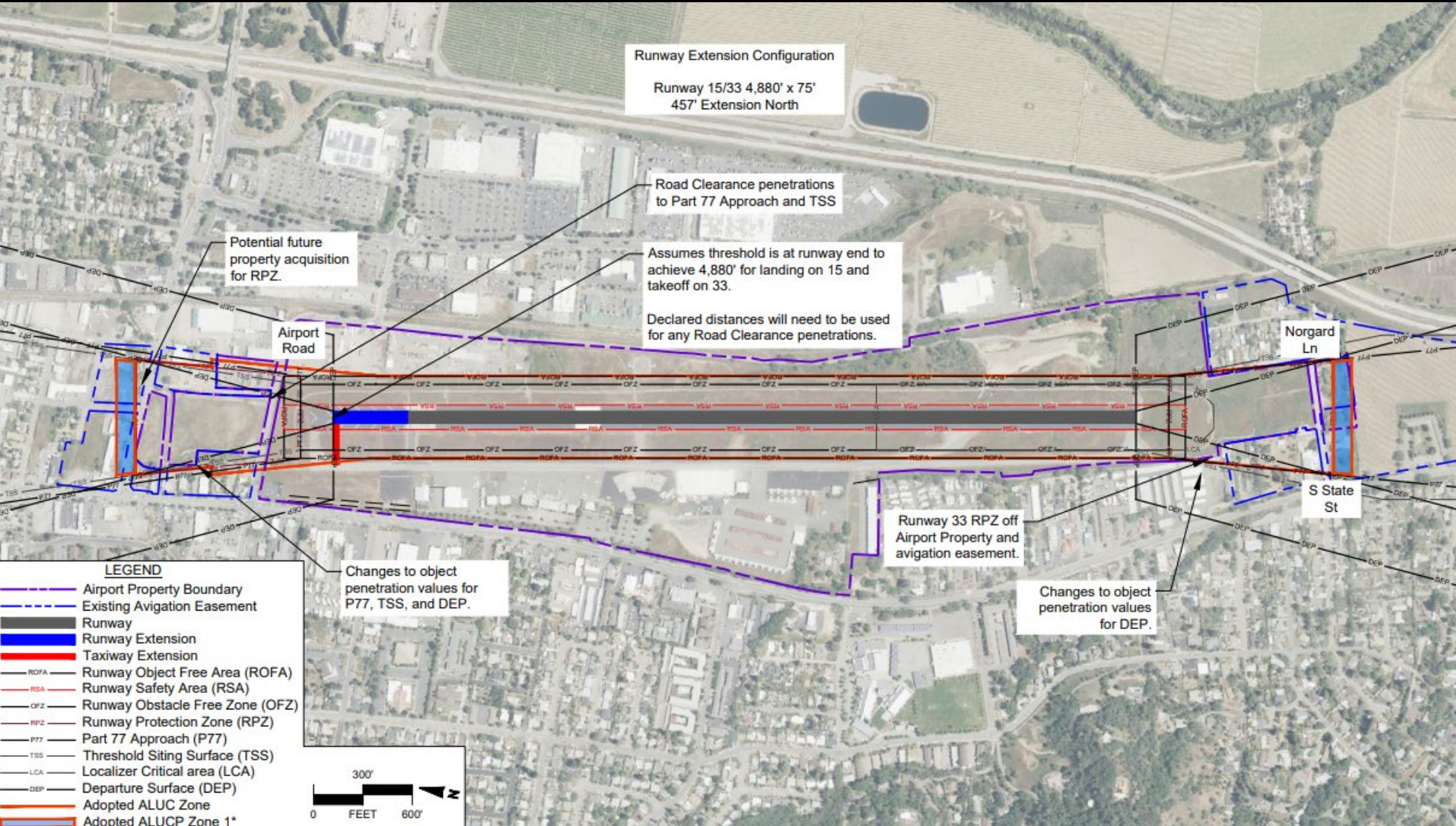
Initial Findings

Option 1 – North Extension



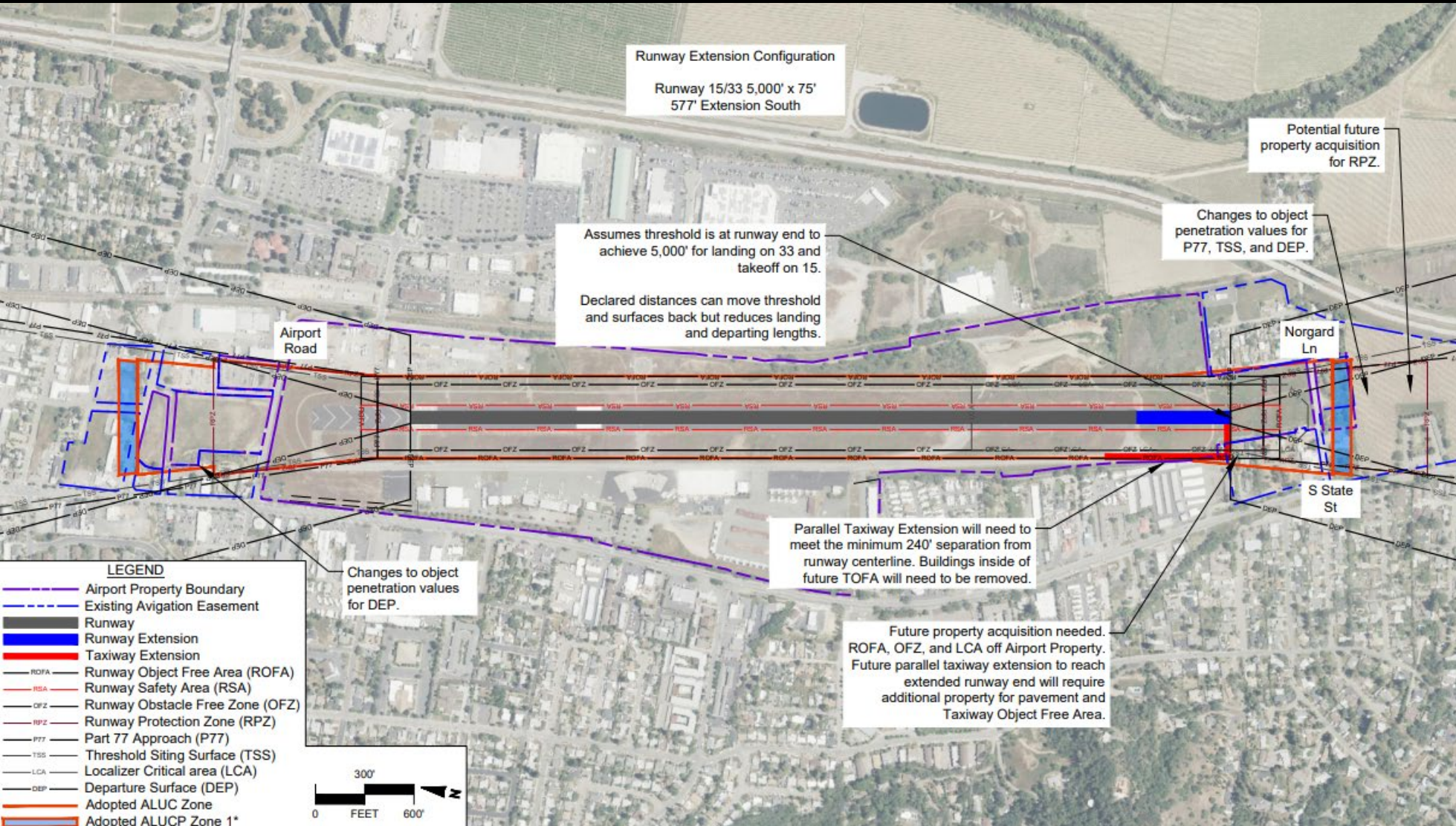
Category	Option 1
Runway	
Length	5,000' (577' Extension)
Declared Distances	No (Need analysis of airspace surfaces)
Runway Surfaces	
Runway Object Free Area (ROFA)	Airport Road in surface
Runway Safety Area (RSA)	Airport Road in surface
Runway Protection Zone (RPZ)	Off Airport Property
Obstacle Free Zone (OFZ)	On Airport Property
NAVAIDS	
Localizer Relocation	No
Localizer Critical Area (LCA)	No Change
Taxiways	
Additional Pavement	No
Taxiway Object Free Area (TOFA)	No Issues
Taxiway Safety Area (TSA)	No Issues
Property	
Existing Property	Not Sufficient for Surfaces
Property Acquisition	Approximately 6 acres (To maintain RPZ, ROFA, and RSA on Airport Property). Requires minimum 10,500 SQ FT easement or property acquisition.
Parallel Taxiway Implications	N/A
Airspace	
Part 77 Approach	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values

Option 1a – North Extension



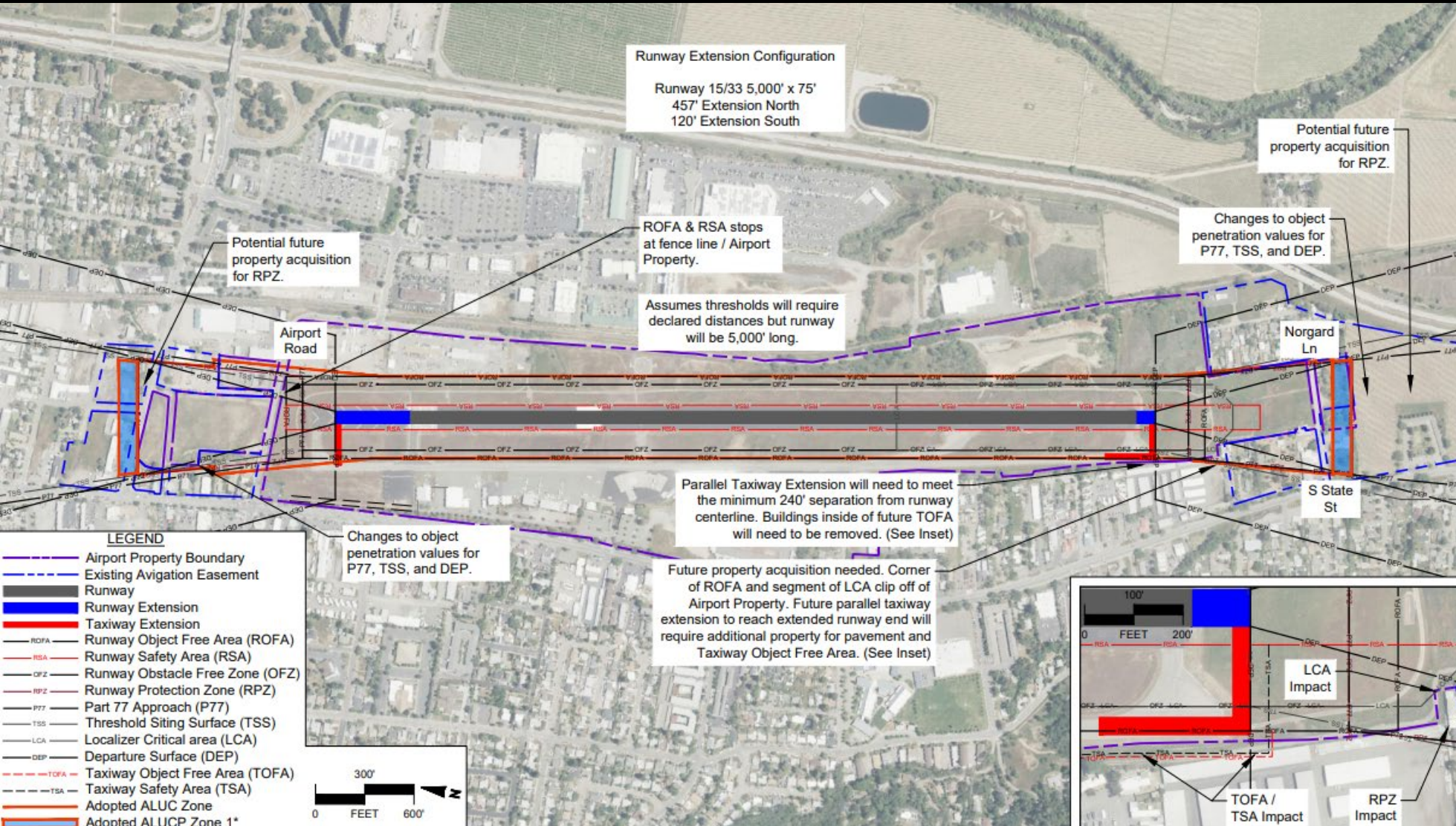
Category	Option 1a
Runway	
Length	4,880' (457' Extension)
Declared Distances	No (Need analysis of airspace surfaces)
Runway Surfaces	
Runway Object Free Area (ROFA)	On Airport Property
Runway Safety Area (RSA)	On Airport Property
Runway Protection Zone (RPZ)	Off Airport Property
Obstacle Free Zone (OFZ)	No Issues
NAVAIDS	
Localizer Relocation	No
Localizer Critical Area (LCA)	No Change
Taxiways	
Additional Pavement	Yes (Taxiway Connector relocation)
Taxiway Object Free Area (TOFA)	No Issues
Taxiway Safety Area (TSA)	No Issues
Property	
Existing Property	Not Sufficient for Surfaces
Property Acquisition	Approximately 5 acres (To maintain RPZ on Airport Property). Requires minimum 10,500 SQ FT easement or property acquisition.
Parallel Taxiway Implications	N/A
Airspace	
Part 77 Approach	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values

Option 2 – South Extension



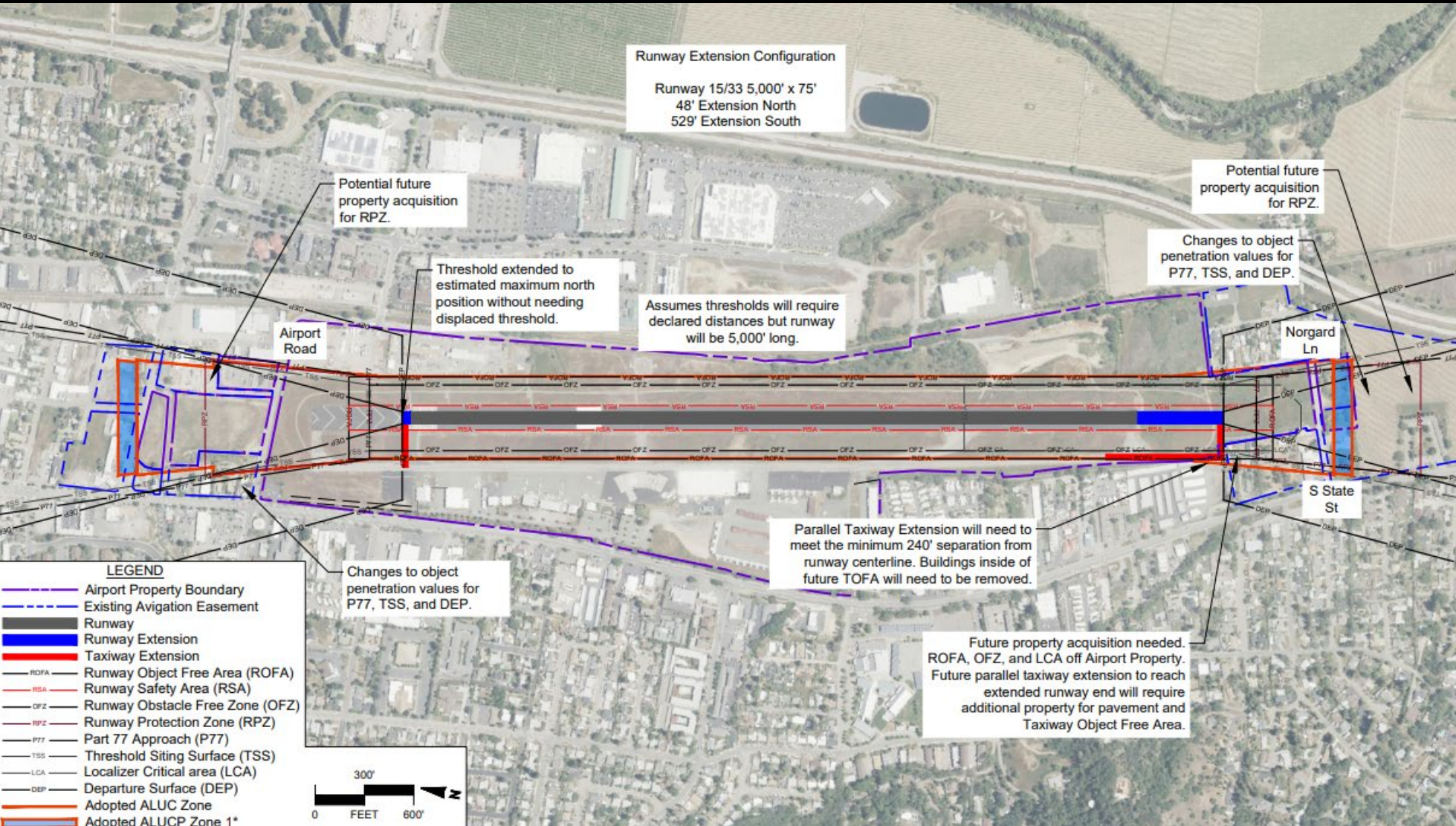
Category	Option 2
Runway	
Length	5,000' (577' Extension)
Declared Distances	No (Need analysis of airspace surfaces)
Runway Surfaces	
Runway Object Free Area (ROFA)	Off Airport Property
Runway Safety Area (RSA)	Off Airport Property
Runway Protection Zone (RPZ)	Off Airport Property
Obstacle Free Zone (OFZ)	Off Airport Property
NAVAIDS	
Localizer Relocation	Yes
Localizer Critical Area (LCA)	Off Airport Property
Taxiways	
Additional Pavement	Yes (Taxiway Extension and Connector)
Taxiway Object Free Area (TOFA)	Off Airport Property
Taxiway Safety Area (TSA)	Off Airport Property
Property	
Existing Property	Not Sufficient for Surfaces
Property Acquisition	Approximately 10 acres (To maintain RPZ, ROFA, LCA, and OFZ on Airport Property. Accommodate parallel taxiway extension). Requires minimum 2 acres of property acquisition.
Parallel Taxiway Implications	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.
Airspace	
Part 77 Approach	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values

Option 3 – North and South Extension



Category	Option 3
Runway	
Length	5,000' (577' Extension)
Declared Distances	Yes (Need analysis of airspace surfaces)
Runway Surfaces	
Runway Object Free Area (ROFA)	Off Airport Property
Runway Safety Area (RSA)	On Airport Property
Runway Protection Zone (RPZ)	Off Airport Property
Obstacle Free Zone (OFZ)	Off Airport Property
NAVAIDS	
Localizer Relocation	Yes
Localizer Critical Area (LCA)	Off Airport Property
Taxiways	
Additional Pavement	Yes (Taxiway Extension / Connector relocation)
Taxiway Object Free Area (TOFA)	Off Airport Property
Taxiway Safety Area (TSA)	Off Airport Property
Property	
Existing Property	Not Sufficient for Surfaces Approximately 11 acres (To maintain RPZ, ROFA, and LCA on Airport Property.
Property Acquisition	Accommodate parallel taxiway extension). Requires minimum 18,000 SQ FT property acquisition.
Parallel Taxiway Implications	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.
Airspace	
Part 77 Approach	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values

Option 4 – North and South Extension



Category	Option 4
Runway	
Length	5,000' (577' Extension)
Declared Distances	Yes (Need analysis of airspace surfaces)
Runway Surfaces	
Runway Object Free Area (ROFA)	Off Airport Property
Runway Safety Area (RSA)	On Airport Property
Runway Protection Zone (RPZ)	Off Airport Property
Obstacle Free Zone (OFZ)	Off Airport Property
NAVAIDS	
Localizer Relocation	Yes
Localizer Critical Area (LCA)	Off Airport Property
Taxiways	
Additional Pavement	Yes (Taxiway Extension and Connector)
Taxiway Object Free Area (TOFA)	Off Airport Property
Taxiway Safety Area (TSA)	Off Airport Property
Property	
Existing Property	Not Sufficient for Surfaces
Property Acquisition	Approximately 11 acres (To maintain RPZ, ROFA, OFZ and LCA on Airport Property. Accommodate parallel taxiway extension). Requires minimum 1.8 acres property acquisition.
Parallel Taxiway Implications	Requires Advisory Circular 150/5300-13B separation compliance. Buildings inside future TOFA will need to be removed.
Airspace	
Part 77 Approach	Analyze surface, lower / remove penetrations
Threshold Siting Surface (TSS)	Analyze surface, lower / remove penetrations
Departure Surface	Analyze surface, lower / remove penetrations
Objects	Potential for new penetrations / greater penetration values

Rough Order of Magnitude Costs

Option	Option 1	Option 1a	Option 2	Option 3	Option 4
Cost 2022 Dollars	\$ 2,570,650	\$ 2,421,500	\$ 2,655,400	\$ 3,339,150	\$ 3,722,550
Assumptions					
PAPI / REILS	Rwy 15 PAPI and REILS need to be relocated. Because of the relocation distance, all the wires will need to be upsized to the rack. Design must be up to FAA standards since it's FAA's equipment.	Rwy 15 PAPI and REILS need to be relocated. Because of the relocation distance, all the wires will need to be upsized to the rack. Design must be up to FAA standards since it's FAA's equipment.	Rwy 33 REILS need to be relocated. Length of cable will be equal to the existing configuration so no upsizing is anticipated.	Rwy 15 PAPI and REILS and Rwy 33 REILS will need to be relocated. For Rwy 15 PAPI and REILS, the assumptions made for Alts 1 and 1a are applicable. For Rwy 33 REILS, the assumptions made for Alt 2 are applicable.	Rwy 15 PAPI and REILS and Rwy 33 REILS will need to be relocated. For Rwy 15 PAPI and REILS, due to the short relocation distance, upsizing of the cable is not anticipated. For Rwy 33 REILS, the assumptions made for Alt 2 are applicable.
Runway Markings	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone for half the runway.	Runway markings will need to be redone.	Runway markings will need to be redone.
Runway Lights	Runway light spacing in the extended runway portion will be less than 1 foot off from the existing runway light spacing. Most likely the spacing will be close enough not to trigger relocation of all the runway lights.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Assumed it would be easier to install new base cans at the new light locations and leave in place the existing base cans. Assumed runway lights could be salvaged and re-used.	Runway light spacing in the extended runway portion will be less than 1 foot off from the existing runway light spacing. Most likely the spacing will be close enough not to trigger relocation of all the runway lights.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Same assumptions of Alt 1a apply.	All the existing runway lights will need to be relocated to have equal spacing. The existing conduit is concrete encased and within pavement. Same assumptions of Alt 1a apply.
Southern Connector	-	-	It was assumed that the existing southern connector would not be demolished as part of this alternative.	It was assumed that the existing southern connector will be demolished as part of this alternative due to the proximity with the new one.	It was assumed that the existing southern connector would not be demolished as part of this alternative.
Constant Current Regulator	-	-	-	The existing constant current regulator (CCR) for the taxiway circuit has an output of 10kW. Available records indicate that the taxiway lights are not LED. Based on rough load calculations, the CCR should be able to accommodate the new lights for the connectors, but it will be close to its limit.	The existing constant current regulator (CCR) for the taxiway circuit has an output of 10kW. Available records indicate that the taxiway lights are not LED. Based on rough load calculations, the CCR should be able to accommodate the new lights for the connectors, but it will be close to its limit.
Costs NOT Included	Land acquisition costs not included	Land acquisition costs not included	Costs for the relocation of the localizer and land acquisition costs were not included.	Costs for the relocation of the localizer and land acquisition costs were not included.	Costs for the relocation of the localizer and land acquisition costs were not included.

Steps required before construction

- Airports GIS Survey
- ALP update
- Caltrans coordination
- Land acquisition & road relocation/closure
- Environmental review including noise study
- Master Plan opportunity in coming years

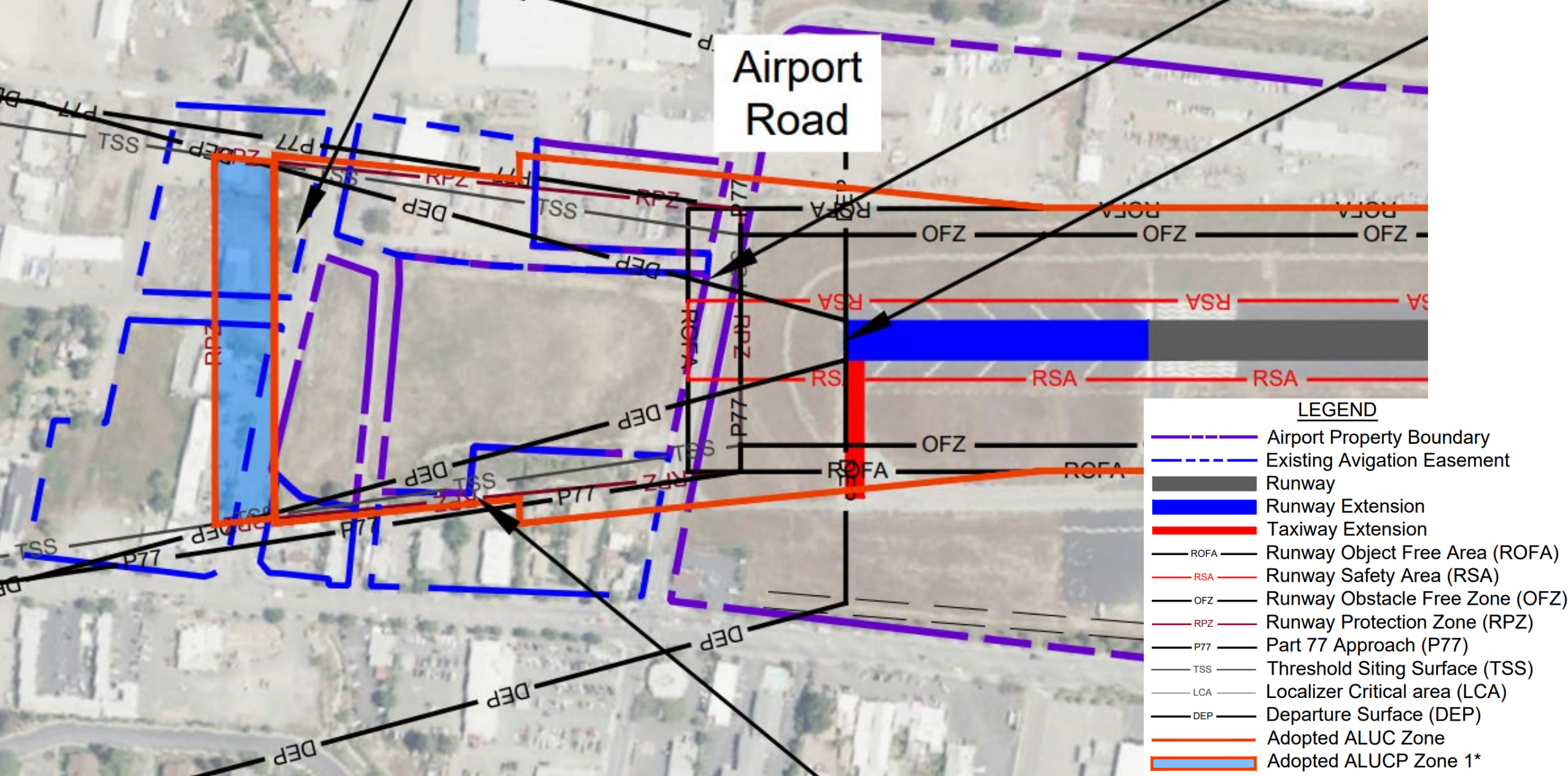


Questions?

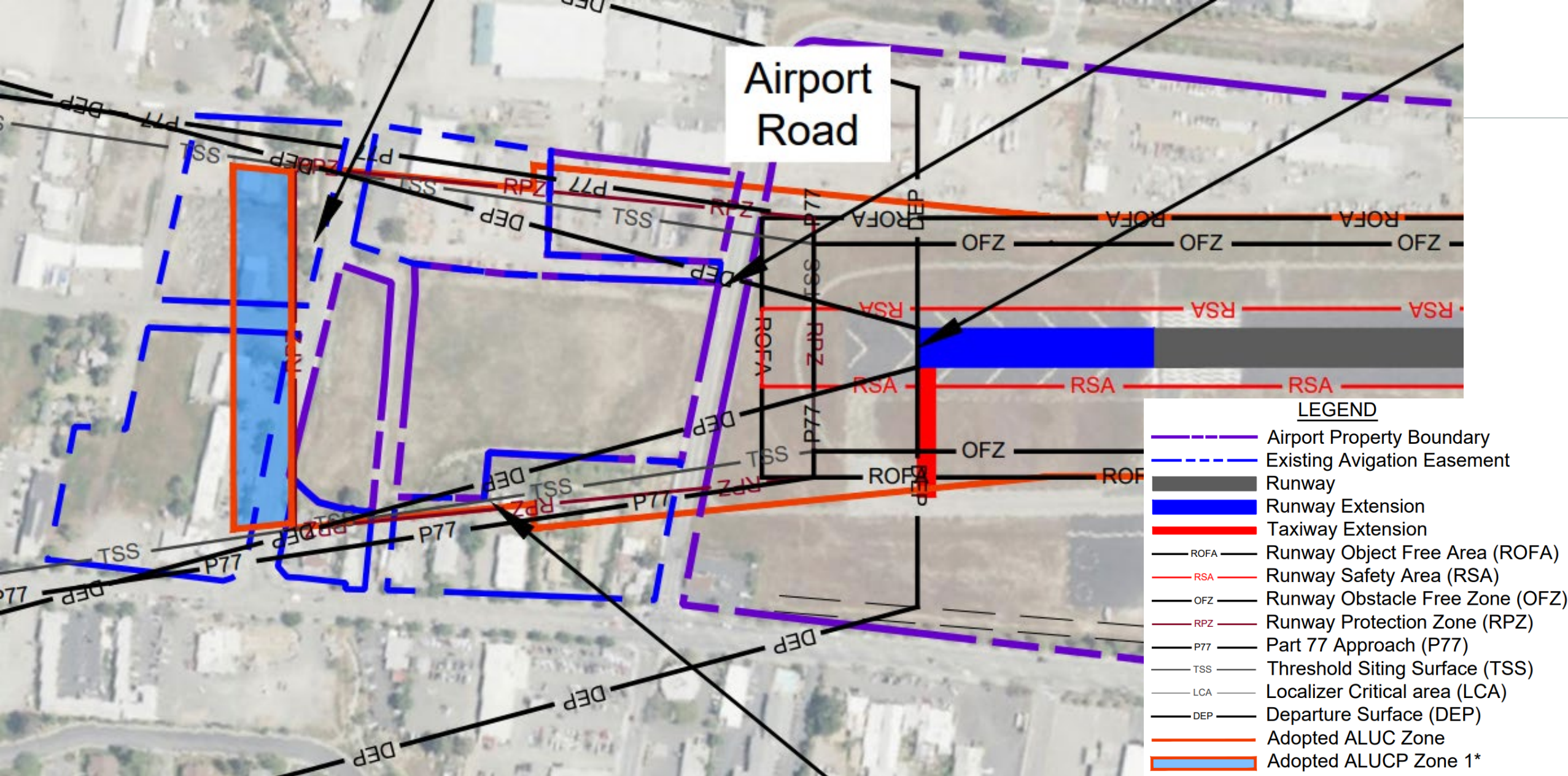
Thank you.

Corbett.Smith@MeadHunt.com

707-284-8686



Option 1

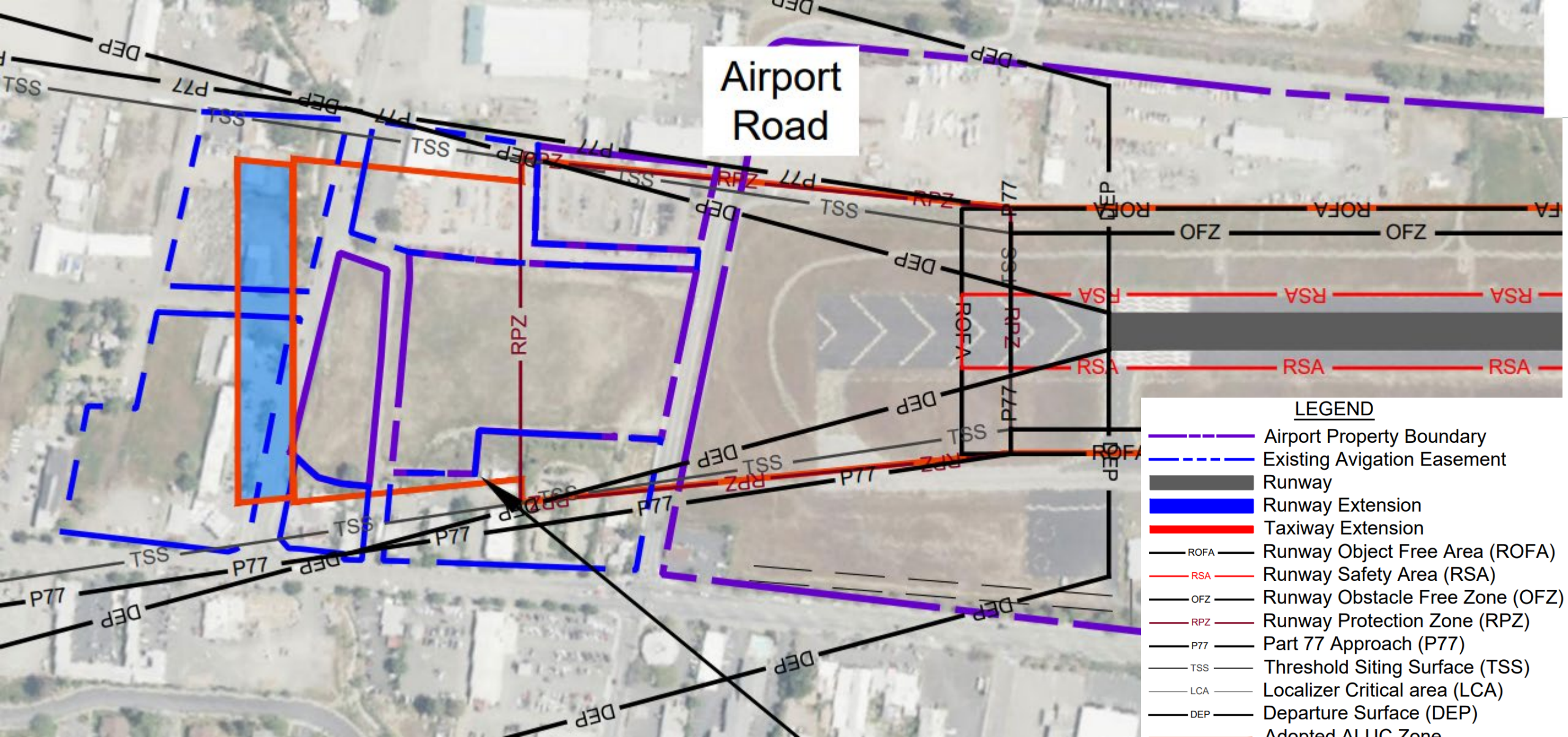


Airport Road

LEGEND

- Airport Property Boundary
- Existing Aviation Easement
- Runway
- Runway Extension
- Taxiway Extension
- ROFA Runway Object Free Area (ROFA)
- RSA Runway Safety Area (RSA)
- OFZ Runway Obstacle Free Zone (OFZ)
- RPZ Runway Protection Zone (RPZ)
- P77 Part 77 Approach (P77)
- TSS Threshold Siting Surface (TSS)
- LCA Localizer Critical area (LCA)
- DEP Departure Surface (DEP)
- Adopted ALUC Zone
- Adopted ALUCP Zone 1*

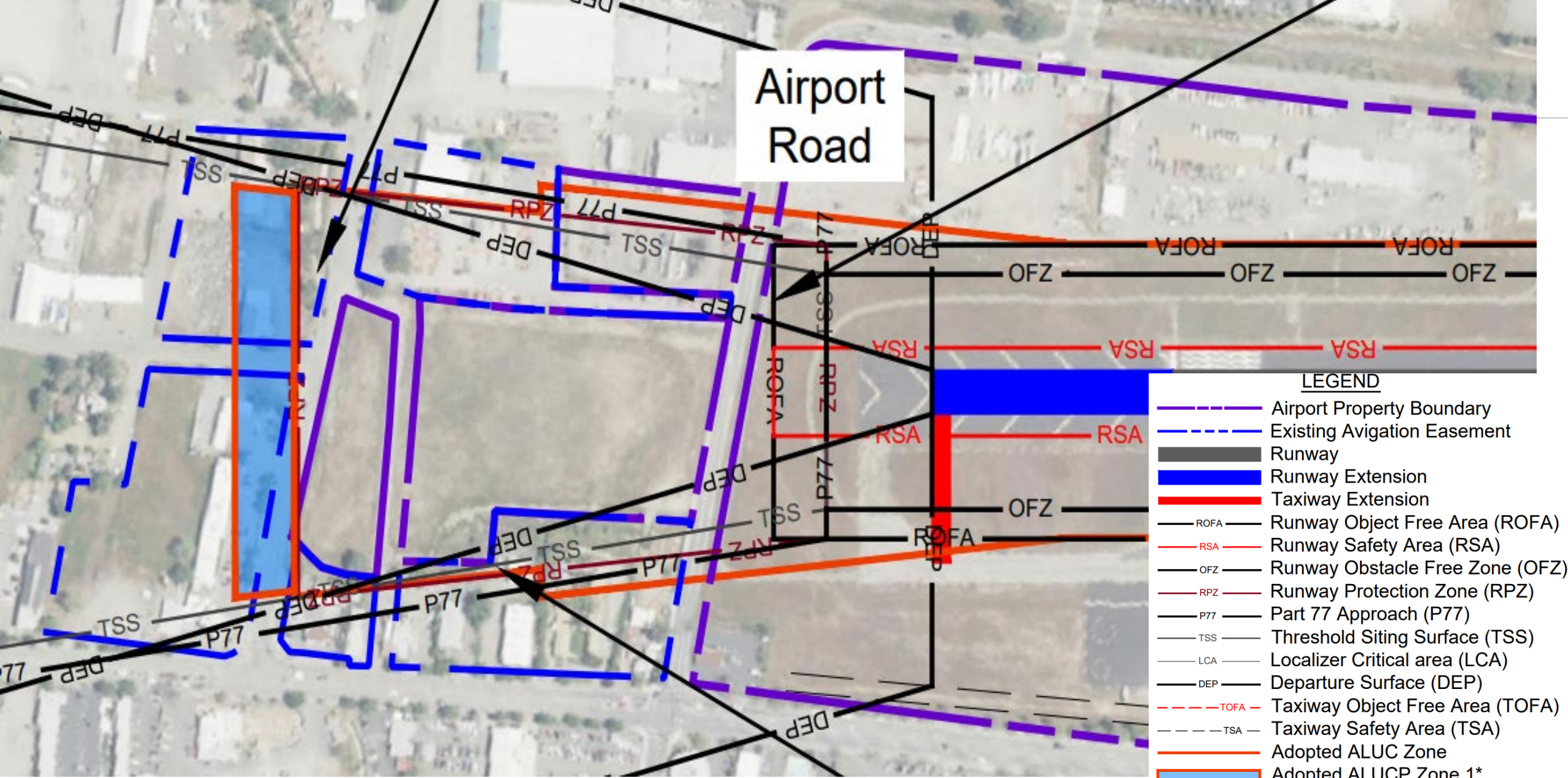
Option 1a



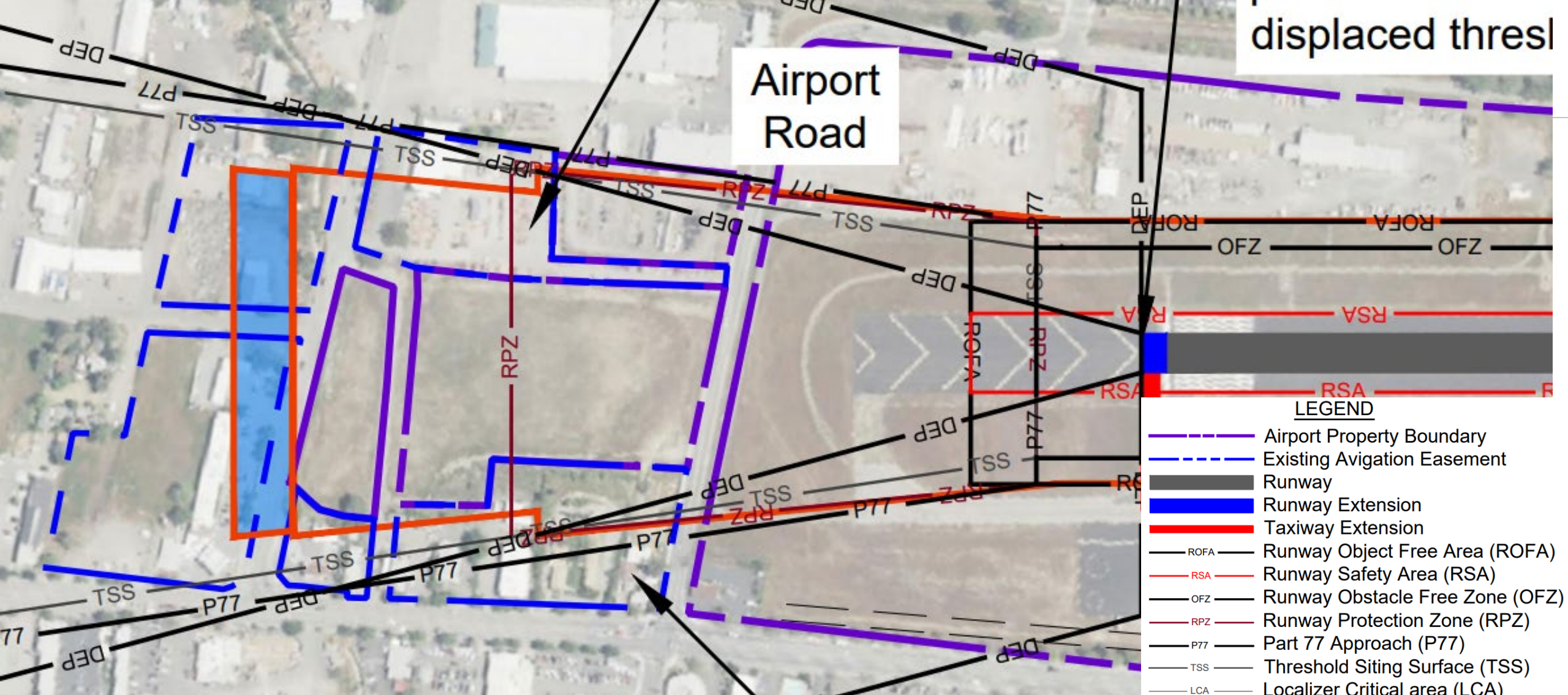
Airport Road

- LEGEND**
- Airport Property Boundary
 - Existing Avigation Easement
 - Runway
 - Runway Extension
 - Taxiway Extension
 - ROFA Runway Object Free Area (ROFA)
 - RSA Runway Safety Area (RSA)
 - OFZ Runway Obstacle Free Zone (OFZ)
 - RPZ Runway Protection Zone (RPZ)
 - P77 Part 77 Approach (P77)
 - TSS Threshold Siting Surface (TSS)
 - LCA Localizer Critical area (LCA)
 - DEP Departure Surface (DEP)
 - Adopted ALUC Zone
 - Adopted ALUCP Zone 1*

Option 2



Option 3



Option 4