

Summary

The Mayo Farm recreation zone Relocation Task Force was constituted by the Recreation Commission to study the need and feasibility of relocating the Mayo Farm recreation zone to a different portion of the Farm to accommodate additional and higher quality athletic fields than those that now exist on field L (Polo Field). The recreation zone is currently defined in the Mayo Farm conservation easement as up to 36-acres on fields J, K and L. Recreation currently uses approximately 13 acres on field L.

The Recreation Commission and Task Force recommends the Selectboard put a line item on the town's capital budget to be decided at the March 2018 town meeting that allocates sufficient funding¹ to conduct a professional engineering study of fields D and E and fields J and K to assess their suitability to support athletic fields as well as their agricultural values.

The Task Force believes a voter approved professional study will provide the following:

1. The vote to authorize funding for the study will act as an indicator of the value the community places on relocating the recreation zone to fields D and E.
2. The report will provide valuable information to the town and community about the opportunity and feasibility of developing new high quality athletic fields on Mayo Farm.

The reasons we are recommending the town explore relocating the recreation zone are as follows.

1. The principal reason is to meet local athletic recreational needs.
2. Local community athletic recreation is currently underserved by the available athletic fields on field L (Polo Field). A minimum of three new athletic fields are required to meet the current needs of local recreation².
3. Local community athletic field demand is currently satisfied by use of field L and the event fields. This is an untenable situation. Field L provides only three full sized athletic fields. Event uses can render event fields A, B or C unsuitable for athletics. It would take only one wet weather event in which cars and trucks drive and park on the event fields to render them completely unsuitable for athletics for the rest of the season. Participant safety is a serious concern.
4. We do not believe fields J and K are suitable for high quality athletic fields due to the presence of heavy clay-based soils and wetlands.
5. Development of new athletic fields on J and K would have a greater impact on neighboring homeowners than would athletic fields on D and E.

¹ Estimated cost is between \$30,000 to \$50,000.

² See Recreation Commission report entitled Recreation Capital Priorities dated January 17, 2017

6. The Task Force believes event uses could benefit from relocation of the recreation zone onto fields D and E. The event fields and athletic fields would be co-located, separated by the West Branch. Pedestrian access to any of the fields except C would not require a road crossing. Participants could walk between the areas using the Quiet Path bridge. This would likely lead to lower traffic impacts caused by current large events that require road crossings. Parking on field D could accommodate certain large events such as the Antique Car Show, which the current event fields cannot accommodate.

Athletic and Event Fields in Stowe

Stowe has many areas that have fields suitable for either events or athletics. Some of these are publicly owned, such as Mayo Farm, Memorial Park, Stowe Middle and High School and Moscow Field. Others are privately owned, such as Topnotch Fields, Nichols Field, Trapp Family Lodge and Stoweflake. The Town of Stowe Parks and Recreation Departments maintain and schedule two publicly owned field areas used exclusively for athletic activities, Mayo Farm recreation zone and Memorial Park.

Mayo Farm recreation zone (Mayo Farm Field L known as Polo Field) The Mayo Farm easement permits exclusive recreational use on up to 36 acres on fields J, K and L. Recreational use currently utilizes 12.7 acres on field L. Field L can accommodate three full size soccer or rugby fields, or a combination of full size and youth fields. See figure below for a typical configuration.

The recreation zone fields are former farm fields that have been graded and mowed for use as athletic fields. The area is bordered by wetland on two sides. The soils are designated by the Natural Resource Conservation Service soil survey maps as SwA or Swanville series. Swanville soils consists of deep, poorly drained soils. Saturated hydraulic conductivity, a measure of how fast water passes through a soil, ranges from moderately high or high in the surface horizon and moderately low in the underlying material.

The combination of poorly drained soils and adjacency to wetlands are not likely to support high quality athletic fields. Experience suggests this is true in this case.



Figure 1 – Current recreation zone

Memorial Park includes one Middle / High School baseball field and two youth baseball fields. The area is also used by Stowe Elementary School recreation programs and Stowe Recreation Summer Camps.

Moscow Field has limited space for athletics due to erosion from the river.

Mayo Farm event zone (Mayo Farm fields A, B and C) The town maintains and schedules an event zone as defined in the Mayo Farm easement. Event use takes precedence over other uses. Athletic activities are permitted on these fields so long as they do not conflict with or compromise event use.

Field A has 13.6 +/- usable acres. It can accommodate 4 full size fields. Field B is 5.6 acres and can accommodate 1 full size field. Field C is 5.1 acres and can accommodate 1 full size field.

Similar to field L, these fields are former farm fields that have been graded and mowed for use as event and athletic fields. The town has made significant improvements to field A to make it suitable for event use, such as installation of subsurface drainage, drainage settlement areas and a gravel road to provide vehicular access and extensive grading.

These fields serve events and athletics reasonably well. All three have some drainage issues due to being at a very low elevation within the flood plain while having only moderately well drained soils.

Stowe Middle and High School The Stowe School District owns the Stowe Middle and High School property. While this property is publicly owned, the use of its fields is controlled by the school district. The property accommodates four full sized fields. They are in high demand during the school year. Certain school recreation programs use Mayo Farm fields due to scheduling conflicts and overuse.

The only non-school use of the fields is Bitter Lacrosse Festivals 1 and 2, for two successive weekends in early July.

Athletics and Events in Stowe

Stowe has many active local community athletic organizations. The following organizations currently use fields on either Mayo Farm or Memorial Park. Mad River Stowe Rugby-Football, Stowe Area Flag Football, Stowe Coed Softball, Stowe High School, Stowe Middle School, Stowe Recreation Summer Camps, Stowe Soccer Club, Stowe Youth Baseball, Stowe Youth Lacrosse. See Appendix A for a summary of each groups field use throughout the year.

There are many non-local organizations that also utilize fields on Mayo Farm for athletic activities. These include Bitter Lacrosse Academy, Bitter Lacrosse Festival, College of Holy Cross, Capital Soccer Camp, Nordic Soccer Club, and UVM Women's Soccer. Other organizations such as National Beep Baseball Association and Vermont High School Ultimate

Frisbee Championships have expressed an interest in utilizing athletic fields in Stowe for a large athletic event.

There are currently 8 designated large events (more than 300 people requiring a special event permit) taking place on the event fields in addition to other small events and athletics. In 2017, these included Renaissance Faire, Nordic Soccer Tournament, Bitter LAX Festivals 1 and 2, Brewers Festival, British Invasion, OcktoberFest, and Bailey Jamboree.

Need for additional athletic fields

Current event and athletic uses of Mayo Farm fields A, B, C and L are at or are exceeding their capacity. The various uses of the fields have impacts that cause deterioration of the fields. Driving and parking on fields during an event can render them unsuitable for athletic uses. It is a constant challenge to maintain the fields for large non-athletic events, large athletic events, and local athletics. This is exasperated if there is significant rain before or during a large event.

There appears to be a strong interest in town to attract additional large athletic events. This presents the following challenges:

1. The fields are already heavily utilized.
2. The fields are not designed to sustain both large athletic and large non-athletic events on a regular basis without necessary time to recuperate.

Ideally, there should be enough field space so that local community athletics and events each occurred on different fields. Local athletic users of fields A, B or C are often displaced to allow events to occur. For instance, middle school athletics and Stowe Youth Lacrosse get displaced during the Vermont Renaissance Faire in June, the British Invasion in September, the Baily Soccer tournament in September, and the Oktoberfest in October.

Number of fields required for local public recreation

The 10 Year Recreation Master Plan written in 2005 identified the need for three additional fields dedicated solely to athletic activities and recommended that the town pursue creating them. A more recent Recreation Commission report entitled Recreation Capital Priorities dated January 17, 2017 cites the need for an additional three fields. The need for additional athletic fields is in the current Town Plan.

The Task Force believes the town requires sufficient space to provide a total of seven full sized fields dedicated exclusively to recreation to meet local community recreational needs. The proposed re-delineation of the recreation zone will provide seven fields. These fields could be configured in different ways to meet the requirements of various youth and adult activities.

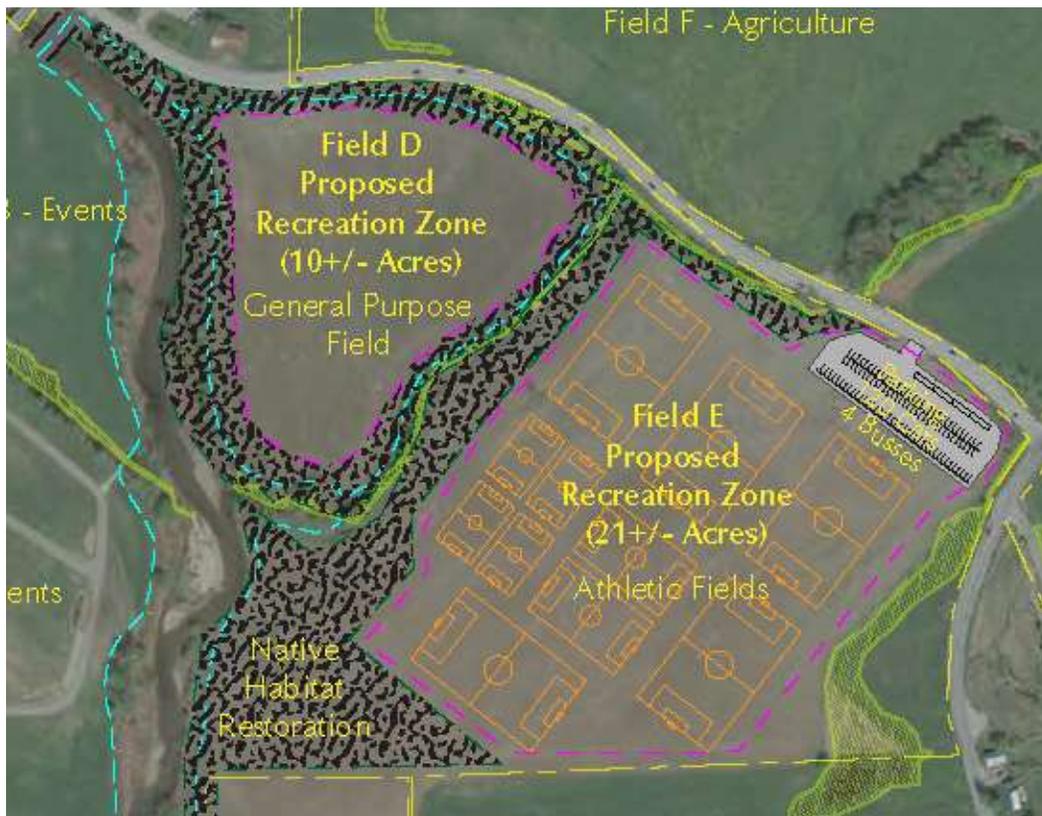
Number of fields required for large commercial athletic events

Stowe attracts several large athletic events that utilize varying numbers of fields. Examples are Nordic Soccer, Capital Soccer and Bitter Lacrosse. Several other groups have expressed interest in coming to Stowe to utilize athletic fields for large events.

Bitter Lacrosse Festival is by far the largest event and is used as an example. The event takes place over the course of a weekend. It is limited to 150 teams. Each team plays in four games. The total number of games is approximately 300. A single field can reasonable accommodate 8 games in a day. Thus, a large athletic event such as Bitter Lacrosse Festival requires upwards of twenty fields to accommodate the event. The town provided eleven of the nineteen fields utilized by the festivals in 2017. An additional four were located at Stowe Middle and High School and Top Notch respectively. Re-delineation of the recreation zone will help such large athletic events, but they will need additional fields elsewhere in town to accommodate the entire event.

Re-delineating the recreation zone to fields D and E.

Re-delineation of the recreation zone onto fields D and E would enable the town to develop seven co-located athletic fields and potentially increase parking for large events. This is depicted in the figure below.



Suitability of soils

According to the Natural Resource Conservation Service soil survey maps, field E consist primarily of the Boothbay series soil with some Adams series soil in the lower portion. Boothbay is a silt loam soil. It consists of very deep, moderately well drained soils with high saturated hydraulic conductivity at the surface and moderately high or moderately low in the subsoil and substratum. Adams is a loamy fine sand soil. It consists of very deep, excessively and somewhat excessively drained soils with high or very high saturated hydraulic conductivity.

Hydraulic conductivity is a measure of the ability for water to flow through soil. Soils with high hydraulic conductivity make good athletic fields because moisture can easily drain through it.

Parking and Access

A gravel parking lot is proposed adjacent to Mayo Farm Road. Such a lot could accommodate 120 cars and 4 busses. This is likely sufficient to support most of the local community recreational activities. Field D could be used for overflow parking for athletics and as well as for large events.

Benefits of proposed re-delineation

1. All athletic fields within the recreation zone will be adjacent to one another.
2. All event and athletic activities will take place within a contiguous centralized area with sufficient shared parking. The new pedestrian bridge crossing the West Branch will allow pedestrian access to the entire area without crossing a road. This will improve pedestrian and traffic flow for athletic activities and events, easing the impacts upon residents and creating a better participant and attendee experience.
3. Vehicular access to the fields will be very easy, as they are located directly off Mayo Farm Road.
4. The fields will be easily accessible from both the Recreation Path and Quiet Path. Establishing a safe bike and pedestrian path from the Village to the Polo Fields has been an unrealized goal for many years.
5. A new native habitat buffer will be established along the West Branch. This will improve water quality and wildlife habitat, and enhance the Quiet Path. A fence can be constructed to prevent dogs from interfering with athletic uses.
6. Fields D and E are not adjacent to a residential neighborhood, so athletic and other recreational uses will not have as great an impact as they do on field L, and would on fields J and K, which abut a residential neighborhood.

Quality of fields

Athletic fields have several innate characteristics that influence quality. One characteristic is soils. Another is grading. A third is the surface. Maintenance and frequency of use are also determining factors. These two are beyond the scope of this study.

Soils are important because of drainage. Native soils can be suitable for high quality fields. Sandy soils with some silt and loam can make good fields because water drains through them quickly. High clay content soils make poor fields because water does not drain well through the soil very well. Engineered soils such as a sand-cap can be utilized to improve drainage and create higher quality fields, but at significant cost. Subsurface drainage can also be added, again at significant cost.

Grading of an athletic field is very important. Surface conditions often dictate an athletic field’s playability. Depressions, caused by bad design or wear, hold water which limits play. Weather events such as spring snowmelt and abundant rain exacerbate drainage problems.

Fields must be precisely graded so that water will run away from the play area. Without proper grading, it is all but impossible to assure drainage. Proper grading can be achieved with the assistance of a highly accurate laser level and a qualified contractor.

The field surface can be a natural turf, specialized grasses such as turfgrass or synthetic materials.

The Task Force’s preliminary recommendation is that the fields be natural turf utilizing on-site native soil and be laser graded. Cost is a determining factor. The community will determine the amount spent on the fields and thus the ultimate potential quality of the fields.

Costs

The Sports Turf Managers Association is a well-known organization that advances professionalism in sports field management and safety through education, awareness programs, and industry development. They provide a series of reference costs per square foot depending upon use of materials and construction methods.

<u>Description</u>	<u>Cost range per sq. ft.</u>
1. Natural turf with on-site native soil (no added soil or sod)	\$0.90 - \$1.50
2. Natural turfgrass with native soils	\$2.25-\$5.25
3. Natural turf with sand cap	\$4.00 - \$6.50
4. Natural turf with sand and drainage	\$7.00–\$10.00

A full-sized 70 yard by 120 yard athletic field is 75,000 square feet. Utilizing the natural turf with on-site native soils cost range at \$1.33 per square foot, each field would cost approximately \$100,000 to construct.

Below are ballpark cost estimates for construction of seven high quality fields. The fields could be constructed over several years to spread out the costs. Sodding is included for several fields to make them available the year after construction begins.

<u>Item</u>	<u>Cost</u>
Scoping and design	\$40,000.
Construction of seven fields	\$700,000.
Sodding	\$200,000.
Other infrastructure	\$100,000.
<hr/> Total	<hr/> \$1,040,000.

If this is more than the town is willing to spend on new athletic fields, lower cost options could be explored that result in adequate but not high quality athletic fields.

Permit and mitigation issues

The proposal would have to be approved by the following entities:

- a. Stowe Land Trust
- b. Stowe voters
- c. Development Review Board
- d. Agency of Natural Resources / Army Corps of Engineers – Must demonstrate that proposal would not impact any wetlands in accordance with 2011 Memorandum of Understanding.
- e. District Environmental Commission (Act 250)

Alternatives

Possibilities for development of new athletic fields are

- 1. Develop new athletic fields J and K within the existing recreation zone
- 2. Acquiring new land. This is not discussed as it is beyond the scope of this study.

Develop new athletic fields on fields J and K

An alternative is to build three new athletic fields on fields J and K as depicted below.



The town sponsored a comprehensive environmental assessment of May Farm in 2011 as part of an Act 250 permit to enable it to perform drainage work on field A. A wetland study was done on the entire farm. Assuming the wetlands have remained the same, there is space available for two additional full sized athletic fields on field K and one on field J. This could displace the community gardens, which would be utilized for parking.

This option may not be desirable for several reasons. The soils on J and K are the same as those on L. They are poorly suited for athletic fields. The fields would be separated by wet areas. Providing sufficient parking would be challenging. The community garden might have to be displaced. Also, these fields are adjacent to a residential neighborhood. Additional recreational uses would impact the homeowners.

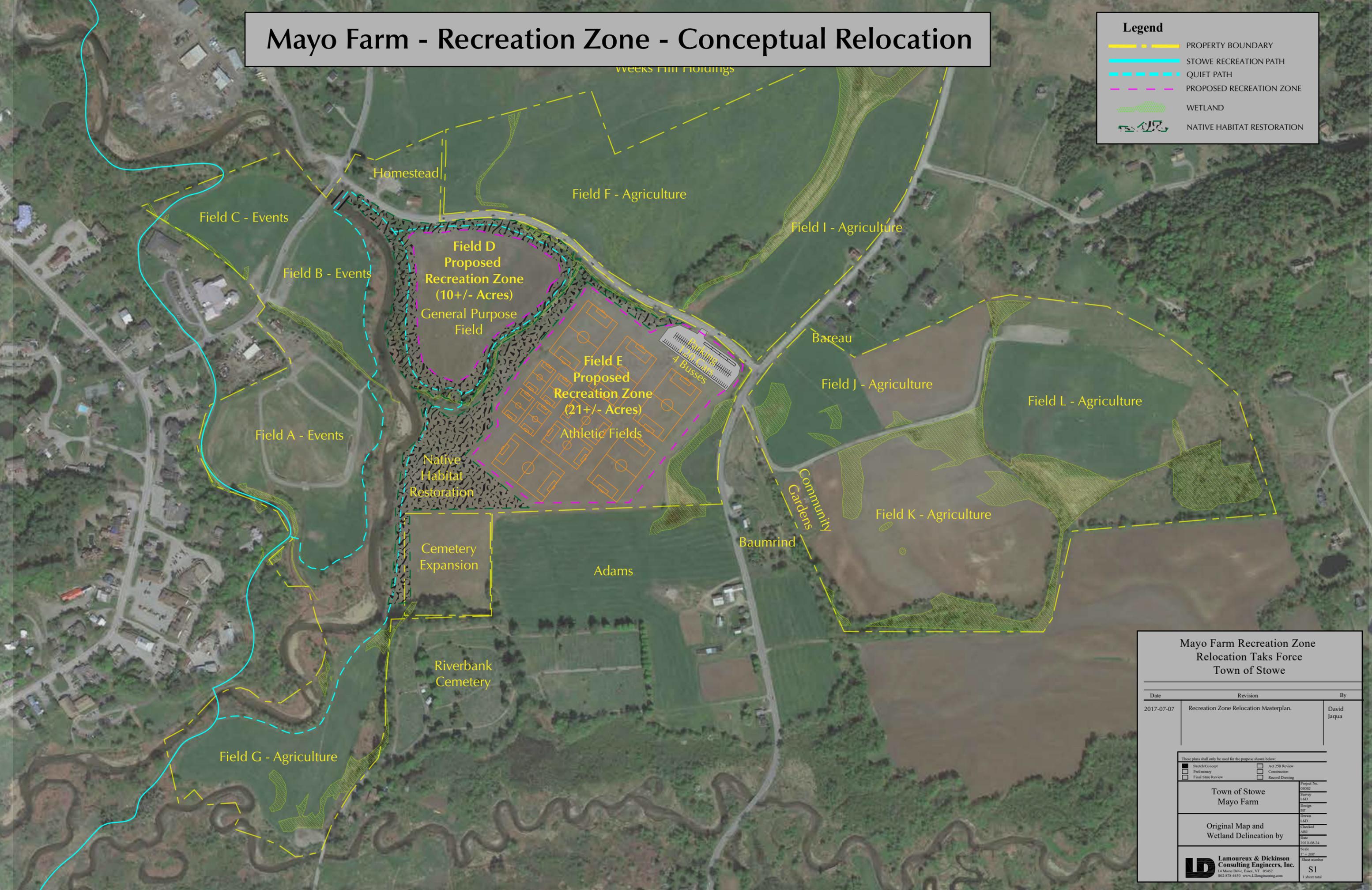
Recommendation

The Recreation Commission and Task Force recommends the Selectboard put a line item on the town's capital budget to be decided at the March 2018 town meeting that allocates sufficient funding to conduct a professional engineering study of fields D and E and fields J and K to assess their suitability to support athletic fields as well as their agricultural values.

Mayo Farm - Recreation Zone - Conceptual Relocation

Legend

- PROPERTY BOUNDARY
- STOWE RECREATION PATH
- QUIET PATH
- PROPOSED RECREATION ZONE
- ▨ WETLAND
- ▨ NATIVE HABITAT RESTORATION



**Mayo Farm Recreation Zone
Relocation Taks Force
Town of Stowe**

Date	Revision	By
2017-07-07	Recreation Zone Relocation Masterplan.	David Jaqua

These plans shall only be used for the purpose shown below:

<input type="checkbox"/> Sketch/Concept	<input type="checkbox"/> Act 250 Review
<input type="checkbox"/> Preliminary	<input type="checkbox"/> Construction
<input type="checkbox"/> Final State Review	<input type="checkbox"/> Record Drawing

Town of Stowe Mayo Farm	Project No. 09062
Original Map and Wetland Delineation by	Survey LAD
	Design JIT
	Drawn LAD
	Checked ABR
	Date 2010-08-24
	Scale 1" = 200'
	Sheet number S1
	1 sheet total

LD Lamoureux & Dickinson
Consulting Engineers, Inc.
14 Morse Drive, Essex, VT 05452
802-878-4430 www.LDengineering.com

Stowe Field Usage by Week

Athletic use of fields with "mostly" local participants
Athletic use of fields with "mostly" non-local participants
Non-athletic use of fields (events, race staging)

Regulation soccer / LAX field = 2.0 acres
 Youth soccer / LAX field = 1.0 acres
 Softball field =

* Indicates use requires Town of Stowe special event permit

Field (acres)	04-24	05-01	05-08	05-15	05-22	05-29	06-05	06-12	06-19	06-26	07-03	07-10	07-17	07-24	07-31	08-07	08-14	08-21	08-28	09-04	09-11	09-18	09-25	10-02	10-09	10-16	10-23	10-30	
Mayo-A (13.6)			SYL SCSB	SYL SCSB	SYL SCSB	M4S* SYL SCSB	SYL SCSB		RF*		FoJ* S8M	BLF1* SCSB	BLF2* SCSB		BLA* SCSB	BF* SCSB		NCAL*			BI* SMHS	BJ* SMHS	OF* SMHS						
Mayo-B (5.6)									RF		FoJ	BLF1	BLF2		BLA	BF					BI	BJ	OF						
Mayo-C (5.1)												BLF1	BLF2								BI	BJ							
Mayo-L (12.7)		SSC	SSC	SSC	SSC	SSC	SSC	SSC				BLF1 CSC	BLF2		CHC	UVM	UVM	UVM	UVM	UVM	UVM	UVM	SSC	SSC	SSC	SSC	SSC	SSC	SSC
					MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	MRSR	SAFF	SAFF	SAFF	SAFF	SAFF	SAFF	SAFF
Mayo-J												BLF1	BLF2																
Moscow					MRSR																								
SMHS-1	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS				BLF1	BLF2				SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS
SMHS-2	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS				BLF1	BLF2				SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS	SMHS
MP-BB1		SYBB	SYBB	SYBB	SYBB	SYBB	SYBB	LBB	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC										
MP-BB2		SYBB	SYBB	SYBB	SYBB	SYBB	SYBB	SYBB	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC										
MP-BB3		SYBB	SYBB	SYBB	SYBB	SYBB	SYBB	SYBB	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC	SRSC										

Athletics - "Mostly" Local Participants
 FBB Fall baseball
 LBB Legion Baseball
 MRSR Mad River Stowe Rugby-Football
 SAFF Stowe Area Flag Football
 SCSB Stowe Coed Softball
 SMHS Stowe High School
 SRSC Stowe Recreation Summer Camps
 SSC Stowe Soccer Club
 SYB Stowe Youth Baseball
 SYL Stowe Youth Lacrosse

Athletics - "Mostly" NonLocal Participants
 BLA Bitter Lacrosse Academy
 BLF Bitter Lacrosse Festival
 CHC College of Holy Cross
 CSC Capital Soccer Camp
 NSC Nordic Soccer Club
 UVM UVM Women's Soccer

Number Participants

Mayo Farm Recreation Zone Relocation Task Force Report

Mayo Farm Fields - Approximate Useable Acreages

Field	Useable Acreage	Acres Allocated to Exclusive Agricultural Use		Acres Currently in Agricultural Use
		Current	Proposed	
A	14			
B	6			
C	5			
D	11	11		11
E	27	27		27
F	29	29	29	29
G*	9	9	9	9
H	2			
I	11	11	10	11
J	12		12	12
K	21		21	21
L	20		20	
Cemetery	6			
Total	173	87	102	121

Approximate usable acreages derived from Google Maps
 Work by David Jaqua, June 2017

Field G (Dog Field) - Low quality hay field shared with quiet path and dog activities