
Appendix E – RPZ Analysis

FAA GREAT LAKES REGION RUNWAY PROTECTION ZONE – ALTERNATIVE ANALYSIS

Instructions: Prior to completing this form, the RO/ADO staff must work with the Airport Sponsor to identify and document the full range of alternatives that could:

- 1) Avoid introducing the land use issue within the RPZ
- 2) Minimize the impact of the land use in the RPZ (i.e. routing a new roadway through the controlled activity area, move farther away from the runway end, etc.)
- 3) Mitigate risk to people and property on the ground (i.e. tunneling, depressing and/or protecting a roadway through the RPZ, implement operational measure to mitigate any risks, etc.)

BACKGROUND		
1. AIRPORT: Oakland/Southwest Airport	2. LOCATION (CITY, STATE): New Hudson, MI	3. LOC ID: Y47
4. EFFECTED RUNWAY: Runway 8/26	5. APPROACH RPZ DIMENSION: LENGTH: 1,000 ft. INNER WIDTH: 250 ft. OUTER WIDTH: 450 ft. ACRES: 8.035	6. DEPARTURE RPZ DIMENSION: LENGTH: 1,000 ft. INNER WIDTH: 250 ft. OUTER WITH: 450 ft. ACRES: 8.035
7. DESIGN AIRCRAFT OF RUNWAY: A-I, Small		
8. DATE OF LATEST FAA SIGNED ALP: January 9, 2020		
9. TRIGGERING EVENT (i.e. what event caused the new or modified land use in the RPZ)		
<input checked="" type="checkbox"/>	An airfield project (e.g. runway extension, runway shift)	
<input type="checkbox"/>	A change in the critical design aircraft which increases the RPZ dimensions	
<input type="checkbox"/>	A new or revised instrument approach procedure that increases the RPZ dimensions	
<input type="checkbox"/>	A local development proposal in the RPZ (either new or reconfigured)	
<input type="checkbox"/>	Other (please describe):	
10. SELECT TYPE OF INCOMPATIBLE LAND USE IN RPZ:		
<input type="checkbox"/>	Buildings and structures (Examples include, but are not limited to: residences, schools, churches, hospitals or other medical care facilities, commercial/industrial buildings, etc.)	
<input checked="" type="checkbox"/>	Recreational land use (Examples include, but are not limited to: golf courses, sports fields, amusement parks, other places of public assembly, etc.)	
<input type="checkbox"/>	Transportation Facilities. (Examples include, but are not limited to: rail facilities (light or heavy, passenger or freight), public roads/highways, vehicular parking facilities)	
<input type="checkbox"/>	Fuel storage facilities (above and below ground)	
<input type="checkbox"/>	Hazardous material storage (above and below ground)	
<input type="checkbox"/>	Wastewater treatment facilities	
<input type="checkbox"/>	Above-ground utility infrastructure (i.e. electrical substations), including any type of solar panel installations.	
Does the Airport Sponsor own or control the area where the above incompatible land uses is located? Yes ____ No ___ X ___		

ALTERNATIVES ANALYSIS

11. PROVIDE A DESCRIPTION OF EACH ALTERNATIVE INCLUDE A NARRATIVE DISCUSSION AND EXHIBITS OR FIGURES DEPICTING THE ALTERNATIVE:

Oakland County is determined to continue to operate Oakland/Southwest Airport but requires federal and state assistance for capital improvements - most notably for easement acquisition, tree removal, and runway reconstruction. In 2018, the County completed an ALP Update Study with the focus being on a reduced runway length that right sizes the Airport and reduces the cost of improvements necessary to meet FAA standards. The ALP Update proposed a change in runway thresholds at both ends of Runway 8/26 as well as easement acquisition and tree removal. This study involves the evaluation of the Runway Protection Zone and Approach Surface as defined by the FAA Advisory Circular 150/5300-13A, *Airport Design*:

Runway Protection Zone (RPZ). An area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground

FAR Part 77 Approach surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

According to the 2012 FAA RPZ Guidance Memo, the proposed change to runway thresholds triggers the need for an RPZ Study. The FAA Office of Airports is currently developing a new guidance document to clarify land use policy within RPZs which, if published during the course of this study, will also be referenced as part of the RPZ analysis.

Current or existing incompatible land uses to the east of the Airport include residences, Milford Road, powerlines, a private drive, and a recreational trail (Huron Valley Trail). However, it is important to note that Oakland County has already initiated consultation with the Michigan Department of Natural Resources (MDNR) and the Western Oakland County Trailway Management Council (Council) and all parties have executed a Memorandum of Agreement (MOA) to allow Oakland County to acquire easements and remove trees as necessary for airport purposes. The MOA is attached as Appendix A.

All alternatives were developed utilizing a 2018 AGIS survey to add valuable data related to tree and vegetation removal that is required as part of this study. In a separate effort, LiDAR information will help the process of coordinating with landowners where easements are required. In addition, coordination with Department of Natural Resources (DNR) and other State and local agencies may be required for the easement over the trail and for trees to be removed near trail. The following alternatives are being presented to explore options to address these incompatible land uses.

NOTE: For reasons elaborated on the ALP update, the parallel taxiway removal is recommended. The operations at Y47 are at a level that does not justify the existence of the parallel taxiway. For each alternative, the parallel taxiway serving Runway 8/26 will be removed and replaced with a bypass taxiway that will serve Runway 26, along with a simple turnaround area that will be constructed to serve Runway 8. Due to the removal of the parallel taxiway, the connector leading from one executive hangar to the taxiway will be lost. To rectify this situation, a connector will be added between the executive hangar and the runway. The runway pavement not utilized in the 2,300-foot runway length and the existing parallel taxiway pavement will be removed.

Existing Conditions

Runway System. Runway 8/26 is 3,128 feet in length and 40 feet in width. Runway 8 has an 875-foot displaced landing threshold, and Runway 26 has an 860-foot displaced landing threshold. Both of these displacements are due to the presence of vegetative (tree) obstructions at the approach ends of the runway.

- **Pavement:** Constructed of asphalt with a gross weight bearing capacity of 12,500 pounds single-wheel main landing gear configuration. Pavement is in poor condition.
- **Line of Sight/Gradient:** According to published end elevation data, the Airport meets Airport Design gradient requirements for aircraft approach category A and B runways of no more than 2%. Additionally, the runway meets the Line of Sight standards for a single runway with a full-length parallel taxiway.
- **Lighting:** Low Intensity Runway Lights (LIRL).
- **Landing Aids:** VOR or GPS-A for circling approaches. The approach is not available at night but only for circling to Runway 26.

Taxiway System. Runway 8/26 is served by a full-length, parallel taxiway located north of the runway. The centerline to centerline separation between the runway and taxiway is 77 feet. Access to the parallel taxiway from the runway is provided by five exits. An illustration of existing airport facilities is included in Figure 1. All taxiways are 22 feet in width and equipped with reflectors. A north/south taxiway provides access from the center portion of the taxiway to the T-hangars and executive/corporate hangars north of the runway.

Aprons. There are three aircraft aprons providing a total of approximately 87,660 square feet of aircraft parking area (aprons of 26,910 sf, 42,750 sf, and 18,000 sf), as well as 28 tie down spaces.

Approaches. The published instrument approach procedure for the Airport is VOR or GPS-A. The runway designation is circling with ceiling minimums of 594 feet and visibility minimums of 1 mile.

Obstructions. Figure 2 illustrates the locations of the current obstructions (primarily trees) that have been identified as part of the following alternatives.

ALP Update Preferred Alternative - Reconfigure Runway 8/26 to 2,300 feet by 60 feet

The preferred alternative from the 2019 ALP Update Report proposes to reconstruct Runway 8/26 at a 2,300-foot length and 60-foot width with no instrument approach procedure (see attached Figures 3 and 4). Reconstructing the runway to a 2,300-foot length will eliminate the need for displaced thresholds and declared distances, which meets the goals presented previously. Easements and tree removal (obstructions) estimates for the Preferred Alternative are included in Table 1. All trees that penetrate the approach, are found to be on airport property, and those within the ROFA will be removed. Trees to the east will require coordination with State DNR. However, this coordination has already started as evidenced by the executed MOA. The preferred alternative minimizes the impact to the trail and the number of trees required to move. The Preferred Alternative also eliminates three of the five incompatible land uses in the RPZ, notably the residences, Milford Road and the powerlines. There will be no fee simple land acquisition with this alternative.

Alternatives to ALP Update Preferred Alternative

Alternative 1 - Shifting Runway 8/26 further to the west to provide a clear RPZ at the approach end Runway 26.

Alternative 1 (see attached Figures 5 and 6) proposes Runway 8/26 be reconstructed at a length of 2,300 feet and a width of 60 feet. Reconstructing the runway to a 2,300-foot length will eliminate the need for displaced thresholds and declared distances, which meets the goals presented previously. The runway would be shifted 200 feet to the west in order to remove the Huron Valley Trail and the private drive from the RPZ. This alternative also moves a portion of the east RPZ outside of the airport's property line, requiring an easement acquisition of 0.68 acres. Easements and tree removal (obstructions) estimates for Alternative 1 are presented in Table 1. All trees that penetrate the approach and are found to be on airport property, and those within the ROFA would be removed.

A drainage ditch currently follows the existing property line on the west end of the runway. The shift would require the drainage ditch to be tunneled under the ROFA or moved to another location outside of the ROFA. These proposed changes will likely require an Environmental Assessment based on impacts to wetlands. Approximately 1.27 acres of property would be acquired for the west end of the ROFA.

Alternative 2 - Relocating the private driveway and recreational trail outside of the RPZ at the approach end of Runway 8/26.

Alternative 2 (see attached Figure 7 and 8) proposes that the private driveway and Huron Valley Trail be relocated outside of the RPZ at the approach end of Runway 8/26. The private drive and trail would be relocated outside of the RPZ. The runway would be reconstructed to 2,300-feet in length and 60-feet in width. This would eliminate the need for displaced thresholds and declared distances. Easements and tree removal (obstructions) estimates for Alternative 2 are provided in Table 1. All trees that penetrate the approach and are found to be on airport property, and those within the ROFA would be removed.

Two parcels, totaling 1.38 acres, would be needed for the relocation of the trail and driveway. Approximately 1.05 acres would need to be purchased for the areas of the new RPZ that would fall outside of the Airport's current property line. Based on the trail being considered a Section 4(f) property, an Environmental Assessment would likely be required to evaluate the recreational impacts of relocating the trail.

Alternative 3 - Shortening Runway 8/26 by approximately 150 feet to provide a clear RPZ at the approach end of the Runway 26.

Alternative 3 (see attached Figures 9 and 10) proposes Runway 8/26 be shortened by 150 feet to clear the RPZ completely of incompatible land use at the approach end of Runway 26. Reconstructing the runway to a 2,100-foot length would eliminate the need for displaced thresholds and declared distances but will not meet the length requirements presented in the ALP Update. Easements and tree removal (obstructions) estimates for Alternative 3 are provided in Table 1. All trees that penetrate the approach and are found to be on airport property, and those within the ROFA would be removed.

12. PROVIDE FULL COST ESTIMATES ASSOCIATED WITH EACH ALTERNATIVE REGARDLESS OF POTENTIAL FUNDING SOURCES:

Order of magnitude cost estimates were prepared for each alternative based on unit costs per square yard of development area. Additional detail on these cost estimates summarized below are presented in the attached **Table 1**.

Table 1 – Order of Magnitude Cost Estimates, Y47 Runway 8/26 Alternatives

ALTERNATIVE	ELEMENT DESCRIPTION	ESTIMATED COST
Preferred Alternative – Reconstruct Runway to 2,300' (Approximately 31 parcels, 471 obstructions to clear both Part 77 approach surface and the TSS)	Airfield Improvements	\$ 4,970,000
	Easement Acquisition	\$ 2,430,000
	Fee Simple Land Acquisition	\$ 0
	Wetland Impacts/Mitigation	\$ 0
	Obstruction/Tree Removal	\$ 565,000
	Other	\$ 0
	PREFERRED ALTERNATIVE TOTAL	7,965,000
Alternative 1 - Shifting Runway 8/26 further to the west to provide a clear RPZ at the approach end Runway 26 (Approximately 32 parcels, 378 obstructions to clear both Part 77 approach surface and the TSS)	Airfield Improvements	\$ 5,280,000
	Easement Acquisition	\$ 3,183,000
	Fee Simple Land Acquisition	\$ 78,500
	Wetland Impacts/Mitigation	\$ 287,000
	Obstruction/Tree Removal	\$ 454,000
	Other: Ditch Relocation	\$ 100,000
	ALTERNATIVE 1 TOTAL	\$ 9,383,000
Alternative 2 - Relocating the private driveway and recreational trail outside of the RPZ at the approach end of Runway 8/26 (Approximately 30 parcels, 370 obstructions to clear both Part 77 approach surface and the TSS)	Airfield Improvements	\$ 5,250,000
	Easement Acquisition	\$ 2,958,000
	Fee Simple Land Acquisition	\$ 70,000
	Wetland Impacts/Mitigation	\$ 0
	Obstruction/Tree Removal	\$ 444,000
	Other: Driveway and Trail Relocation	\$ 20,000
	ALTERNATIVE 2 TOTAL	\$ 8,742,000
Alternative 3 - Shorten Runway 8/26 by approximately 150 feet to provide a clear RPZ at the approach end of the Runway 26 (Approximately 29 parcels, 383 obstructions to clear both Part 77 approach surface and the TSS)	Airfield Improvements	\$ 5,060,000
	Easement Acquisition	\$ 2,611,000
	Fee Simple Easement Acquisition	\$ 0
	Wetland Impacts/Mitigation	\$ 0
	Obstruction/Tree Removal	\$ 460,000
	Other	\$ 0
	ALTERNATIVE 3 TOTAL	\$ 8,131,000

13. PROVIDE A PRACTICABILITY ASSESSMENT BASED ON THE FEASIBILITY OF THE ALTERNATIVE IN TERMS OF COST, CONSTRUCTABILITY AND OTHER FACTORS:

The ALP Preferred Alternative is the only alternative that offers an option to both maintain the length of the runway as described in ALP Update narrative report and also reduce the amount of incompatible land use within the RPZ. The Huron Valley Trail has been a popular fixture in the New Hudson community for many years. Locally known as “the Rail Trail”, it has been described as “a strategically important \$1.7 million multi-jurisdictional trail that links the fastest growing sections of southeast Michigan with a huge extended trail system and a vast array of outstanding parks, recreation and natural resources” (http://www.southlyonmi.org/residents/community/rail_trail.php). This alternative moves the threshold further from the trail, making this a safer option than the existing condition.

During the planning process, the following were confirmed as NOT being within the RPZ:

- There will be no buildings or structures of any kind
- There will be no transportation facilities, rail facilities, public roads/highways or vehicular parking facilities
- There will be no fuel storage facilities (above and below ground)
- There will be no hazardous material storage (above and below ground)
- There will be no wastewater treatment facilities
- There will be no above-ground utility infrastructure, including any type of solar panel installations.

14. DESCRIBE THE PREFERRED ALTERNATIVE THAT WOULD MEET THE PROJECT PURPOSE AND NEED WHILE MINIMIZING RISK ASSOCIATED WITH THE LOCATION WITHIN THE RPZ:

The ALP Update Preferred Alternative proposes to reconstruct the runway to 2,300 feet as recommended in ALP Update Study and the location of the 2,300 feet determined primarily by incompatible land use to the east including residential, Milford Road, powerlines, a private

drive and a recreational trail (Huron Valley Trail). The preferred alternative would remove the residences, road, and powerlines from the RPZ. The private drive and trail still remain in RPZ, but only in the far southeast corner of the RPZ.

Runway 8-26, currently 3,128' X 40', was last paved in 1995. The pavement has exceeded its service life and is exhibiting severe distresses. This includes differential frost heave, severe transverse cracking and raveling. Attempts have been made to preserve the pavement that included crack sealing, patching and remarking. However, the PCI value cannot be maintained. Due to the overall condition of the pavement and underlying soil issues, the next step is full-depth reconstruction to dimensions of 2,300' x 60'. At this time, no modifications of standards (MOS) are known to be required.

A new medium-intensity runway circuit will be required to match the new dimensions of the runway and replace the existing low-intensity runway circuit that is no longer recommended for use. Base mounted lights, LED technology and light-to-light conduit will be used for ease in maintenance, repair and utility cost savings. Phase I of the plan for this alternative is 2,300 feet with TSS Type 2 surface and a visual only instrument runway procedure.

15. IDENTIFY ALL FEDERAL, STATE AND LOCAL TRANSPORTATION AGENCIES INVOLVED OR INTERESTED IN THE ISSUE:

Coordination has occurred with the following Federal, State, and Local transportation agencies as a part of this RPZ analysis:

- Federal Aviation Administration, Detroit Airports District Office
- Michigan Department of Transportation, Office of Aeronautics
- Oakland County Airports

16. PROVIDE AN ANALYSIS OF THE SPECIFIC PORTION(S) AND PERCENTAGES OF THE RPZ AFFECTED, DRAWING A CLEAR DISTINCTION BETWEEN THE CENTRAL PORTION OF THE RPZ VERSUS THE CONTROLLED ACTIVITY AREA, AND CLEARLY DELINEATING THE DISTANCE FROM THE RUNWAY END AND RUNWAY LANDING THRESHOLD.

Portions of the private drive and Huron Valley Trail occupy 0.25 acres (3.11 percent) of the entire 8.035-acre area of the RPZ at the approach end of Runway 26. Attached Figure 11 provides a site concept drawing that identifies the portions of the trail and private drive that would be located within the RPZ. Broken down, the Huron Valley Trail and private drive encompass:

- 0.02 acres (0.35 percent) of the 5.74-acre area of the central portion of the RPZ
- 0.23 acres (10.04 percent) of the 2.29-acre area of the Controlled Activity Area

The distance from the threshold of Runway 26 to the closest portion of the private drive in the RPZ that cross the extended centerline of the runway is 1,052 feet. The distance from the threshold of Runway 26 to the closest portion of the Huron Valley Trail in the RPZ that cross the extended centerline of the runway is 1,114.5 feet. The distance from the runway end and runway landing threshold to the portions of the trail and private driveway that cross the extended runway centerline are the same distance (1,052 feet and 1,114.5 feet respectively).

17. PROVIDE AN ANALYSIS OF (AND ISSUES AFFECTING) SPONSOR CONTROL OF THE LAND WITHIN THE RPZ.

The Huron Valley Trail is located to the east of the Oakland/Southwest Airport property. The trail runs northeast/southwest approximately 630 feet through the existing Runway 8/26 RPZ. The runway reconfiguration in the preferred alternative would require an aviation easement over the trail and would require the removal of trees within the trail right-of-way. This project would impact the Huron Valley Trail, which meets the criteria of a publicly owned park land or a recreation area in accordance with 49 USC Section 303(c), Section 4(f). It will require coordination with State and local government (Michigan Department of Natural Resources), Western Oakland County Trailway Management Council ('Council'), Michigan Department of Transportation - Office of Aeronautics (AERO), and Oakland County. These entities will have to agree that this runway reconfiguration will be implemented in accordance with the stipulations that address the effects on this publicly owned recreation facility.

**18. ANY OTHER RELEVANT FACTORS FOR HEADQUARTERS CONSIDERATION:
The Preferred Alternative enhances safety at the airport by rightsizing the runway, removing the existing displaced thresholds, and providing for future clear approach and departure paths to both ends of Runway 8/26.**

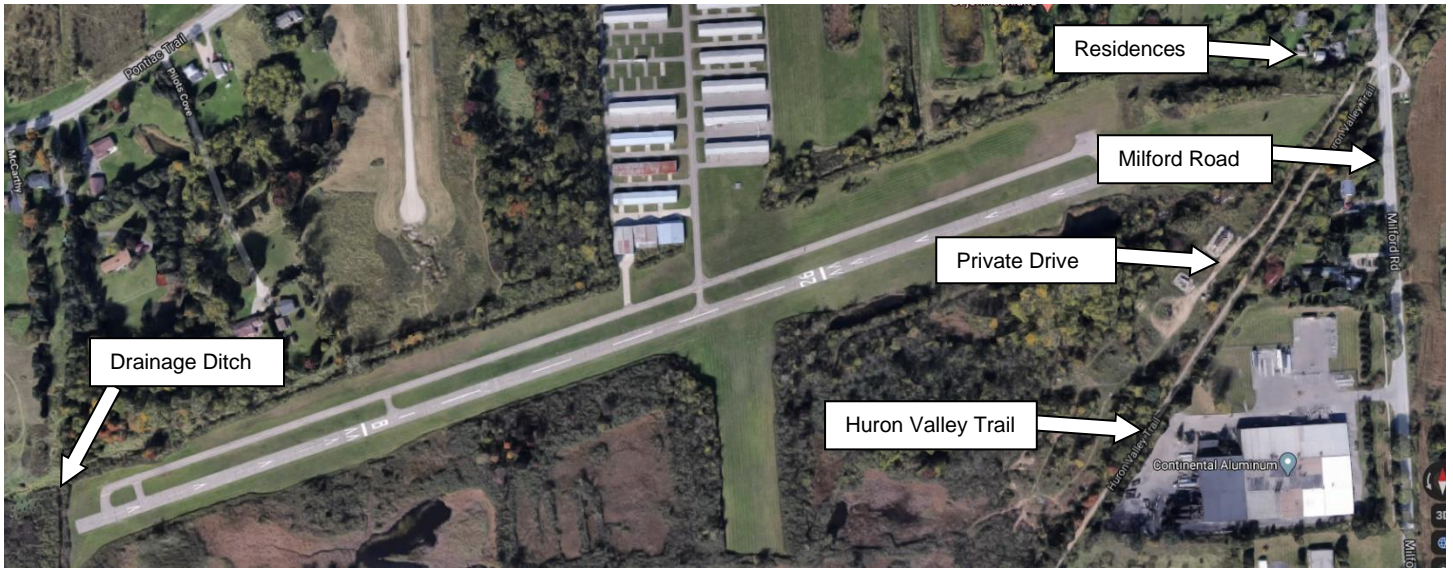
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22. ORIGINATOR'S TITLE	23. TELEPHONE	24. E-MAIL

Figure 1: Existing Airfield Configuration

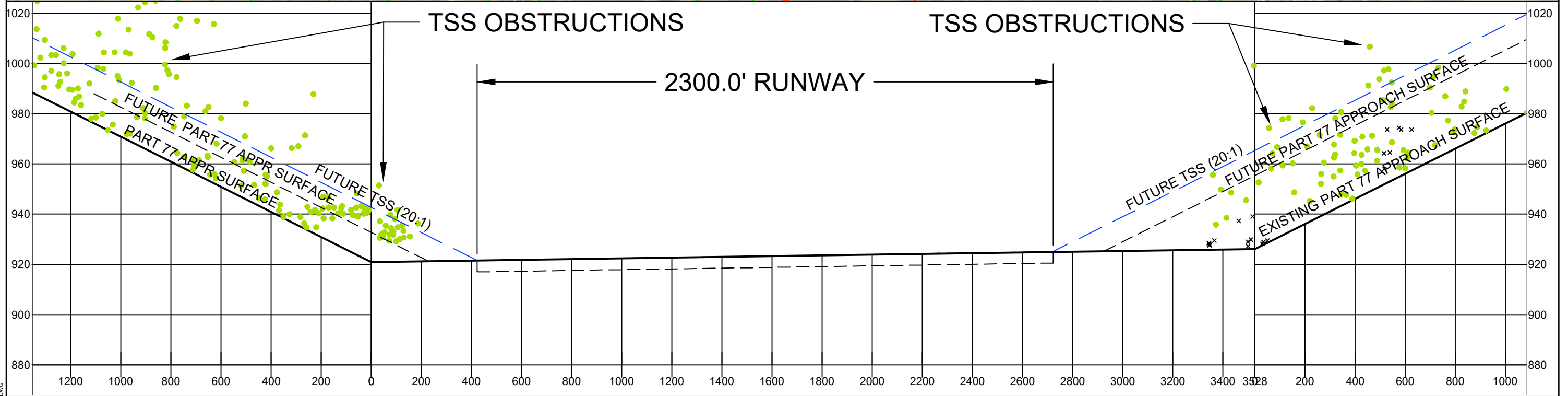
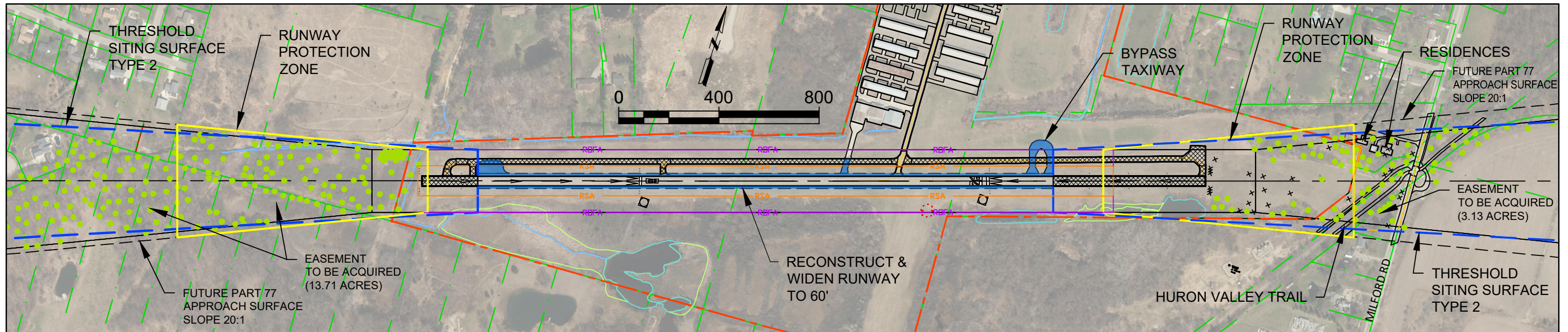


Source: Mead & Hunt, Google Earth (2016).

Figure 2: Location of Physical Constraints



Aerial: Google Earth, 2020.

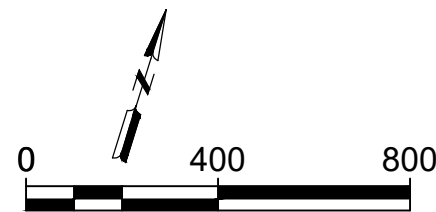
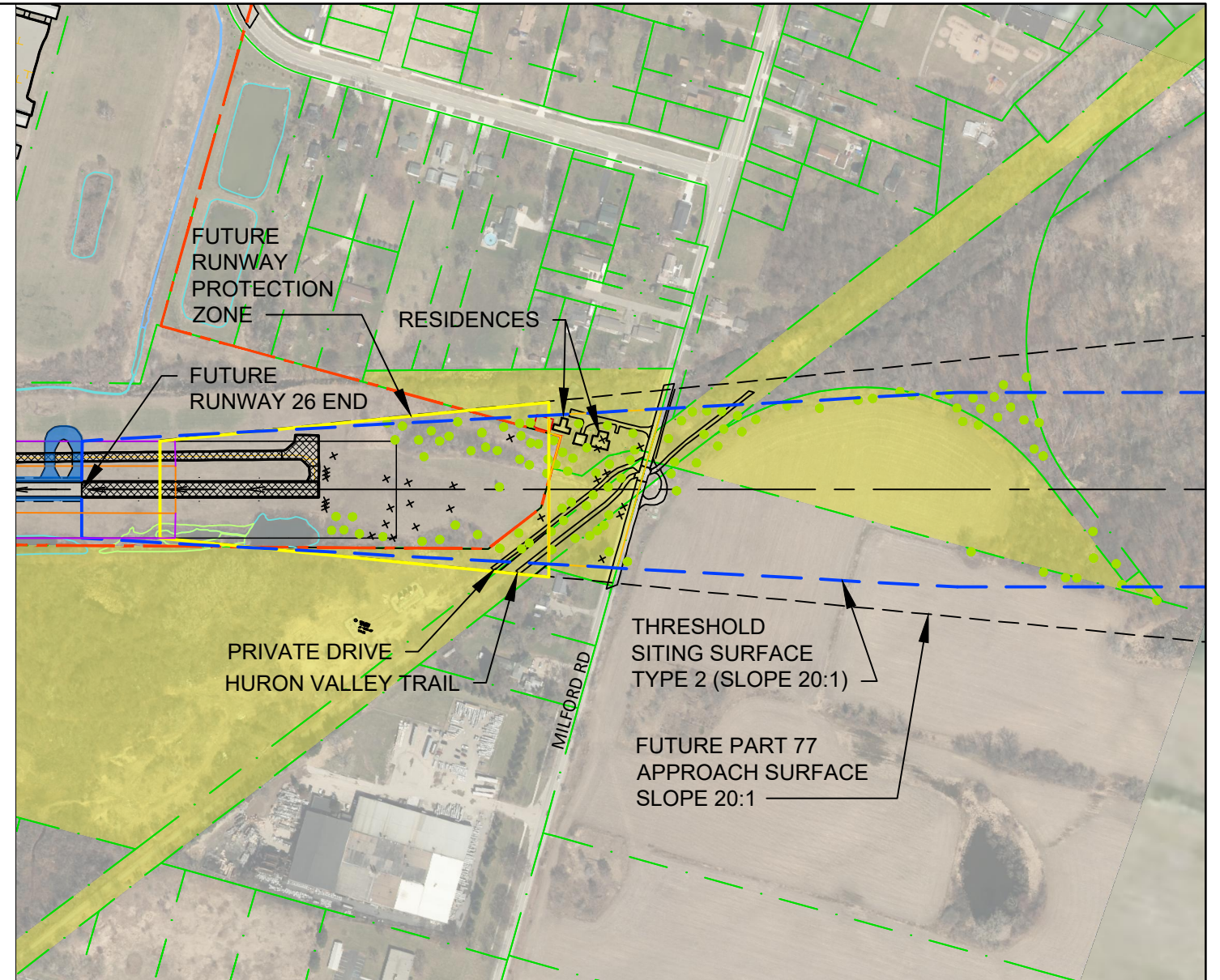
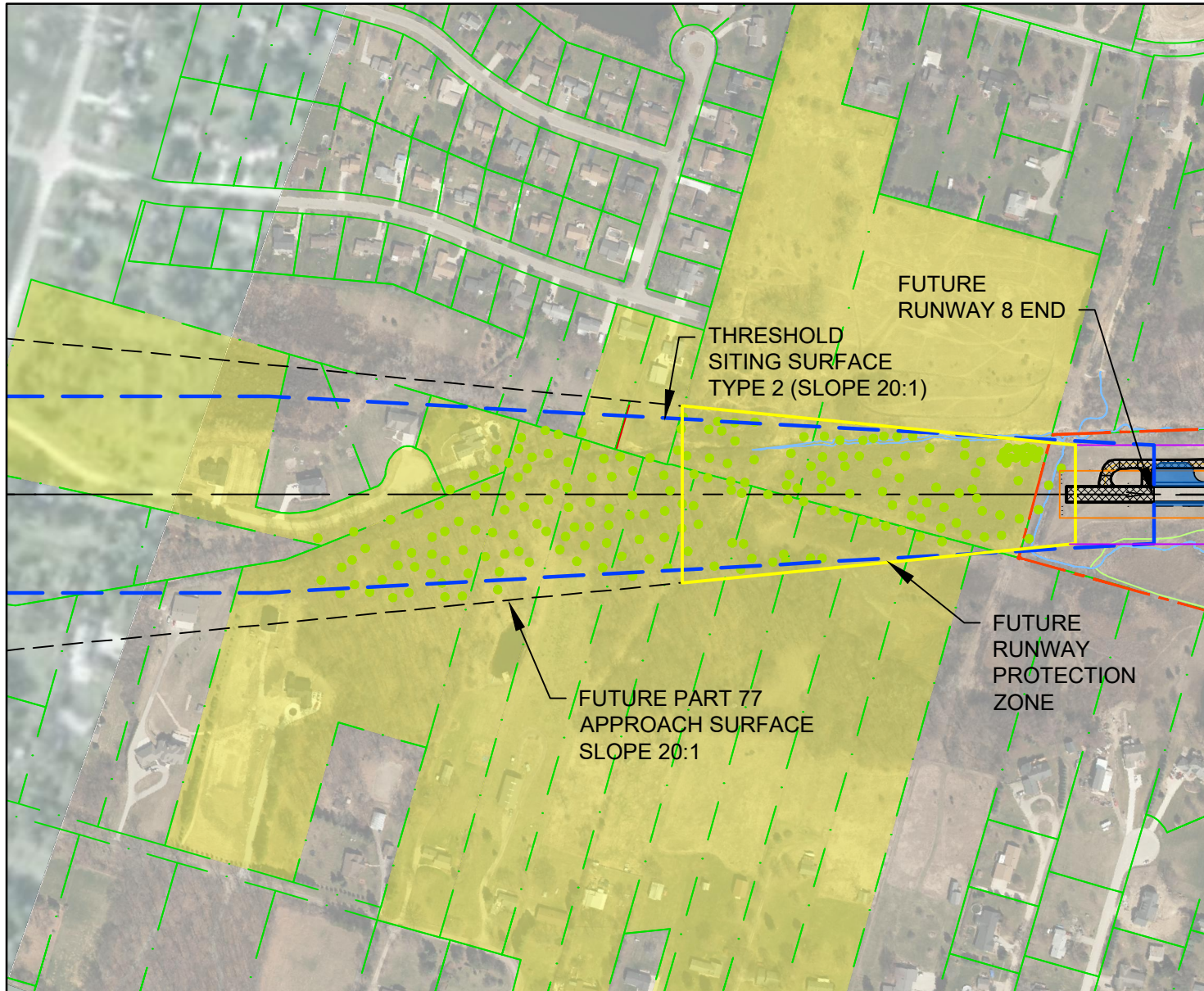


DRAWING LEGEND

	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		

Figure 3: ALP Preferred Alternative - Reconfigure Runway 8/26 to 2,300 feet by 60 feet

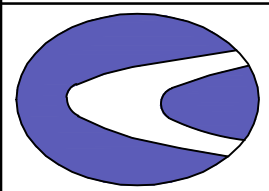




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	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED EXISTING OBSTRUCTIONS		PARCELS FOR PARTIAL EASEMENT

Note: Parcels identified to have potential obstructions to the Future Part 77 Approach Surface

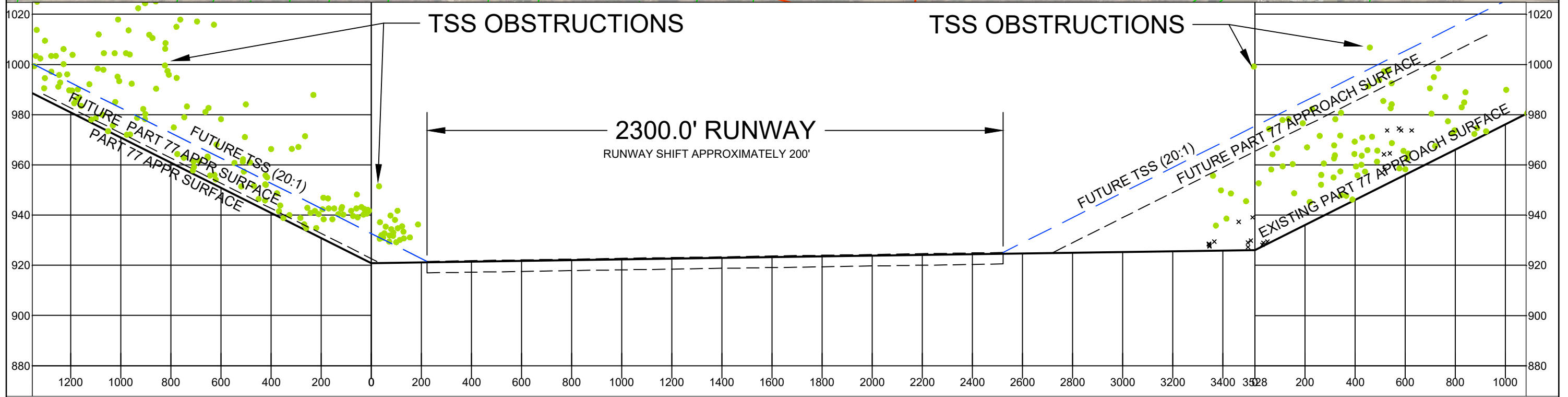
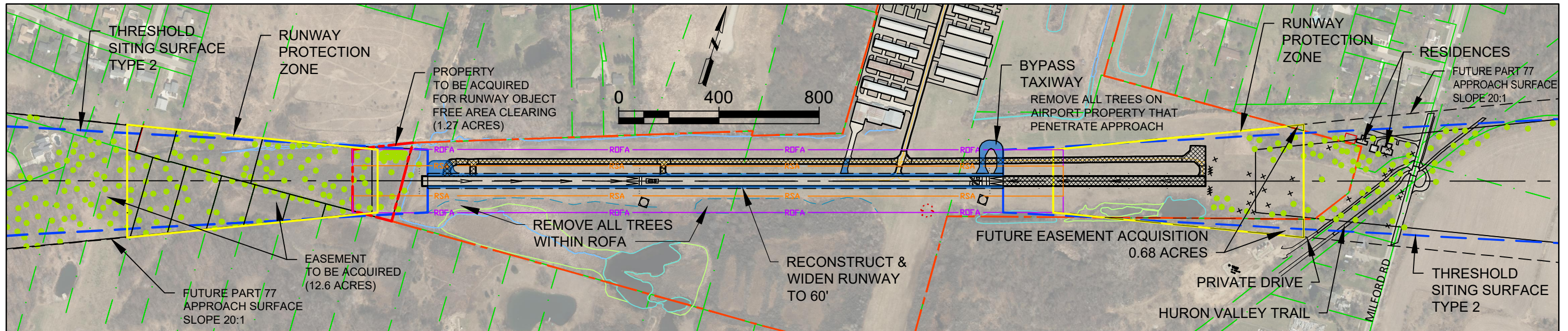


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Figure 4: ALP Preferred Alternative - Reconfigure Runway 8/26 to 2,300 feet by 60 feet

Parcels For Partial Easement



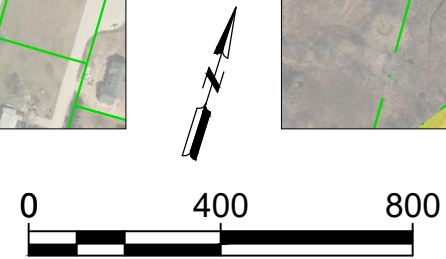
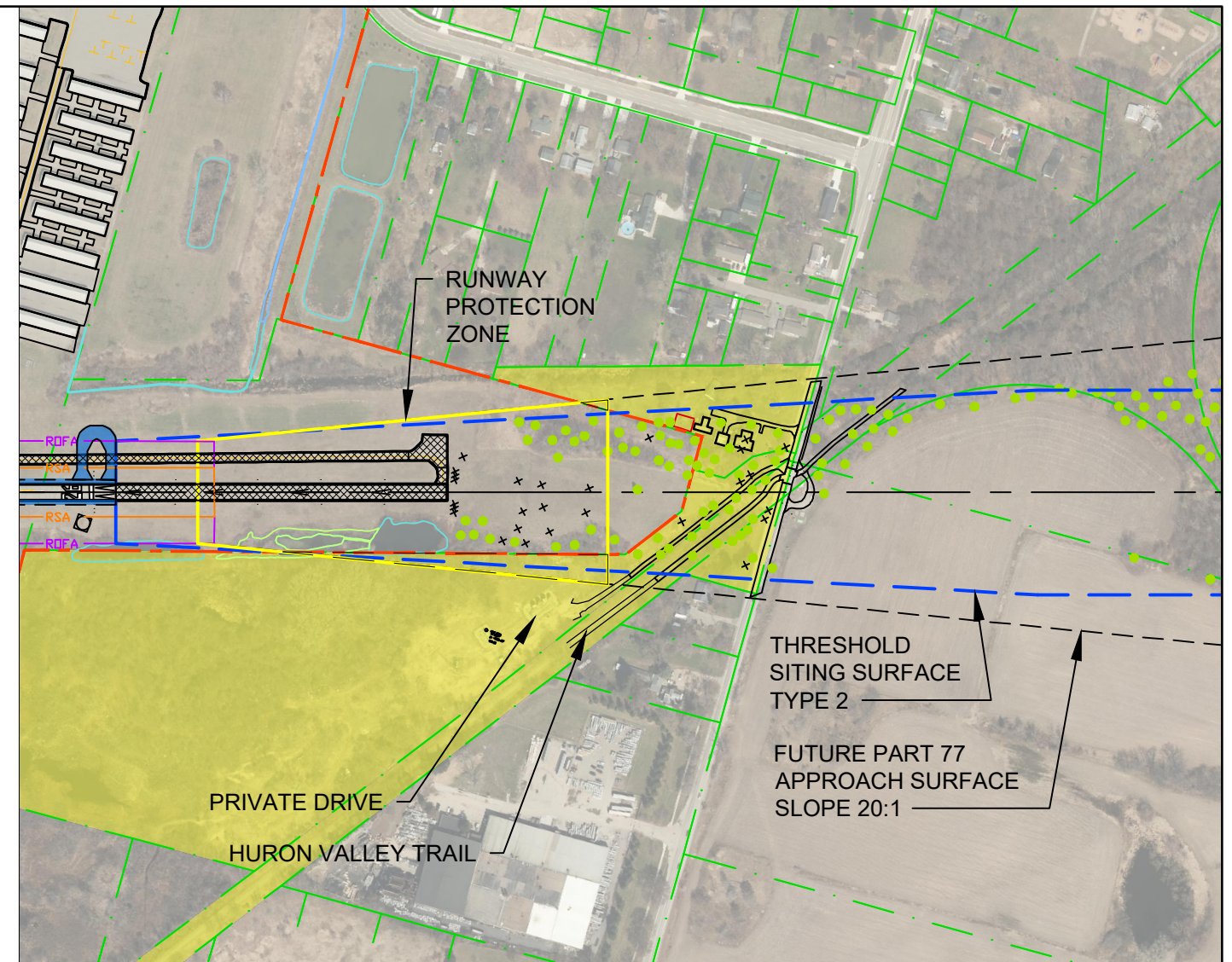
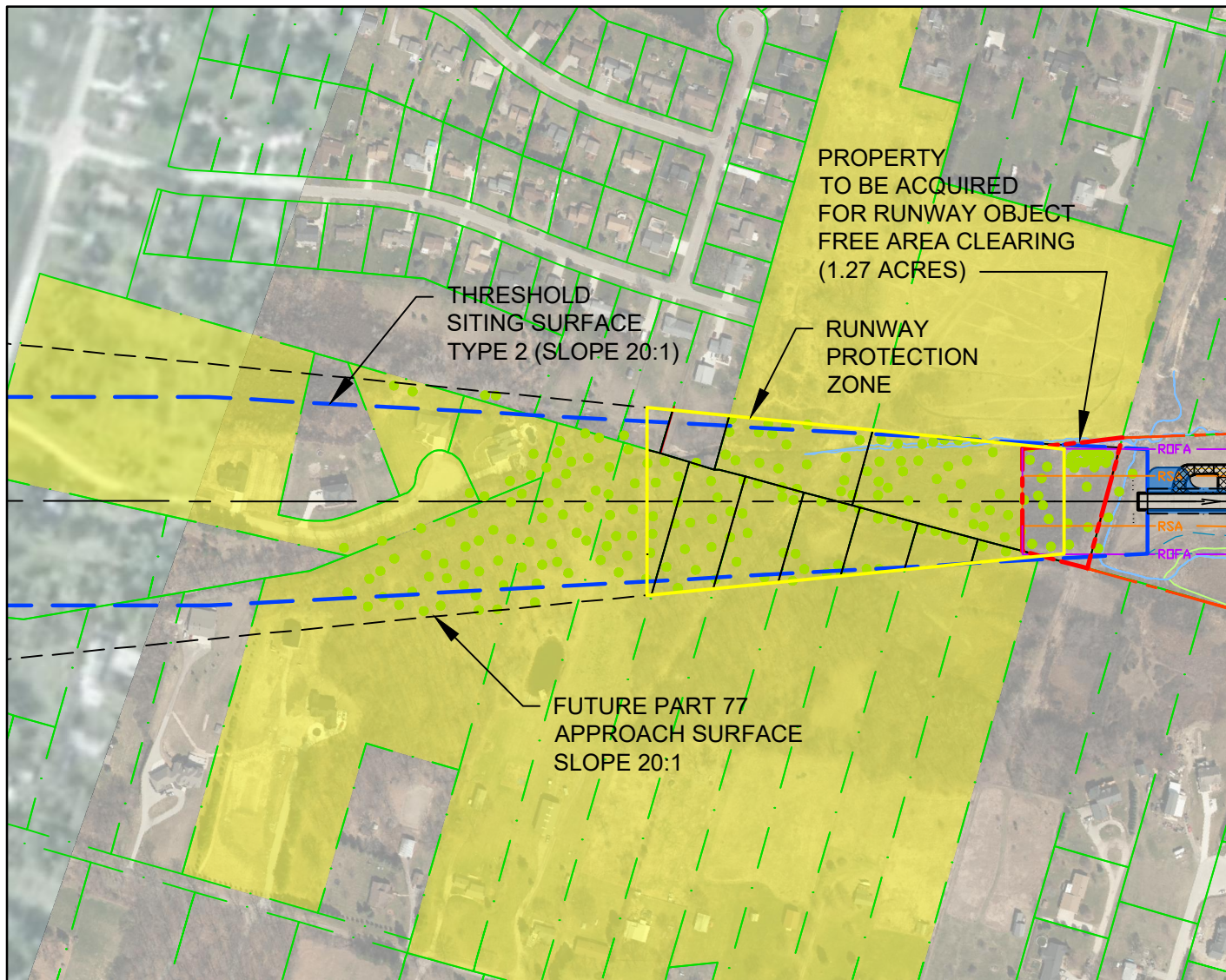


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	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		

Figure 5: Alternative One - Shift Runway 200'

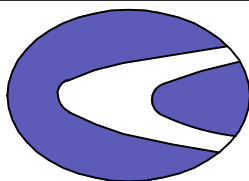




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| | PART 77 APPROACH SURFACES | | FUTURE AIRFIELD PAVEMENT |
| | THRESHOLD SITING SURFACES | | AIRFIELD PAVEMENT TO BE REMOVED |
| | IDENTIFIED OBSTRUCTIONS | | PARCELS FOR PARTIAL EASEMENT |

Note: Parcels identified to have potential obstructions to the Future Part 77 Approach Surface



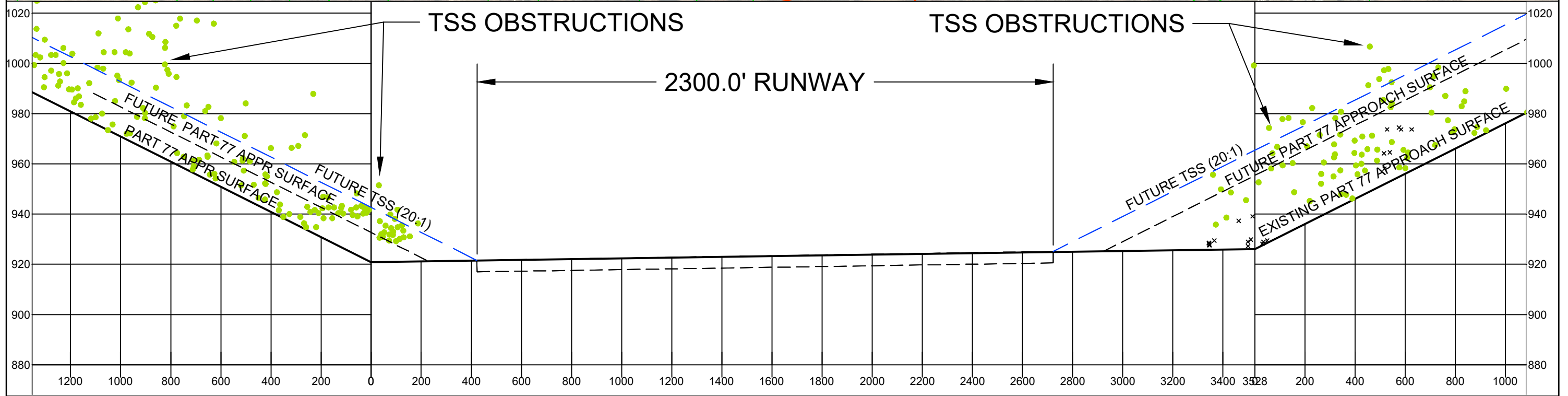
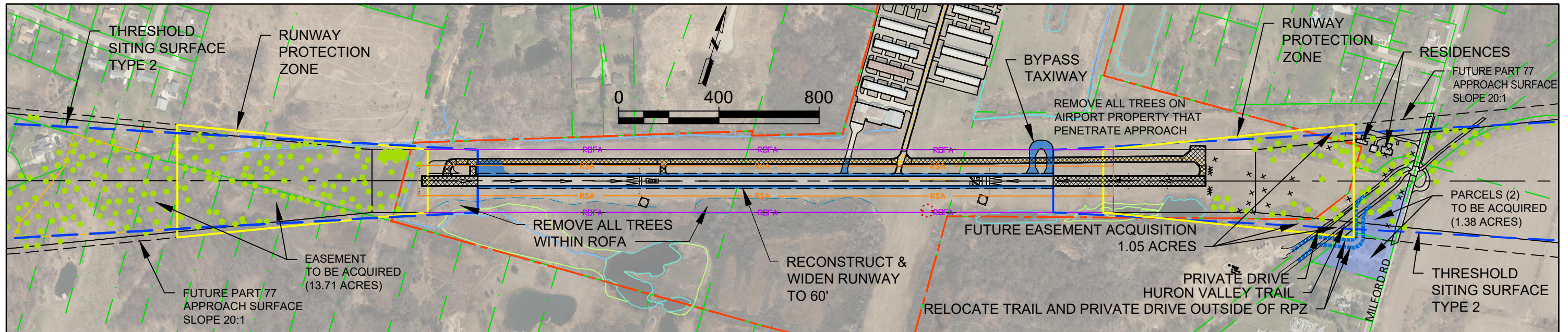
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Figure 6: Alternative One - Shift Runway 200'

Parcels For Partial Easement





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	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		



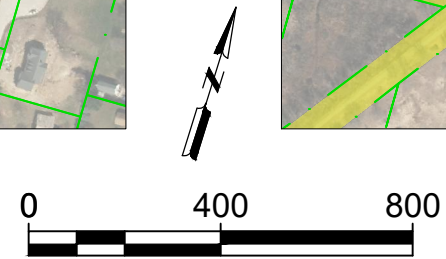
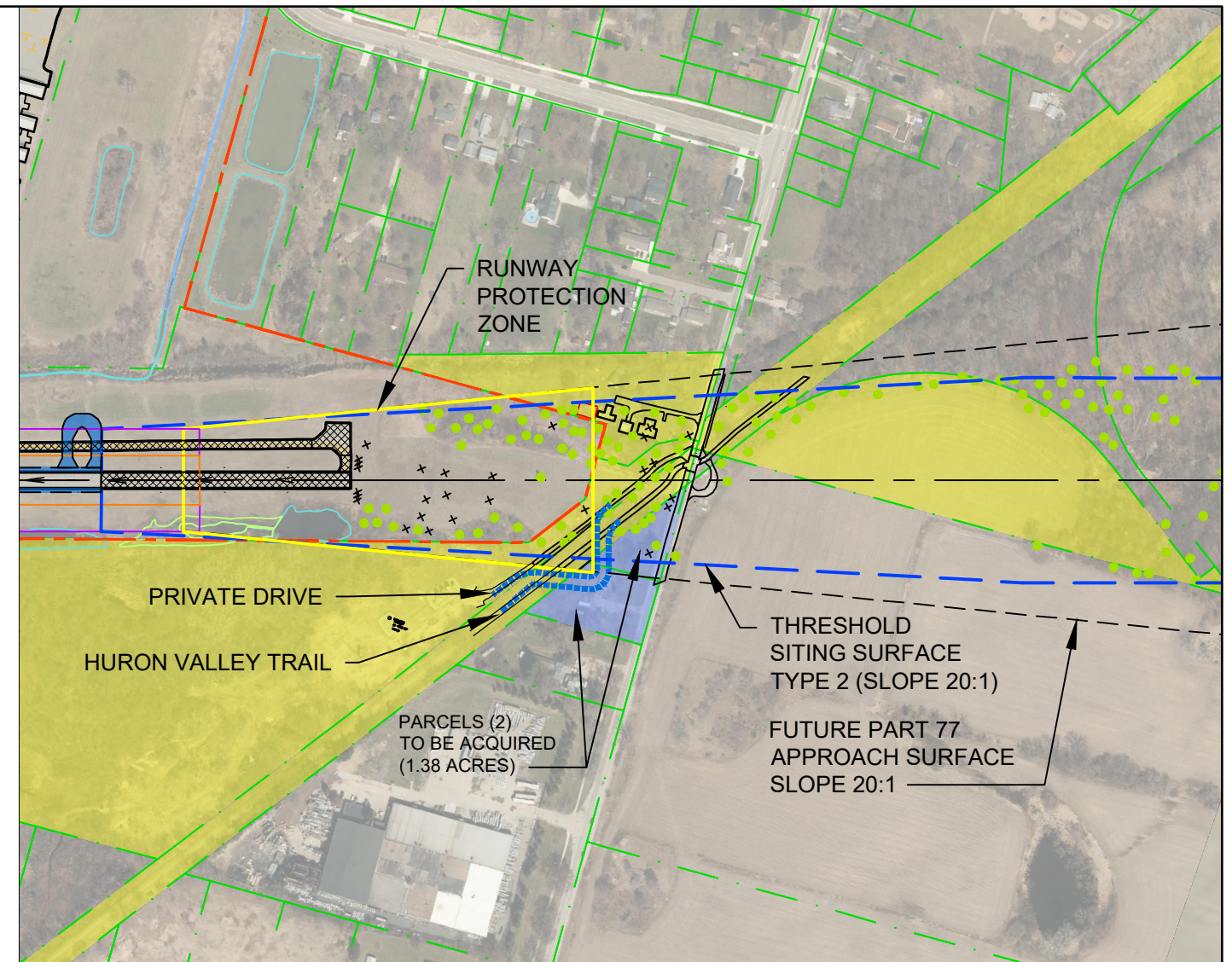
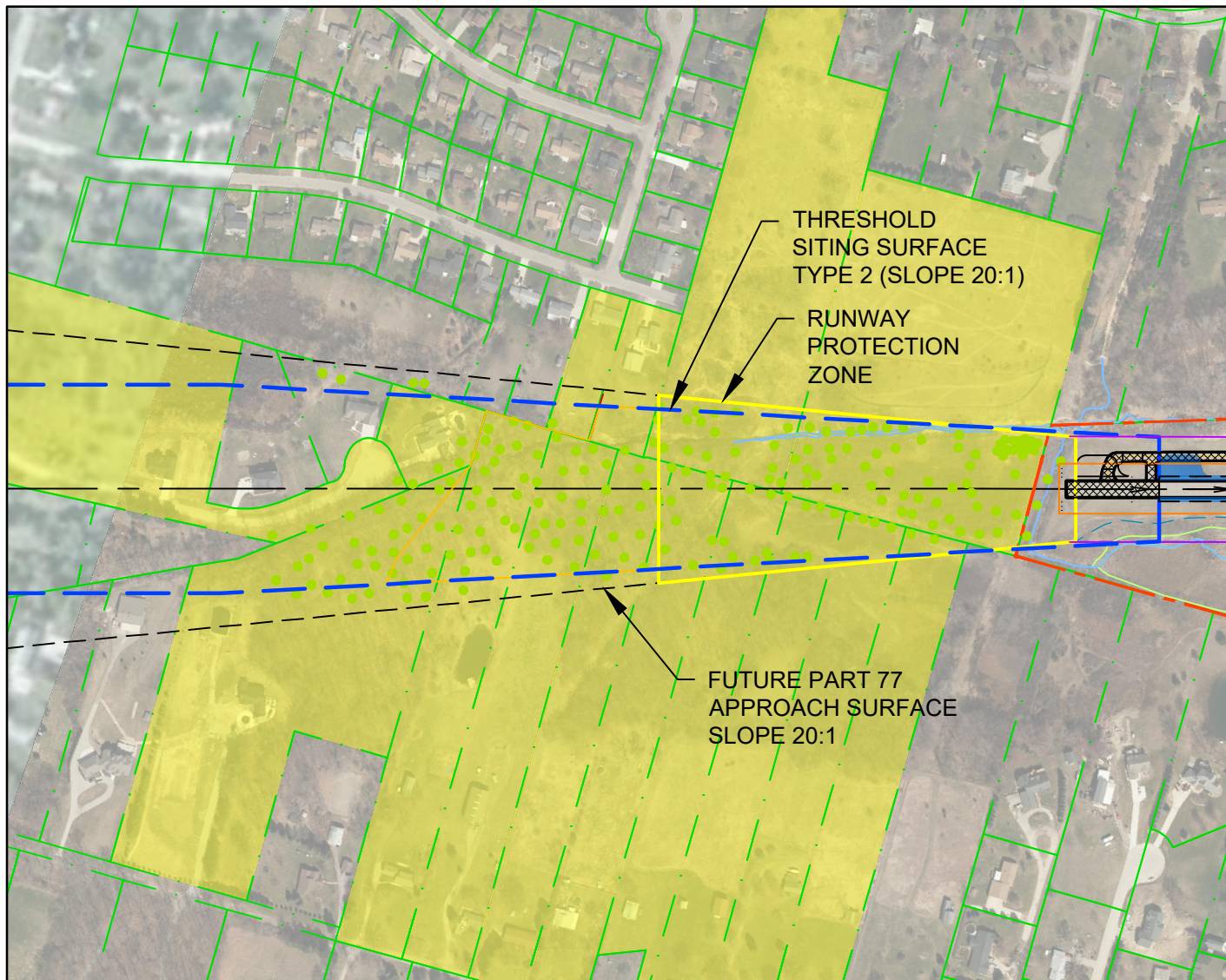
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Figure 7: Alternative Two - Realign Private Drive and HV Trail



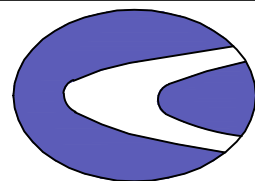
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	RUNWAY PROTECTION ZONES		EXISTING AIRFIELD PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		PARCELS FOR PARTIAL EASEMENT

Note: Parcels identified to have potential obstructions to the Future Part 77 Approach Surface

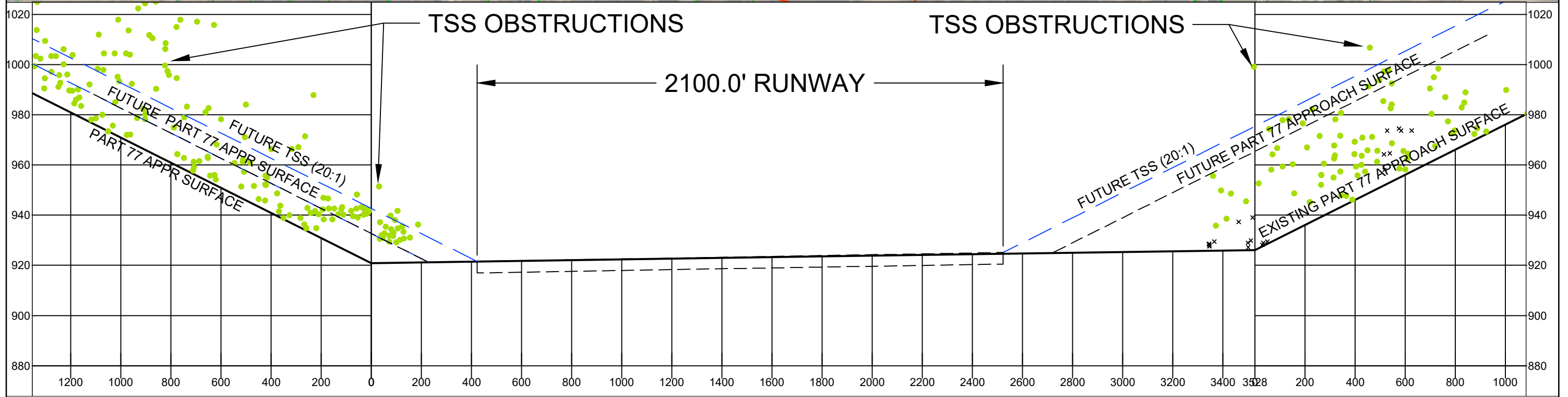
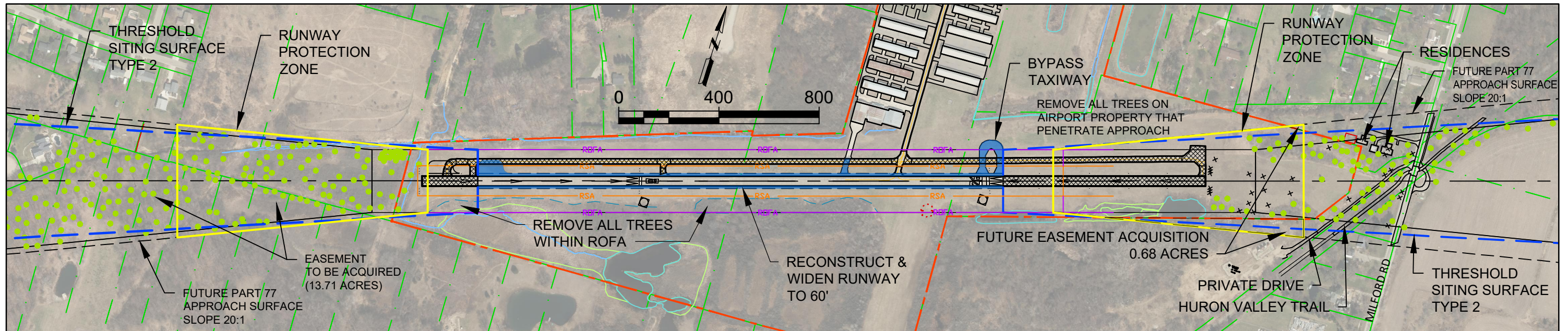


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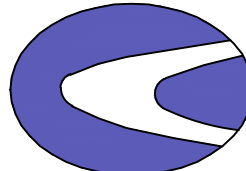
Figure 8: Alternative Two - Realign Private Drive and HV Trail
Parcels For Partial Easement





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	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		



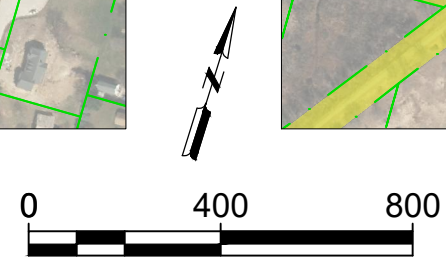
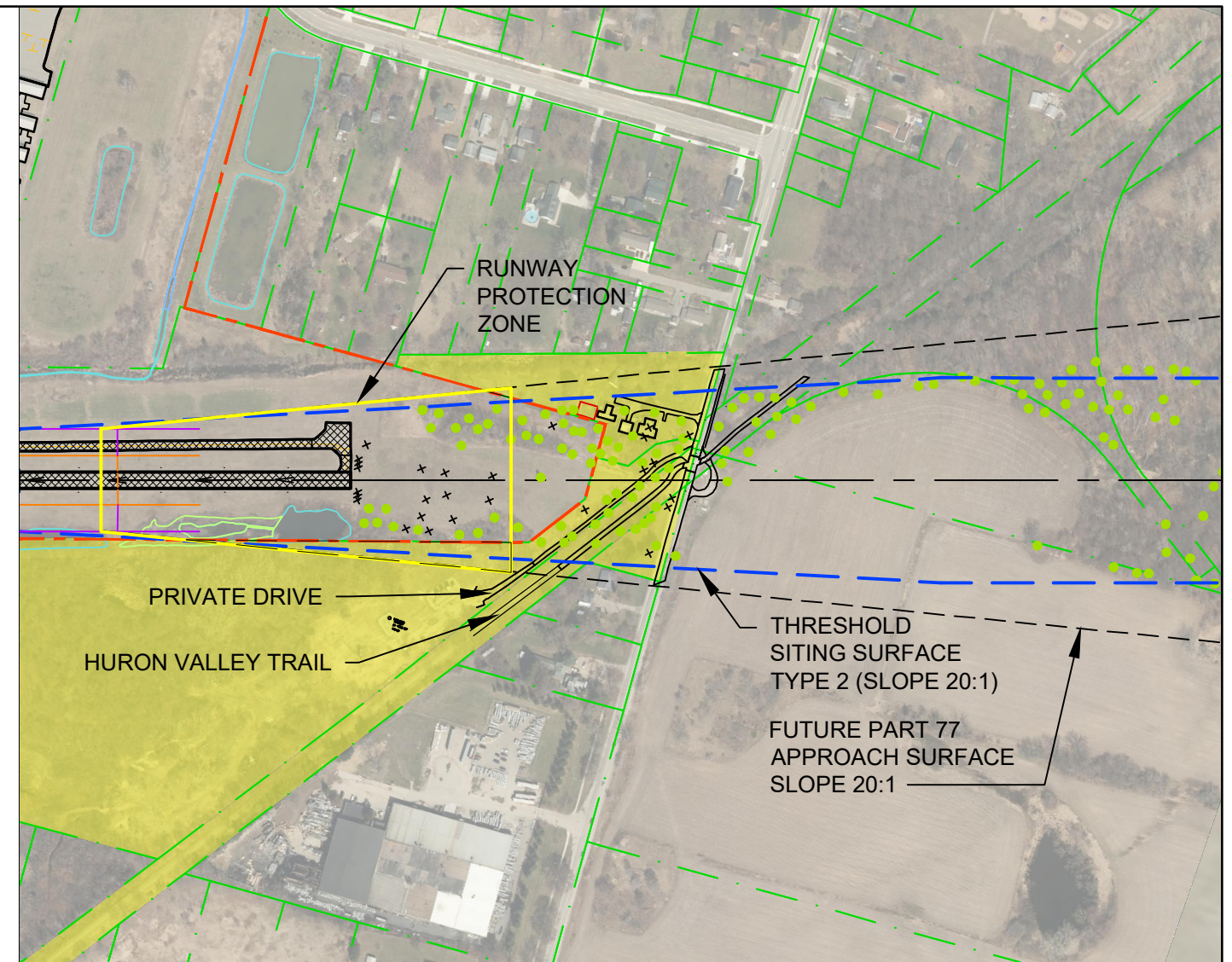
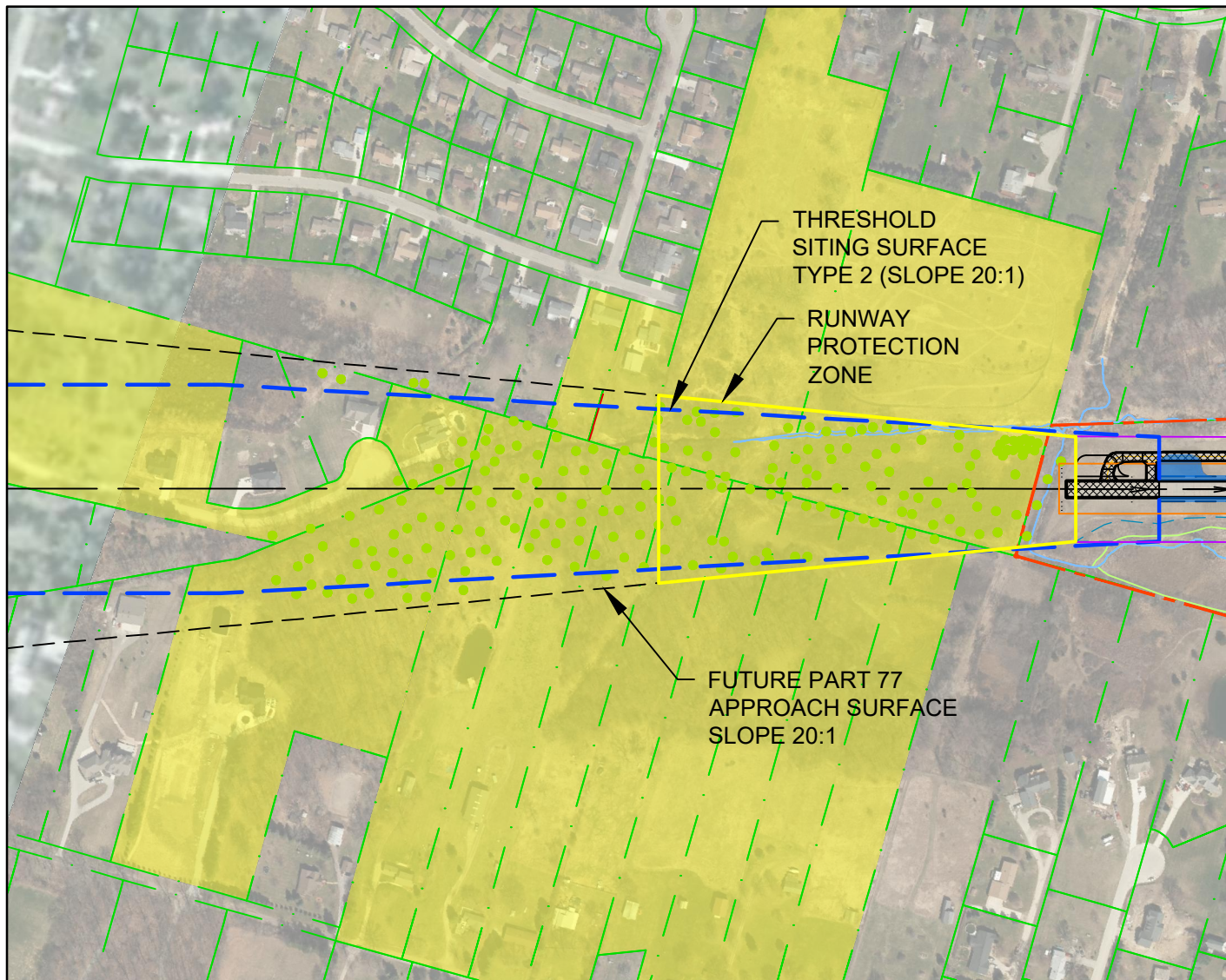
OAKLAND SOUTHWEST AIRPORT
OAKLAND COUNTY, MI

3180300-190716.01
APRIL 2020

Figure 9: Alternative Three - Shorten Runway 200'



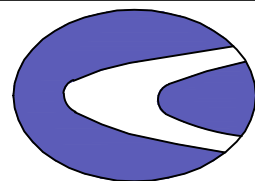
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DRAWING LEGEND

- | | | | |
|--|---------------------------|--|---------------------------------|
| | RUNWAY PROTECTION ZONES | | EXISTING AIRFIELD PROPERTY |
| | PART 77 APPROACH SURFACES | | FUTURE AIRFIELD PAVEMENT |
| | THRESHOLD SITING SURFACES | | AIRFIELD PAVEMENT TO BE REMOVED |
| | IDENTIFIED OBSTRUCTIONS | | PARCELS FOR PARTIAL EASEMENT |

Note: Parcels identified to have potential obstructions to the Future Part 77 Approach Surface



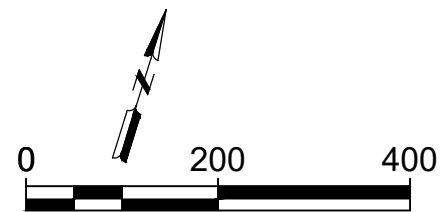
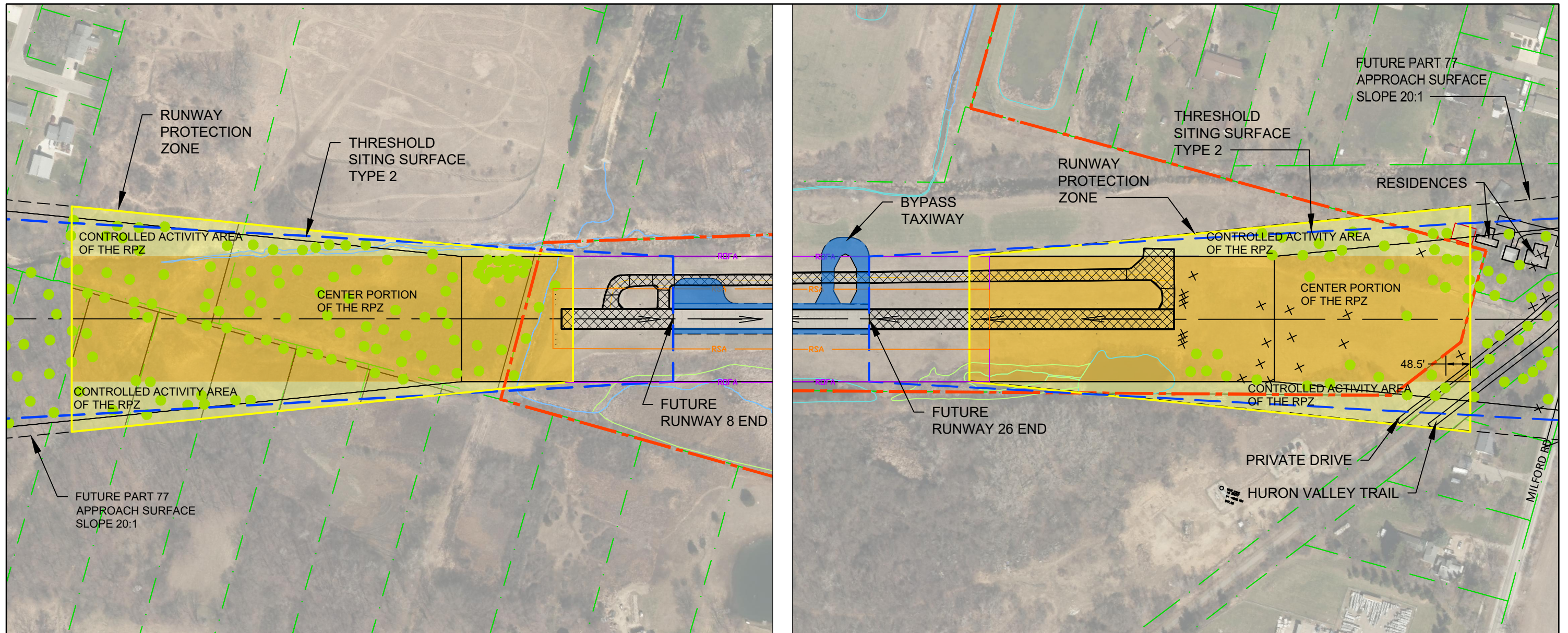
OAKLAND SOUTHWEST AIRPORT
OAKLAND COUNTY, MI

3180300-190716.01
APRIL 2020

Figure 10: Alternative Three - Shorten Runway 200'

Parcels For Partial Easement





DRAWING LEGEND			
	RUNWAY PROTECTION ZONES		EXISTING AIRPORT PROPERTY
	PART 77 APPROACH SURFACES		FUTURE AIRFIELD PAVEMENT
	THRESHOLD SITING SURFACES		AIRFIELD PAVEMENT TO BE REMOVED
	IDENTIFIED OBSTRUCTIONS		

Figure 11: Preferred Alternative - Future RPZs

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Appendix A – Oakland/Southwest County Airport Memorandum of Agreement

MEMORANDUM OF AGREEMENT

Between
Oakland County Aviation Division (Oakland County)
and
The Michigan Department of Natural Resources

Regarding
The Oakland/Southwest County Airport Improvement Project
Oakland County, Michigan

WHEREAS, The Huron Valley Trail (HVT) is located just east of the Oakland/Southwest County Airport (O/SWA) property. The trail runs northeast/southwest approximately 630 feet through the runway 8/26 Runway Protection Zone (RPZ). The O/SWA Improvement Project (Project) would require an aviation easement over the trail and would require the removal of trees within the trail right-of-way. Oakland County has determined that the Project would impact the Huron Valley Trail, which meets the criteria of a publicly-owned park land or a recreation area in accordance with 49 USC Section 303(c), Section 4(f); and

WHEREAS, The Michigan Department of Natural Resources (MDNR) and the Western Oakland County Trailway Management Council ('Council') participated in the consultation and have been invited to concur in this Memorandum of Agreement (MOA); and

WHEREAS, the Michigan Department of Transportation – Office of Aeronautics (AERO) AERO has participated in the consultation and has been invited to concur in this Memorandum of Agreement (MOA).

NOW, THEREFORE, Oakland County and the MDNR agree that the Project shall be implemented in accordance with the following stipulations in order to take into account the Project's effect on the publicly-owned recreation facility.

STIPULATIONS

The parties agree to the following stipulations.

- I. **AVIATION EASEMENT:** As part of the Project, Oakland County will complete the MDNR Easement Application for Utility or Public Road Form. This form will provide a legal description of the proposed easement and an engineered drawing depicting the easement. Upon review and approval of the application, the MDNR shall dedicate the easement as set forth in the form.
- II. **MITIGATION.** In order to mitigate the impact to the trail and minimize the effects of the tree removal, as part of the project, Oakland County agrees to replace all live trees removed at a ratio of 1:1. The replacement trees shall be planted within the trail right-of-way but outside of the aviation easement. The Council shall specify tree species and planting locations. Oakland County will ensure that the trail remains open during construction activities. Additionally, the County's Contractor will secure a bond prior to construction activities to address any unforeseen damage that may occur to the trail during construction.

- III. PRECAUTIONS:** Oakland County's Contractor shall provide, erect and maintain all barricades, lights, warning signs and other precautionary measures as necessary to properly safeguard the public while the work is in progress. The railway shall at no time be closed to traffic without the prior written consent of the Council.
- IV. PROTECTION:** Oakland County's Contractor shall protect property under the jurisdiction of the Council. In the event of property damage by Oakland County's Contractor, Oakland County's Contractor shall repair or replace the property, or the property of others, in a manner acceptable to the Council.
- V. PAVEMENT:** No pavement shall intentionally be disturbed without written permission from the Council; and upon completion of the work, such disturbed pavement shall be replaced in such a manner as shall be acceptable to the Council's engineer.
- VI. OTHER AGENCIES HAVING JURISDICTION:** This Permit covers only that portion of the property herein described for which the Council exercises jurisdiction and does not release the Grantee from the responsibility of obtaining necessary permission from any other agency having jurisdiction.
- VII. RESPONSIBILITY OF OAKLAND COUNTY:** It shall be the responsibility of Oakland County to maintain the railway in accordance with the requirements of the Council.
- VIII. VIOLATION:** The violation of any one of the conditions of this Agreement shall constitute a forfeiture of all rights hereunder at the election of the Council.
- IX. LIABILITY:** The duties, responsibilities and liabilities hereunder shall be borne by Oakland County and its Contractor.
- X. EXPENSE:** The entire expense of the work outlined in this Agreement shall be borne by Oakland County, as part of the project, and no part of such expense shall be borne by the Council.
- XI. IN LIEU OF INDEMNIFICATION:** Each party to this Agreement shall remain responsible for any claim arising out of that party's performance of this Agreement as provided by this Agreement or law. This Agreement is not intended to increase or decrease either party's liability for, or immunity from, tort claims. This Agreement is not intended to nor shall it be interpreted as giving either party hereto a right of indemnification, either by contract or at law, for claims arising out of the performance of this Agreement.
- XII. ACCESS FOR CONTROL OF VEGETATION:** The rights hereby granted include the right of access to and from the railway right-of-way and the right to trim, cut down or otherwise control brush and trees within or on property adjoining the railway right-of-way which, in the opinion of Oakland County, interferes with the operation of the Oakland/Southwest Airport. It is expressly understood and agreed that Oakland County shall, at no time, trim or cut down any trees unless the Oakland County's opinion, it is absolutely necessary to do so. Oakland County shall restore premises to original condition or as near as possible, in the event of damage caused by its employees, contractors, vehicles and equipment entering railway right-of-way for the purposes set forth herein. No buildings or structures shall be placed within permit area herein granted without consent of Oakland County. This grant is declared to be binding upon the heirs, successors, lessees, licensees and assigns of the parties hereto.

IX. AMENDMENT: The MDNR or Oakland County may propose to the other parties that this MOA be amended, whereupon the parties will consult to consider such an amendment in writing.

IV. TERMINATION: If Oakland County determines that it cannot implement the terms of this MOA, or if the MDNR determines that the MOA is not being properly implemented, Oakland County or the MDNR may propose to the other parties to this MOA that it be terminated.

The party proposing to terminate this MOA shall so notify the other parties to this MOA, explaining the reasons for termination and affording them at least sixty (60) days to consult and seek alternatives to termination. The parties shall then consult.

Should such consultation fail, Oakland County or the MDNR may terminate this MOA by so notifying all parties.

OAKLAND COUNTY AVIATION DIVISION


By:  Date: 9-3-15
Karl Randall, Manager of Aviation

MICHIGAN DEPARTMENT OF NATURAL RESOURCES

By:  Date: 9/1/15
Ron Olson, Chief, Parks & Recreation Division

Concur:

MICHIGAN DEPARTMENT OF TRANSPORTATION – OFFICE OF AERONAUTICS

By:  Date: 9/1/15
Mike Trout, Director, Office of Aeronautics

Concur:

WESTERN OAKLAND COUNTY TRAILWAY MANAGEMENT COUNCIL

By:  Date: 9/13/15
Patricia Carcone, Chairwoman