TOWN OF SWANZEY

OFFICE OF PLANNING AND COMMUNITY DEVELOPMENT

Phone: 603-352-7411 ext. 108
Email: planner@swanzeynh.gov
Web: www.swanzeynh.gov
Address: 620 Old Homestead Hwy

Swanzey Zoning Board of Adjustment
Meeting Agenda for July 20, 2026
7:00 p.m.

The regular meeting of the Swanzey Zoning Board of Adjustment will be held on Monday, July 20, 2026 at 7:00 p.m. at Whitcomb Hall, 17 Main Street, Swanzey. The meeting will also be live streamed on the Town of Swanzey's Facebook and YouTube pages. More information on public access to the meeting is available on the Town's website at: www.swanzeynh.gov.

1) Call to Order

2) Approval of Minutes

    a. June 15, 2026

3) Public Hearings

    a. **ZBA 26-005:** Cardinal Surveying and Land Planning, on behalf of Joseph Walsh, has requested a variance application in accordance with Section V, Article B.1 of the Zoning Ordinance to allow a residential use in the Business District. The lot is at Tax Map 205, Lot 2 in the Business District.

    b. **ZBA 26-006:** Cardinal Surveying and Land Planning, on behalf of Joseph Walsh, has requested a special exception application in accordance with Section IX of the Zoning Ordinance to allow development within the Flood Plain District. The lot is at Tax Map 205, Lot 2 in the Business District.

4) Other Business

    a. Rules of Procedure Discussion

    b. Follow-up Discussion on Zoning Ordinance Audit

        i. Questions, insights, etc.

5) Adjournment

Town of Swanzey, New Hampshire
Swanzey Zoning Board of Adjustment (ZBA)
Meeting Minutes – June 15, 2026
Whitcomb Hall, Main Street, Swanzey, NH

Note: Draft Minutes are subject to review, correction, and approval by the Board. Review and approval of Minutes generally takes place at the next regularly scheduled meeting of the Board.

CALL TO ORDER:
Vice Chair Ann Karaskinski called the meeting to order at Whitcomb Hall at 7:00 pm. Other members present were Jay Ward, Wayne Lechlider and Joe Parisi. Also present were Town Planner, Adam Paquette and Recording Secretary, Susan Ells.

ABSENT: Adam Mulhearn, Alternates Peter Delaney and Jessica Ramsey- Sanchez

OTHERS PRESENT:
Kai Kraemer with FACT TV, Kyle Croteau, Richard Diehl

MINUTES:
The meeting minutes of April 20, 2026 were considered. A motion was made by Wayne Lechlider to approve the minutes as presented. There was a second made by Jay Ward. Joe Parisi suggested an edit; all were in favor of approving the amended minutes; and the motion passed.

PUBLIC HEARING:
None

OTHER DISCUSSIONS

- **Kyle Croteau – Applicant for Alternate Board Member**

Kyle Croteau applied to be an alternate to the Zoning Board; the Board members thanked him for his willingness to serve and welcomed him to the Board. Ann suggested to Kyle that he might want to attend other board and committee meetings to see if there are additional ways he'd like to participate; Kyle replied that he generally watches the other meetings.

Jay Ward made the motion to accept Kyle Croteau's application; Wayne Lechlider seconded the motion; all were in favor and the motion passed.

Adam informed Kyle that he will need to go to Town hall to be sworn in. Once that is done, he will get the communications for the Zoning Board. Ann recommended he take advantage of training available to him and cautioned him that the public might email him and that he should refrain from replying on behalf of the Board.

- **Rules of Procedure Discussion**

Adam explained that the Board requested to review the Rules of Procedures annually; he included his suggested edits in the handout, but he welcomed input. Ann suggested the flow chart be dated so that it is clear which version is the most recent.

Changes proposed to the Rules of Procedure and discussion were as follows:

- Alternate Members #4:
    a. ~~During deliberations, alternate members may participate in the discussions. Alternates shall not be allowed to make motions, second motions, or vote unless seated in the place of a regular member.~~ *Alternate members may participate in discussions until the public hearing is closed. Once closed, alternates shall not make motions, second motions, or vote, unless formally seated for a regular member.*
- Changing the term "clerk" to "recording secretary"
- Meetings #1
    a. Regular Board of Adjustment meetings are held on the third Monday of every month at ~~the Town Hall in Swanzey Center at~~ 7:00 p.m at Whitcomb Hall (17 Main Street, Swanzey, NH 03446), except in January and February, when the meeting will be held on the ~~second~~ fourth Monday. ~~Public Notice must be provided as required by RSA Chapter 91-A. If an emergency situation arises wherein action is required prior to the next scheduled meeting, the necessity for calling a special meeting will be determined by the Chair or in their absence, the Vice-Chair.~~ *Public notice must be provided in accordance with RSA 91-A. If action is required before the next scheduled meeting, the Chair (or Vice-Chair in their absence) shall determine the necessity of a special meeting.*
- Meetings #2
    a. A quorum for all meetings of the Board shall be three members, including alternates sitting in the place of members. ~~As stated in RSA 673:11~~ RSA 674:33,III states that ~~provides that~~ "~~The concurring vote of 3 members of the Board shall be necessary to reverse any action of the administrative official or to decide in favor of the applicant on any matter on which it is required to pass.~~" "the concurring vote of any 3 members of the board shall be necessary to take any action on any matter on which it is required to pass." For this reason, the Board will make every effort to ensure that a full five-member Board is present for the consideration of any appeal.
        i. Discussion on whether virtual participants could vote and general guidelines for virtual participants.
- Meetings #2.b
    a. Discussion on if the same members should be seated when meetings are continued, if RSA's should be cited. Questions on if there should be a distinction between continuing immediately or after a long hearing. Would that change the seating for the next meeting?
- Meetings #3.a
    a. Added to the end: *"The recused member retains the right to speak as a member of the public during the public hearing".*
- Ex Parte Communication #b

DRAFT

a. Added *"Board members are not authorized to independently enter private property, conduct un-planned site visits, or engage in similar activities. Entry is permitted only with formal Board approval or in strict adherence to affidavits signed during the application process."*

- Ex Parte Communication #c
  a. Board members shall not seek input *(change to testimony or something similar regarding other personal sources)* or advice from *any source* regarding the application outside of the public hearing process.
- Order of Business
  a. Roll call by the *recording secretary*
  b. Minutes of previous meeting.
  c. Public hearings.
  d. Regional impact vote.
  e. Seating of Alternates (before each public hearing).
  f. Unfinished business.
  g. New business.
  h. Communications and miscellaneous.
  i. Adjournment.
- Public Notice #a
  a. Discussed the need for Keene Sentinel notice
- Public Notice #b
  a. ~~Personal~~ *The public hearing notice* shall be made by certified mail to the applicant and all abutters not less than five (5) days before the date of the hearing, *not including the date of posting or the date of the hearing.*
- Public Notice #c
  a. ~~Fees for certified notices and publication in the Keene Sentinel must be~~ *All associated application fees must be* paid by the applicant prior to the public hearing. The Board will not hear the application if fees have not been paid prior to the public hearing. ~~Failure to pay such costs shall constitute valid grounds for the Board to terminate further consideration and to deny appeal without hearing.~~

The Board reviewed each item and discussed possible changes. The draft will be presented at the next meeting so the full Board will be able to review the suggested changes.

Ann asked whether Board members need to attend board meetings in person, or whether virtual participation is allowed. Adam will research and provide an answer at the next meeting.

- **Follow-up Discussion on Zoning Ordinance Audit**

Adam reminded the Board to send him questions that he will forward to Sarah regarding the audit.

ADJOURNMENT

A motion to adjourn was made by Wayne Lechlider and seconded by Jay Ward; all were in favor and the

motion passed. Adjournment occurred at 8:42pm.

Respectfully Submitted,

Susan Ells, Recording Secretary

Approved on

DRAFT

TOWN OF SWANZEY

OFFICE OF PLANNING AND ECONOMIC DEVELOPMENT

Phone: 603-352-7411 ext. 108
Email: planner@swanzeynh.gov
Web: www.swanzeynh.gov
Address: 620 Old Homestead Hwy

Memorandum – Office of Planning and Economic Development

TO: Planning Board

FROM: Adam Paquette, Town Planner

DATE: July 13, 2026

RE: ZBA 26-005 & ZBA 26-006 – Tax Map 205 Lot 2 – Variance & Special Exception Applications

Overview:

Joeseph Walsh, represented by Cardinal Surveying and Land Planning, has submitted two applications to the Zoning Board:

1. A variance application in accordance with Section V, Article B.1 of the Zoning Ordinance to allow residential use in the Business District.
2. A special exception application in accordance with Section IX of the Zoning Ordinance to allow development within the flood plain district.

The property is identified as Tax Map 205, Lot 2 in the Business District.

Property & Zoning Details:

Location: North of Dillant-Hopkins Airport, on the north side of Airport Road. The lot is split between Keene and Swanzey.
Parcel ID: Tax Map 205, Lot 2.
Acreage: ±25 acres in Swanzey. ±8 Acres in Keene.
Frontage: ±350 feet of road frontage along Airport Road.
Site Access: Access in Keene. The driveway will run from Silent Way in Keene over the town line into Swanzey. See plan for details.
Zoning Districts: Business District (primary); Wetlands Conservation District (portions); Floodplain District; Airport Zone
Water & Septic: City of Keene water; septic on site (next to building on Swanzey side).

The subject lot is vacant in both Keene and Swanzey.

Notice of Public Hearing was mailed to abutters on July 10 and notice was published in the Keene Sentinel on July 18. Department heads were notified July 10.

Ordinance Review

The applicant requests a Variance from Section V Article B of the Zoning Ordinance to allow a single-family residential use in the Business District. The entire lot within Swanzey is in the Business District. The lot in Keene is within the Rural district. Details on Keene's Rural district can be seen below:

3.1.1 Purpose

The Rural (R) District is intended to provide for areas of very low density development, predominantly of a residential or agricultural nature. These areas are generally outside of the valley floor, beyond where city water, sewer and other city services can be readily supplied.

3.1.2 Dimensions & Siting

Min Lot Area	2 acres
Min Lot Width at Building Line	200 ft
Min Road Frontage	50 ft
Min Front Setback	50 ft
Min Rear Setback	50 ft
Min Side Setback	50 ft

3.1.3 Buildout

Max Building Coverage	10%
Max Impervious Coverage	20%

3.1.4 Height

Max Stories Above Grade	2
Max Building Height	35 ft

The applicant is also requesting a Special Exception in accordance with Section IX of the Zoning Ordinance to allow development within the flood plain district. Both the Keene and Swanzey sections of the lot fall within a FEMA designated Special Flood Hazard Area. See attached map for reference.

One topic for discussion is the following line in Section IX that states:

No Special Exception shall be granted in the Flood Plain District except under the following conditions:
1. The proposed development is otherwise permitted in the underlying District

It's staff's opinion that the variance of Section V, Article B.1 addresses this requirement. If the ZBA approves the variance application, this requirement should be seen as fulfilled. When an applicant seeks to deviate from permitted zoning uses, they must apply under the specific section governing those uses, rather than a section in an overlay district that references them.

Staff Comments:

Conservation:

The Conservation Commission has not yet commented on this application. Staff will share comments at the meeting if they are available.

Planning:

1. Staff believe the applicant has met both the special exception and variance criteria.
2. Application narrative has the wrong application types for what is being proposed. For example, the narrative states that a special exception is being sought to permit a residential use in the business zone, when it should say variance. Staff is asking for a revised narrative fixing these details.
3. The property owner is responsible for obtaining all relevant approvals with the City of Keene prior to applying for building permits.

Attachments:

a. Variance Application
b. Special Exception Application
c. Tax Map
d. FEMA Flood Map

dotloop signature verification: dtlp.us/1qSh-3r0J-992s

APPLICATION FOR SPECIAL EXCEPTION
TOWN OF SWANZEY (Revised 8/22)

MAP: 205 **LOT:** 002

To: Board of Adjustment, Town of Swanzey:

NAME OF APPLICANT:	**MAILING ADDRESS OF APPLICANT:**
Wendy Pelletier Cardinal Surveying & Land Planning **Contact phone number:** 603 209-1989	PO Box 160 Sullivan, NH 03445
OWNER OF PROPERTY: (If same as applicant, write "same") Joseph Walsh	**MAILING ADDRESS OF OWNER:** (If same as applicant, write "same") 80 Silent Way Keene, NH 03431
LOCATION OF PROPERTY (Give Zoning District in which located & current street address) Airport Road	

FEES:

- Application fee: $75
- Current rates for Keene Sentinel Legal Notices
- $10/abutter certified mail notice

Fees will be billed and **must** be paid prior to public hearing.

1. ☑ **SITE PLAN** – The site plan need not be done professionally, but **must** be to scale; the scale should be appropriate for the size of the project & the plan must be readable. Plans must indicate the size of the lot in acres or square feet, show the placement of all **existing** and **proposed** buildings on the lot and include setbacks required by the zoning ordinance. The plan must include a written and visual depiction of the scale used.

2. ☑ If applicable, indicate on the Site Plan the location of:
   - Septic system and/or leach field
   - Water supply
   - Curb cuts
   - Parking area (and size of parking spaces)
   - Waterways
   - Wetland areas
   - Tree lines
   - Drainage ways
   - Loading docks
   - Underground tank locations
   - Impervious surfaces

dotloop signature verification: dtlp.us/1qSh-3r0J-992s

It is the applicant's responsibility for including all information on the plan that is pertinent to their application and proposed project.

3. ☑ Attach completed and up-to-date listing of ALL abutters with addresses.

4. ☑ Provide a brief description of the project/request.

A Special Exception is requested from the terms of Section IX, Article _____ of the Zoning Ordinance of the Town of Swanzey.

FACTS IN SUPPORT OF GRANTING THE SPECIAL EXCEPTION:

1. The proposed use is similar to one or more of the uses already authorized in the district and is an appropriate location for such a use because:

The proposed use is residential in a flood plain zoneAE with a BFE is 470.7'. The area in which the building is proposed has an elevation of 469'-470'. The house would be built with the first floor 1' above the BFE. The preliminary changes to the flood maps have changed this area to zone X. The new maps should be approved in the next year.

2. Such approval would not reduce the value of any property within the district, nor otherwise be injurious, obnoxious, or offensive to the neighborhood because:

The proposed use would be in keeping with the abutting neighborhood in Keene which is surrounded by flood plain.

3. There will be no nuisance or serious hazard to vehicle or pedestrians because:

No nuisance will be caused by this variance.

dotloop signature verification: dtlp.us/1qSh-3r0J-992s

4. Adequate and appropriate facilities will be provided for the proper operations of the proposed use because:

The dwelling will be have town water and a leachfield.

Wendy A Rellstab Date: 6-26-26

Signature of Applicant

Joseph Walsh dotloop verified 06/11/26 9:28 PM EDT 054W-J3XO-2PVC-LVO2 Date: 06/11/2026

Signature of Property Owner

THIS SPECIAL EXCEPTION IS HEREBY:

☐ **GRANTED** ☐ **DENIED**

by the Swanzey Zoning Board of Adjustment. The following are reasons and/or conditions:

dotloop signature verification: dtlp.us/1qSh-3r0J-992s

CHECKLIST FOR GRANTING A SPECIAL EXCEPTION
(for use by Swanzey Zoning Board of Adjustment)

The Board of Adjustment shall have the power to hear and decide Special Exceptions to the terms of the Zoning Ordinance, and in doing so, may grant approval in appropriate cases and subject to appropriate conditions and safeguards for the protection of the public health, safety, and welfare. Special Exceptions may be approved if the Board finds in the affirmative that:

1. The proposed use is similar to one or more of the uses already authorized in the district and is an appropriate location for such a use

_____ Yes _____ No

2. Such approval would not reduce the value of any property within the district, nor otherwise be injurious, obnoxious, or offensive to the neighborhood

_____ Yes _____ No

3. There will be no nuisance or serious hazard to vehicle or pedestrians

_____ Yes _____ No

4. Adequate and appropriate facilities will be provided for the proper operations of the proposed use

_____ Yes _____ No

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

APPLICATION FOR VARIANCE
TOWN OF SWANZEY (New 1/10; Revised 8/22)

MAP: 205 **LOT:** 002

To: Board of Adjustment, Town of Swanzey:

NAME OF APPLICANT:	**MAILING ADDRESS OF APPLICANT:**
Wendy Pelletier Cardinal Surveying & Land Planning **Contact phone number:** 603 209-1989	PO Box 160 Sullivan, NH 03445
OWNER OF PROPERTY: (If same as applicant, write "same") Joseph Walsh	**MAILING ADDRESS OF OWNER:** (If same as applicant, write "same") 80 Silent Way Keene, NH 03431
LOCATION OF PROPERTY (Give Zoning District in which located & current street address) Airport Road	

FEES:

- Application fee: $75
- Current rates for Keene Sentinel Legal Notices
- $10/abutter certified mail notice

Fees will be billed and **must** be paid prior to public hearing.

1. ☑ **SITE PLAN** – The site plan need not be done professionally, but **must** be to scale; the scale should be appropriate for the size of the project & the plan must be readable. Plans must indicate the size of the lot in acres or square feet, show the placement of all **existing** and **proposed** buildings on the lot and include setbacks required by the zoning ordinance. The plan must include a written and visual depiction of the scale used.

2. ☑ If applicable, indicate on the Site Plan the location of:
   - septic system and/or leach field
   - water supply
   - curb cuts
   - parking area (and size of parking spaces)
   - waterways
   - wetland areas
   - tree lines
   - drainage ways
   - loading docks
   - underground tank locations
   - impervious surfaces

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

It is the applicant's responsibility for including all information on the plan that is pertinent to their application and proposed project.

3. ☑ Attach completed and up-to-date listing of ALL abutters with addresses.

4. ☑ Provide a brief description of the project/request.

A Variance is requested from the terms of Section V, Article B-residential use of the Zoning Regulations of the Town of Swanzey.

FACTS IN SUPPORT OF GRANTING THE VARIANCE:

1. Granting the variance would not be contrary to the public interest because:

Granting this variance is not contrary to the public interest because this lot is located on Airport Road beyond the class V portion. The area of the lot that will be built on is on the Swanzye/Keene line and is accessed from Silent Way in Keene. It does not alter the character of the neighborhood or threaten the health, safety or welfare of the public.

2. Granting the variance would observe the spirit of the ordinance because:

Granting this variance would not be contrary to the spirit of the ordinance. This 25 acre lot is within/abutting the 893 acres owned by the City of Keene for the airport. The lot is not currently accessible from Airport Road. The area of development would be over 500' from the Airport right of way, leaving a large area that could be used for business purposes in the future.

3. Granting the variance would do substantial justice because:

Granting the variance would do substantial justice because this is part of a lot that begins in Keene and is accessed from Keene. There is no access from Airport Road in Swanzey. The Keene portion of the lot is encumbered by wetlands. The best location for building is along an existing access road from Silent Way just over the town line. Silent Way is zoned rural. The variance would be in keeping with the neighborhood.

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

4. Granting the variance would not diminish the values of surrounding properties because:

Granting the variance would not diminish values of surrounding properties because it will not be visible from either public way and would be in keeping with the neighborhood in Keene. It is located beyond the developed portion of Airport Road.

5. Unnecessary Hardship

Literal enforcement of the provisions of the ordinance would result in an unnecessary hardship because:

The "Special Conditions" of this property that distinguish it from other properties in the area are as follows:

Literal enforcement of the ordinance would result in an unnecessary hardship for the owner. This is part of a larger lot that begins in Keene and is accessed from Keene. There is no access from Airport Road in Swanzey. The Keene portion of the lot is encumbered by wetlands. The best location for building is along an existing access road from Silent Way just over the town line.

A. Owing to the special conditions of the property as set forth above that distinguish it from other properties in the area:

(i) No fair and substantial relationship exists between the general public purposes of the ordinance provision and the specific application of that provision to the property because:

Denying the variance renders this lot unusable for building.

and

ii. The proposed use is a reasonable one because:

It is the same use as the neighborhood it is accessed from and is an undeveloped area of the airport business park.

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

If the criteria in subparagraph A.i. **and** A.ii. are not established, an unnecessary hardship will be deemed to exist if, and only if:

B. Owing to special conditions of the property as set forth above that distinguish it from other properties in the area the property cannot be reasonably used in strict conformance with the ordinance, and a variance is therefore necessary to enable a reasonable use of the property because:

Note: The definition of "unnecessary hardship" set forth in subparagraph 5 shall apply whether the provision of the ordinance from which a variance is sought is a restriction on use, a dimensional or other limitation on a permitted use, or any other requirement of the ordinance.

Wendy A Pellett Date: 6-26-26

Signature of Applicant

Joseph Walsh dotloop verified 06/11/26 9:27 PM EDT 6ABI-JZCK-PAY5-2RE2 Date: 06/11/2026

Signature of Property Owner

THIS VARIANCE IS HEREBY:

☐ **GRANTED** ☐ **DENIED**

by the Swanzey Zoning Board of Adjustment. The following are reasons and/or conditions:

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

CHECKLIST FOR GRANTING A VARIANCE
(for use by Swanzey Zoning Board of Adjustment)

1. Could the variance be granted without being contrary to the public interest?

_____ Yes _____ No

2. Would the spirit of the ordinance be observed if the variance were granted?

_____ Yes _____ No

3. Would granting the variance do substantial justice?

_____ Yes _____ No

4. Could the variance be granted without diminishing surrounding property values?

_____ Yes _____ No

5. Do special conditions of the property exist that distinguish it from other properties in the area?

_____ Yes _____ No

dotloop signature verification: dtlp.us/PxsX-GYBh-a8RF

A.i. Owing to the special conditions of the property that distinguish it from other property in the area, there is not a fair and substantial relationship between the general public purpose of the ordinance and the specific application of the provision to the property?

_____ Yes/Agree _____ No

And

A.ii. Is the proposed use a reasonable one?

_____ Yes _____ No

If the criteria in subparagraph A.i. **and** A.ii. are not met, an unnecessary hardship will be deemed to exist if, and only if:

B. Owing to the special conditions of the property that distinguish it from other properties in the area the property cannot be reasonably used in strict conformance with the ordinance, and a variance is necessary to enable a reasonable use of the property:

_____ Yes _____ No

If the answer to questions 1, 2, 3, 4 and 5 (5A or 5B) is "yes," the variance should be granted.

If the applicant fails to meet any one of the five variance requirements (1, 2, 3, 4 and/or 5), it cannot be legally granted and should be denied. Note: The applicant only needs to meet either 5A or 5B to satisfy criteria 5.

CARDINAL SURVEYING & LAND PLANNING

PO Box 160
Sullivan, NH 03445
(603) 209-1989
www.cardinalsurveying.net
Know Your Boundaries"

June 26, 2026

ZBA Narrative

RE: Map 205 Lot 002

Map 205 Lot 002 is owned by Josheph Walsh and is part of a larger tract that has frontage on Silent Way in Keene. The lot is has access from Silent Way via a woods road along the westerly boundary. Silent Way is a quiet rural road with 4 houses on 2-3 acre lots and one house on 42 acres. This lot also abuts the Edgewood Subdivision in Keene and Swanzey. Lot 002 has frontage on the unbuilt extension of Airport Road and abuts the City of Keene property and the Dillant Hopkins Airport. Lot 002 is zoned rural in Keene and Business in Swanzey. This lot is encumbered by a significant area of wetland. The only buildable area outside the wetland buffers is in Swanzey just over the town line.

The application for a special exception is to permit a residential use in a business zone. There are 5 residential dwellings in the Edgewood subdivision abutting this property in Swanzey that have been zoned residential out of the larger business district.

The application for a variance is to allow building in a flood plain. The proposed building site is in zone AE on the current FIRM maps and has a Base Flood Elevation (BFE) of 470.7'. The proposed FIRM maps due to be released in 2027 have a BFE of 466.9', a difference of 3.8 feet.
The proposed house will be a slab on grade with a finish floor elevation of 472.30', see attached septic design plan.

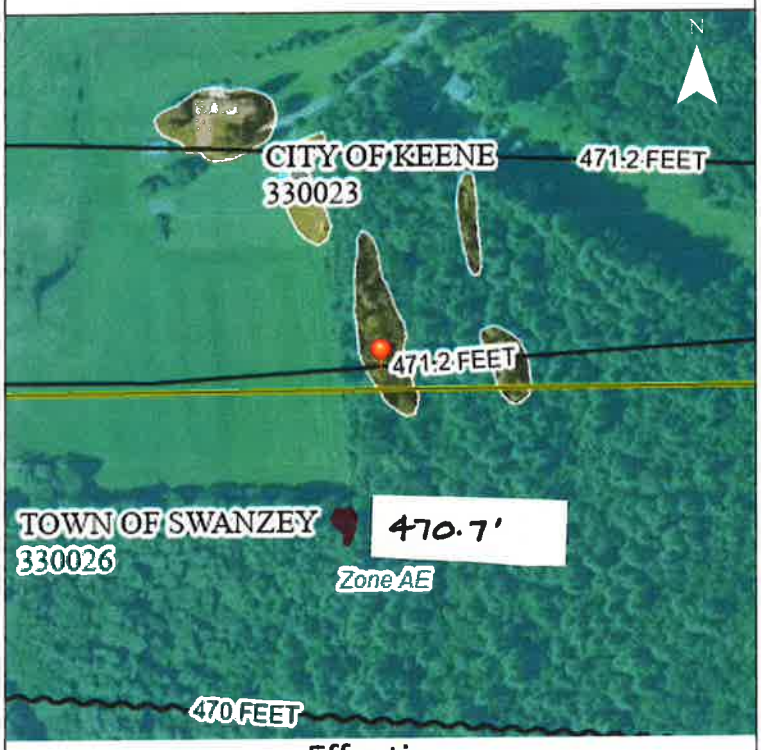
Wendy S. Pelletier, LLS 975

Comparison of Flood Hazard

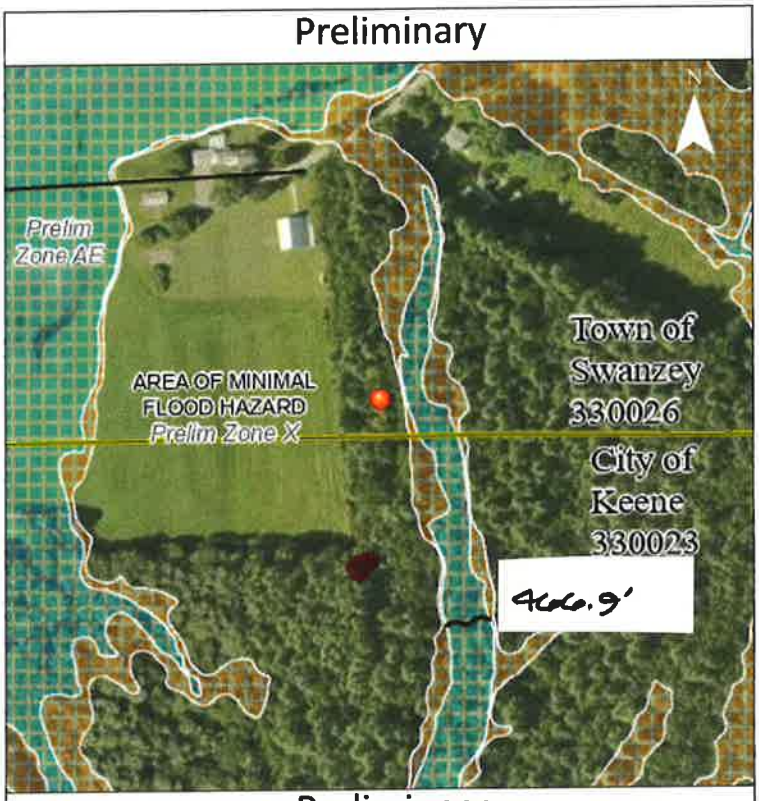
Effective & Preliminary Flood Hazards

FEMA

Effective



Preliminary



Effective	
POI Longitude/Latitude	42.9111, -72.2764
Effective FIRM Panel	33005C0267E
Effective Date	5/23/2006
Flood Zone	X
Static BFE*	Not Available
Flood Depth	Not Available
Vertical Datum	Not Available

Preliminary	
POI Longitude/Latitude	42.9111, -72.2764
Preliminary FIRM Panel	33005C0267F
Preliminary Issue Date	12/5/2024
Flood Zone	X
Estimated Static BFE*	Not Available
Estimated Flood Depth	Not Available
Vertical Datum	Not Available

* A **Base Flood Elevation** is the expected elevation of flood water during the 1% annual chance storm event. Structures below the estimated water surface elevation may experience flooding during a base flood event.

Hazard Level	Flood Hazard Zone
High Flood Hazard	**AE, A, AH, AO, VE and V Zones.** Properties in these flood zones have a 1% chance of flooding each year. This represents a 26% chance of flooding over the life of a 30-year mortgage.
Moderate Flood Hazard	**Shaded Zone X.** Properties in the moderate flood risk areas also have a chance of flooding from storm events that have a less than 1% chance of occuring each year. Moderate flood risk indicates an area that may be provided flood risk reduction due to a flood control system or an area that is prone to flooding during a 0.2% annual chance storm event. These areas may have been indicated as areas of shallow flooding by your community.
	Unshaded Zone X. Properties on higher ground and away from local flooding sources have a reduced flood risk when compared to the Moderate and High Flood Risk categories. Structures in these areas may be affected by larger storm events, in excess of the 0.2% annual chance storm event.
Low Flood Hazard	**Insurance Note:** High Risk Areas are called 'Special Flood Hazard Areas' and flood insurance is mandatory for federally backed mortgage holders. Properties in Moderate and Low Flood Risk areas may purchase flood insurance at a lower-cost rate, known as Preferred Risk Policies. See your local insurance agent or visit https://www.fema.gov/national-flood-insurance-program for more information.

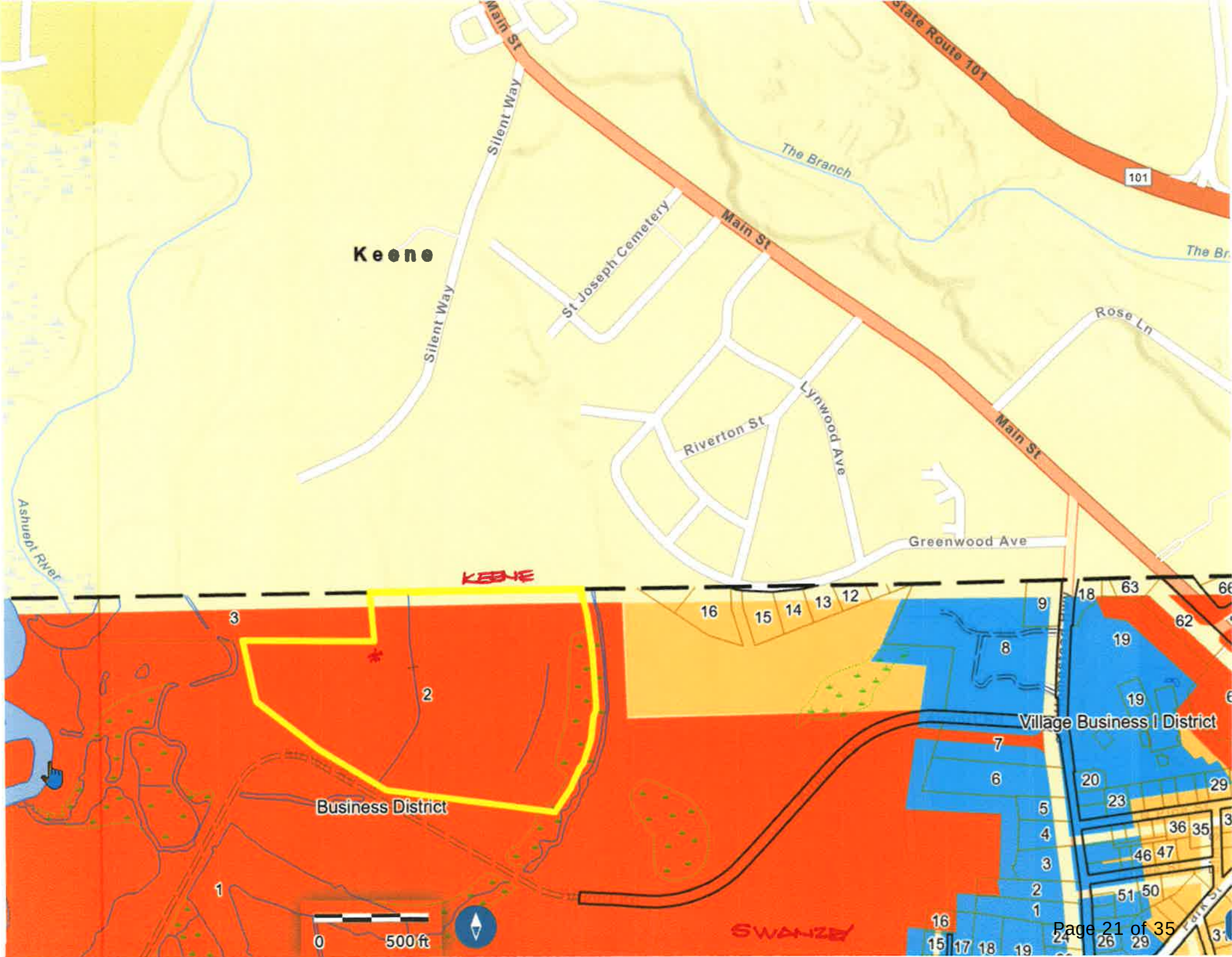
Disclaimer: *This report is for informational purposes only and is not authorized for official use. The positional accuracy may be compromised in some areas. Please contact your local floodplain administrator for more information or go to msc.fema.gov to view an official copy of the Flood Insurance Rate Maps.*

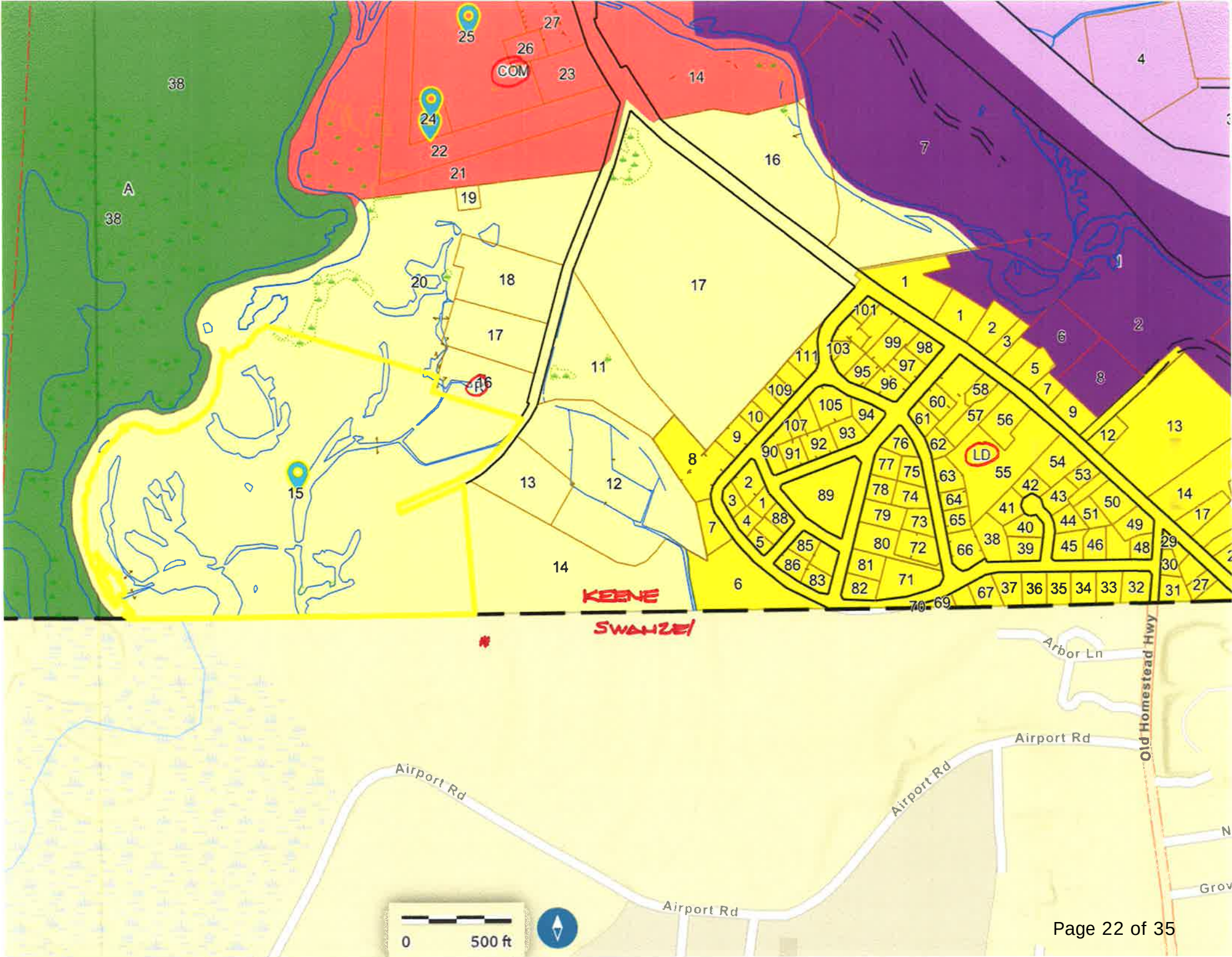
Service Layer Credits: USGS, USDA

9/16/2025 1:44 PM

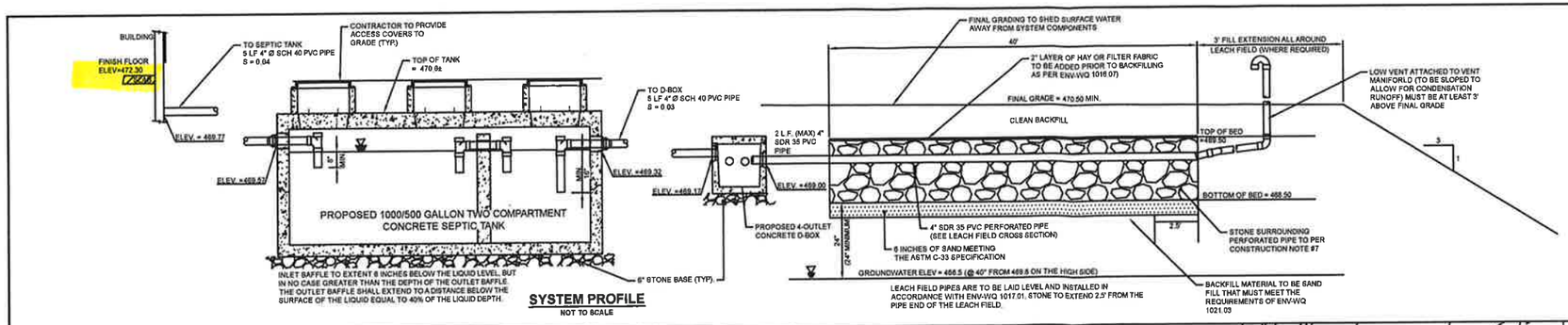


PROPOSED FIRM

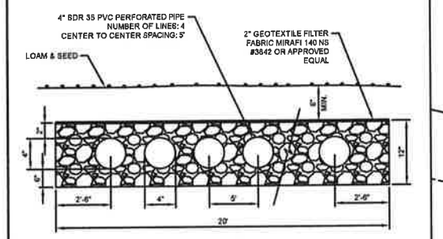

Keene
Main St
Silent Way
Silent Way
St Joseph Cemetery
The Branch
State Route 101
101
Main St
Main St
Rose Ln
Lynwood Ave
Riverton St
Greenwood Ave
Ashuelot River
KEENE
Business District
Village Business I District
SWANZEY
0
500 ft


COM
LD
KEENE
SWANZEY
Airport Rd
Airport Rd
Airport Rd
Airport Rd
Arbor Ln
Old Homestead Hwy
0
500 ft

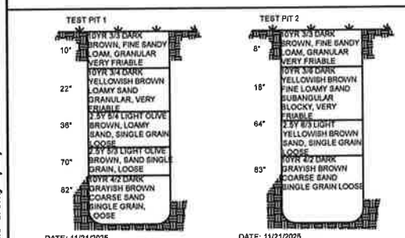
Parcel Number	Property Address	Owner Name	Co-Owner Name	Owner Address	Owner Address 2	Owner City	Owner State
APPLICANT		CARDINAL SURVEYING & LAND PLANNING	WENDY PELLETIER	PO BOX 160		SULLIVAN	NH 03445
119-006-000	59 GREENWOOD AVE.	SHEDD ANN	MEESS MARK	PO BOX 405		KEENE	NH 03431
119-007-000	51 GREENWOOD AVE.	MANNING-GRAY CHRISTINA A	MANNING-GRAY JOSEPH P	51 GREENWOOD AVE		KEENE	NH 03431
119-012-000	0 SILENT WAY	WALSH ELIZABETH		80 SILENT WAY		KEENE	NH 03431
119-013-000	135 SILENT WAY	WILSON AUDRA J		135 SILENT WAY		KEENE	NH 03431
119-014-000	0off SILENT WAY	WALSH JOSEPH		21 GLEN RD		KEENE	NH 03431
119-015-000	166 SILENT WAY	JOSLIN JOHN E. REV. TRUST	JOSLIN RUTH M. REV. TRUST	166 SILENT WAY		KEENE	NH 03431



SYSTEM PROFILE
NOT TO SCALE



LEACH FIELD CROSS SECTION
NOT TO SCALE



DATE: 11/21/2025
SEASONAL HIGH WATER TABLE DEPTH: 47"
OBSERVED WATER: 66"
OBSERVED LEDGE: >82"
PERFORMED BY: JCB
PERCOLATION RATE: 2 MPI

DATE: 11/21/2025
SEASONAL HIGH WATER TABLE DEPTH: 40"
OBSERVED WATER: 74"
OBSERVED LEDGE: >83"
PERFORMED BY: JCB
PERCOLATION RATE: 2 MPI

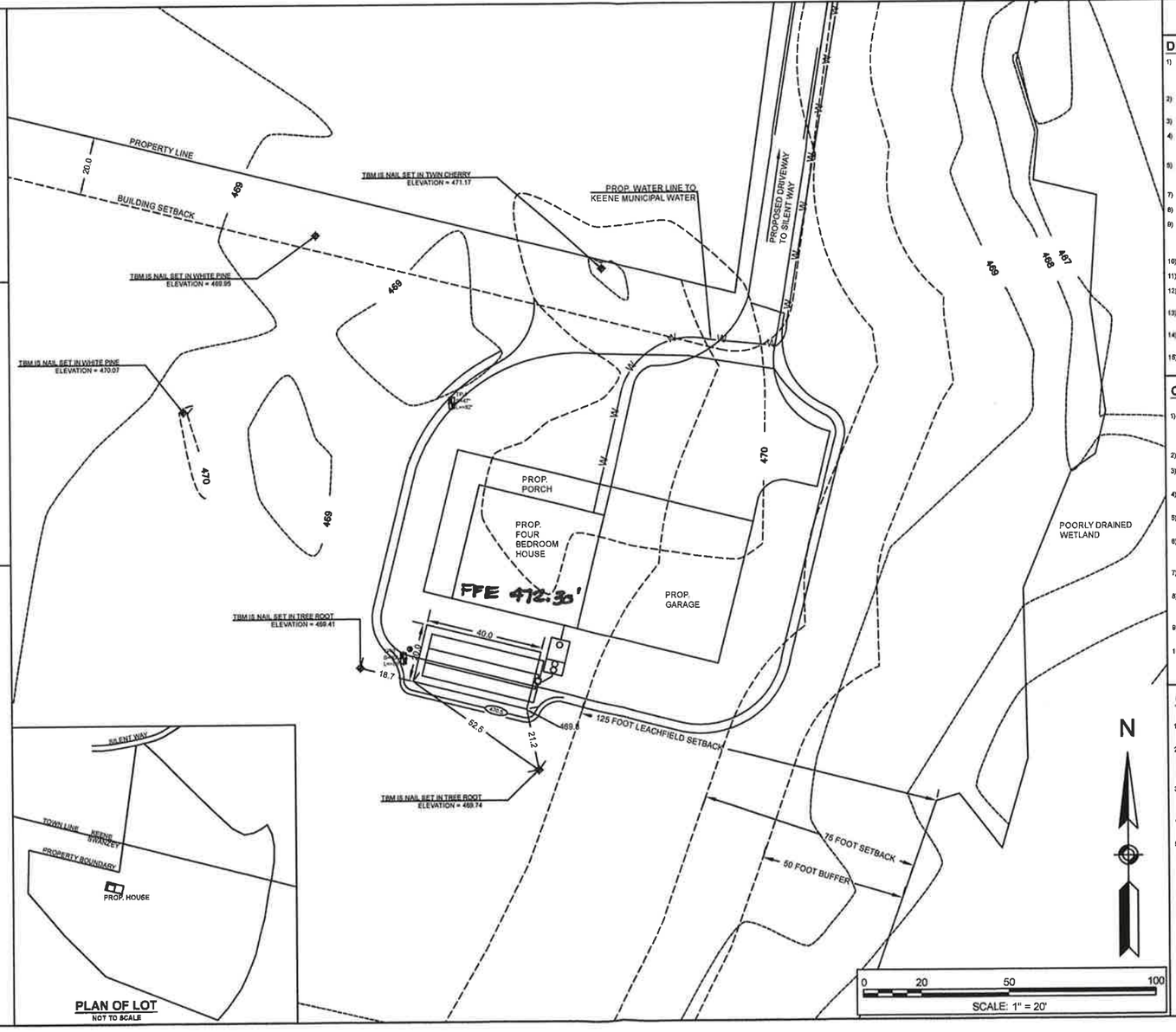
TEST PIT LOGS
NOT TO SCALE

LEGEND

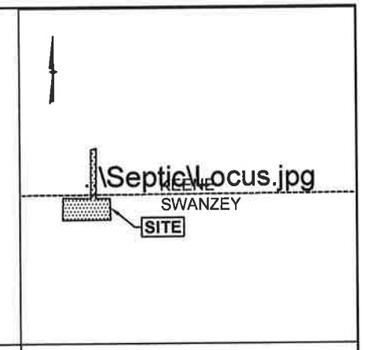
- UTILITY POLE/GUY WIRE
- WATER GATE/SHUT-OFF
- CATCH BASIN
- DRAIN MANHOLE
- SEWER MANHOLE
- HYDRANT
- TRANSFORMER
- CHAIN LINK FENCE
- GAS GATE
- 100 CONTOURS
- X 100.00 SPOT GRADE
- LIGHT POLE
- TREES, BUSHES
- WELL
- TEST PIT
- PERCOLATION TEST
- OHW OVERHEAD ELECTRIC
- SEWER LINE
- W WATER LINE

F:\IMG\IMAGES\DIGSAFE 811.jpg

NHDES APPROVAL STAMP



PLAN OF LOT
NOT TO SCALE



LOCATION MAP
(NOT TO SCALE)

DESIGN NOTES:

1) DESIGN INTENT:
THE BED BOTTOM SHALL BE CONSTRUCTED AT ELEVATION 468.5 AND THIS ELEVATION SHALL BE 1.3 FEET BELOW EXISTING GRADE ON THE HIGH SIDE OF THE PROPOSED BED. CHOOSE ONE THAT APPLIES
2) SEWAGE LOADING:
4 BEDROOMS X 150 GPD/BEDROOM = 600 GPD
3) DESIGN PERCOLATION RATE: 2 MINUTES PER INCH (MPI)
4) LEACHING AREA (ENV-WQ 1018.02 TABLE 1018-1):
REQUIRED SIZE OF LEACHING FIELD: 4 BEDROOMS @ 2 MPI = 750 SF
PROVIDED: 20' X 40' LEACHING BED = 800 SF
5) SEPTIC TANK:
REQUIRED: 1,200 GALLONS FOR UP TO 4 BEDROOMS
PROVIDED: 1,500 GALLON TANK
7) DISTRIBUTION BOX: 4-OUTLET D-BOX
8) WATER SUPPLY: MUNICIPAL WATER
9) LEACH FIELD PROXIMITY TO ABUTTING FEATURES: - VERIFY AND UPDATE
NEAREST SURFACE WATER: >125'
NEAREST WETLAND: >125'
NEAREST SLAB: >5'
10) FOUNDATION DRAINS: N/A
11) NRCS SOIL CLASSIFICATION: 401 - OCCUM FINE SANDY LOAM
12) IN ACCORDANCE WITH ENV-WQ 1003.13(B), THERE ARE NO KNOWN CEMETERIES WITHIN 100' OF ANY COMPONENT OF THE PROPOSED SEPTIC SYSTEM. VERIFY
13) IN ACCORDANCE WITH ENV-WQ 1014.06, WETLANDS WERE DELINEATED BY THE DESIGNER IN SEPTEMBER OF 2025. VERIFY
14) PARCEL IS PARTIALLY LOCATED WITHIN A SPECIAL FLOOD HAZARD AREA ELEVATION = 470.7'.
15) CONTOURS WERE GENERATED BY AN ON THE GROUND SURVEY BY THIS OFFICE UTILIZING A DIGITAL TOTAL STATION ON DECEMBER 16, 2025.

CONSTRUCTION NOTES:

1) THIS PLAN IS FOR THE DESIGN AND CONSTRUCTION OF THE SEPTIC SYSTEM, BUILDING AND APPURTENANCES. IT IS NOT TO BE USED FOR THE DETERMINATION OF BOUNDARIES, THE ERECTION OF FENCES, POOLS, OUTBUILDINGS, OR ANY OTHER USE FOR WHICH IT IS NOT INTENDED.
2) INSTALLER SHALL CONTACT DIG SAFE PRIOR TO CONSTRUCTION.
3) FUTURE REPLACEMENT SYSTEM LOCATION TO BE THE SAME AS THE PROPOSED DESIGN LOCATION UNLESS OTHERWISE INDICATED ON THE PLAN.
4) DO NOT INSTALL SYSTEM ON FROZEN GROUND OR LEAVE SYSTEM UNCOVERED FOR EXTENDED PERIODS OF TIME.
5) ALL CONCRETE PRODUCTS TO BE MANUFACTURED BY WILLIAM H. LAMARRE CONCRETE PRODUCTS, INC. OR APPROVED EQUAL.
6) CONCRETE STRUCTURES TO BE WATER TIGHT. ALL PIPE CONNECTIONS SHALL BE SEALED WITH A WATERTIGHT, FLEXIBLE JOINT CONNECTOR THAT WILL ACCOMMODATE NORMAL MOVEMENT OF ALL CONCRETE STRUCTURES.
7) THE STONE AROUND THE PERFORATED PIPE SHALL MEET THE REQUIREMENTS OF ENV-WQ 1016.04.
8) CONTRACTOR TO NOTIFY DESIGNER OF ANY CHANGES PRIOR TO CALLING FOR AN INSPECTION. CHANGES MAY REQUIRE AN AS-BUILT OR RESUBMISSION TO NHDES.
9) SYSTEM TO BE INSPECTED AND APPROVED BY THE NHDES PRIOR TO BACKFILLING.
10) TREES AND SHRUBBERY ON THE PROPERTY SHALL NOT BE LOCATED WITHIN 10 FEET OF ALL SEPTIC SYSTEM COMPONENTS AND WITHIN THE FILL EXTENSIONS AND SIDE SLOPES OF A RAISED EDA.

OPERATING NOTES:

1) NO DRAINS, HOT TUBS, SAUNAS, GARBAGE DISPOSALS, WATER PURIFICATION BACKWASH, ETC. SHALL BE INCORPORATED INTO THIS SYSTEM.
2) THE SEPTIC TANK SHALL BE INSPECTED FOR ACCUMULATION OF SLUDGE AND SCUM AT LEAST ONCE EVERY YEAR. WHEN THE COMBINED THICKNESS OF THE SLUDGE AND SURFACE SCUM EQUAL 1/3 OR MORE OF THE TANK DEPTH, THE TANK SHALL BE PUMPED BY A LICENSED SEPTIC TANK PUMPER.
3) TO PREVENT OBSTRUCTION OF THE DISTRIBUTION LINES AND LEACH FIELD, GREASE AND BULKY WASTES SHALL NOT BE FLUSHED OR INTRODUCED INTO THE SEPTIC SYSTEM.
4) TOXIC AND HAZARDOUS MATERIALS SHALL NOT BE INTRODUCED INTO THE SEPTIC SYSTEM.
5) DO NOT ALLOW VEHICULAR TRAFFIC OVER ANY COMPONENT OF THE SYSTEM UNLESS THAT STRUCTURE IS DESIGNED TO WITH-STAND AN H-20 WHEEL LOAD.

GPI Engineering Design Planning Construction Inspection
603.952.0720 GPINET.COM
Greenman-Pedersen, Inc.
44 Stiles Road
Salem, NH 03079

PREPARED FOR
JOSEPH WALSH
21 GLEN ROAD
KEENE, NH 03431

SILENT WAY (KEENE)
SWANZEY, NEW HAMPSHIRE
MAP 205, LOT 2
SUBDIVISION APPROVAL: >5 ACRES

REVISIONS

NO.	REVISION	DATE
1	WETLAND SETBACKS	4/13/26

APRIL 3, 2026

DRAWN/DESIGN BY	CHECKED BY
JCB	DAJ

SEWAGE DISPOSAL SYSTEM PLAN

SCALE: 1"=20'
PROJECT NO. NEX-2500288
1 OF 1

G:\Shared drives\CARDINAL PROJECTS\677A WALSH\GPI – Jason\WALSH TOPO with updated plan\TBMs.dwg Pipe & Stone Gravity 6/26/26 10:24am WS1

MAP 119–015–000
RUTH M. JOSLIN REV. TRUST
166 SILENT WAY
KEENE, NH 03431

SILENT WAY
50'
UP

EX BARN
EX SHED

PRO. GRAVEL
10' DRIVEWAY
EXT. 10' WOODS RD
EDGE OF DELINEATED
WETLANDS
SILT FENCE
8'X15' TURNOUT
300' INTERVALS
75' BUFFER
30' MIN. BUFFER

MAP 119–015–000
RUTH M. JOSLIN REV. TRUST
166 SILENT WAY
KEENE, NH 03431

MAP 119–013–000
AUDRA WILSON
135 SILENT WAY
KEENE, NH 03431

MAP 119–014–000
8.1 ACRES

KEENE
SWANZEY

PROPOSED
HOUSE SITE

MAP 205 LOT 2
25 ACRES

AIRPORT ROAD

WETLANDS CERTIFICATION

WETLANDS AS SHOWN WERE DELINEATED IN ACCORDANCE WITH THE ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (TECHNICAL REPORT Y–87–1) ALONG WITH THE NORTHEAST REGIONAL SUPPLEMENT BY JASON C. BOLDUC, C.W.S. #320, IN SEPTEMBER OF 2025.

SITE PLAN

KEENE MAP 119-041-000
SWANZEY MAP 205 LOT 002
SILENT WAY
KEENE, NH 03431

PREPARED FOR
JOSEPH WALSH

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100 ft.

N W E S

SCALE: 1"= 100'

CARDINAL SURVEYING & LAND PLANNING
PO Box 160
Sullivan, New Hampshire 03445
Tel. (603) 209-1989

DATE: DEC 17. 2025

SHT 1/1

KEENE



THIS MAP IS FOR ASSESSMENT PURPOSES. IT IS NOT VALID FOR LEGAL DESCRIPTION OR CONVEYANCE.	
THE HORIZONTAL DATUM IS THE NEW HAMPSHIRE STATE PLANE COORDINATE SYSTEM, NAD 83	
PHOTOGRAPHY DATE	APRIL 2021
COMPLETION DATE	DECEMBER 31, 2023

PRODUCED IN 2023 BY:
CAI Technologies
11 Pleasant Street, Laconia, NH 03561
800.327.4543 • www.CAI-tech.com

LEGEND
AREA SURVEYED ..... AS
APPROXIMATE ..... AcC
RECORD DIMENSION ..... 100'
SCALED DIMENSION ..... 100'
MATCHLINE
WATER ..... W
BUILDING
EXEMPT PROPERTY ..... E
SUBDIVISION LOT NO. 0
RIGHT OF WAY ACCESS ..... 20'
COMMON OWNERSHIP
WETLANDS

SCALE: 1" = 200'
FEET 200 100 0 200 400 600
METERS 50 25 0 50 100 150

REVISED TO: APRIL 1, 2023

PROPERTY MAPS
SWANZEY
NEW HAMPSHIRE

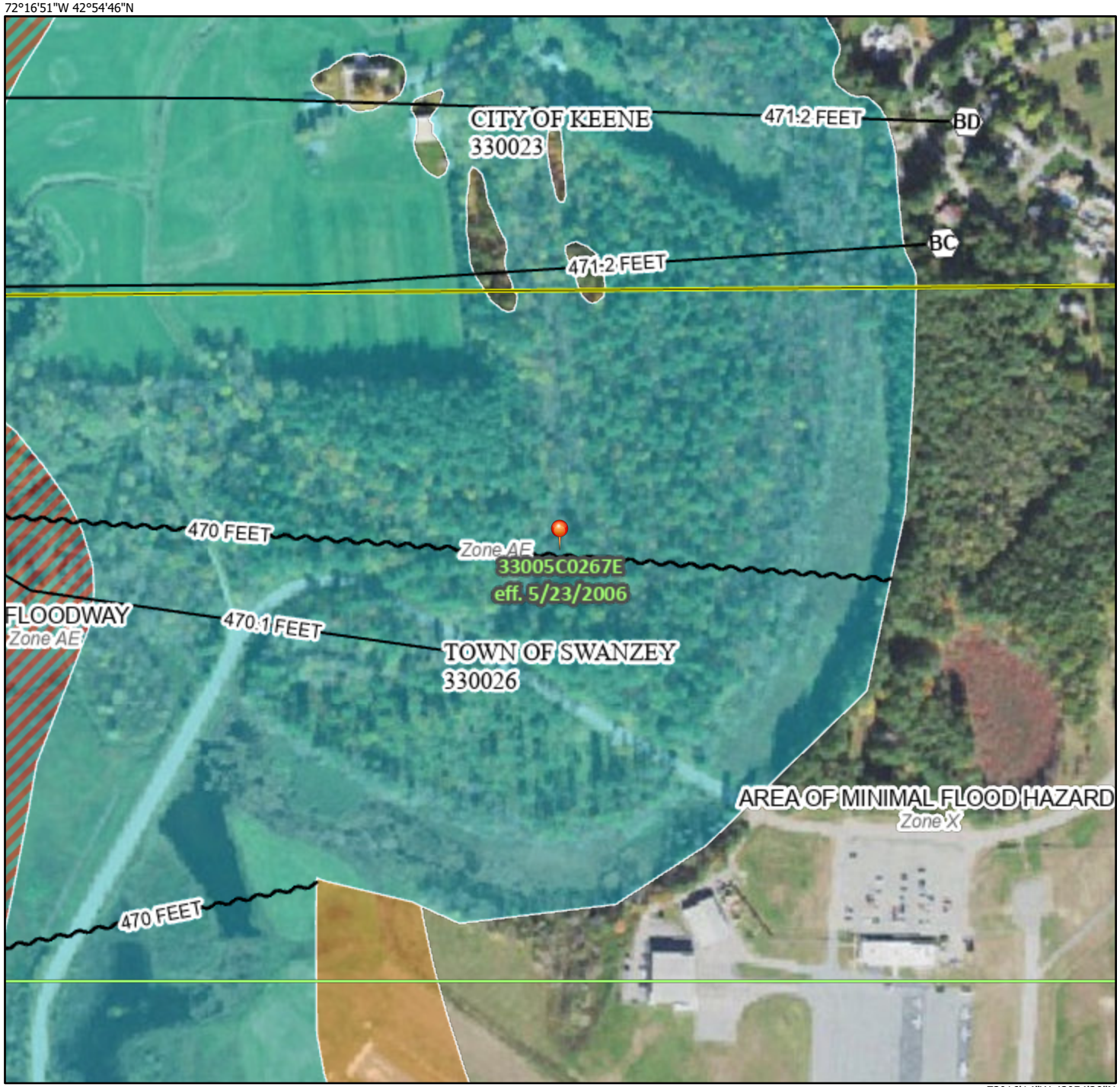
INDEX DIAGRAM

MAP NO.
205

National Flood Hazard Layer FIRMette

FEMA

72°16'51"W 42°54'46"N



72°16'14"W 42°54'20"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/14/2026 at 1:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

RULES OF PROCEDURE
SWANZEY ZONING BOARD OF ADJUSTMENT

These rules of procedure are adopted under the authority of New Hampshire Revised Statutes Annotated, 1983, Chapter 676:1, and the zoning ordinance and map of the Town of Swanzey.

OFFICERS

1. The Chair shall be a regular member elected annually by a majority vote of the Board (including alternate members) in the month of March. The Chair shall preside over all meetings and hearings, appoint such committees as directed by the Board and shall affix their signature in the name of the Board.

2. The Vice-Chair shall be a regular member elected annually by a majority vote of the Board (including alternate members) in the month of March. The Vice-Chair shall preside in absence of the Chair and shall have the full powers of the Chair on matters which come before the Board during the absence of the Chair.

3. All officers shall serve for one year and shall be eligible for re-election.

ALTERNATE MEMBERS

1. Up to five alternate members shall be appointed by the elected Zoning Board of Adjustment, to serve whenever a regular member of the board is unable to fulfill their responsibilities. Alternate members shall serve a term of three years in accordance with RSA 673:6. When alternate member vacancies are posted, registered Swanzey voters seeking to be appointed as an alternate member shall submit their letter of interest to the Town Planner or designee. The voting on the appointment of alternate members shall occur at a date and time included in the posted notice of vacancy.

2. Alternate members should attend all meetings to familiarize themselves with the workings of the board to stand ready to serve whenever a regular member of the board is unable to fulfill their responsibilities.

3. At meetings of the ZBA, alternates who are not activated to fill the seat of an absent or recused member or who have not been appointed by the chair to temporarily fill the unexpired term of a vacancy may participate with the board in a limited capacity. During a public hearing, alternates may sit at the table with the regular members and may view documents, listen to testimony, ask questions and interact with other board members, the applicants, abutters and the public.

4. ~~During deliberations, alternate members may participate in the discussions. Alternates shall not be allowed to make motions, second motions, or vote unless seated in the place of a regular member.~~ Alternate members may participate in discussions until the public hearing is closed. Once closed, alternates shall not make motions, second motions, or vote, unless formally seated for a regular member.

5. During work sessions or portions of meetings that do not include a public hearing, alternates may fully participate and participate in making motions and voting.

6. At all times, the chair shall fully inform the public on the status of any alternate present and identify the members who shall be voting on the application.

~~CLERK~~ (RECORDING SECRETARY)

The Clerk, who shall not be a Board member, shall maintain a record of all meetings, transactions and decisions of the Board, and perform such other duties as the Board may direct. The Clerk is appointed by the Board of Selectmen.

MEETINGS

1. Regular Board of Adjustment meetings are held on the third Monday of every month at ~~the Town Hall in Swanzey Center at~~ 7:00 p.m at Whitcomb Hall (17 Main Street, Swanzey, NH 03446), except in January and February, when the meeting will be held on the ~~second~~ fourth Monday. ~~Public Notice must be provided as required by RSA Chapter 91-A. If an emergency situation arises wherein action is required prior to the next scheduled meeting, the necessity for calling a special meeting will be determined by the Chair or in their absence, the Vice-Chair.~~ Public notice must be provided in accordance with RSA 91-A. If action is required before the next scheduled meeting, the Chair (or Vice-Chair in their absence) shall determine the necessity of a special meeting.

2. A quorum for all meetings of the Board shall be three members, including alternates sitting in the place of members. ~~As stated in RSA 673:11~~ RSA 674:33,III states that ~~provides that~~ "~~The concurring vote of 3 members of the Board shall be necessary to reverse any action of the administrative official or to decide in favor of the applicant on any matter on which it is required to pass.~~" "the concurring vote of any 3 members of the board shall be necessary to take any action on any matter on which it is required to pass." For this reason, the Board will make every effort to ensure that a full five-member Board is present for the consideration of any appeal. *Questions: virtual participation? Can virtual attendees vote?*

a. In the event it is not feasible to constitute a 5-member Board, the Chair shall, prior to the commencement of any proceeding, allow the applicant the opportunity to elect to either proceed with the Board then sitting, or postpone the hearing until the next meeting of the Board at which 5 members are present. Should the applicant choose to proceed with less than five members present, that shall not solely constitute grounds for a rehearing should the application fail.

b. If any regular Board member is absent from any meeting or hearing, or disqualifies themself from sitting on a particular case, the Chair shall designate one of the alternate members to sit in the place of the absent or disqualified member, and such alternate shall be in all respects a full member of the Board while so sitting. Alternates appointed in absence of a regular member, and participating in a public hearing on an appeal, shall retain the seat of the regular member when Board discussions and decisions pertaining to that appeal take place. *Points for discussion: clarify that if the meeting was continued, the same members should be seated if possible. RSA Citation? Also should be distinction between quick discussion and long hearing.*

c. If the Chair or Vice-Chair are both unable to serve due to absence or disqualification, the remaining Board members shall elect an alternate Chair to serve until the Chair or Vice-Chair can resume the duties of the Chair.

3. If any member finds it necessary to disqualify themself from sitting in a particular case, as provided in RSA 673:14, they shall notify the Chair as soon as possible so that an alternate may be requested to sit in their place. When there is uncertainty as to whether a member should be disqualified to act on a particular application, that member or another member of the Board may request the Board to vote on the question of disqualification. Any such request shall be made before the public hearing gets underway. The vote shall be advisory and non-binding.

    a. The disqualification shall be announced by either the Chair or the member disqualifying themself before the beginning of the public hearing on the case. The disqualified member shall absent themself from the Board table during the public hearing and during all deliberation on the case. The recused member retains the right to speak as a member of the public during the public hearing

4. Ex Parte Communications:

    a. Board members shall avoid ex parte communications with the applicant or any person interested in the application. In the event that ex parte contact occurs, Board

members shall disclose the nature and date of the communication at the beginning of the public hearing.

b. Board members are not authorized to independently enter private property, conduct un-planned site visits, or engage in similar activities. Entry is permitted only with formal Board approval or in strict adherence to affidavits signed during the application process.

c. Board members shall not seek input *(change to testimony or something similar regarding other personal sources)* or advice from any source regarding the application outside of the public hearing process.

d. Applicants and interested parties should direct questions regarding the process to the Town Planner or designee. If an applicant or interested party contacts a Board member, the member should refer that person to the Town Planner or designee, or advise the person to submit information to the Board in writing.

5. The order of business for regular meetings shall be as follows:
   a. Roll call by the ~~clerk~~ recording secretary.
   b. Minutes of previous meeting.
   c. Public hearings.
   d. Regional impact vote.
   e. Seating of Alternates (before each public hearing).
   f. Unfinished business.
   g. New business.
   h. Communications and miscellaneous.
   i. Adjournment.

6. It shall be the policy of the Zoning Board of Adjustment not to commence new public hearings after 9:00 p.m. This policy may be temporarily suspended upon the majority vote of the Board members present (including alternates).

   a. Meetings will adjourn at 10:00 p.m. This policy may be temporarily suspended upon the majority vote of the Board members present (including alternates).

APPLICATIONS & DECISIONS

1. Applications

a. Each application for a hearing before the Board shall be made on forms provided by the Board and shall be presented to the Town Planner or designee who shall record the date of receipt.

b. Appeals from an administrative decision taken under RSA 676:5 shall be filed within thirty (30) days of the decision. The date the decision was rendered shall not be counted in the 30-day period. If the 30th day falls on a Saturday, Sunday or Town holiday, the appeal shall be filed no later than the last regular business day preceding the Saturday, Sunday or Town holiday.

c. No application to the Zoning Board of Adjustment will be processed unless it is received by the Town Planner or designee at least 14 days before the date of the meeting.

d. If the application refers to any case law, statute, or administrative rule, copies of the same must be affixed to the application at the time of submission.

2. Public Notice

a. Public Notice of public hearings on each application shall be given in the Keene Sentinel and shall be posted at the West Swanzey and Swanzey Post Offices, the Town Office and the Town's website not less than five (5) days before the date fixed for the hearing. Notice shall include the name of the applicant, description of property to include tax map identification, action desired by the applicant, provisions of the zoning ordinance concerned, the type of appeal being made and the date, time and place of the hearing. *Discuss at next meeting.*

b. ~~Personal~~ The public hearing notice shall be made by certified mail to the applicant and all abutters not less than five (5) days before the date of the hearing, not including the date of posting or the date of the hearing.

c. ~~Fees for certified notices and publication in the Keene Sentinel must be~~ All associated application fees must be paid by the applicant prior to the public hearing. The Board will not hear the application if fees have not been paid prior to the public hearing. ~~Failure to pay such costs shall constitute valid grounds for the Board to terminate further consideration and to deny appeal without hearing.~~ All application fees must be paid or the board will not hear the application.

3. Public Hearing. The conduct of public hearings shall be governed by the following rules:

a. The Chair shall call the hearing in session and ask for the Town Planner or designee's report on the first case.

b. The Town Planner or designee shall read the notice of application and report on how public notice and personal notice were given. The Town Planner or designee will disclose the location and description of the subject property by use of tax maps, slides or photographs.

c. Members of the Board may ask questions at any point in the testimony.

d. Each person who appears shall be required to state their name and address and indicate whether they are a party to the case or an agent or counsel of any party of the case.

e. The Chair shall control the conduct of the hearing and may impose reasonable limitations upon the number of times and the length of time any person may speak so long as everyone with a legitimate interest is given a reasonable opportunity to state their views and present evidence.

f. Anyone who wants to ask a question regarding the case must do so through the Chair.

g. The applicant shall be called to present their appeal and those appearing in favor of it will be allowed to speak.

h. Those in opposition to the appeal shall be allowed to speak.

i. Those in favor of the appeal shall be allowed to speak in rebuttal.

j. Those in opposition to the appeal shall be allowed to speak in rebuttal.

k. Upon filing any application, the owner of the affected land implicitly consents to a site visit conducted by the Board (should the Board determine that a site visit is necessary). The site visit shall be conducted as part of the public hearing and shall be open to all interested parties. Date and time of any site visit will be announced during the public hearing. Additional written notice of any site visit to the applicant, abutters and the public shall not be required.

l. The Board of Adjustment will hear with interest any evidence that pertains to the facts of the case or how the facts relate to the provisions of the town zoning ordinance and state zoning law.

m. After all interested parties have been given a reasonable opportunity to present their evidence, the Chair shall present a summary setting forth the facts of the case and the claims made for each side. Opportunity shall be given for correction from the floor.

n. The Chair shall declare the public hearing closed. After the close of the public hearing, the Board shall discuss and act upon the application. The public shall not be permitted to participate in the Board's deliberations, but the Chair may direct questions to members of the public and receive answers during the Board's deliberations. Except as provided in the right-to-know law (RSA 91-A), the deliberations of the Board shall be held in open meeting where the public can hear.

4. Decision. The Board shall strive to decide all cases within thirty five (35) days after the close of the public hearing. The Board shall issue a final written decision which either approves or disapproves the application. Whenever the Board votes to approve or disapprove an application or denies a motion for rehearing, the minutes of the meeting at which such vote is taken, including the written decision containing the reasons therefore, shall be placed on file in the Land Use Office and shall be made available for public inspection in accordance with RSA 676:3.

REQUEST FOR REHEARING

1. If possible, the Chair will seat those members who were seated during the underlying hearing. Any member, whether they were present or not present during the underlying hearing, can be seated upon recitation that they have reviewed the underlying application, minutes, the Request for Rehearing and any other materials relevant to the application.

2. The Chair shall inform the Board members, the applicant and the audience that while this is a public meeting, it is not a public hearing. Comments from the applicant, their agent and the public will not be permitted.

3. The Chair shall ask if any Board members have any questions or need clarification on any points raised in the Request for Rehearing. The Board will not review the Request for Rehearing point by point, unless so desired by the Board.

4. Should Board members have specific questions, they may address them to the appropriate party through the Chair.

5. If the Request for Rehearing is granted, it shall be the responsibility of the party who requested the rehearing to pay the applicable fees for certified notices and publication in the Keene Sentinel. The fees must be paid by the party who requested the rehearing prior to the

public hearing. The Board will not hear the application if fees have not been paid prior to the public hearing. Failure to pay such costs shall constitute valid grounds for the Board to terminate further consideration and to deny appeal without hearing.

MISCELLANEOUS

1. ~~Records.~~ The records of the Board shall be kept by the Land Use Office and made available for public inspection at the Swanzey Town Office in accordance with statutory requirements.

2. ~~Joint Meetings and Hearings.~~ Joint meetings with other town boards shall be held under the provisions of 676:2.

3. Amendments to these rules of procedure may be amended by a majority vote of the Board members present (including alternates) provided that such amendment is discussed at a meeting of the Zoning Board of Adjustment, and following said discussion the text of the proposed amendment is posted in at least three public places in Town at least ten (10) days preceding the meeting when the vote is to be taken.

We hereby attest that this is a true copy of the Rules of Procedure as amended and adopted by the Swanzey Board of Adjustment on DATE.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

KEENE
DILLANT-HOPKINS
AIRPORT

July 14, 2026

Town of Swanzey Zoning Board of Adjustment
620 Old Homestead Highway
Swanzey, NH 03446

Re: ZBA 26-005 and ZBA 26-006 — Tax Map 205, Lot 2

Dear Chair and Members of the Zoning Board of Adjustment:

I am writing in my capacity as Airport Director for the City of Keene regarding the variance and special-exception applications for the proposed single-family residence on Tax Map 205, Lot 2.

The City recognizes Swanzey's authority over its land-use decisions. These comments are limited to airport operations, land-use compatibility, and the City's ability to operate and develop Keene Dillant-Hopkins Airport. As sponsor of a federally obligated airport, the City is subject to FAA Grant Assurance 21, Compatible Land Use, which requires reasonable action to encourage compatible uses near the Airport.

According to the application materials, the property is split between Keene and Swanzey, abuts City-owned airport property, and lies within Swanzey's Business District and Airport Zone. The residence would be built in Swanzey with access from Silent Way in Keene.

A residence is a permanent, noise-sensitive use. Normal airport activity includes aircraft overflights, engine starts, taxiing, lighting, maintenance, snow removal, construction, and vehicle traffic, all of which may change over time. The City's 2022 Keene Dillant-Hopkins Airport (EEN) Land Development Study identifies the adjacent 21.28-acre Airport Parcel 15 near the Runway 14 approach end for long-range aeronautical development, including hangars, aprons, taxiway access, and Airport Road access. The study also recommends showcasing Parcel 15 to developers.; (The City is not representing that construction is funded or imminent.)

The applicant's statement that the residence would be more than 500 feet from the "airport right-of-way" is not individually compatible with current operations or Parcel 15's documented development potential.

As the Board evaluates the applicable variance and special-exception criteria, I respectfully request that it consider the following airport-related matters:

- **Current and future compatibility:** Whether the residence is consistent with Swanzey's Airport Zone and compatible with normal airport operations and the documented long-range development of Parcel 15. The City requests that the relevant portions of the EEN Land Development Study be included in the record.
- **FAA airspace review:** The applicant should provide surveyed coordinates, ground elevation, maximum roof elevation, and the maximum height of temporary construction equipment. The Board should require completion of the FAA OE/AAA Notice Criteria Tool and, if notice is required under 14 CFR Part 77, submission of the FAA determination before construction.

KEENE
DILLANT-HOPKINS
AIRPORT

- **Noise and overflight notice:** Whether the applicant and future owners will receive a recorded disclosure that the property is adjacent to an active public-use airport and may be affected by aircraft noise, overflight, ground activity, and future airport growth.
- **Drainage and wildlife attractants:** Whether fill, grading, culverts, septic improvements, stormwater facilities, or drainage changes could affect airport-owned property, airport drainage, future development of Parcel 15, or create permanent standing water or other hazardous wildlife attractants. As airport sponsor, the City must take reasonable measures to manage wildlife hazards and discourage new attractants near the Airport.

If the Board determines that the approval criteria are met, the City requests consideration, in consultation with counsel, of conditions addressing airport compatibility, including a recorded airport-proximity, noise, and overflight disclosure binding on current and future owners and an avigation or no-obstruction easement. Any conditions should acknowledge that airport operations may continue, expand, or change over time.

The Airport is not asserting that the residence is an immediate obstruction or operational hazard. However, the current record does not fully address airspace and compatibility, and approval without appropriate review and safeguards may create foreseeable conflicts with current operations and long-range airport development. The City asks that these matters be included in the record. Airport staff will be available at the hearing to answer questions.

Thank you for your consideration.

Sincerely,

Ryan T. Cooley

Ryan Cooley
Airport Director
Keene Dillant-Hopkins Airport
City of Keene, New Hampshire

LAND DEVELOPMENT STUDY

INTRODUCTION

The Keene Dillant-Hopkins Airport (EEN or the Airport) is classified by the Federal Aviation Administration (FAA) as a "Regional" general aviation (GA) airport. It is a vital transportation hub and economic link for western New Hampshire and the Monadnock Region. Since the Airport was dedicated in 1943, it has grown with the strong leadership of the City of Keene, which has guided development and operations into a robust transportation facility.

Prospective tenants and aircraft owners regularly approach the Airport to base their aircraft at EEN, and the Airport wants to prepare for and protect for future development with this siting study (Study) of available areas. This Technical Memorandum includes the following sections:

1. Airfield Facilities
2. Airport Site Constraints and Considerations
3. Existing Utilities
4. Developable Parcels and Constraints
5. Recommended Best Use for Each Parcel
6. Conceptual Hangar Layouts
7. Cost-Benefit Analysis and Comparison of a 10-Unit T-hangar
8. Recommendations

Information for this Study was gathered from applicable sources, including FAA Advisory Circular (AC) 150/530-13B, *Airport Design*, applicable portions of Title 14, Code of Federal Regulations (CFR) Part 77, *Safe, Efficient Use and Preservation of the Navigable Airspace* (Part 77), among others.

1. AIRFIELD FACILITIES

1.1. Critical Design Aircraft

Airports are typically designed around the critical design aircraft, which is a specific aircraft or group of multiple aircraft with similar attributes such as wingspan or approach speed. The FAA classifies these aircraft based on their operational and physical characteristics, otherwise known as the Aircraft Approach Category (AAC), denoted by the letter A through E, and the Airplane Design Group (ADG), denoted by a Roman numeral I through VI. These factors, along with approach minimums, are together known as the Runway Design Code (RDC). The RDC drives the design for protected zones around the runway, such as the runway safety area (RSA) and runway object free area (ROFA). Taxiway protected areas, such as the taxiway safety area (TSA), and taxiway object free area (TOFA), are based on the ADG and Taxiway Design Groups (TDGs), which range from 1 to 6. EEN has an existing and proposed RDC of B-III-5000, based on the presence of a Bombardier Global 5000 based at the Airport.

1.2. Runways

The Airport has two intersecting runways. Runway 2-20 measures 6,201 feet in length and 100 feet in width and is constructed of asphalt. Runway 2 is the only runway with instrument approaches. It has an instrument landing system (ILS) and as such has precision instrument markings, whereas Runway 20 has basic runway markings. Each runway end has a four-box precision approach path indicator (PAPI) on the left-hand side of the runway from the approaching pilot's perspective.

Runway 14-32 measures 4,001 feet in length and 75 feet wide and is also constructed of asphalt. Both runway ends are marked with basic runway markings as neither runway end has an instrument approach. Runway 32 has a displaced threshold of 1,100 feet.

1.3. Taxiways

Taxiway A is a parallel taxiway for Runway 2-20. South of Runway 14-32, the centerline of Taxiway A is 510 feet from the centerline of Runway 2-20. North of Runway 14-32, Taxiway A is 400 feet from the Runway 2-20 centerline. Taxiways A2 and C are entrance/exit taxiways off of Taxiway A south of Runway 14-32 that provide access to Runway 2-20. Taxiway R connects the Terminal Apron to the approach end of Runway 20, and Taxiway S is an entrance/exit taxiway providing access to Runway 14-32. Finally, Taxilanes T and L provide access to various hangars.

The current ALP proposes a partial parallel Taxiway B along the northeast edge of Runway 14-32 from the Based Aircraft Apron, to the approach end of Runway 14, and Taxiway B1 adjacent to the approach end of Runway 32. The proposed 35-foot-wide taxiway B, with a TDG 2 designation, would have a TOFA width of 171 feet, or 85.5 feet from the taxiway centerline. The ROFAs and TOFAs, as well as environmental constraints can be seen in **Figure 1a,** and **Figure 1b**.

2. AIRPORT SITE CONSTRAINTS AND CONSIDERATIONS

It is important at the outset to identify constraints and limitations that might inhibit development at the Airport. Too often, development occurs that inhibits future development and constrains the growth of an airport. Also, Airport management or potential developers must be fully aware of any constraints, particularly environmental constraints that are inherent in a particular parcel before development planning can begin. The following sections will outlay the several types of constraints that exist at the Airport.

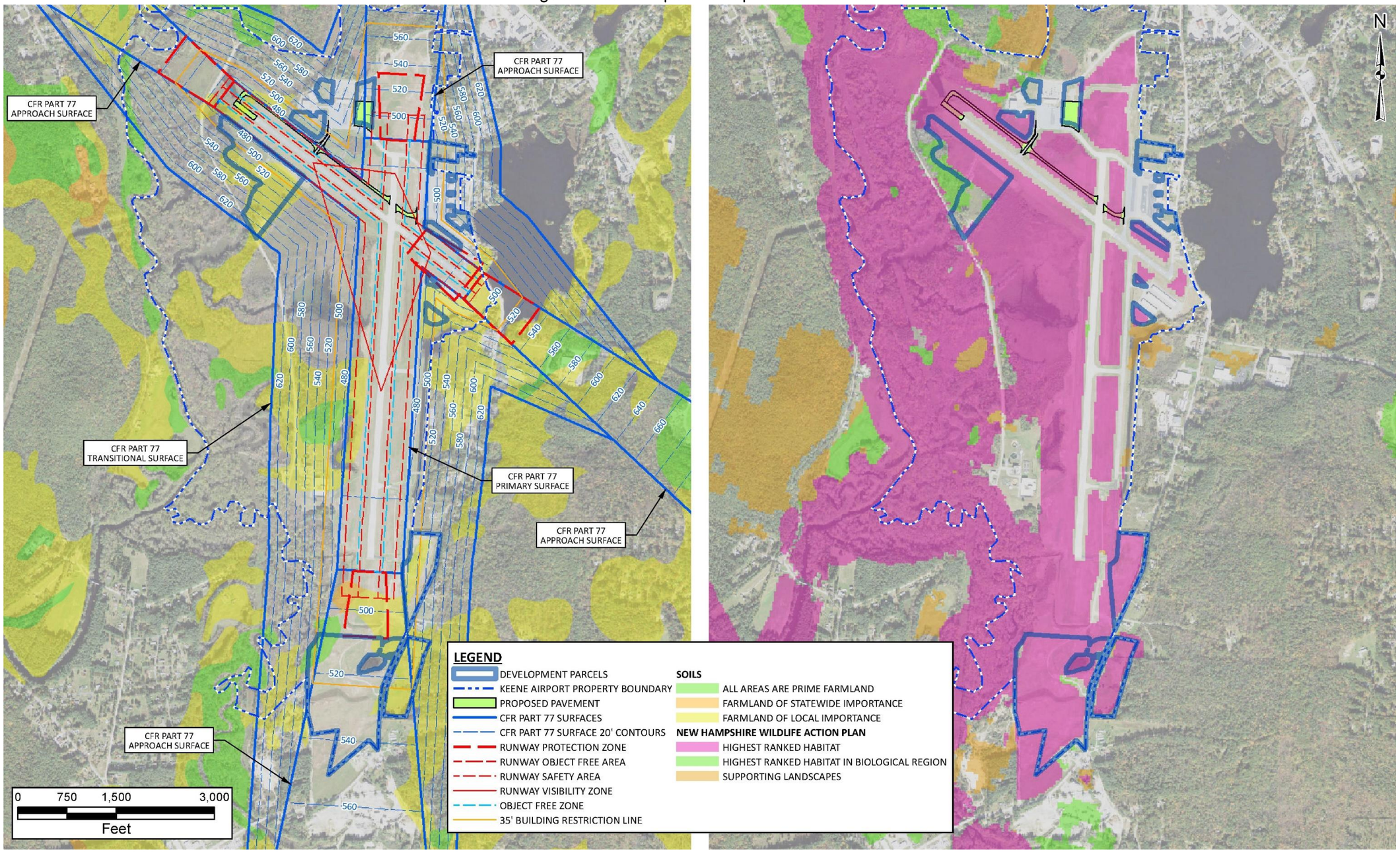
2.1. Key Environmental Constraints

This environmental review is a preliminary evaluation of resources that may be present on airport property, based on mapping from various resource agencies. Environmental constraints evaluated include the National Wetland Inventory mapped wetlands and surface waters, Federal Emergency Management Agency (FEMA) floodplains, drinking water resources, New Hampshire Wildlife Action Plan wildlife habitat, USDA farmland soils using the Web Soil Survey tool, historic resources, and conservation lands. A more detailed resource identification will be required once a parcel is proposed for development.

Parcels that contain mapped resources may require field surveys, further consultation with the appropriate agencies, avoidance and minimization measures, and/or mitigation for impacts to resources that will need to be identified during the permitting process.

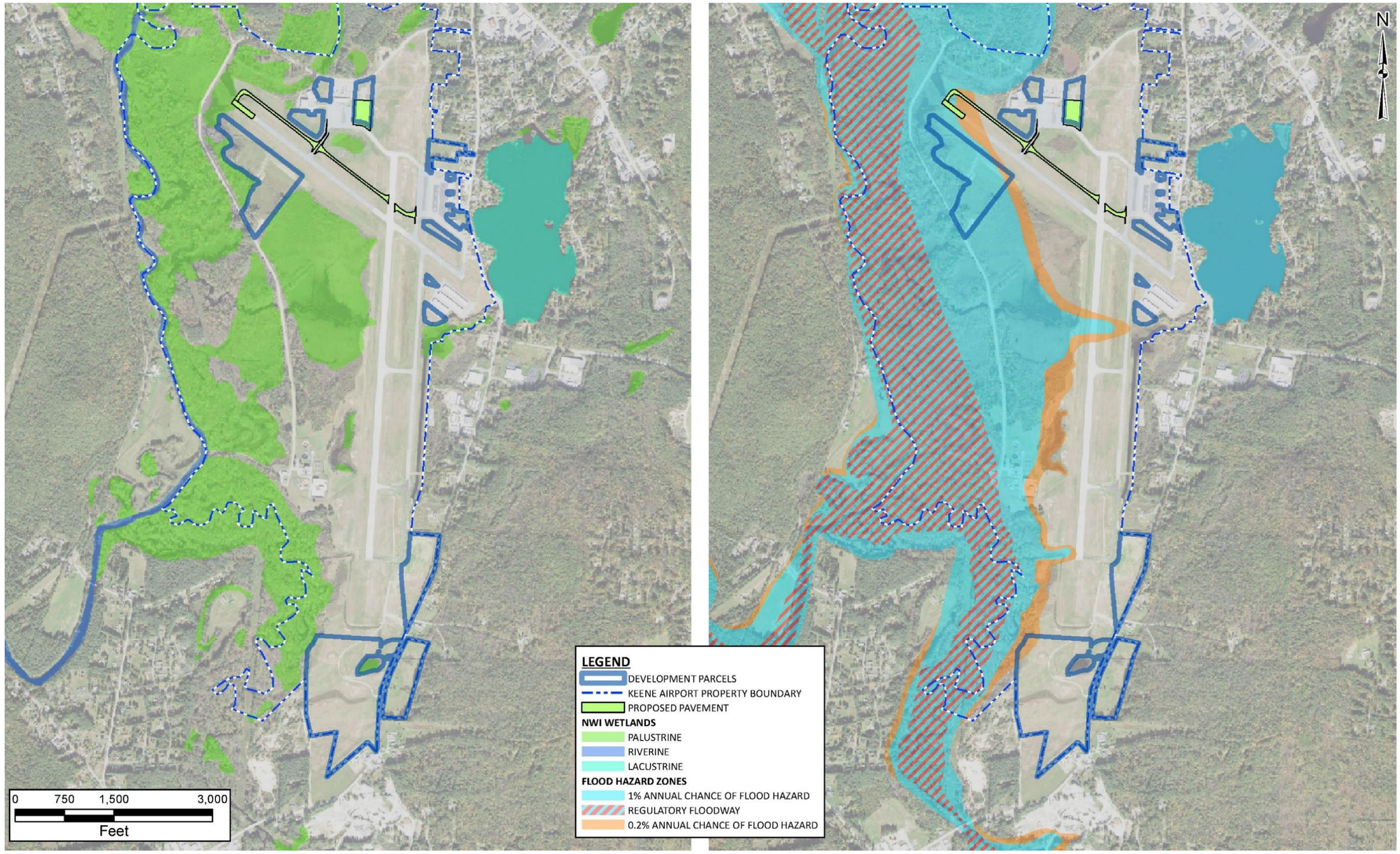
A preliminary resource list was generated for federally threatened and endangered species using the US Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) online tool, which listed the Northern long-eared bat (threatened, though will be classified as endangered in 2023), dwarf wedgemussel (endangered), and monarch butterfly (candidate species) as potentially occurring within and/or in the vicinity of the Airport. Additionally, grassland areas at the airport may potentially provide grassland bird nesting habitat. According to the NH Natural Heritage Bureau Datacheck review, issued October 14, 2022, multiple state threatened and endangered species, and one exemplary natural community, were listed as occurring in or near the Airport including:

Figure 1a: Keene Airport Development Constraints



Source: US Fish and Wildlife, McFarland Jonson analysis, 2022.

Figure 1b: Keene Airport Development Constraints



Source: McFarland Johnson, 2022.

- Silver Maple – False Nettle – Sensitive Fern Floodplain Forest
- Eastern Meadowlark (*Sturnella magna*)
- Grasshopper Sparrow (*Ammodramus savannarum*)
- Horned Lark (*Eremophila alpestris*)
- Marsh Wren (*Cistothorus palustris*)
- Northern Leopard Frog (*Lithobates pipiens*)
- Sora (*Porzana Carolina*)
- Vesper Sparrow (*Pooecetes gramineus*)
- Wood Turtle (*Glyptemys insculpta*)

While the potential presence of threatened and endangered species does not preclude development, it may require special permitting, avoidance and minimization measures, mitigation, or other development considerations. Also, development in areas that are listed as wetlands, floodplains, surface waters, or farmland soils will require special considerations and likely additional permitting.

2.2. CFR Part 77 Imaginary Airspace Surfaces

The CFR Part 77 imaginary airspace surfaces protect the airspace around airports. If development is to occur within the airspace, developers and airport operators must notify the FAA about the proposed construction, or alteration of existing structures. The FAA then is able to modify flight paths, and approaches, or to notify pilots if an obstruction to air navigation exists.

Key Part 77 surfaces to consider for this Study include the primary surface, which sits longitudinally centered on a runway. The primary surface for Runway 2-20 is 1,000 feet wide, and 500 feet wide for Runway 14-32. Also, off of the edges of the primary surface, rising up at a right angle from the runway centerlines at a slope of 7 to 1 is the transitional surface. In other words, for every one foot out, the slope rises seven feet. Lastly, the Part 77 approach surfaces will need to be taken into consideration for some parcels off of the ends of Runway 2-20.

2.3. Technical Airport Planning Considerations Contained in FAA AC 150/5300-13B

FAA AC 150/5300-13B describes airport design considerations that are used in the planning and layout of airports to ensure safe and smooth aircraft operations. The following sections detail important considerations in airport planning and development from this AC.

FAA Airport Design Approach Surfaces

FAA AC 150-5300-13B lists seven approach and departure surfaces that need to be considered in the planning of any airport development. These trapezoidal surfaces have varying sizes and slopes for the protection of aircraft and are intended to ensure a clear approach and departure path for aircraft using an airport. The airport design approach surfaces that will need to be considered for this Study include those listed in **Table 1**.

35-Foot Building Restriction Line

The Building Restriction Line (BRL) surrounds the runways and taxiways at an airport and limits how close construction should occur to aircraft movement areas. A BRL typically has a building height limitation of 35 feet; however, the BRL could depict alternate distances that an airport needs to be cognizant of to preclude penetrations to critical surfaces. The building height limitation is intended to ensure structures do not penetrate sloped airspace surfaces designed to preclude obstructions.

Table 1: Applicable Airport Design Approach Surfaces

Surface	Runway End
Surface #2	32
Surface #3	20
Surface #5	2
Surface #6	2
Surface #7	20

Source: FAA AC 150/5300-13B.

Runway Safety Area

FAA AC 130/5300-13B defines the runway safety area (RSA) as an area surrounding a runway that is intended to enhance the safety of aircraft that might undershoot, overrun, or veer off the runway. The RSA must be level, graded, and cleared, with no ruts, humps, depressions, or other surface variations. Most importantly for this Study, objects must not be placed within the RSA unless they are essential to air navigation.

The Runway 2-20 RSA at Keene is 300 feet wide and extends 600 feet beyond each runway end. The RSA for Runway 14-32 is 150 feet wide and extends 300 feet beyond each runway end.

Runway Object Free Area

FAA AC 130/5300-13B defines the runway object free area (ROFA) as a cleared area that is limited to essential equipment for air and ground navigation. It also provides for wingtip clearance in the event of an aircraft excursion from the runway.

The ROFA for Runway 2-20 at the Airport is 800 feet wide and extends 600 feet beyond each runway end, and the ROFA for Runway 14-32 is 500 feet wide and extends 300 feet beyond each runway end.

Runway Visibility Zone

The runway visibility zone (RVZ) is formed by intersecting runways like those at EEN. The RVZ is an area of clear visibility or line of sight (LOS) for pilots on opposite runways. A clear RVZ enhances a pilot's situational awareness by helping to ensure situational awareness of aircraft operating on opposing runways. It is not anticipated any development within the RVZ will be considered or planned as a part of this Study.

Runway Protection Zone

The runway protection zone (RPZ) is a trapezoidal-shaped area off of the ends of the runways that are intended for the protection of people and property on the ground in the event of an aircraft undershoot or overshoot. The intent is to keep the RPZ clear of incompatible land uses. Some parcels fall within the RPZ, and consideration will have to be made as to what acceptable uses can be made for those parcels given FAA requirements.

Taxiway/Taxilane Object Free Area

The taxiway object free area (TOFA) and taxilane object free area (TLOFA) are areas adjacent to the taxiway/taxilane that should be clear of objects, except for those fixed by function, to provide vertical and horizontal wingtip clearance. TOFA and TLOFA design standards based on airplane design group (ADG) can be seen in **Table 2**.

Table 2: Taxiway Requirements – Airplane Design Group

Design Standard	ADG I	ADG II	ADG III
TOFA	89’ (44.5’ from Taxiway Centerline)	124’ (62’ from Taxiway Centerline)	171’ (85.5’ from Taxiway Centerline
TLOFA	79’ (39.5’ from Taxilane Centerline)	110’ (65’ from Taxilane Centerline)	158’ (77’ from Taxilane Centerline)

Source: FAA AC 150/5300-13B.

2.4. Fire Protection

The National Fire Protection Association (NFPA) provides standards to help in minimizing the negative effects of fire-related incidents. The New Hampshire State Fire Marshal’s Office uses NFPA 409 *Standard on Aircraft Hangars* (2011 edition) to regulate aircraft hangar construction. For the types and sizes of hangars discussed herein, NFPA 409 prescribes a 50-foot separation between structures. Hangars can be built with separations less than 50 feet if the hangar walls have a higher (specified) fire resistance rating. However, in discussing the cost with a hangar architect, the cost of doing so is upwards of hundreds of thousands of dollars in additional construction costs per hangar. Additionally, if hangar sizing or spacing exceeds certain prescribed NFPA thresholds, fire suppression systems must be installed.

For the fire suppression systems that may need to be installed, it is recommended the Airport avoid allowing fire suppression systems that use Aqueous Film-Forming Foam (AFFF). Given the recent difficulties surrounding the use of AFFF, and the ecological implications of water contamination caused by per- and polyfluoroalkyl substances (PFAS) contained in AFFF, it is recommended no fire suppression systems be allowed to be installed at the Airport that could introduce PFAS into the groundwater.

2.5. Snow and Ice

Where possible in this Study, recommendations are made that take into consideration the potential problems of snow and Ice buildup. Ideally, hangars should be sited to provide for southern exposure so solar radiation can minimize and remediate snow and ice buildup in front of hangar doors in the winter months.

3. EXISTING UTILITIES

The existing utilities that are provided to some or all of the Airport are an important consideration factor as either the Airport or private developers consider development locations.

3.1. Electricity

Electrical power is provided to all existing buildings at the Airport and the airfield by Eversource. It is anticipated that any new hangars or facilities along Airport Road could be supplied via existing transmission lines. Similarly, it is anticipated that new construction along Route 32 and Aviation Drive would be supplied by existing transmission lines.

3.2. Sanitary Sewer

The City of Keene Wastewater Treatment Plant (WWTP) is located on Airport Road, just outside of Airport property. Despite the proximity of the WWTP, there is no sanitary sewer available at the terminal building or along Airport Road. There is a high-pressure sewer supply line along Airport Road, but due to the high pressure, it is not possible to tap into it to provide sanitary sewer collection services at the terminal building or for any new development along Airport Road.

If sanitary sewer were provided along Airport Road, it would greatly increase the marketability of the parcels surrounding the terminal building. It would also greatly increase the efficiency of the terminal building and its tenants. Sanitary sewer is available and provided along Route 32 to the west of the Airport and Aviation Drive.

3.3. Liquid Natural Gas/Tank Propane

Liquid Natural Gas (LNG) is not available at or near the Airport. However, bottled propane is an option utilized locally for heating and other energy needs. Also, many homes around the Airport use home heating oil as a source of heat.

3.4. Stormwater

Considerations will have to be made for the sizing and placement of stormwater discharge elements capable of handling runoff produced by the structures, pavements, and landscaped areas that will be constructed. Roof drains and downspouts will need to either surface discharge or tie into underground detention systems with sufficient stormwater handling capacity that meets the New Hampshire stormwater laws. The Airport is classified as an industrial facility, and as such, is required to manage and keep an updated Stormwater Pollution Prevention Plan (SWPPP), which is intended to prevent groundwater contamination.

3.5. Broadband Internet

Internet service is provided to the Airport by Consolidated Communications. Airport Management has reported they believe an optical fiber communications line has been installed in the surrounding area.

4. DEVELOPABLE PARCELS, CONSTRAINTS, AND RECOMMENDED BEST USE

The parcels identified in this Study are described in the following sections and shown graphically in figures on the following pages. The overall Airport layout with the developable parcels can be seen in **Figure 2**.

4.1. Parcel 1

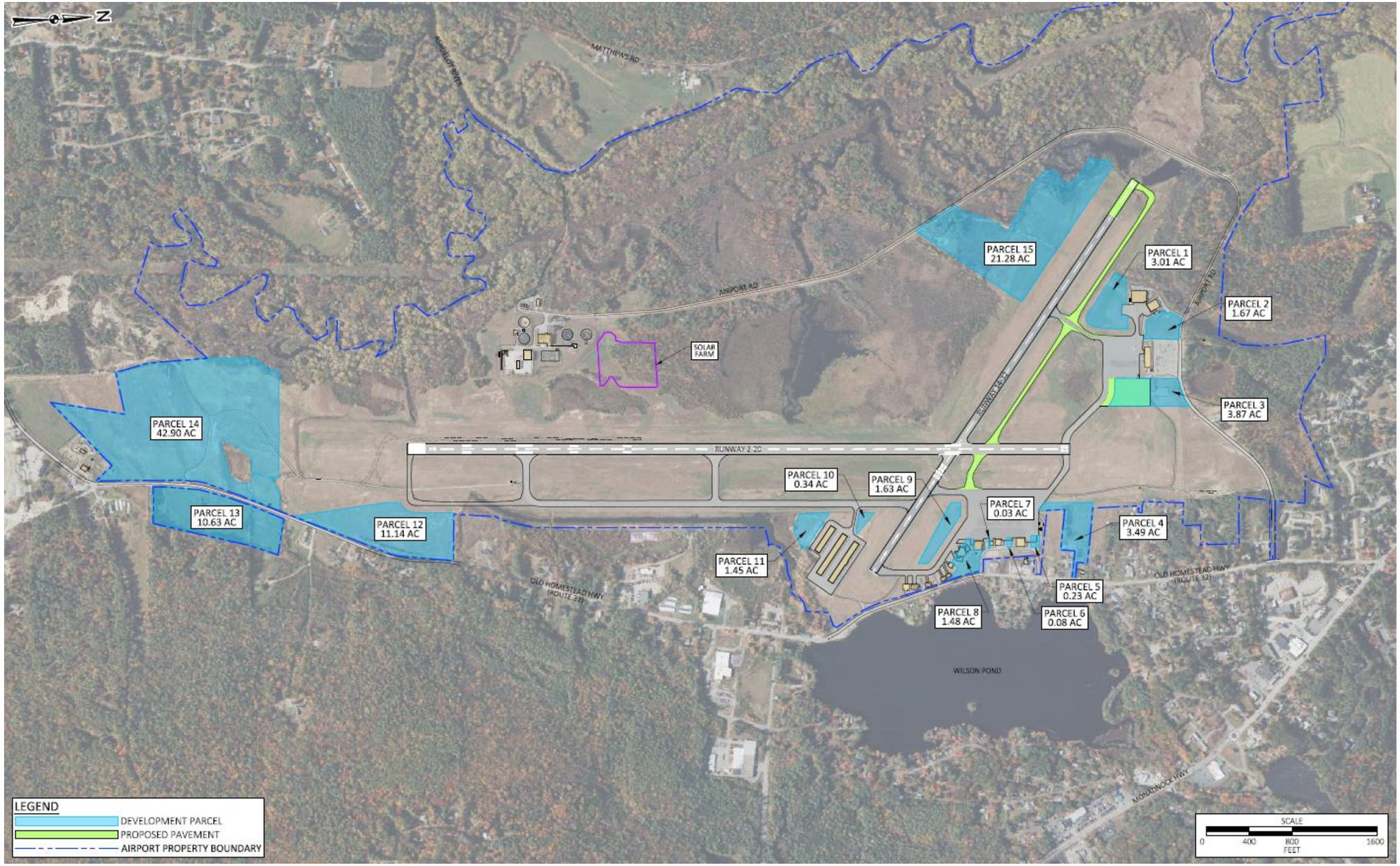
Parcel 1 can be seen in **Figure 3** and is located adjacent to the existing C&S Wholesale Grocers hangar, southwest of the terminal building and northeast of Runway 14-32. It is 3.01 acres, and a potential developer would need to expand the existing apron. Airport management has reported C&S Wholesale Grocers has a right of first refusal on this parcel.

The parcel is cleared and level, and if the parcel is developed for aviation or hangar use, aircraft could access the Airport via Taxiway S and/or future Taxiway B. Access could be provided via the drive behind the Airport maintenance building that also serves C&S. However, if that drive exclusively serves C&S and is constructed at their expense for their sole use, negotiations may need to take place for another tenant to use that infrastructure.

The parcel is constrained to the east by the Taxiway S TOFA and the proposed parallel taxiway to the southwest. Also, a 35-foot BRL is depicted which represents the location of the Part 77 transitional surface at 35 feet AGL. The height of a proposed structure will dictate how close it can be to avoid penetrating this surface. There is no sanitary sewer available, so a septic system would have to be considered in the design, and stormwater handling requires space, which will impact the available building footprint.

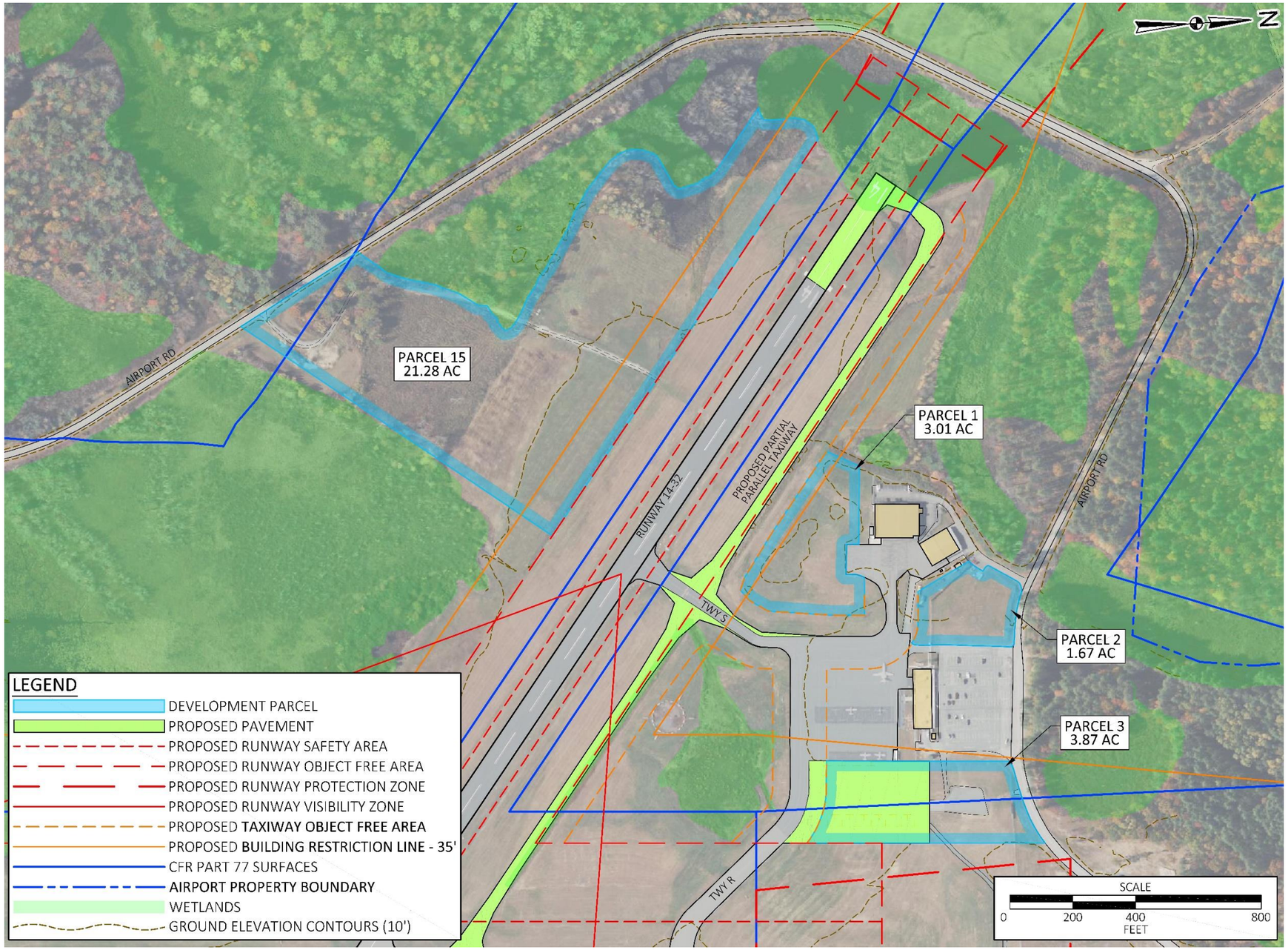
Parcel 1 would be ideally suited for one or more conventional hangars, situated similarly to the existing C&S hangar, with an apron that allows for southern exposure to minimize snow and ice buildup on the apron. The first of the hangars would be positioned south of the existing C&S hangar with the apron and vehicle access expanded. It is conceivable that a hangar of up to 18,000 SF could be accommodated in this location while respecting the 50-foot separation between hangars and remaining outside of the 35-foot BRL. Care would need to be taken to ensure no portions of the C&S apron are shaded during the short wintertime daylight

Figure 2: Airport Development Parcels



Source: McFarland Johnson, 2022.

Figure 3: Airport Development Parcels – Northwest



Source: McFarland Johnson, 2022.

hours, which could contribute to snow and ice buildup in front of their hangar doors.

A second hangar of up to 16,000 SF or more depending on the width could be constructed across from these two hangars in a campus style, with all three hangars taking advantage of southern solar radiation during the day. Vehicular, utility, and water access to this easternmost hangar would be slightly more challenging, but attainable.

4.2. Parcel 2

Parcel 2 is located between the terminal parking lot and the Airport maintenance/SRE building and can also be seen in **Figure 3**. It is 1.67 acres. It is cleared and graded. Access would easily be provided directly from Airport Road. Also, an apron and taxilane would need to be constructed providing access to Taxiway S or future Taxiway B2 if this parcel will be developed for aviation use.

It is constrained by the Airport Maintenance/SRE facility to the southwest, the terminal parking lot to the east, and Airport Road to the north. Again, without sanitary sewer, a septic system would need to be designed, and stormwater handling capacity needs to be included in the design.

With the location of Parcel 2 between Airport Road and the existing C&S Hangar taxilane, it is an ideal location for an additional conventional hangar. It is conceivable a hangar of up to 20,000 SF could be constructed in this location, possibly even larger. An additional corporate hangar in this location would contribute nicely to a conventional hangar campus in this portion of the Airport.

An alternative to a conventional hangar could be a row of standard or nested T-hangars. The orientation of Parcel 2 is very well set up for a single row of T-hangars. Potentially a 10- or 11-unit T-hangar could be sited in a north-south orientation that would see both sides of the T-hangar receiving solar radiation during the winter months, thereby minimizing the chances of snow and ice buildup in front of hangar doors.

4.3. Parcel 3

Parcel 3 is east of the existing terminal building and vehicle parking lot and is 3.87 acres. The parcel can be seen in **Figure 3**. The 2017 AMPU proposed a majority of Parcel 3 (approximately 75 percent) be developed as a tie-down apron, and this Study will still consider that apron as required for future aircraft parking needs.

Parcel 3 is constrained to the north by Airport Road, to the west by the terminal parking lot, and to the south by a proposed future tie-down apron. Parcel 3 is bisected by the edge of the Part 77 approach surface, with half of the Part 77 approach surface atop of it toward the east, and half of the Part 77 transitional surface atop of it to the west. This places the entire parcel within the 35' BRL. While it is typically not advisable for development within the 35-foot BRL and beneath the Part 77 approach surface, in this case, the Part 77 approach surface is sited based on the presence of an instrument approach to the opposite runway end (Runway 2). Having only visual approaches, the Runway 20 Part 77 approach surface and associated transitional surface would not typically have an impact on Parcel 3.

The entirety of Parcel 3 is within the 35-foot BRL, and half of the parcel is beneath the Part 77 approach surface. While Runway 20 has only visual approaches, the width of the Part 77 approach surface is based on the width of the Part 77 primary surface, which is driven by the presence of the instrument approach to Runway 2. Regardless of the driving factors, it does not change the fact that any structural development within this area would penetrate the Part 77 surfaces.

This Study examined the potential impact of a future instrument approach to Runway 20 with ¾ SM visibility. The Surface #5 ≥ ¾ Mile can be seen in **Figure 4**. As shown, Parcel 3 would remain outside of Surface #5, and would not detract from the potential of a future approach to Runway 20.

4.4. Parcel 4

Parcel 4 is toward the northeast of the Airport adjacent to Wilson Pond, and portions have been recently acquired. It is 3.49 acres and can be seen in **Figure 5**. Roadway access could be via Old Homestead Way, and, if this parcel will be developed for aviation or hangar use, a taxilane would need to be constructed to connect to Taxiway A or the adjacent apron.

Constraints include the Airport property line on the north and south sides, the Part 77 primary surface to the west, and Route 32 (Old Homestead Highway) to the east. A portion of Airport property does extend to Route 32, which would allow for existing sanitary sewer and water to be brought to the site. The parcel is uneven and descends toward the runway from the street as much as 25 feet.

Parcel 4 was originally depicted on the 2017 ALP with opposite-facing T-hangars along the north and south edges of the parcel.

Parcel 4 could be used for a corporate hangar of up to 27,000 SF or larger without penetrating the 35-foot BRL. However, doing so would mean setting the hangar further to the east, thereby increasing the amount of taxilane necessary to access the airport movement areas. Further, rising terrain toward the west will make hangar development in this parcel challenging.

There is a peninsula of land that is not owned by the Airport to the south of Parcel 4, and it would be worthwhile exploring a land swap for this parcel in exchange for Parcel 4 which might be better suited for non-airport development.

4.5. Parcel 5

Parcel 5 is 0.23 acres and located at the northeasternmost portion of the based aircraft apron and can be seen in **Figure 5**. It is constrained by the existing large green hangar to the south, the based aircraft apron to the east, Aviation Drive to the west, and the fuel farm access road to the north. The fuel farm access road is at a substantially higher elevation than Parcel 5 (approximately seven feet), which would need to be accounted for in the design of any hangar in Parcel 5. Either the road would need to be lowered, or a retaining wall would need to be constructed. The wall would need to be capable of supporting the road and fully laden delivery semi-tractor-trailer trucks that deliver fuel to the fuel farm. Parcel 5 has access to power, municipal water, and sanitary sewer along Old Homestead highway and Aviation Drive.

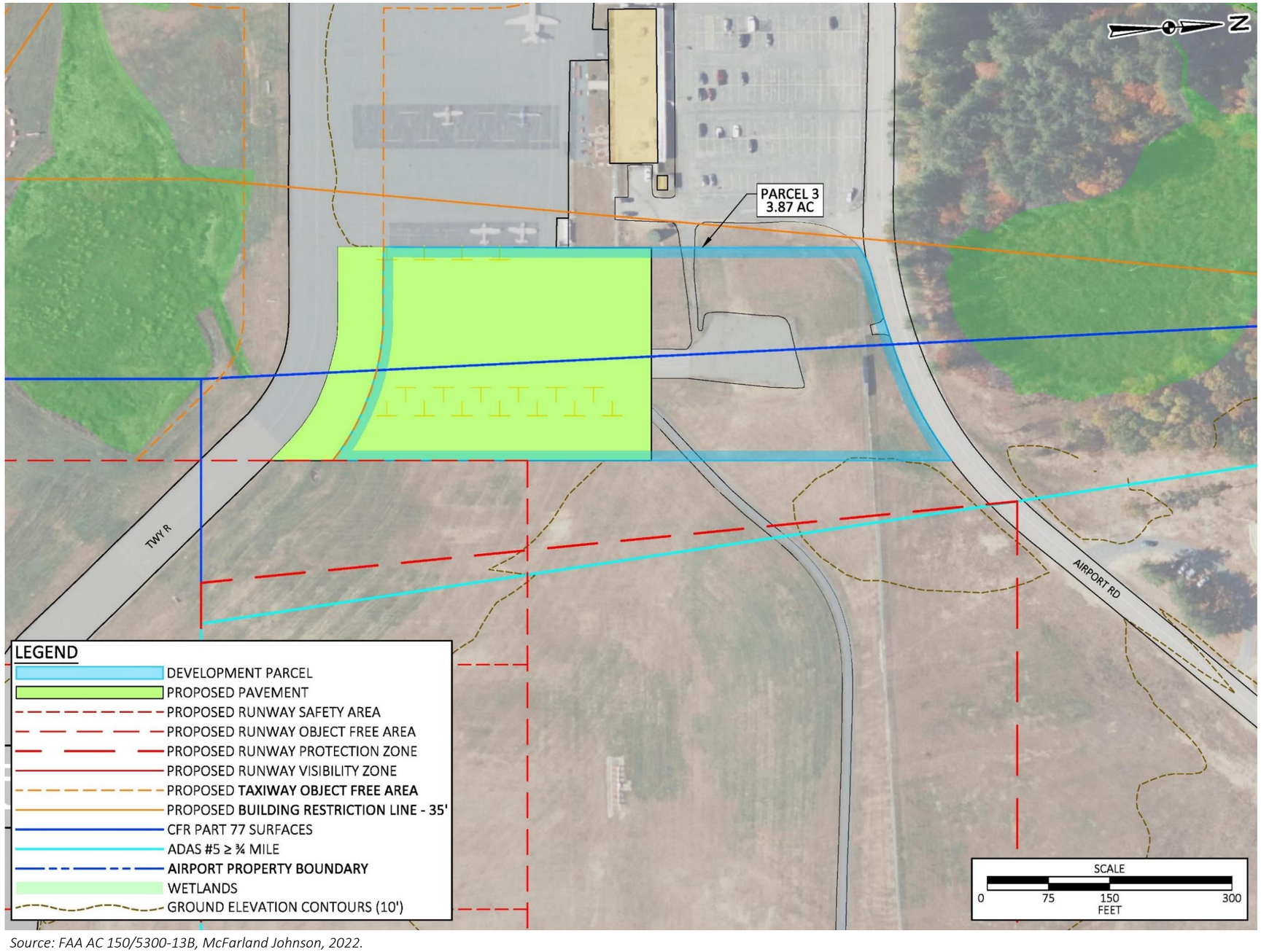
Although less than a quarter acre in area, Parcel 5 could be used for hangar development. It may be possible to construct a smaller conventional hangar with up to a 60-foot-wide door opening and a 60-foot hangar depth or perhaps even deeper. As previously mentioned, the fuel farm access lane runs just to the north of this parcel and is significantly higher than Parcel 5 which will need to be addressed if Parcel 5 is to be developed.

4.6. Parcel 6

Parcel 6 is inset along Aviation Drive adjacent to other conventional hangars and is 0.08 acre. It can be seen in **Figure 5**.

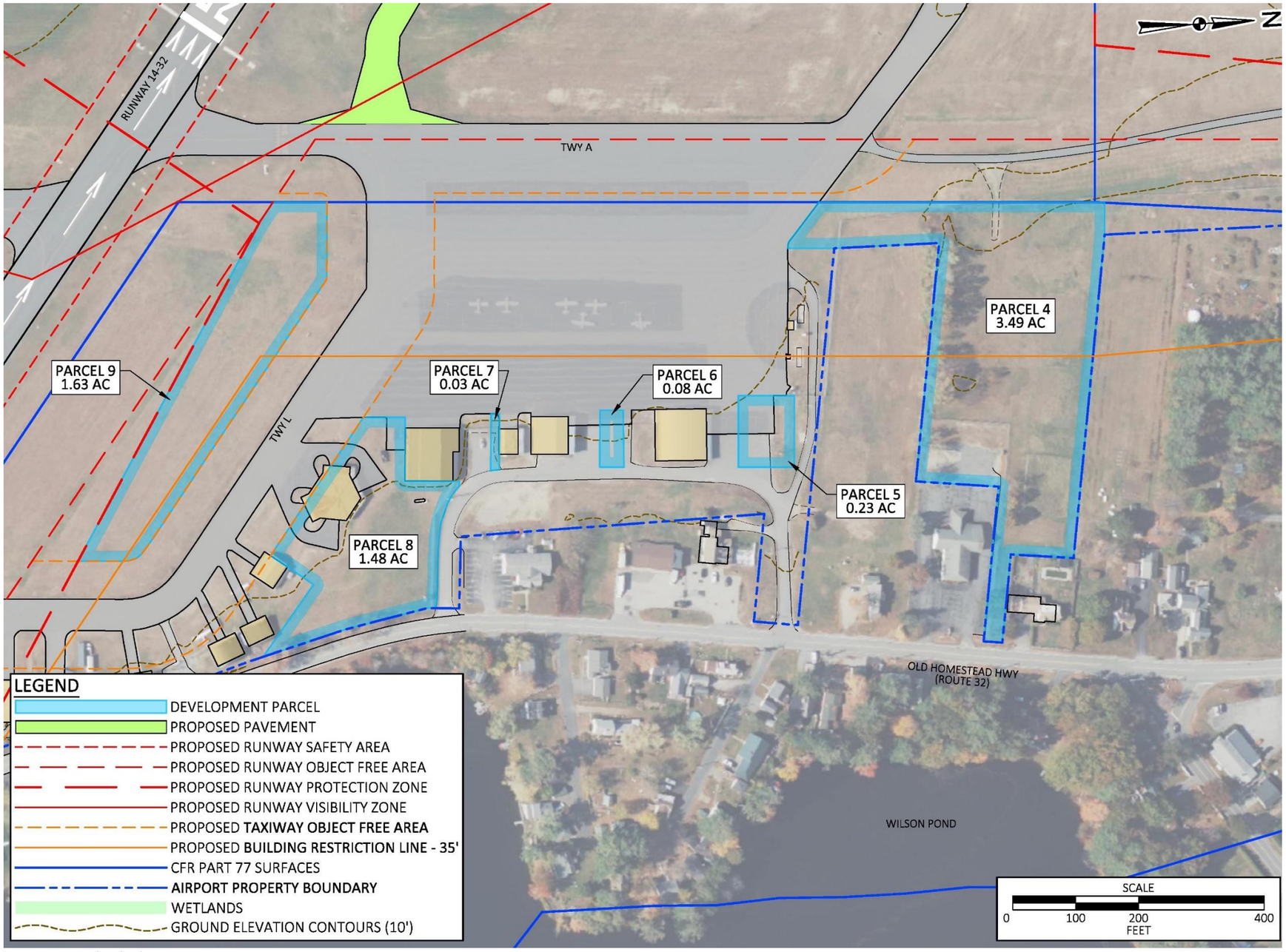
Parcel 6 is constrained by the large green hangar and the new Whip City Hangar that was recently constructed. Conversations with the Airport Manager revealed it was hoped parcel 5 could be used for hangar

Figure 4: Parcel 3 with Airport Design Approach Surface (ADAS) #5 ≥ ¾ Mile



Source: FAA AC 150/5300-13B, McFarland Johnson, 2022.

Figure 5: Airport Development Parcels – Northeast



Source: McFarland Johnson, 2022.

However, given the 50-foot separation standard between hangars imposed by NFPA 409, there is no opportunity for a hangar in this location. If the green hangar reaches the end of its useful life and is demolished, this opens up Parcel 6 for a large corporate hangar. Until then, constructing a hangar on Parcel 6 is not foreseeable.

Given the 50-foot hangar separation requirements of NFPA 409 and the siting of the newest hangar, there are only approximately 26 feet of space available between the large green hangar and the newest hangar on the Airport. As such, Parcel 6 is not viable for any sort of hangar development and should be abandoned for any future hangar development considerations. If the large green hangar reaches the end of its useful life and is demolished, this area opens up for additional hangar development.

4.7. Parcel 7

Parcel 7 is located along Aviation Drive and is the site of the former aircraft rescue and firefighting (ARFF) building, which is currently being used by the Airport for storage. It is assumed development on this parcel would involve the demolition of this structure. Parcel 6 is 0.03 acres and can be seen in **Figure 5**.

Similarly, to the plan for Parcel 6, there was the intent to demolish the old ARFF building and use Parcel 7 for hangar development. However, the siting of the most recently constructed hangar in this location has eliminated the possibility of any new hangar development in this location.

If a developer wanted to construct hangars in Parcel 6 or 7, a hangar could be constructed with fire-rated walls that meet the standards prescribed in NFPA 409. However limited research suggests that for a hangar of the magnitude of around 100 feet by 100 feet, this increases the cost of construction by hundreds of thousands of dollars. Cost increases of this magnitude for relatively small hangars might not be feasible. Further, it is unclear whether the existing hangar would need to be retrofitted with fire-rated walls as well. If there was any serious interest in developing hangars in this area, further research with a qualified architect and consultation with the New Hampshire State Fire Marshal's Office would be warranted.

Moreso than Parcel 6, Parcel 7 is not viable for hangar development due to the spacing restrictions of NFPA 409 and should be abandoned for any future hangar development considerations.

4.8. Parcel 8

Parcel 8 is located at the intersection of Route 32 (Old Homestead Way) and Aviation Drive and is approximately 1.48 acres. It can be seen in **Figure 5**. To fully realize this parcel for aeronautical use, the hexagonal hangar would likely need to be demolished to make the parcel fully accessible, which would potentially open up this space for a larger conventional hangar with an associated apron. Vehicular access and parking could easily be accomplished via Aviation Drive. Parcel 8 has access to power, municipal water, and sanitary sewer along Old Homestead Highway and Aviation Drive.

Parcel 8 is constrained by Aviation Drive to the north, Route 32 to the east, the Taxiway L TLOFA to the southwest, and an existing hangar to the northwest. Given the proximity of Wilson Pond to Parcel 8, it is likely any development must be permitted through a Shoreland Impact Permit Application

If the hexagon hangar has reached the end of its useful life, it should be demolished to make better use of the available land in Parcel 8. With the demolition of the hexagon hangar, Parcel 8 opens up to the full development potential of 1.48± acres. With southern exposure and road access, it is ideally situated for a conventional hangar. Conceptually, a hangar of up to 15,000 SF could be constructed in this location.

There is a terrain drop from Route 32/Aviation Drive to Taxiway L that will need to be considered in the planning of any facility in Parcel 8. Potentially, a retaining wall will need to be constructed to maximize buildable space in this parcel.

4.9. Parcel 9

Parcel 9 is located between Taxiway L and the approach end of Runway 32 and is 1.63 acres. It can be seen in **Figure 5**. Parcel 9 is constrained by the Taxiway L TLOFA to the north, northeast, and east, and Runway 14-32 ROFA to the southwest, as well as a small portion of the Runway 2-20 Part 77 primary surface to the west. Parcel 9 has access to power, municipal water, and sanitary sewer along Old Homestead Highway and Aviation Drive.

This location would be suitable for standard or nested T-hangars. However, with this double-sided hangar configuration, the northern side will be prone to snow and ice buildup.

Another alternative would be a 12-unit clear-span hangar system with the door openings and an apron toward the south only. It is estimated the dimensions of a 12-unit structure would be 528 feet long by 40 feet deep. Each unit would be 40 feet deep and have a door/stall width of 44 feet and a 14-foot door height which would accommodate 95 percent of ADG A and B aircraft, including all single-engine aircraft and most light and medium twin-engine aircraft. The entire structure would be within the 35-foot BRL. However, based on information from Fulfab, a hangar manufacturer, the total height of such a hangar would be 18 feet, 6 inches at the peak, which appears to be below the Part 77 transitional surface. As the roof slopes down and away from the peak to a height of 16 feet, 10 inches, it appears the entire structure will be entirely below the transitional surface.

A third and final option might be to install the clear-span hangar facing north as there is already a taxiway on that side (Taxiway L)

4.10. Parcel 10

Parcel 10 is a small parcel adjacent to the existing northeasternmost 20-unit T-hangar and is 0.34 acre. It can be seen in **Figure 6**. On the 2017 ALP, an extension to the existing 20-unit T-hangar was depicted. However, construction would encroach into the Runway 32 approach RPZ. As such, Parcel 10 has been reduced to only those areas outside of the RPZ.

Parcel 10 is constrained to the northeast by the Runway 32 approach RPZ, to the south by the Taxilane T TLOFA, and to the west by the Taxiway A TOFA. Further, Parcel 10 is entirely within the 35-foot BRL. While the 2017 ALP showed development within the Runway 32 approach RPZ, for the purposes of this Study, Parcel 10 has been limited only to areas outside of safety zones, and as such, is extremely limited for development.

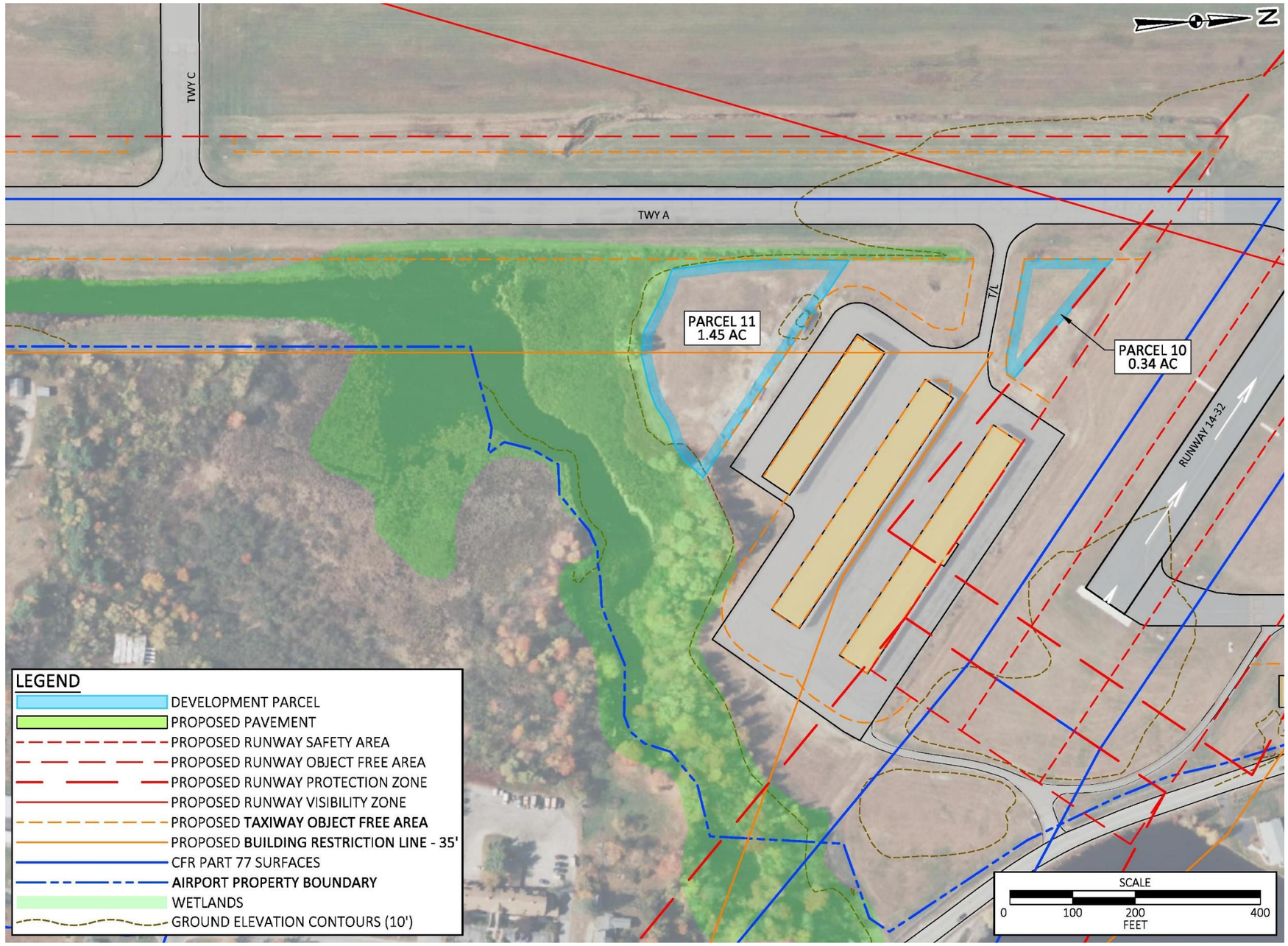
Given that Parcel 10 is entirely within the 35-foot BRL and limited to less than half an acre, there is no conceivable development potential, and it is recommended it be abandoned as a development site.

4.11. Parcel 11

Parcel 11 is 1.45 acres and is southwest of the existing T-hangars and west of Taxiway A. It can be seen in **Figure 6**. It is constrained by the T-hangars to the northeast, wetlands to the southeast, south, and west, and by the Taxiway A TOFA to the west. Parcel 11 also has relatively easy access to power, either from Old Homestead Highway, or by tapping into airfield electricity.

Given the proximity to the existing T-hangars, the ideal use for Parcel 11 would be an additional 10-unit T-

Figure 6: Airport Development Parcels – East



Source: McFarland Johnson, 2022.

hangar (or smaller as space allows). The 2017 ALP also depicted an additional T-hangar in this location.

An alternative to an additional T-hangar might be a small conventional hangar. Conceivably, a conventional hangar of up to 12,000 SF might be feasible in this location, with a direct access taxilane to Taxiway A.

Lastly, Parcel 11 could be utilized for a row of box hangars. Conceivably, a row of seven connected box hangars, each 44 feet wide by 40 feet deep would fit on this lot, with enough space for a suitable apron to accommodate aircraft operations.

4.12. Parcel 12

Parcel 12 as seen in **Figure 7** is along the southeast portion of the Airport adjacent to the new Taxiway A extension and is 11.14 acres. It is a wedge-shaped parcel along the Airport property line and a portion of Route 32.

Parcel 12 is constrained to the north, east, and southeast by the Airport property line, to the east and southeast by Route 32, and to the southwest and west by the Part 77 approach and primary surfaces, and the new Taxiway A TOFA. The Parcel is also constrained by terrain rising by approximately 40 feet from east to west, which could make structural development difficult.

The terrain slopes negatively from Route 32 down toward the approach end of Runway 2, which would make structural development difficult. Substantial amounts of fill would need to be removed and potentially a retaining wall would need to be constructed to make Parcel 12 viable for any hangar development.

An alternative to hangar development in Parcel 12 might be to lease the area for solar development. This would be in keeping with the City of Keene's sustainability goals and might be the only viable use for this parcel.

4.13. Parcel 13

Parcel 13 can be seen in **Figure 7** and is across Route 32 from the Airport. It is 10.63 acres.

It is not contiguous with the Airport, so aeronautical development is not possible without relocating Route 32, however, it could be developed for non-aeronautical use. A majority of the parcel is within the 35-foot BRL and beneath the Part 77 approach surface, but 2.26 acres to the south are unconstrained.

Parcel 13 is disconnected from the Airport and should be considered for non-aeronautical development. However, the majority of Parcel 13 is beneath the Part 77 50:1 approach surface. There are approximately three acres in the northeast corner of Parcel 13 that are outside of the Part 77 approach surface that could be considered for commercial development such as a multi-tenant retail facility. The Airport could charge a land lease for a developer to construct a commercial facility on this portion of the site. A majority of the remainder of the 10.63-acre has allowable structure heights of 15 to 25 feet, which is likely not enough clearance for any sort of structure. One possible consideration for the remainder of the parcel could be a solar farm, which does not require tall structures. Figure 8 depicts the allowable structure heights that could be considered within Parcel 13.

4.14. Parcel 14

Parcel 14 is aligned with the extended centerline of Runway 2-20 and is approximately 42.90 acres. It can be seen in **Figure 7**.

It is constrained to the north by the Runway 2 RPZ, to the east by Route 32, and to the south and west by the Airport property line.

Parcel 14 lies within the extended centerline of Runway 2 and only the 42.90 acres south of the RPZ are considered viable for any sort of development. A substantial portion of Parcel 14 has road frontage. The precision instrument approach to Runway 2 provides for a 50:1 slope for the Part 77 approach surface, which is the most restrictive slope, and this would only allow structure heights of 15 to 30 feet, which is likely not tall enough for any sort of retail facility. Also, Parcel 14 is separated enough from the runway and taxiway system that it is not viable for any sort of hangar development.

Like Parcel 13, portions of Parcel 14 could be ideal for a solar farm to help the Airport and the City of Keene come closer to attaining their sustainability goals. The allowable heights for development can be seen in **Figure 8**.

4.15. Parcel 15

Finally, Parcel 15 can be seen in **Figure 3**. It is adjacent to the approach end of Runway 14 and is 21.28 acres.

It is constrained to the northeast by the Runway 14-32 ROFA, to the southeast by wetlands, to the southwest by Airport Road and more wetlands, and to the west and northwest and west by still more wetlands. A taxiway providing access to Runway 14-32 would need to be constructed if Parcel 14 were to be developed for aeronautical use.

Parcel 15 is suitable for T-hangar or conventional hangar development. It is conceivable to site two 20-unit nested T-hangars, or box hangars in a northeast-southwest alignment with aprons along all sides, as well as two 10-unit nested T-hangars or box hangars in a northwest-southeast alignment with requisite aprons along all sides.

Alternatively, the parcel is large enough to support just about any size conventional hangar that might be appropriate for the types of aircraft that will utilize EEN. the parcel would require extensive development, including new pavement and a taxiway to connect to the approach end of Runway 14, as well as a vehicular access road from Airport Road. The extension of sanitary sewer along Airport Road will greatly enhance the development potential of this parcel.

5. CONCEPTUAL HANGAR LAYOUTS

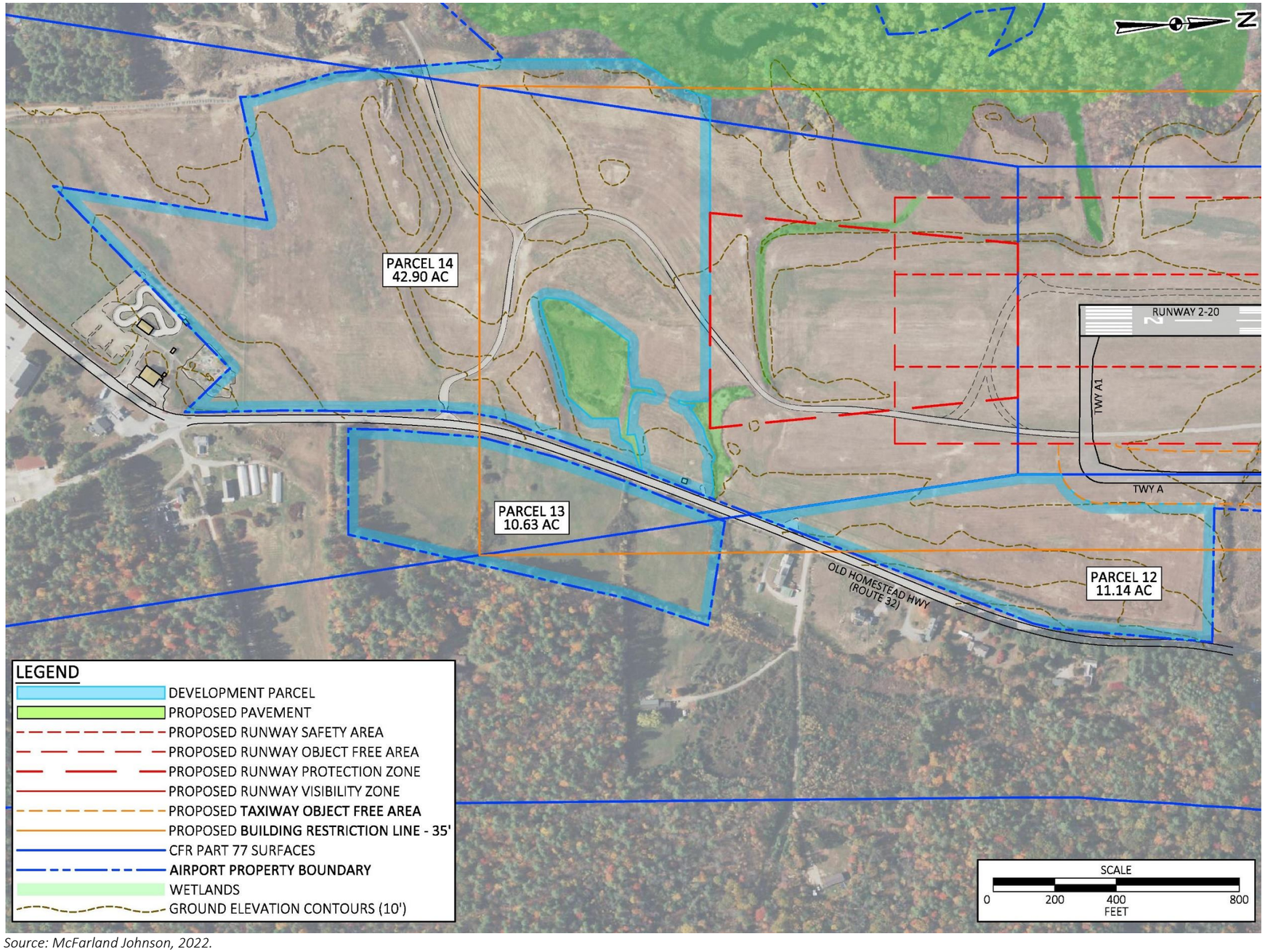
Figure 9 depicts three conceptual hangar layouts, including a 10-unit T-hangar, a 75-foot by 75-foot conventional hangar, and a 100-foot by 100-foot conventional hangar. It includes depictions of aprons outside of the hangars, and connections to taxiways/taxilanes for access to the Airport. Dimensions are provided to give a sense of the scale of these facilities for planning purposes, and potential lease development.

5.1. ADG I 10-Unit T-hangar

The first of the conceptual hangar layouts in **Figure 9** is the 10-unit T-hangar. A nested T-hangar design is depicted, which allows for a shorter overall building length as opposed to a standard or "stacked" T-hangar, wherein the aircraft are essentially parked in stalls adjacent to each other. The nested T-hangar design also allows for less taxilane pavement, which can be a cost saving.

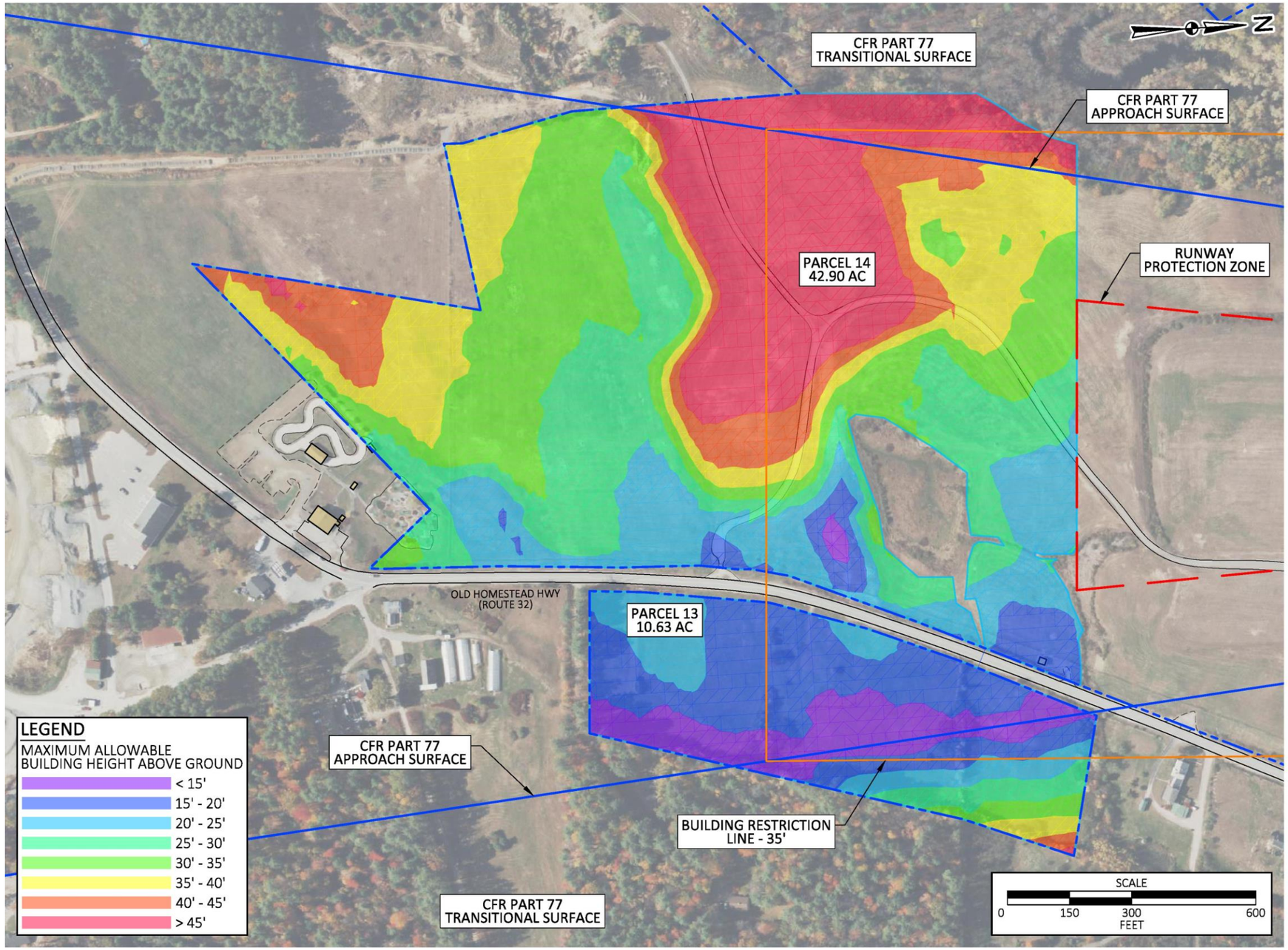
T-hangars typically accommodate ADG I aircraft such as a Cessna 172 or light twine engine aircraft but can be constructed to accommodate a range of aircraft sizes, with overall structure heights ranging from approximately 20 feet to up to 35 feet tall.

Figure 7: Airport Development Parcels – South



Source: McFarland Johnson, 2022.

Figure 8: Maximum Allowable Building Heights – Parcels 13 and 14



Source: McFarland Johnson, 2022.

5.2. ADG II 75-foot by 75-foot Conceptual Hangar Layout

The second conceptual hangar layout depicts a 75-foot by 75-foot conventional hangar. It is assumed the aircraft being accommodated would be ADG II aircraft with larger wingspans representative of a Beechcraft King Air 350 or similar large twin turboprop or small twin turbine corporate aircraft such as a HondaJet. An apron outside of the hangar for staging the width of the hangar and 65 feet deep (which represents approximately 56 percent of ADG II aircraft) would be used for aircraft staging.

The building height for this size hangar is estimated to accommodate aircraft with up to a 25-foot tail height (which represents approximately 95 percent of ADG II aircraft). There will be a four-foot clearance between

the tail height and the clear opening, a three-foot beam, and a 1:12 slope of the roof with three feet of roof ridge height. The total 75-foot by-75-foot hangar building is estimated to be approximately 35 feet tall. These dimensions are for planning purposes. Ultimately, hangars will be designed based on the needs at the time and will be located based on the current design, geometry, and airspace standards at the time of design (which may be different from current standards).

5.3. ADG II 100-foot by 100-foot Conceptual Hangar Layout

A 100-foot by 100-foot conceptual hangar layout is also shown in **Figure 9**. With even taller structures, these hangars would need to be sited even further still from the runway to remain below CFR Part 77 surfaces. An apron of building width and 90-foot depth (which represents approximately 79 percent of ADG II aircraft) for aircraft staging would be provided.

The building height for this size hangar is also expected to accommodate aircraft with up to a 25-foot tail height. There will be a three-foot clearance between the tail height and the clear opening, a three-foot beam, and a 1:12 slope of the roof, making for four feet of roof height. The total 100-by-100-foot hangar building is estimated to be approximately 35 feet tall. These dimensions are for planning purposes. Ultimately, hangars will be designed based on the needs at the time and will be located based on the current design, geometry, and airspace standards at the time of design (which may be different from current standards).

6. LOT CONFIGURATION

The Conceptual Layouts were taken one step further in **Figure 10**, which depicts the three hangars in their respective lots. The lots for the conventional hangars include a 50-foot buffer between structures to address fire standards. Also, each lot depicts critical elements including stormwater treatment areas, oil/water separator holding tanks, a utility corridor opposite the taxilane for electric, communications lines, water lines, and a septic system. Also shown is a concrete conduit along the taxilane for existing or future taxiway lighting. The lots include a staging apron outside of the hangar doors for startup, loading, and shutdown operations. Note that items such as septic and communications may not be necessary for T-hangars, depending on cost and complexity. The following square footages (SF) in **Table 3** were derived from the lot configurations and could be used to establish lease rates.

Table 3: Lot Configuration Square Footages

	10-Unit T-hangar	75-foot by 75-foot Hangar	100-foot by 100-foot Hangar
Structure	15,312	5,625 SF	10,000 SF
Apron	30,096	5,625 SF	10,000 SF
Total Lot	62,424	20,625 SF	32,250 SF

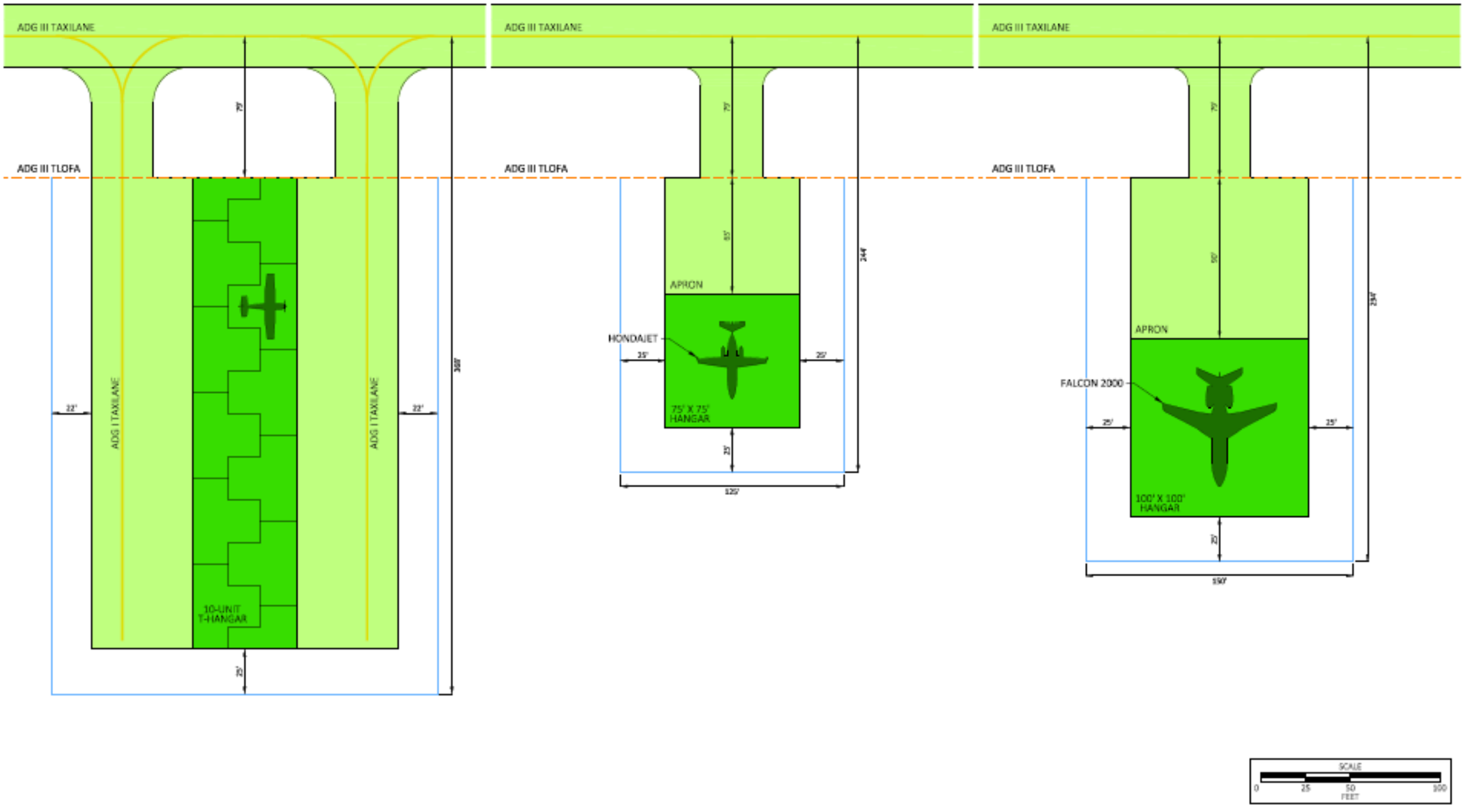
Source: McFarland Johnson analysis, 2022.

7. COST-BENEFIT ANALYSIS AND COMPARISON OF A 10-UNIT T-HANGAR

An important analysis for the Airport is a cost-benefit analysis between the capital cost of the City of Keene constructing a 10-unit T-hangar and leasing the 10 units over 40 years as opposed to providing land for a private developer to construct a 10-unit T-hangar and charging a land lease over the same 40-year period. A comparison between the two models of total costs after expenses will be made at the 20-year and 40-year marks. The following assumptions have been made in this analysis:

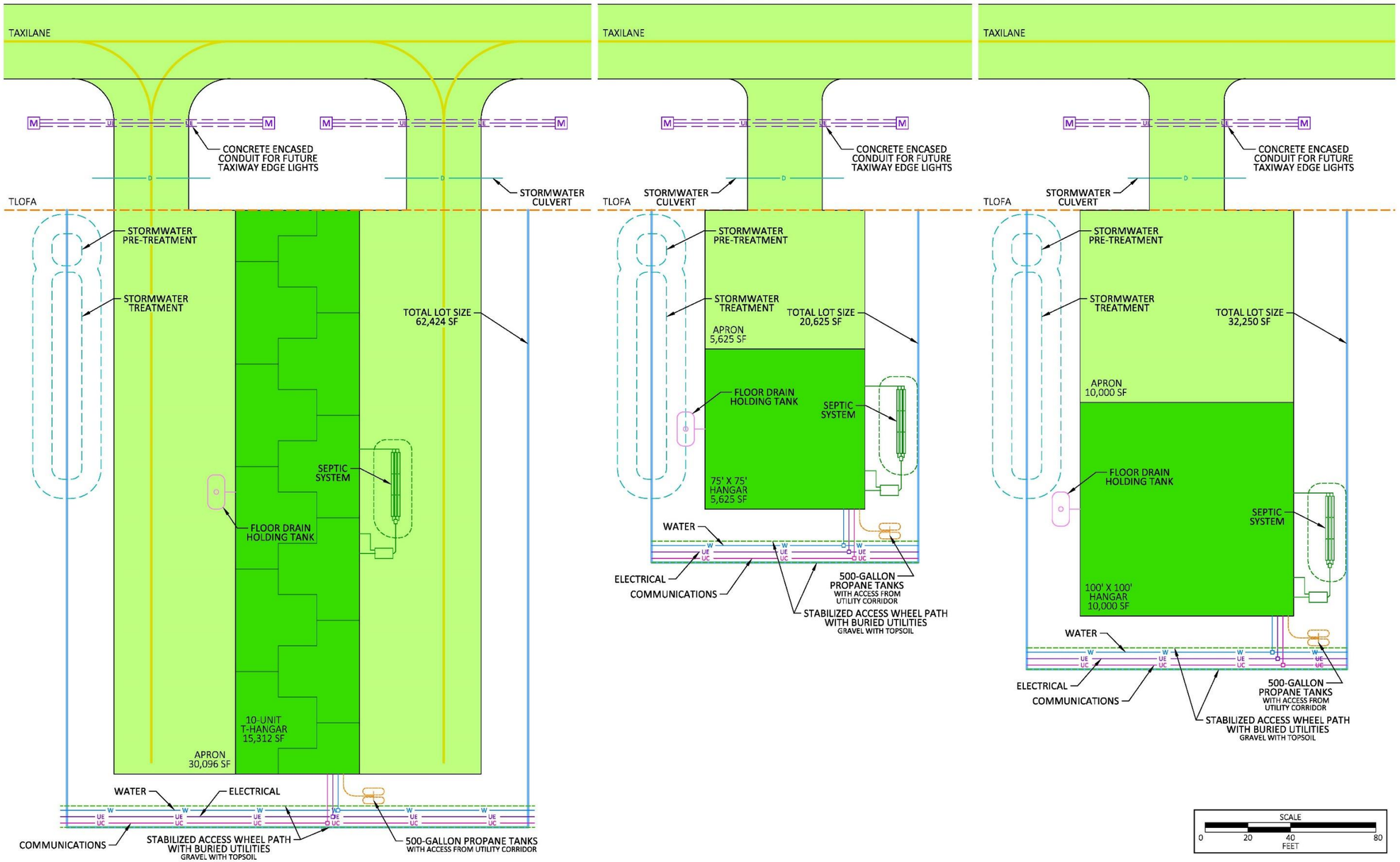
- For the 10-unit T-hangar the Airport would construct
  - Construction costs utilizing 2022 construction costs
    - Costs include taxilanes on both sides of the hangar
  - 100 percent occupancy rate
  - $600.00 per month T-hangar unit rental cost
    - T-hangar rental rates increase 10 percent every six years with no maximum
  - Maintenance costs assume $1,400.00 in year 1 (labor only) increasing at 3 percent per year
    - The cost to replace two hangar doors at the 30-year mark at $15,000.00 each
    - The cost to replace the roof at the 40-year mark at $250,000.00
  - Bond costs assume 5 percent interest and $10,000.00 issuance costs
- For the 10-unit T-hangar a private developer would construct, and the Airport would charge a monthly land lease
  - Land lease rate of $0.30 per SF per the *Airport Land Leasing Policy for the Keene Dillant-Hopkins Airport*
    - Land lease rate increases at an average of 3 percent per year (average Consumer Price Index (CPI))
  - One scenario assumes only the building footprint would be leased (approximately 15,000 SF)

Figure 9: Conceptual Hangar Layouts



Source: McFarland Jonson, 2022.

Figure 10: Hangar Lot Configurations

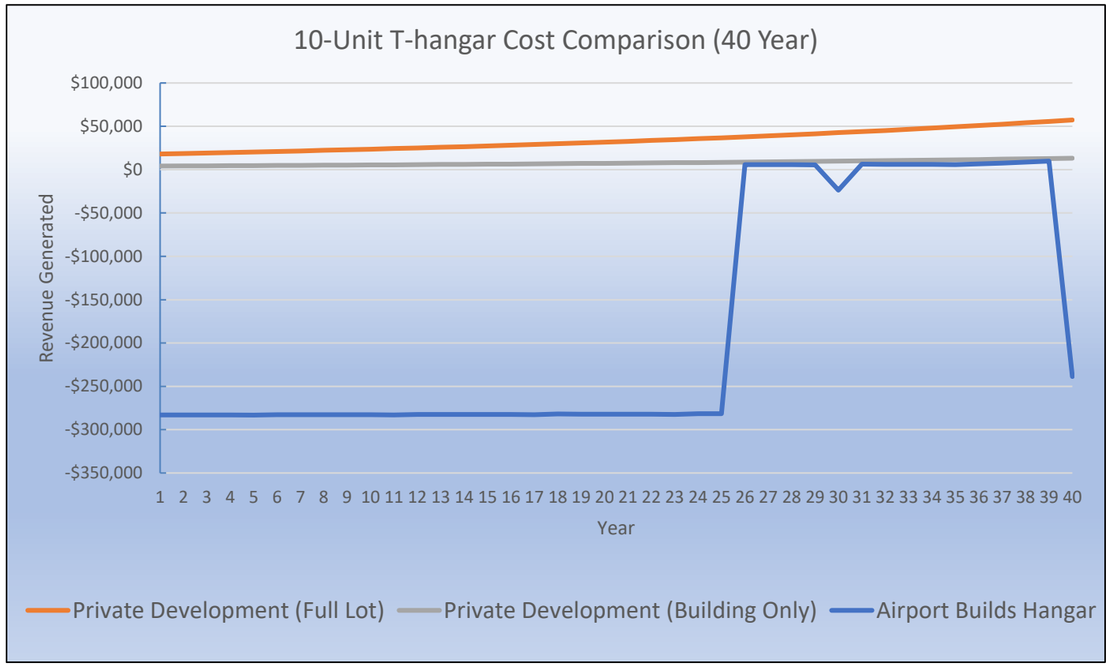


Source: McFarland Johnson, 2022.

- The second scenario assumes the entire lot, including taxilanes on both sides and the taxilane object free area would be leased (approximately 62,000 SF)
- Labor costs include monthly billing and annual CPI lease rate increases

The estimated 40-year costs can be seen graphically in **Chart 1** below.

Chart 1: T-hangar Cost Comparison Chart



Source: McFarland Johnson analysis, 2022.

7.1. Airport Constructed Hangar

The first scenario will consider the cost of the Airport constructing a 10-unit T-hangar and leasing the units. To perform this analysis, some general assumptions and simplifications have been made. Using 2022 construction costs, it is estimated the cost of the T-hangar would be $4.1 million. Additional assumptions are the hangar would be constructed to FAA standards using burdened rates.

The Airport would likely need to bond such a project, and a compounded interest rate of five percent was used for the analysis over a term of 25 years. With these terms, the total interest cost of the bond is estimated to be over $3 million, bringing the total cost of the project over 25 years to approximately $7.2 million.

Also, maintenance costs were estimated to be approximately $1,400.00 per year (two employees at $35 per hour performing 20 hours of maintenance per year). The maintenance costs escalate at three percent per year to cover the costs of annual salary increases. Also, general high-cost items such as the potential replacement of up to two hangar doors at $15,000.00 each, and the eventual necessity of a roof replacement at the end of the 40-year lifespan of the structure have been included as potential considerations.

As can be seen from **Chart 1**, the Airport under this scenario would struggle to recoup costs until year 25, when the bond is fully paid off. Even after that time period, ongoing maintenance and repair costs make profitability in this scenario exceedingly difficult.

7.2. Private Development with a Land Lease

The second scenario considers the 10-Unit T-hangar being constructed with private development and the Airport charges a land lease in accordance with the established land lease policy. Two separate scenarios have been considered. In the first scenario, the land lease only charges for the building footprint (not recommended), and in the second scenario, the entire lot, including taxilanes on both sides of the T-hangar, out to the edges of the taxilane object free area is included in the lease (recommended). The latter is preferred because the extra areas included would otherwise not be available for any future development and revenue generation. It is understood that a negotiation process would likely result in a total amount of square feet somewhere between these two scenarios.

Airport labor costs considered are only administrative and include the monthly cost of billing and calculating the annual CPI rate increases (one employee at $35 per hour conducting 18 hours of admin work per year at one hour per month for billing and six hours per year to calculate the CPI increases and implement them). This rate is increased at 3 percent per year to consider the increasing cost of labor over time.

One important consideration is the responsibility for the construction and maintenance of the taxilanes on both sides of the T-hangar. Private developers typically expect the Airport to carry out this construction, thereby lowering their construction costs and making a project viable. However, if the taxilanes are expected to be solely used by the T-hangar tenants, then it is assumed that construction and maintenance would be the responsibility of the developer. A possible solution might be to have the developer construct the taxilanes, and hand them over to the Airport for ongoing maintenance as part of the Airport's pavement management plan.

8. RECOMMENDATIONS

As the Airport continues to grow and evolve, the future siting of hangars will be a critical component of its success. Airports that do not take this important first step in looking at the big picture of development can end up inadvertently closing off portions of the Airport that could be better developed, or development components can be constructed in areas that limit the utility of the Airport for decades to come.

In all cases, where a maximum buildout of a parcel or a portion of a parcel is recommended, negotiations with potential tenants should begin with the idea the tenant will lease the entirety of that parcel or portion of that parcel. If a potential tenant seeks to construct a smaller hangar on a parcel that would support a larger facility, that tenant is depriving the Airport of valuable potential revenue that might otherwise be entitled to the Airport and is thereby lessening potential revenue the Airport is entitled to.

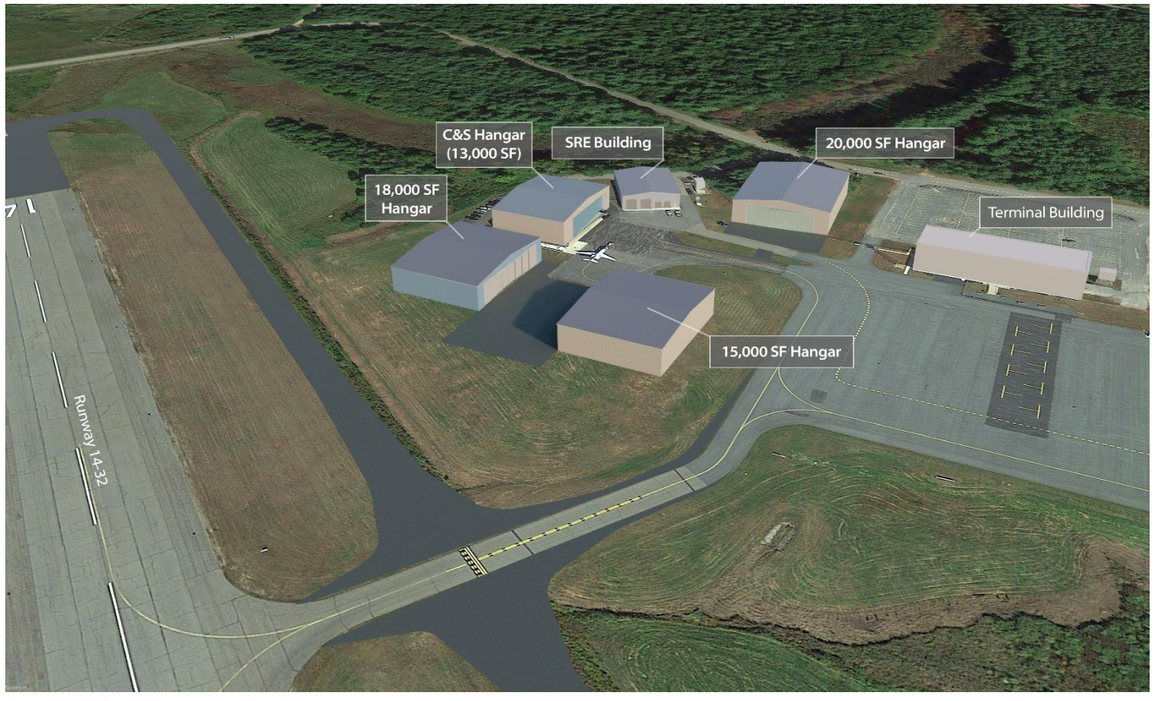
To become obtainable, any proposed hangar development will be dependent on a public-private partnership (P3). Public use infrastructure such as access roads, utility corridors, taxilanes, and holistic stormwater permitting are items that will be benefiting the whole development and should be considered as a public responsibility. There are federal funding sources such as the Northern Borders Regional Commission (NBRC), Economic Development Administration (EDA), and the FAA which can provide funding for a portion of this work. Public funds can be reimbursed through impact fees established uniformly for private developers. The private sector will be responsible for tailoring the hangar facility to fit their specific operational needs. Building projects become costly when conducted with federal funding sources and have longer implementation

periods. By pre-permitting and prepping the access and utilities for the hangar sites, private development can be quickly implemented, and hangar construction can begin to allow for aircraft operations shortly thereafter. This will also improve the marketability of the hangar development in the future.

For T-hangar and box hangar development, it is recommended the Airport solicit developers and showcase Parcels 9 and 15.

For conventional hangar development, it is recommended the Airport solicit developers who are willing to construct today, and Parcels 1 and 2 are ideal locations for large hangar development. **Figure 11** depicts what a corporate conventional hangar campus might look like adjacent to the terminal building.

Figure 11: Conceptual Hangar Development Parcels 1 and 2



Source: McFarland Johnson, 2022